





Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 1 of 271

Tender No: 3200000481

**LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER
SYSTEM AT MRPL, MANGALURU**

SECTION-3

GENERAL CONDITIONS OF LUMP SUM TURNKEY (LSTK) / PACKAGE CONTRACT

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 2 of 271

GENERAL CONDITIONS OF LSTK CONTRACT

CONTENTS



SECTION-1 DEFINITIONS

SECTION-2 GENERAL

- 2.0.0.0 Interpretation of Contract Documents
- 2.1.0.0 Security Deposit
- 2.2.0.0 Plans, Drawings and Approvals furnished by Owner
- 2.3.0.0 Plans, Designs, Drawings and Specifications to be furnished by Contractor
- 2.4.0.0 Alterations in Designs, Plans, Drawings, Specifications Orders and Instructions
- 2.5.0.0 Alteration in the Scope of Work or Supply
- 2.6.0.0 Change Orders
- 2.7.0.0 Cancellation of Contract
- 2.8.0.0 Suspension of Work and Supplies
- 2.10.0.0 Work Front

SECTION-3 MATERIALS, LABOUR, EQUIPMENT & FACILITIES

- 3.0.0.0 Contractor's Responsibility
- 3.0.2.0 Materials
- 3.0.3.0 General Provision with regard to Materials
- 3.0.4.0 Bills of Materials
- 3.0.5.0 Supply of Materials
- 3.0.6.0 Certificate of Verification and Good Condition
- 3.0.7.0 Materials within the Contractor's Scope of Supply
- 3.0.8.0 Taxes and Duties and other Levies
- 3.1.0.0 Material and Equipment supplied by the Owner
- 3.2.0.0 Utilities and Consumables, etc.
- 3.3.0.0 Labour, Machinery and Equipment
- 3.4.0.0 Land, Power, Water and other Facilities
- 3.5.0.0 Power Supply
- 3.6.0.0 Water Supply
- 3.7.0.0 Land
- 3.8.0.0 Access to Site
- 3.9.0.0 Shipping and other Documents
- 3.10.0.0 Packing and Forwarding

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 3 of 271

- 3.11.0.0 Equipment
- 3.12.0.0 Miscellaneous Imports

SECTION-4 PERFORMANCE OF WORKS



- 4.0.0.0 General
- 4.1.0.0 The Job Sites
- 4.2.0.0 Compliance with Codes and Standards
- 4.3.0.0 Time for Completion
- 4.4.0.0 Price Adjustment for Slippage in completion
- 4.5.0.0 Schedule of Activities
- 4.6.0.0 Report and Records
- 4.7.0.0 Quality Assurance / Quality Control Programme
- 4.8.0.0 Execution of the Work
- 4.9.0.0 Sub-Contracts
- 4.10.0.0 Relationship with Consortia
- 4.11.0.0 Misconduct

SECTION-5 INSPECTION & TESTING

- 5.0.0.0 Inspection and Testing of Materials
- 5.1.0.0 Inspection and Testing of Works
- 5.2.0.0 Tests, Commissioning and Possession of Works
- 5.3.0.0 Completion Certificate
- 5.4.0.0 Defect Liability Period and Latent Defects
- 5.5.0.0 Contractor's Guarantees
- 5.6.0.0 Commissioning
- 5.7.0.0 Guarantee Performance Tests
- 5.8.0.0 Spare Parts

SECTION-6 MEASUREMENTS, CERTIFYING INSPECTIONS & PAYMENTS

- 6.0.0.0 Certifying Inspections
- 6.1.0.0 Measurement
- 6.2.0.0 Final Bill
- 6.3.0.0 Price Schedule

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
			Rev	00
			Page	4
			of	271



- 6.4.0.0 Advance and On Account Payment
- 6.5.0.0 Mode of Payment and Tax Deductions
- 6.6.0.0 Claims by the Contractor
- 6.7.0.0 Discharge of Owner's Liability
- 6.8.0.0 Final Certificate and Release of Security
- 6.9.0.0 Claims of Owner

SECTION-7 TERMINATION

- 7.0.0.0 Termination

SECTION-8 MISCELLANEOUS

- 8.0.0.0 Personal Acts and Liabilities
- 8.1.0.0 Taxes
- 8.2.0.0 Government Regulations
- 8.3.0.0 Labour Laws and Regulations
- 8.4.0.0 Risk, Accident and Damage
- 8.5.0.0 Indemnity and Insurance
- 8.6.0.0 Effects of Insurance
- 8.7.0.0 Limitation of Liability
- 8.8.0.0 Training of Apprentices
- 8.9.0.0 Records and Inspection
- 8.10.0.0 Patents and Royalties
- 8.11.0.0 Articles of Value Found
- 8.12.0.0 Materials obtained from Dismantling
- 8.13.0.0 Liens and Liabilities
- 8.14.0.0 Collection of Indebtedness
- 8.15.0.0 Liabilities of Sub-Contractor(s)
- 8.16.0.0 Confidential Handling of Information
- 8.17.0.0 Waiver
- 8.18.0.0 Contractor's Establishment
- 8.19.0.0 Observance of Environmental Regulations and Environmental Protection
- 8.20.0.0 Registration of the Contractor with Statutory Authorities
- 8.21.0.0 Statutory Approvals

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 5 of 271</div>



- 8.22.0.0 Rents and Royalties
- 8.23.0.0 Utilisation of Local Resources
- 8.24.0.0 Fuel Requirement of Workers

SECTION-9 ARBITRATION & CONCILIATION

- 9.0.0.0 ARBITRATION& CONCILIATION
- 9.0.1.0 PART - I: CONCILIATION:
- 9.0.2.0 PART – II: ARBITRATION
- 9.0.3.0 JURISDICTION



SECTION-10 SAFETY CODE & REGULATIONS

- 10.0.1.0 General
- 10.1.0.0 First Aid and Industrial Injuries
- 10.2.0.0 General Rules
- 10.3.0.0 Contractor's Barricades
- 10.4.0.0 Scaffolding
- 10.5.0.0 Excavation and Trenching
- 10.6.0.0 Demolition
- 10.7.0.0 Safety Equipment
- 10.8.0.0 Risky Places
- 10.9.0.0 Hoisting Equipment
- 10.10.0.0 Electrical Equipment
- 10.11.0.0 Maintenance of Safety Devices
- 10.12.0.0 Display of Safety Instructions
- 10.13.0.0 Enforcement of Safety Regulations
- 10.14.0.0 No Exemption
- 10.15.0.0 Entry Passes
- 10.16.0.0 Gate Passes
- 10.17.0.0 Work Permit
- 10.18.0.0 Vehicle Permit
- 10.19.0.0 Special Safety Regulations
- 10.20.0.0 Deductions from Lumpsum Price
- 10.21.0.0 Special Contributions

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
			Rev	00
			Page	6
			of	271

APPENDICES



- i. Contractor's Labour Regulations (Appendix-I)
- ii. Model Rules for Labour Welfare (Appendix-II)
- iii. Safety Practices during Construction (Appendix-III)
- iv. Form of Contract (Appendix-IV)
- v. Form of Bank Guarantee to cover Earnest Money (EMD) (Appendix-V)
- vi. Form of Bank Guarantee for Advance (Mobilisation) (Appendix-VI)
- vii. Form of bank guarantee for security deposit/performance bond (Appendix-VII)
- viii. Form of Tender (Appendix-VIII)

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 7 of 271



SECTION-1

DEFINITIONS

- 1.0.0.0 The following expressions hereunder and elsewhere in the Contract documents used and their grammatical variations shall unless repugnant to the subject or context thereof, have the following meanings hereunder respectively assigned to them, namely:
- 1.0.1.0 **“Agreed Variations”** shall mean the statement of agreed variations annexed to the Detailed Letter of Acceptance and any document subsequently signed by the OWNER and the CONTRACTOR as an amendment of contract.
- 1.0.2.0 **“Approval”** and its grammatical variations shall mean approved or confirmed in writing by OWNER or Engineer-in-Charge.
- 1.0.3.0 **“Battery Limit”** shall mean the demarcated area within which the Unit is to be located.
- 1.0.4.0 **“Bid / Bidding Documents”** shall mean the totality of the documents comprising the Bidding Document for the Project.
- 1.0.5.0 **“Bills of Materials”** shall mean the Bill of Materials from time to time established by the CONTRACTOR and approved by the OWNER pursuant to the provisions of the General Conditions of Contract.
- 1.0.6.0 **“CATALYST”** shall mean any catalyst or adsorbent or other like chemical(s) or additive(s) required to be loaded to operate the UNIT.
- 1.0.6.0 A **“Certificate of Verification and Good Condition”** shall mean such certificate referred to in clause 3.0.6.0 hereof.
- 1.0.7.0 **“Code-1 or Level-1 Approval”** means final approval of drawings / documents incorporating all comments of the OWNER (including OWNER’s Consultant).



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
			Rev	00
			Page	8
			of	271

- 1.0.8.0 “**Code-2 or Level-2 Approval**” means tentative approval of the drawings / documents by the OWNER (including OWNER’s Consultant) with comments to be incorporated by Contractor, with the intent that subject to incorporation of and / or rectification in accordance with such comments, construction / manufacture can proceed based on commented drawings / documents pending their re-submission and grant of Code-1 or Level-1 Approval.
- 1.0.9.0 “**Code-3 or Level-3 Approval**” means that on review of the drawings/documents by the OWNER (including OWNER’s Consultant) the same have not been found in accordance with the applicable codes, standards, design basis and contractual stipulations and must therefore be re-submitted for review and approval after appropriate correction and / or re-preparation.
- 1.0.10.0 “**Commissioning**” means pressing into service of the plant(s), Equipment(s), Vessel(s), Pipeline(s), Machinery (ies) and systems and sub-systems comprised within the UNIT in accordance with the procedures as approved in the applicable Operating Manual and as per the requirement of Process Licensor after successful testing, pre-commissioning and trial run of the UNIT.
- 1.0.11.0 “**Commissioning and Performance Test Certificate**” shall mean the Commissioning and Performance Test Certificate issued under Clause 5.2.1.5 hereof.
- 1.0.12.0 “**Completion Certificate**” shall mean the Completion Certificate issued by the Engineer-in-Charge under Clause 5.3.0.0 hereof.
- 1.0.13.0 “**Construction materials**” shall mean all materials whatsoever required for permanent incorporation in the constructed works, including but not limited to, cement, iron and steel rods, plates, sheets and structurals of any or all kinds, sand, stone, aggregate, bricks, earth and clay, nuts and bolts, screws and nails and other fasteners of all kinds, wood and boards of all kinds, electrical and other wires, sanitary pipes and other sanitary fittings, sewage pipes and other sewage fittings, drainage pipes and associated fixtures and fittings, switches, lights, fans, contactors, cut-outs, switch boards, bus bars and control panels, bulbs and other electrical fittings whatsoever, basins, taps, valves, stoppers, flanges, cisterns, toilets, toilet-seats and other sanitary fittings of any kind whatsoever, water proofing compounds, chemicals, paints, varnishes, white-washes, distempers, plaster of paris and other finishing materials whatsoever, barricading materials of all kinds and welding and other electrodes,

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 9 of 271



lead and other alloys and compounds and consumables whatsoever involved for and / or incorporated in the permanent Works.

- 1.0.14.0 The “**Contract**” shall mean the totality of agreement between OWNER and the CONTRACTOR as derived from the contract documents.
- 1.0.15.0 The “**CONTRACTOR**” shall mean the bidder selected by the OWNER for the performance of the work and supply of materials and shall include the successors and permitted assigns of the CONTRACTOR, and if the CONTRACTOR is joint venture or consortium, shall include each member thereof.
- 1.0.16.0 “**Contract Documents**” shall mean the contract documents as defined in Article-1 of the form of the Contract.
- 1.0.17.0 “**Defect Liability Period**” shall mean the defect liability period as specified in the contract.
- 1.0.18.0 “**Delivery Schedule**” shall mean the delivery schedule of the supplies as elsewhere provided for in the contract documents and clause 3.0.5.3 hereof and associated provisions.
- 1.0.19.0 The “**Engineer-in-Charge**” shall mean the Engineer for the time being nominated by the OWNER as Engineer-in-Charge for the purpose of the contract or any portion thereof, and shall include the PMC or CONSULTANT for the project wherever the Contract so reasonably admits.
- 1.0.20.0 “**Equipment**” shall include all scaffolding, shuttering, appliances, equipment, machinery, instruments and other things of whatever nature required for use in or for the execution or completion of the work or maintenance of the work(s) or temporary works other than materials falling within the scope of supply.
- 1.0.21.0 The “**Executive Director**” shall mean the Executive Director or Chief Executive (by whatever name called) for or embracing the Project and in the absence of an Executive Director or Chief Executive shall include any person acting as Executive Director or Chief Executive (by whatever name called) and in the absence of an Acting Executive Director or Acting Chief Executive shall include a General Manager or Deputy Chief Executive (by whatever name called) under whose overall jurisdiction the work falls, and on conclusion of the project shall mean the Executive Director, Chief Executive, General

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 10 of 271



Manager, Acting Chief Executive or Acting General Manager or Deputy Chief Executive as the case may be for the resultant facility in which the Unit is comprised.

- 1.0.22.0 **“Facilities”** shall mean land, transport, telephone, telex and fax communication and other amenities and facilities whatsoever required for or incidental to the performance of the services.
- 1.0.23.0 **“FEED Package”** shall mean all technical details such as specifications, drawings, documents, guidelines and / or instructions which will form the basis for CONTRACTOR to take up detailed engineering, procurement and construction activities for the UNIT.
- 1.0.24.0 **“Final Certificate”** shall mean the Final Certificate issued by the Engineer-in-Charge under clause 6.8.0.0 hereof.
- 1.0.25.0 **“Final Test Certificate”** shall mean a final test certificate issued by the Engineer-in-Charge under clause 5.2.1.2 hereof.
- 1.0.26.0 **“Foreign currency”** means United States Dollar, EURO, Pound Sterling and Japanese Yen.
- 1.0.27.0 The” **Job Site / Site**” means any site at which the work is to be performed by the CONTRACTOR and shall include a part or portion of the site required for the time being to provide a work front to the CONTRACTOR.
- 1.0.28.0 **“Letter of Acceptance”** shall mean the Letter or Fax of Acceptance of bid issued by the OWNER to the CONTRACTOR, and shall wherever the Contract so requires include the “Detailed Letter of Acceptance” subsequently issued by the OWNER to the CONTRACTOR.
- 1.0.29.0 **“LICENSOR”** shall mean the Process Licensor for the UNIT or of any part thereof.
- 1.0.30.0 **“Lumpsum Price”** shall mean the aggregate of the price of materials specified in FORM SP-1 of the Price Schedule and the price of the services specified in FORM SP-2 of the Price Schedule and insofar as the same is expressed in Indian Rupees and Foreign Currency for determination of a percent thereof, shall mean the specified percentage of each, and if the percentage is to be calculated in Indian Rupees shall mean the aggregate arrived at after converting the Foreign Currency into Indian




Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 11 of 271</div>

Rupees at the mean rate of exchange between the two arrived at on the basis of the notified mean rate or of the average between the buying rate and the selling rates if the mean rate is not separately notified, as the case may be, by the State Bank of India for the day immediately preceding the date of conversion”.

- 1.0.31.0 “**Materials**” shall mean all materials, plant, machinery, instruments, components, assemblies, parts, spares and any other items and things whatsoever required for permanent incorporation in the works to establish the UNIT and/or works complete in all respect, and will include the replacement of any defective materials and of any materials damaged, lost, or destroyed during transit, storage, fabrication, erection, installation, testing, pre-commissioning, commissioning or otherwise upto and until issue of the Completion Certificate, and shall also include all construction materials.
- 1.0.32.0 “**Mechanical Completion**” means installation of all equipment facilities and thereafter completion of all activities as listed in “Check List for Mechanical Completion” to be performed by the CONTRACTOR, completion of all check list / punch list items as provided by OWNER/PMC and/or Process Licensor and/or Statutory bodies like OISD, CCE, TAC, Factory Inspector, Pollution Control Authorities, etc. and insulation of hot lines / steam lines, but excluding insulation of other lines, final painting, Alkali Boil Out, furnace drying, Catalyst loading and punch list items which, in the sole opinion of Engineer-in-Charge, do not affect Commissioning. Copy of “Check List for Mechanical Completion” tick-marked in line with above guidelines as attached to the technical documents shall form part of Contract document. Notwithstanding any exclusion as aforesaid in the definition of Mechanical Completion, Mechanical completions shall not deemed to have achieved for the purpose of any payment milestone(s) subsequent to Mechanical Completion unless the excluded items are completed.
- 1.0.33.0 “**Mobilisation**” shall mean establishment of sufficient and adequate infrastructure by the CONTRACTOR at and about the job site(s) comprising of equipment, aids, tools, tackle including establishment of temporary works, with facilities, utilities, manpower and equipment ready to receive, transport and store materials and to commence and execute work at site(s) in accordance with Progress Schedule to the satisfaction of the Engineer-in-Charge.
- 1.0.34.0 “**Notified Claim**” shall mean a claim of the CONTRACTOR notified in accordance with the provisions of clause 6.6.1.0.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 12 of 271</div>

- 1.0.35.0 **“Order” and “Instruction”** shall respectively mean any written order or instructions given by the OWNER or by the Engineer-in-Charge to the CONTRACTOR within the scope of their respective powers in terms of the contract.
- 1.0.36.0 **“Outside Battery Limit Facilities (OSBL)”** shall mean the Offsite Facilities & Utilities (if any) which are required to be set up by the CONTRACTOR outside the Battery Limit.
- 1.0.37.0 The **“OWNER”** shall mean Mangalore Refinery and Petrochemicals Limited, a Company incorporated in India and having its registered office at Kuthethur, Katipalla, Mangaluru-575030.
- 1.0.38.0 **“Performance Test”** shall mean the test or series of tests to be carried out by the CONTRACTOR to prove the contractual guarantees with respect to the UNIT or any part thereof, whether with reference to its input, throughput, output, quality, quantity or consumption or otherwise.
- 1.0.39.0 **“Plans”** and **“Drawings”** shall mean maps, plans, tracing and prints forming part of the bid documents and any detail or working drawings, amendments and / or modifications thereof approved in writing by the Engineer-in-Charge or any agency notified by the OWNER to the CONTRACTOR for the purpose and shall include any other drawings or plans in connection with the work or any supply as may from time to time be furnished by or approved in writing by the Engineer-in-Charge or any other agency nominated by the OWNER in this behalf.
- 1.0.40.0 **“Pre-commissioning”** shall mean all activities required to be performed after final tests for all plant, equipment and machinery comprised within the UNIT which is the subject matter of the Contract to bring the equipment covered from an inactive condition to a state ready for trial run and shall include but not be limited to checking of systems and vessels, flushing and steam blowing, air blowing of pipelines, system leak checking upto the specified pressure, purging the system using inert gas, checking of electrical equipment for proper earthing, insulation of resistance, conducting operability tests on individual equipment, vessels and systems, integration of all control systems of the Unit with the control systems of the Refinery or other installation(s) concerned and all other activities required to be performed in terms of the Contract and as per “Check List for Mechanical Completion” and division of responsibilities between the OWNER and the CONTRACTOR after final tests and before commissioning of the UNIT. The activities to be performed by the CONTRACTOR shall also include Loop checking during pre-commissioning activities for completely integrated instrumentation and

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 
				Rev 00 Page 13 of 271

control system, including package / sub-package system items and units for which control system is being integrated by the CONTRACTOR in line with the requirements specified elsewhere in the bid documents.

- 1.0.41.0 “**Price Schedule**” or “**Schedule of Rates**” shall mean the Price Schedule annexed to the Detailed Letter of Acceptance.
- 1.0.42.0 “**Price of Materials**” shall mean the price for materials excluding the taxes indicated in FORM SP-1 of the Price Schedule or in the Bidding Formats.
- 1.0.43.0 “**Price of Services**” shall mean the price of services excluding the taxes indicated in FORM SP-2 of the Price Schedule or in the Bidding Formats.
- 1.0.44.0 “**Progress Schedule**” shall mean the Progress Schedule for the work as defined in clauses 4.3.4.0 hereof and shall, in the event of more than one progress schedule being prepared, include each of such progress schedules.
- 1.0.45.0 The “**Project**” shall mean the project embracing the works and / or unit(s) forming the subject matter of the Bid and resultant Contract.
- 1.0.46.0 “**PROJECT MANAGEMENT CONSULTANT**” or “**PMC**” OR “**CONSULTANT**” shall mean any person(s) nominated by the OWNER as the Project Management Consultant for the Project. The words “PROJECT MANAGEMENT CONSULTANT”, “PMC” and “CONSULTANT” are synonymous.
- 1.0.47.0 “**Running Account Bill**” shall mean a Bill for the payment of “on account” monies to the CONTRACTOR in terms of clause 6.4.0.0 hereof and associated clauses thereunder.
- 1.0.48.0 “**Schedule of Activities**” shall mean the Schedule of Activities from time to time submitted by the CONTRACTOR and approved by the OWNER pursuant to the provisions of these General Conditions of Contract.
- 1.0.49.0 “**Scope of Supply**” shall mean the totality of materials by expression or implication envisaged in the Contract including (but not limited to) the supply as identified in the Bid Document.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 14 of 271



1.0.50.0 **“Scope of Contract”** shall mean the totality of work and services to be performed by the CONTRACTOR within the scope of work and totality of materials to be supplied by the CONTRACTOR within the Scope of Supply and shall include (but not be limited to) all works / services and supplies by expression or implication envisaged in the Bid Documents.

1.0.51.0 The expressions **“Scope of Work”** and **“Scope of Services”** are synonymous and mean the totality of the work / services by expression or implication envisaged in the Contract, including (but not limited to) the work as detailed in the Bid Documents, and include all work, facilities, consumer goods, equipment and labour required for or relative or incidental to or in connection with the preparation for, commencement, completion, testing, pre-commissioning, start up, commissioning, performance, replacement and / or rectification of any work(s) / services and/or in the maintenance or inspection of the work(s) and any and all temporary works required for or incidental to any work / service.

1.0.52.0 **“Security Deposit”** shall mean Bank Guarantee (s) furnished by the CONTRACTOR by way of Security Deposit as specified in clauses 2.1.0.0 hereof and associated clauses thereunder.



1.0.53.0 **“Specification(s)”** shall mean the various specification as set out in the specifications and other documents forming part of the bid documents and as referred to and derived from the contract and any order(s) or instruction(s) thereunder, and in the absence of any specifications as aforesaid covering any particular work or supply or part or portion thereof shall mean the relevant BS, AWS, API, ASTM, BIS, AWWA or NACE, ASME, HEI, IEC, Indian Boiler Regulation (IBR), IEEE standard or code, as the case may be, approved by the Engineer-in-Charge and in the absence of any such standard or code covering the relative work or part or portion thereof, shall mean the relevant international standard or practice applied as a standard Engineering practice for the work and approved in writing by the Engineer-in-Charge with or without modification(s). All references to any code, standard, specification or practice in the specifications shall be deemed to be a reference to the latest edition of relative code, standard, specification or practice, as the case may be, notwithstanding the mention of any previous year or date of edition relative thereto in the specifications.

1.0.54.0 **“Start-up”** shall mean all activities required to be performed after Pre-commissioning and prior to trial operation and shall include final Pre-commissioning inspection and check out of equipment, vessels and systems and supporting sub systems, initial operation of complete equipment and systems within the plant to obtain necessary pre-trial operation data, confirmation and correction of

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 15 of 271

calibration, and change of safety interlock / control loop, shutdown inspection and adjustment and other steps required to be taken prior to and to enable commissioning/ trial operation.

- 1.0.55.0 “**Supply**” or “**Supplies**” shall mean the totality of the materials by expression or implication required to be supplied by the CONTRACTOR for permanent incorporation in the works within the Scope of Supplies.
- 1.0.56.0 “**Temporary works**” means all temporary offices, living quarters and works of every kind required in for or about the execution, completion or maintenance of the works.
- 1.0.57.0 “**Tools**” shall mean all tools and things whatsoever to be supplied by the CONTRACTOR to the OWNER within the scope of supply for or in relation to the operation and maintenance of the Unit or any part, machinery or component thereof.
- 1.0.58.0 “**UNIT**” shall mean the totality of the Units and Facilities comprised in the Scope of Contract which form a distinct operating system.
- 1.0.59.0 “**Unit Rate**” shall mean the unit rate for the particular item of supply as specified in the Bill of Materials and for Services as specified in the Bill of Activity.
- 1.0.60.0 “**Utilities**” shall mean power, electricity, gas and other sources of energy, water, earth and other things whatsoever required for or incidental to the performance of the services, not being materials required for permanent incorporation in the works.
- 1.0.61.0 The expression “**Works**” means the product of materials and services.
- 1.1.0.0 Unless otherwise specifically stated, the masculine gender shall include the feminine and neuter genders and vice-versa and the singular shall include the plural and vice-versa.
- 1.2.0.0 The definitions shall apply to all the expressions defined above when used in the contract documents, whether expressed wholly in capitals or partly in capital or with the first letter in capital or wholly in ordinary letters.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 16 of 271

SECTION-2

GENERAL

2.0.0.0 INTERPRETATION OF CONTRACT DOCUMENTS



2.0.1.0 The several Contract documents forming the Contract are to read together as a whole and are to be taken as mutually explanatory.

2.0.1.1 Notwithstanding the sub-division of the Contract into these separate documents and / or volumes and / or heads, every part of each separate section / volume / head shall be deemed to be supplementary of every other part and shall be read with and into the contract so far as it may be practicable to do so.

2.0.1.2 Subject to the provisions of Clause 2.0.1.3 hereof, in case of an irreconcilable contradiction in the commercial terms or conditions to the extent that the two provisions cannot co-exist, the following shall prevail in order of precedence.

- i) Contract Agreement
- ii) Detailed Letter of Acceptance
- iii) Statement of Agreed Variations
- iv) Special Conditions of Contract
- v) Instructions to Bidders
- vi) Price Schedule
- vii) General Conditions of Contract
- viii) Other documents

2.0.1.3 If in respect of any commercial term or condition, if any provision in the General Conditions of Contract is repugnant to or at variance with any provision(s) of the Special Conditions of Contract and / or the Agreed Variations or in any provision of the Special Conditions of Contract is repugnant to or at variance with any provision(s) of the Agreed Variations, and the two cannot be reconciled or otherwise co-exist, then unless a different intention appears, the provision(s) of the Special Conditions of Contract shall be deemed to override the provision(s) of General Conditions of Contract and the

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 17 of 271</div>




provision(s) of the Agreed Variations shall be deemed to override the provision(s) of the Special Conditions of Contract, but only to the extent that such repugnancies in the General Conditions of Contract cannot be reconciled with the Special Conditions of Contract and / or Agreed Variations or to the extent that such repugnancies in the Special Conditions of Contract cannot be reconciled with the Agreed Variations, as the case may be.

2.0.1.4 Without prejudice to the provisions of the General Conditions of Contract, whenever in the Bidding documents it is mentioned or stated that the CONTRACTOR shall perform certain work or provide certain facilities, it is understood that the CONTRACTOR shall do so at his own cost and the lumpsum price shall be deemed to have included the cost of such performance and / or provision, as the case may be.

2.0.1.5 The materials, design and workmanship shall satisfy the applicable relevant Indian Standards, the job specifications contained herein and the codes referred to by expression or implication. Where the job specifications stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied. In the absence of any standard / specification / code of practice for detailed specifications covering any part of the work covered in this tender, the instructions / directions of the Engineer-in-Charge shall be binding on the CONTRACTOR.



2.0.1.6 In case of an irreconcilable contradiction in the technical requirements or technical specifications between Indian standards / Applicable Codes & Standards, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, Schedule of Lump sum Price and or Agreed Variations to the extent that the two provisions cannot co-exist or be read together to satisfy both or all, the following order of precedence shall prevail:

- i) Formal Contract
- ii) Detailed Letter of Acceptance
- iii) Statement of Agreed Variations
- iv) Job specifications / Scope of Work
- v) Drawings
- vi) Technical / Material Specifications
- vii) Quality Assurance Procedures



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 
				Rev 00 Page 18 of 271

- viii) Applicable Codes & Standards
- ix) Special Conditions of Contract
- x) General Conditions of Contract
- xi) Price Schedule
- xii) Instructions to Bidders
- xiii) Other documents

- 2.0.1.7 Should there be any doubt or ambiguity in the interpretation of the Contract documents or contradiction therein or should there be any discernable error or omission in any Contract document, the CONTRACTOR shall prior to commencing the relative work or supply, as the case may be, apply in writing to the Engineer-in-Charge for his decision for resolution of the doubt, ambiguity or contradiction or correction of the error or making good the omission, as the case may be. Should the CONTRACTOR fail to apply to the Engineer-in-Charge for his decision as aforesaid prior to commencing the relative work or supply, the CONTRACTOR shall perform the said work or make the said supply, as the case may be, at his own risk, and the provisions of clause 2.0.1.10 hereof shall apply to any such work performed or supply made by the CONTRACTOR.
- 2.0.1.8 Notwithstanding anything provided in clause 2.0.1.7 hereof above, either the CONTRACTOR or any representative of the OWNER or CONSULTANT may, at any time prior to or during the execution of the work or supply of any material or any part thereof (if the CONTRACTOR has failed to make an application as provided for in clause 2.0.1.7), apply to the Engineer-in-Charge in writing for his decision in resolution of any doubt, ambiguity or contradiction or for the correction of any error or for making good the omission as the case may be.
- 2.0.1.9 The decision of the Engineer-in-Charge on any application under Clause 2.0.1.7 or Clause 2.0.1.8 hereof shall be in writing and shall be final and binding upon the CONTRACTOR and shall form part of the Contract documents, with the intent that the Contract documents shall be read as though the said decision is and was at all times incorporated therein.
- 2.0.1.10 In the event of the CONTRACTOR performing or executing any work or making any supply at variance with the decision of the Engineer-in-Charge as aforesaid, then such work shall, if the Engineer-in-Charge so consider necessary, be deemed to be a defective work / supply and the provision of clause 5.1.5.0 hereof and associated clauses thereunder shall apply thereto.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 19 of 271

- 2.0.2.0 Any work or supply shown, indicated or included in any description of the work, plans, drawings, Specifications and / or Price Schedule or other Contract or Bid Documents shall be deemed to form part of the work and / or supply contracted for, as the case may be, notwithstanding failure to show, indicate or include such work or supply in any other or others among the documents aforesaid with the intent that the indication or inclusion of the work or supply within anyone of the said documents shall be deemed to be a sufficient indication or inclusion of the work or supply, as the case may be, within the work and supply covered by the Contract.
- 2.0.3.0 No verbal agreement, assurance, representation or understanding given by any employee or officer of the OWNER or so understood by the CONTRACTOR, whether given or understood before or after the execution of the Contract, shall any-wise bind the OWNER or alter the Contract documents unless specifically given in writing and signed by the OWNER or by the Engineer-in-Charge on behalf of the OWNER and CONTRACTOR'S authorised representative as an Agreed Variation and amendment of the relative term(s) in the contract documents.
- 2.0.4.0 Clause headings given in this or any other contract documents are intended only as a general guide for convenience in reading and segregating the general subject of the various Clauses, but do not form part of the contract documents, with the intent that the Clause headings shall not govern the meaning or import of the Clauses thereunder appearing or confine or otherwise affect the interpretation thereof.
- 2.0.5.0 The OWNER may, as a measure of convenience to the CONTRACTOR, furnish Hindi or any other vernacular translation of the several contract documents or any of them. Such translation shall, however, not any-wise operate as the contract between the parties or regulate upon the terms and conditions of the contract documents, with the intention that all rights and obligations of the parties in terms of the contract documents and any reference to the contract or contract documents or any of them shall be deemed as the rights and obligations arising out of the contract or contract documents or any of them as written in English; and no claim, disputes, difference or other objection will lie or will be entertained by the OWNER on account of any reference in the import or interpretation between any provision contained in Hindi and / or any other vernacular translation of the contract documents or any of them and the contract documents in English.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 20 of 271

2.1.0.0 SECURITY DEPOSIT

- 2.1.1.0 The CONTRACTOR shall within 28 (twenty-eight) days from the date of issue of the Acceptance of Bid furnish Security Deposit in an amount equivalent to 10% (ten percent) of the Lumpsum Price in the manner specified in Clause 2.1.2.0 hereof. Such security deposit is to be held by the OWNER in lieu of cash as security for the due performance of the CONTRACTOR's obligation under the contract.
- 2.1.2.0 As and by way of the said Security Deposit, the CONTRACTOR shall within 28 (twenty-eight) days from the date of issue of Acceptance of Bid submit one or more unconditional Bank Guarantee(s) from one or more Bank(s) in India acceptable to the OWNER and in a format, provided by the OWNER, for a sum equivalent to 10% (ten percent) of the Lumpsum Price of the contract. Such Bank Guarantee(s) to the extent that the Lumpsum Price as designated in Foreign currency, shall be for an amount of 10% (ten percent) of the designated Foreign currency(ies), and to the extent that the Lumpsum Price as designated in Indian Rupees, shall be for an amount of 10% (ten percent) of the designated Indian Rupees, and shall be valid in the first instance for a period of not less than 3 (three) months after the expiry of the defect liability period, reckoned from the scheduled date of final completion under the Contract.
- 2.1.2.1 The Bank Guarantee(s) shall be extended by such further period(s) as the OWNER may require until performance of all the Contractor's obligations under the Contract.
- 2.1.2.2 Without prejudice to any other right or remedy available to the OWNER, the OWNER shall be entitled to encash the Bank Guarantee(s) or any of them which are not renewed atleast 14 (fourteen) days prior to the date of expiry thereof.
- 2.1.3.0 The Security Deposit shall be held by the OWNER as security for the due performance of the CONTRACTOR'S obligations under the contract, PROVIDED that nothing herein stated shall make it incumbent upon the OWNER to utilise the Security Deposit in preference to any other remedy which the OWNER may have, nor shall be construed as anywise confining the claims of the OWNER against the CONTRACTOR to the quantum of the security deposit.
- 2.1.4.0 Upon determination of the Contract prior to completion of the work(s) for any cause, the OWNER shall insofar as the Security Deposit constitutes cash refund, and insofar as Security Deposit is in any other



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 21 of 271

form, release / discharge / return, as the case may be, to the CONTRACTOR the unutilised balance of the Security Deposit, if any, for the time being remaining in the hands of the OWNER, after settlement of accounts and discharge of all amounts due from the CONTRACTOR to the OWNER and fulfilment of all obligations of the CONTRACTOR.



2.2.0.0 PLANS, DRAWINGS & APPROVALS FURNISHED BY OWNER

2.2.1.0 Plans and Drawings and other information forming part of the bid documents has been provided by the OWNER in good faith with a view to assist the CONTRACTOR, and shall constitute only a general guidance to enable the CONTRACTOR to visualise the work and / or supplies contemplated under the contract. The OWNER assumes no responsibility as to the correctness thereof, and the CONTRACTOR is expected prior to bidding, to have undertaken a complete and independent survey and to have made its own study of all factors relevant to the performance of the work or making the supplies. The CONTRACTOR shall exercise its knowledge and competence in scrutinising and evaluating such information and shall proceed with use of such information only after satisfying itself of its sufficiency and correctness for use.

2.2.1.1 It shall be the exclusive responsibility of the CONTRACTOR to call upon the Engineer-in-Charge (in respect of approvals to be furnished by the OWNER) for and to pursue and obtain from the Engineer-in-Charge any approvals required to be furnished to the CONTRACTOR under the contract for the proper execution of the work or any particular item or job therein or making of any front or supply, as the case may be, as and when required, sufficiently in advance of the stage of delivery of the materials or of the progress of the work for continuance of which the same shall be required. Any failure by the CONTRACTOR to do so shall be entirely at the risks and the costs of the CONTRACTOR and shall not constitute a ground for the extension of time. If the Engineer-in-Charge shall fail to provide the CONTRACTOR requisite approval(s) or disapproval(s) as the case may be, the CONTRACTOR shall give written notice to the Engineer-in-Charge stating specifically the approval(s) which is / are pending, the period for which it / they are pending, the reason(s) for which they are pending and that the notice is being given pursuant to the provisions of this Clause 2.2.1.1 of the General Conditions of Contract. If thereafter, the said notice, notwithstanding the approval or the disapproval, as the case may be, is not granted within 10 (ten) working days, the drawings or documents or other proposal(s) put up for approval, will be deemed to have been approved.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 22 of 271

- 2.2.1.2 The CONTRACTOR shall submit to OWNER / Engineer-in-Charge, within the periods specified by OWNER / Engineer-in-Charge, such documents, write-ups, designs, samples, patterns, models, data and other information as may be required in order to enable OWNER / Engineer-in-Charge to furnish the requisite approval(s). The CONTRACTOR shall be responsible for any discrepancy, error, or omission in any drawings or other matters or things or documents and other particulars supplied by it whether or not such drawings, documents and particulars or other matters and / or things have been approved by the OWNER / Engineer-in-Charge.
- 2.2.1.3 Where the CONTRACTOR claims such deemed approval, pursuant to Clause 2.2.1.1, the CONTRACTOR shall submit to the Executive Director the supporting documents and notice(s) in support of the claim of deemed approval and the Executive Director shall, if satisfied of the existence of such deemed approval, certify the approval on the drawing / document and upon such certification the drawing / document shall be deemed to have been approved in Code-1. The CONTRACTOR shall not be entitled to claim any extension of time on this account.
- 2.2.1.4 The CONTRACTOR shall not depart from the approved documents, drawings, samples, patterns, models or manuals except as directed in writing by OWNER / Engineer-in-Charge.
- With a view to expedite OWNER's approvals of critical drawings, the CONTRACTOR shall furnish to the Engineer-in-Charge, in writing as precisely as possible, a list of critical drawings (hereinafter referred to "critical drawings") within 25 (twenty-five) working days of the Letter of Acceptance or at the commencement of the kick-off meeting, whichever is earlier.
 - At the initiative of the CONTRACTOR, the Engineer-in-Charge and the CONTRACTOR shall discuss as soon as possible and finalise the schedule for the presentation for approval of the critical drawings so as to enable appropriate persons to be assigned for approval of the drawings.
 - The critical drawings requiring the OWNER's approval shall be transmitted to the office of the OWNER's CONSULTANT electronically for which the CONTRACTOR shall establish an electronic system compatible with that of the OWNER's CONSULTANT for document / data transfer. The details of the system available with the OWNER's CONSULTANT are provided in the Bidding Documents. Failure by the CONTRACTOR to install such compatible electronic transfer system shall constitute a breach of the CONTRACTOR's obligations to which the provisions of Clause



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 23 of 271

7.0.1.0 of these General Conditions shall be applicable, without prejudice to any right of action available to the OWNER's in this behalf. Until the CONTRACTOR provides such system, the CONTRACTOR shall solely assume all risks and delay, and shall personally deliver to OWNER's CONSULTANT's office all drawings and documents requiring approval and to depute to the OWNER's CONSULTANT's designated office, its design engineer for across the table discussions with reference to the drawings / documents and to personally pick up from the designated offices of the OWNER's CONSULTANT the reviewed / commented upon drawings / documents.

- d) It is anticipated that the non-critical drawings will be submitted periodically in accordance with a schedule to be established by the CONTRACTOR in consultation with the Engineer-in-Charge within 56 (fifty-six) days of the notification of award in conjunction with the Progress Schedule.
- e) Bottlenecks in critical and non-critical drawings shall be removed by discussion across the table between the OWNER/OWNER's CONSULTANT with the CONTRACTOR and the CONTRACTOR's consultants and / or sub-vendors concerned. These meetings shall be held at the designated offices of OWNER or the OWNER's CONSULTANT once in a week or otherwise as required.
- f) The CONTRACTOR shall as soon as possible, after issue of Letter of Acceptance establish with the Process Licensor(s), in consultation with the OWNER, the schedule for and modalities of Licensor's review of CONTRACTOR's drawings, so far as required.

2.2.2.0 The CONTRACTOR shall carefully study the plans / drawings and other Contract documents and shall bring to the notice of the Engineer-in-Charge for clarification / correction, any ambiguity, error, discrepancy, contradiction or omission therein prior to the execution of related work(s) or undertaking the related supply(ies) as the case may be, under the provisions of clause 2.0.1.7 hereof.

2.2.3.0 Notwithstanding anything to the contrary in the contract documents expressed or implied, and notwithstanding the absence of any ambiguity, error, discrepancy, contradiction or omission in the plans / drawings as aforesaid, the Engineer-in-Charge shall be entitled at any time before or during the making of the related supplies or execution of the related works to amend / modify or alter any plan(s) or drawing(s) furnished to the CONTRACTOR by the OWNER and the CONTRACTOR shall, subject to the provisions of Clause 2.4.2.0 hereof, thereafter perform and / or to continue to perform the related work(s) or supply(ies) as the case may be, according to the amended / modified / altered

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 24 of 271

plans / drawings without entitlement to any extra remuneration. Should the CONTRACTOR thereafter execute any relative work(s) or make any supply at variance there with, the provisions of Clause 5.1.5.0 hereof and associated clauses thereunder relating to defective work and supply shall apply thereto, provided that if any such amendment / modification/ alteration shall, in the opinion of the CONTRACTOR, necessitate an extension of time, the provisions of clause 4.3.5.0 hereof and clauses related thereto shall apply.

2.2.4.0 Copies of all approved plans and designs relating to the work(s) and supplies shall be kept and maintained at the CONTRACTOR'S office at the Site and shall be made available to the Engineer-in-Charge for inspection or reference at any time during the execution of work.



2.2.5.0 All plans and drawings furnished by the OWNER to the CONTRACTOR shall be and remains the property of the OWNER and shall be returned by the CONTRACTOR to the OWNER on completion of the work(s) or prior to determination of the contract.

2.3.0.0 PLANS, DESIGNS, DRAWINGS AND SPECIFICATIONS TO BE FURNISHED BY CONTRACTOR

2.3.1.0 The CONTRACTOR shall within scope of his work prepare detailed working and other plans, drawings and designs required for or in connection with the performance of the work or selection, procurement or making any supply, and these plans/ drawings shall be got approved from the OWNER before the CONTRACTOR commences the performance of the relative work or making the relative supply.



2.3.2.0 The CONTRACTOR shall, if within the scope of his work also carry out investigative and design studies and prepare detailed design for the various materials and works covered in the contract documents. Such detailed designs alongwith referred codes, standards and practices, back-up calculations, computer runs and other details on basis of which the designs have been prepared shall be subject to the OWNER'S approval. Detailed working drawings and material specifications shall be prepared and established on the basis of the approved design(s) and shall also be subject to the OWNER'S approval.

2.3.3.0 Where the CONTRACTOR shall be required under the contract to prepare or furnish any plan(s) or specification(s) or other items or things in respect of the work or any particular work and / or supplies or any particular supply, the CONTRACTOR shall within 30 (thirty) days (or such other period as the

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 25 of 271

Engineer-in-Charge may prescribe in this behalf) of receipt of Letter of Acceptance or not less than 90 (ninety) days before the proposed date of commencement of the relative work or supply, whichever shall be earlier, submit to the Engineer-in-Charge or other authorities specified by the OWNER in this behalf for approval the relative plan(s) / drawing(s) / design(s) / specification(s) / item(s) / thing(s) concerned. The Engineer-in-Charge / specified authority shall be entitled at any time to suggest any amendment(s) or modification(s) in the plans / drawings and / or specifications and the CONTRACTOR shall thereupon either convince the Engineer-in-Charge / specified authority of the unnecessary in whole or part of such amendment or modifications or shall implement the same and shall cause the plan(s) / drawing(s) / design(s) / specification(s) or item(s) or thing(s) concerned to be accordingly amended, provided that no such approval of or amendments / modifications in the plans / drawings / designs / specifications by or suggested by the Engineer-in-Charge / specified authority shall anyway absolve the CONTRACTOR of any of his obligations, responsibilities or liabilities under the Contract, inclusive of and relative to the utility and suitability of the CONTRACTOR's plans / drawings / designs / specifications / or items or things concerned in or for the relative works or supplies and fulfilment of all specifications and performance and other guarantees of the consequent works / supplies, any such approval or suggestion by the Engineer-in-Charge / authority as aforesaid being intended only by way of assistance to the CONTRACTOR and prima facie satisfaction of the OWNER without any attendant liability upon the Engineer-in-Charge / specified authority in this behalf and without any estopped against the OWNER from asserting that notwithstanding such approval, the plan, drawing, design, specification or other item or thing approved and any resultant work or supply were faulty and / or not in accordance with the contractual requirements.

- 2.3.3.1 The CONTRACTOR shall furnish six prints each of the drawings for approval of the Engineer-in-Charge.
- 2.3.4.0 The CONTRACTOR shall not permit any work to be done or any material to be supplied or fabricated or manufactured at variance with drawings / designs / specifications approved by the Engineer-in-Charge or other specified authority. The approved drawings may be released to the CONTRACTOR for fabrication / installation progressively.
- 2.3.5.0 Unless otherwise required atleast 3 (three) sets of direct reading reproduces, no lower in quality than auto positive of extra thin paper able to produce clean legible prints (the reproduces to be submitted in roll forms) and 3 (three) sets of prints of all approved plans / drawings / designs / specifications prepared by the CONTRACTOR, together with similar sets of reproduces and prints of

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 26 of 271</div>

all revisions / amendments / modifications therein shall be lodged with the Engineer-in-Charge / specified authority for the record of the OWNER, such sets of plans / drawings / designs / specifications shall be signed by the CONTRACTOR and shall indicate thereon the number and date of each revision / amendment and of the communication of the Engineer-in-Charge or any other agency appointed by the OWNER for the approval thereof, by which the approval was given.

- 2.3.5.1 All the Final drawings shall bear the certification stamp as indicated below, duly signed by both, the CONTRACTOR and the approving authority specified / Engineer-in-Charge.

“Certified true for EPCC Package No. _____-, i.e.



Contract No. : _____

Signed (CONTRACTOR) _____



Signed (on behalf of MRPL) _____

2.4.0.0 ALTERATIONS IN DESIGNS, PLANS, DRAWINGS, SPECIFICATIONS, ORDERS AND INSTRUCTIONS

- 2.4.1.0 In addition and without prejudice to the provisions of Clause 2.2.0.0 and 2.3.0.0 and associated clauses thereunder, if the Engineer-in-Charge is of the opinion that any plan, drawings, design or specification or order or instruction relative thereto within the CONTRACTOR’s scope of work or supply is anywise erroneous or is otherwise required to be modified, altered, amended or improved to conform to the Contract requirements, whether or not the same has or have been priorly approved by or on behalf of the OWNER, the Engineer-in-Charge may by written notice to the CONTRACTOR at any time prior to or in the course of the execution of the works or any part thereof modify or amend the relevant plan, drawing, design, specification, order and / or any instruction or any of them by addition, omission, substitution or otherwise whatsoever, and the CONTRACTOR shall thereupon either convince the Engineer-in-Charge of the unnecessary in the whole or part of the amendment(s) or modification(s) or shall implement the same and shall cause the plan, drawing, design, specification, order or instruction as the case may be to be accordingly amended and the CONTRACTOR shall thereafter carry out the work or supply or the related work or supply, as the case may be, in accordance with such altered specification, order, instruction, plan, drawing and / or design, as the case may be, on the same terms and conditions in all respects without entitlement to any additional remuneration or price.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 27 of 271</div>

- 2.4.1.1 In addition to and without prejudice to Clause 2.4.1.0 hereof, the Engineer-in-Charge shall have the power by written notice to the CONTRACTOR at any time prior to the or in the course of the execution of the relative works or supply or any other part thereof, to alter or amend or modify any other requirement. If and so far as the alteration, amendment and / or modification requires any consequential amendment in any plan(s), drawing(s), design(s) or specification(s) within the CONTRACTOR's scope of work and / or supply, the CONTRACTOR shall make such alternations, amendment(s) or modification(s) as the case may be.
- 2.4.1.2 If such alteration, amendment, modification or improvement under Clause 2.4.1.0 or 2.4.1.1 shall, in the opinion of the CONTRACTOR, necessitate an extension in the item for completion, the provisions of Clause 4.3.5.0 hereof and related clauses with regard to the extension of time shall apply.
- 2.4.2.0 If any alteration, amendment or modification under Clauses 2.4.1.1 shall result in a reduction or increase or change in the work or supply covered by the Lumpsum Price so as to render unreasonable the Lumpsum Price, the OWNER and the CONTRACTOR shall negotiate a suitable increase or reduction, as the case may be, in the Lump sum Price and failing agreement on a negotiated appropriate reduction or increase as the case may be, the Engineer-in-Charge shall, as an interim measure, fix a reduction or increase as he considers reasonable in the circumstances with relative portion of the Lumpsum Price and the Lumpsum Price shall be deemed to be accordingly amended to the extent applicable to the work or supply covered by the alteration, amendment or modification.
- 2.4.2.1 Pending finalisation in respects of the revision pursuant to the provisions of Clause 2.4.2.0 hereof, the CONTRACTOR shall continue and be bound to continue and perform the works and / or make the supply to completion in all respects according to the contract (unless the contract or works be determined by the OWNER) and the CONTRACTOR shall be liable and bound in all respects under the Contract.
- 2.4.2.2 The CONTRACTOR shall not be entitled to any compensation in addition to the payment for the works actually performed by the CONTRACTOR and / or supplies actually made by the CONTRACTOR calculated on the basis of the Lumpsum Price except as provided in clause 2.4.2.0 hereof where applicable as a result of any alternation, amendment, modification or improvement in the specifications, plans, designs or drawings as aforesaid, in which event the payment shall be calculated

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 28 of 271

for the affected work or supply on the basis of the Lumpsum Price as reduced or increased as the case may be under Clause 2.4.2.0.

2.5.0.0 ALTERATION IN THE SCOPE OF WORK OR SUPPLY

2.5.1.0 The OWNER may at any time(s), before or after the commencement of the work or supply, by notice in writing issued to the CONTRACTOR, alter the scope of work or supply, by increasing or reducing the quantities relative to any job(s) or supply(ies) or by increasing or reducing the job(s) required to be done or supplied with respect thereto or by omitting therefrom any specific job(s) or portion(s) or by substituting any existing jobs or operations with other jobs and / or operations, or by requiring the CONTRACTOR to perform any extra works and upon receipt of such notice the CONTRACTOR shall execute the job(s) and / or make supplies as required within the altered scope of work and /or supply.



2.5.2.0 If any alteration in the scope of work and /or supply shall in the opinion of the CONTRACTOR, necessitate any extension in time for completion, the provisions of Clause 4.3.5.0 hereof and related Clauses with regard to the extension of time shall apply.

2.5.3.0 If such alteration shall, in the opinion of the Engineer-in-Charge, result in a reduction or increase or change in the work or supply covered by the Lumpsum Price so as to render unreasonable the Lumpsum Price, the provision of clauses 2.4.2.0 and 2.4.2.1 shall apply.

2.5.4.0 The CONTRACTOR shall not be entitled to any compensation in addition to the payment for the work actually performed and supply actually made by the CONTRACTOR calculated on the basis of the Lumpsum Price except as provided in Clause 2.5.3.0 hereof where applicable as result of any alteration in the scope of work, in which event the payment shall be calculated for the affected work or supply on the basis of the Lumpsum Price as reduced or increased, as the case may be, under Clause 2.5.3.0.

2.6.0.0 CHANGE ORDERS

2.6.1.0 The provisions of Clauses 2.4.1.2, 2.4.2.0 and / or 2.5.3.0 hereof and of associated provisions shall apply only upon the issue of a Change Order as herein specified.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 29 of 271

2.6.2.0 A Change Order may be initiated in case (i) of a change by the OWNER in exercise of its powers under Clause 2.4.0.0 and / or 2.5.0.0 and associated Clauses thereunder, or (ii) if the CONTRACTOR requests and the OWNER agrees to delete any part of the Scope of Work which will not adversely affect the operational capabilities of the Project / UNIT and for which cost and time benefits shall be passed on to the OWNER.

2.6.3.0 Any claim for or initiation of a Change Order as given above, may be sent by the CONTRACTOR to Engineer-in-Charge and the OWNER in writing, specifying the variation (if any) in the Contract Price and in the Progress Schedule. The claim for a Change Order must be submitted by CONTRACTOR to the Engineer-in-Charge within 14 (fourteen) days of the issue of the order or instruction on which the CONTRACTOR basis such claim and the provisions of Clause 6.6.1.0 hereof shall mutates mutandis apply to any such claim for a Change Order. Provided always that the provisions with respect to a Change Order shall not be applicable if:

- (i) the change of supply and / or scope of service is required by the OWNER / Engineer-in-Charge before approval of detailed design or engineering to meet the requirements of the Contract.
- (ii) the change of supply or services or work is necessary at any time in order for the CONTRACTOR to comply with its responsibilities under the Contract,
- (iii) the additional supply or services or works are required because of any delay or deficiency attributable to the CONTRACTOR.
- (iv) the additional Work / Services and / or materials are required to make good the CONTRACTOR's Warranties and /or Guarantees as set forth in the Contract,
- (v) the change relates to the repair, rectification or re-performance of any of the defective Work or materials within the CONTRACTOR's scope.

2.6.4.0 If the OWNER / Engineer-in-Charge and the CONTRACTOR are unable to agree on the CONTRACTOR's entitlement to a Change Order, the CONTRACTOR's request for a Change Order shall be deemed to be a claim to which the provisions of Clause 6.6.1.0 hereof and associated provisions with regard to the CONTRACTOR's claims shall mutatis mutandis apply.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 30 of 271</div>



2.6.5.0 Any Change Order as above comprising an alteration which involves a material change in the cost of the relative works or supplies, as the case may be, shall be the subject of an amendment to the contract under Clause 2.4.2.0 and / or Clause 2.5.3.0 hereof, as the case may be, by way of an increase or decrease in the relative price of supply and / or services, as the case may be, in the Lumpsum Price. The Change Order shall also specify the heads relevant to the change(s) for making on account payments.

2.6.6.0 If the OWNER and the CONTRACTOR are unable to agree on the increase or reduction in the Lumpsum Price as a result of a Change Order, a statement of time worked by all labour employed and showing the description and quality of all materials and equipment utilised for the work to which the Change Order relates shall be submitted by the CONTRACTOR on a daily basis to the OWNER after obtaining the comments (if any) and signature of the Engineer-in-Charge thereon. At the end of each month the CONTRACTOR shall deliver to the OWNER, for approval a price statement of the cost of labour, materials and equipment used in this behalf. The cost of mechanical equipment shall be worked out on a capital amortisation of 2000 (two thousand) working days. Notwithstanding any dispute as to the cost allocation, the Statement shall be signed by the OWNER with a Note of dissent as a record for time worked and materials and equipment used and the OWNER's views thereon.

2.7.0.0 CANCELLATION OF CONTRACT

2.7.1.0 The OWNER shall be entitled at any time at its discretion to cancel the Contract, if in the opinion of the OWNER the cessation of the work becomes necessary owing to any cause whatsoever other than the default of the CONTRACTOR, and a notice in writing from the OWNER to the CONTRACTOR of such cancellation and the reason(s) therefore shall be conclusive proof of such cancellation and of the reason(s) thereof. Upon cancellation of the Contract the Engineer-in-Charge may require the CONTRACTOR:

- To perform, to completion or to any other intermediary stage of completion to the satisfaction of the Engineer-in-Charge, any work(s) already commenced by the CONTRACTOR; and
- To take steps as are considered necessary by the Engineer-in-Charge for properly protecting and securing the works performed by the CONTRACTOR, to the satisfaction of the Engineer-in-Charge.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 31 of 271



And the CONTRACTOR shall act accordingly and the same shall be deemed to be included within the CONTRACTOR's scope of work.

2.7.2.0 Upon receipt of a notice as specified in Clause 2.7.1.0 hereof the CONTRACTOR shall, unless the notice otherwise requires:

- i) Immediately discontinue work and / or supply from the date and to the extent specified in the notice.
- ii) Not place any further orders or sub-contracts for materials, services or facilities other than as may be necessary or required for completing or performing such portion of the work(s) or supplies which the CONTRACTOR is required to complete or perform.
- iii) Promptly make every reasonable effort to obtain cancellation or fulfilment, as the case may be at the option of the Engineer-in-Charge / OWNER of all orders and sub-contracts to the extent they relate to the performance of the work(s) or supplies cancelled.
- iv) Assist the Engineer-in-Charge /OWNER, as specifically requested in writing by the Engineer-in-Charge /OWNER, in the maintenance, protection and disposition of property / works acquired by the OWNER pursuant to the Contract.

2.7.3.0 Upon Cancellation of the Contract, the OWNER shall take over from the CONTRACTOR, the approved surplus materials supplied by the CONTRACTOR for permanent incorporation in the work and lying at the job site on the date of receipt of notice of cancellation by the CONTRACTOR, and the decision of the Engineer-in-Charge as to the approved materials lying at the site on the date of cancellation and the quantities thereof shall be final and binding upon the CONTRACTOR.

2.7.4.0 Upon cancellation of the Contract, the CONTRACTOR agrees to waive any claim for damages, including loss of anticipated profits on account thereof, and as the sole right and remedy of the CONTRACTOR against the OWNER resultant upon such cancellation, the CONTRACTOR agrees to accept from the OWNER the following, namely:



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 32 of 271</div>

- i) The cost of settling and paying claims for cancellation or completion of pending orders and / or sub contracts as provided for in sub-clause (iii) of clause 2.7.2.0 hereof.
- ii) The cost of protecting, securing and / or maintaining the works pursuant to the provisions of sub-clause (ii) of Clause 2.7.1.0 hereof and /or sub-clause (iv) of Clause 2.7.2.0 hereof.
- iii) Payment for the supplies actually made on the basis of the Bill of Materials.
- iv) Payment for the work actually performed by the CONTRACTOR, calculated on the basis of the relative milestone achieved as derived from the Payment Schedule specified in the Special Conditions of Contract.
- v) The cost of materials taken over by the OWNER pursuant to the provisions of Clause 2.7.3.0 hereof.
- vi) An allowance, if any due, as determined by the Engineer-in-Charge (whose decision shall be final) to cover the cost of CONTRACTOR's actual mobilization and de-mobilisation at job site for the work to the extend uncovered by payments under items (i) to (iv) above.



AND THE CONTRACTOR shall not be entitled to any compensation in addition to the payments specifically provided for above, and the CONTRACTOR hereby specifically waives any and all contrary rights and claims whatsoever.

2.8.0.0 SUSPENSION OF WORK AND SUPPLIES

- 2.8.1.0 The Engineer-in-Charge or the OWNER may at any time(s), at his discretion should he consider that the circumstances so warrant (the decision of the Engineer-in-Charge as to the existence of circumstances warranting such suspension shall be final and binding upon the CONTRACTOR), by notice in writing to the CONTRACTOR, temporarily suspend the work or supply or any part thereof for such period(s) as the Engineer-in-Charge / OWNER shall deem necessary and the CONTRACTOR shall, upon receipt of the order of suspension, forthwith suspend the work(s) or supply(ies) or such part thereof as shall have been suspended until he has received a written order from the Engineer-in-Charge / OWNER to proceed with the work suspended or any part thereof.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 33 of 271

- 2.8.1.1 During the period of any suspension under Clause 2.8.1.0, the CONTRACTOR shall at his own cost within the scope of the relative work, properly protect and secure the work and materials so far as is necessary in the opinion of the Engineer-in-Charge.
- 2.8.2.0 The CONTRACTOR shall not be entitled to claim compensation for any loss or damage sustained by the CONTRACTOR by virtue of any suspension as aforesaid, notwithstanding that consequent upon such suspension, the machinery, equipment and / or labour of the CONTRACTOR or any part thereof shall be or become or be rendered idle and notwithstanding that the CONTRACTOR shall be liable to pay salary, wages or hire charges and expenses thereof or therefor.
- 2.8.2.1 (a) DELETED
- 2.8.3.0 Unless the suspension is by reason of default or failure on the part of the CONTRACTOR (and the reasons for the suspension stated by the Engineer-in-Charge in any notice of suspension as aforesaid inclusive as to the existence of default or failure on the part of the CONTRACTOR if so stated in the notice, shall be final and binding upon the CONTRACTOR), if in the opinion of the CONTRACTOR such suspension shall necessitate any extension in the time of completion, the provisions of Clause 4.3.5.0 hereof and related Clauses in respect of extension of time shall apply.
- 2.8.4.0 In the event that the suspension continues for a period of 84 (eighty-four) days or more, the OWNER and the CONTRACTOR shall forthwith review the situation with a view to take suitable remedies, including termination of contract. If the parties are unable to agree upon a suitable remedy, either party may terminate the Contract by giving the other party written notice of such termination, provided that any notice of termination by the CONTRACTOR shall be operative only if the Engineer-in-Charge / OWNER does not lift the suspension within 28(twenty-eight) days of receipt of the CONTRACTOR's notice in this behalf, and the CONTRACTOR's notice shall so specify.
- 2.8.5.0 In the event of such termination being upon a suspension consequent to a default or failure by the CONTRACTOR, the CONTRACTOR shall not be entitled to any damage, compensation, loss of profit or other compensation whatsoever in addition to payment for the completed supplies made and completed works done in accordance with the terms of the Contract in accordance with the provisions of Sub-Clauses (iii) and (iv) of Clause 2.7.4.0 hereof.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 34 of 271</div>

2.8.6.0 Except for a suspension by written order of the Engineer-in-Charge under Clause 2.8.1.0 hereof, the CONTRACTOR shall not suspend the work for any cause and any such suspension, if occur shall be likely to be attended by consequences under Clause 7.0.1.0 (i)(g) hereof.



2.9.0.0 Notwithstanding anything provided in Clause 2.7.0.0 and / or Clause 2.8.0.0 and related Clauses thereunder, upon a cancellation of the Contract under the provisions of Clause 2.7.1.0 hereof or termination of the Contract under provisions of Clause 2.8.4.0 hereof, the provisions of Clauses 7.0.3.0 to 7.0.7.0 hereof consequent upon termination of Contract shall apply. Should the termination be one to which the provisions of Clause 2.8.5.0 hereof apply, then the provision of Clauses 7.0.2.0, 7.0.8.0, 7.0.9.0, 7.0.10.0, 7.1.0.0 and 7.2.0.0 consequent upon termination of Contract shall also mutatis mutandis apply.

2.10.0.0 WORK FRONT



2.10.1.0 The work front / job site required by the CONTRACTOR for the performance of the works shall be handed over by the OWNER to the CONTRACTOR sequentially in the stages meeting the CONTRACTOR's requirements for the works with a view that the CONTRACTOR shall so plan his works as to perform and achieve completion in a sequential manner without starting all the works at the same time.

2.10.2.0 To this end, within 28 (twenty-eight) days of the Letter of Acceptance, the CONTRACTOR shall finalise in consultation with the Engineer-in-Charge, sequential requirements of the work front / job site taking into account other works concurrently being undertaken by the OWNER at and about the same job site and / or on the performance or completion of which the CONTRACTOR's performance depends (the "Front Release Programme").

2.10.3.0 In the event that the OWNER is, for any reason(s) not attributable to the CONTRACTOR, unable to hand over to the CONTRACTOR, the relative work front / job site on the planned date of release thereof as specified in the Front Release Programme, as a result of which the CONTRACTOR is prevented from continuing with the work, the CONTRACTOR shall give written notice thereof to the Engineer-in-Charge and the OWNER, specifying the particular work front / job site with reference to which the default has occurred and specifying that notice is being given under this Clause 2.10.3.0 of the General Conditions

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 35 of 271

of Contract, and if the work front / job site is not thereafter sufficiently made available to the CONTRACTOR within 10 (ten) days from the receipt of such notice and the CONTRACTOR cannot commence or progress with the work, the provisions of Clause 4.3.5.0 hereof shall mutatis mutandis apply. No standby allowance shall be payable to the Contractor in this regard.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 36 of 271

SECTION-3

MATERIALS, LABOUR, EQUIPMENT & FACILITIES



3.0.0.0 CONTRACTOR'S RESPONSIBILITY

3.0.1.0 Notwithstanding anything to the contrary in the Contract Documents expressed or implied, the CONTRACTOR shall be and remain at all times exclusively responsible to Supply all material and provide all, labour, equipment, machinery and facilities and utilities and other items and things whatsoever required for or in connection with the work, including but not limited to those indicated by expression or implication in the job description, Schedule of Rates, the specifications, plans, drawings and / or other Contract documents or howsoever otherwise as shall or may from time to time and at anytime be necessary for or in connection with the work, either for incorporation in or within the permanent works or relative to the execution and the performance of the work.

3.0.2.0 MATERIALS

3.0.2.1 These General Conditions of Contract shall, on issue of the Letter of Acceptance to the CONTRACTOR, constitute a firm and indivisible contract for the sale and supply, to the OWNER, of all materials required for incorporation in the permanent works as determined by the CONTRACTOR, within the scope of work, to be necessary to establish, commission and operate (so far as concerns mandatory spares) the Plant / Unit delivered on CIF basis at Indian port of OWNER's choice in respect of imported materials and delivered ex-factory at the price of materials specified in the Price Schedule. It is hereby clarified that the said contract shall include a contract for the sale and supply within the price of materials (and any recoveries in respect thereof under any policy of insurance) of all materials required for the replacement of any defective materials and any materials lost, damaged or destroyed during transit, storage, fabrication, erection or otherwise prior to the issue of the Completion Certificate.

3.0.2.2 (a) Supplier's invoices in respect of materials covered within the scope of supply under Clause 3.0.2.1 shall be made out by the Supplier in favour of the OWNER and the materials shall be consigned to the OWNER. Where the CONTRACTOR is the Supplier, the invoices shall be drawn by the CONTRACTOR as the Supplier.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 37 of 271</div>

- (b) The Supplier's invoices for imported materials shall include the cost of all pre-delivery tests and third party inspections, but shall not include the CONTRACTOR's procurement charges.
- (c) The Supplier's invoices for indigenously supplied materials shall include all pre-delivery tests, but shall not include the CONTRACTOR's procurement charges.
- (d) The invoices for indigenously supplied materials shall also include the taxes, duties and other levies on the supply which are reimbursable by the OWNER. Reimbursement shall, however, be subject to the satisfaction of the conditions and provision of the documents required to qualify for the reimbursement.

3.0.2.3 The CONTRACTOR shall be responsible at his own cost and initiative within the scope of services, to take delivery of the materials from the port of delivery in India in respect of imported materials and from the factory or ware-house or other place(s) of delivery in respect of indigenous materials and to transport these to the CONTRACTOR's stockpiles, godowns or other places of storage approved by the Engineer-in-Charge, and to transport the same from said godowns or place(s) of storage to the work site for incorporation in the permanent works.

3.0.2.4 The work of delivery and transportation of materials shall include (but not be limited to) the following:

- i) Clearance of the goods through custom and port clearance including filling and / or filling of all custom manifests, bills of entry, and custom declarations and other documents as may be required for the clearance of the goods from customs or port authorities, for which purpose the OWNER shall, from time to time, grant to the CONTRACTOR or the CONTRACTOR's designate(s), such authority(ies) as may be reasonably required by the CONTRACTOR in this behalf.
- ii) Stevedoring, clearing, forwarding and handling services as required for clearing, forwarding and handling imported and indigenous materials and consignments including payment at CONTRACTOR's cost of any demurrage, wharfage, port charges, siding charges, retention charges, detention charges or other charges whatsoever and howsoever designated or levied by any railway, airport, ship and / or other authorities for or in connection with the loading, unloading or detention of any materials or vessels or other means of transport beyond the free period or unloading, clearance, retention or detention or loading, as the case may be, provided by the relevant authority(ies) or carrier(s) in this behalf.
- iii) All works and operations necessary to lift and to remove the material from port, warehouse, railway or other siding, factory or other places of delivery, loading, handling, transporting and unloading and safely stacking, placing or storing the same at approved godowns, yards or other

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 38 of 271



place(s) of storage including lashing or otherwise securing or protecting the same in transit and during and in storage.

- iv) Supply, procurement, mobilisation and deployment of all labour thereof, equipment and machinery necessary for lifting, loading, handling, removing, transporting, unloading, stacking or securing the materials.
- v) Transit and storage insurance of all materials for the full replacement value thereof delivered at Site.
- vi) All acts, deeds, matters or things required to fulfil all local, municipal and other statutory authorities with respect to the transportation of any materials through or into any State, municipal, local or other barriers or limits or for the import of the materials or any of them within the limits of such barrier, including payment of octroi or other local toll, terminal and / or entry or other taxes payable on the passage or entry of the materials through or within any local limits, for which purpose the OWNER shall give the CONTRACTOR and /or CONTRACTOR's designate(s) any and all authority(ies) as may be reasonably required in this behalf. If Road Permits, Entry Permits, Transit Permits or the like for the transportation of any materials is to be obtained in the name of the OWNER, the OWNER shall at the request of the CONTRACTOR sign and provide such documents as are required to be furnished by the OWNER to obtain the Permit(s).
- vii) All other acts, deeds, matters and things whatsoever ancillary, auxiliary or incidental to the above including but no limited to the grading of the site and / or creation of temporary approaches and ramps etc. as may be required.



3.0.3.0 GENERAL PROVISION WITH REGARD TO MATERIALS

3.0.3.1 The CONTRACTOR shall, within the scope of work, undertake the following activities and responsibilities with respect to and in addition and without prejudice to the activities and responsibilities under Clause 3.0.2.0 and associated clauses thereunder in respect of materials:

- i. The CONTRACTOR shall in taking delivery, ensure compliance of any condition for delivery applicable to deliveries from the concerned authority or carrier, and shall be exclusively responsible to pay and bear any detention, demurrage or penalty or other charges payable by virtue of any delay or failure by the CONTRACTOR in lifting the materials or in observing any of the conditions aforesaid, and shall keep the OWNER indemnified from and against all consequences thereof.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 39 of 271

- ii. The CONTRACTOR shall maintain a day-to-day account of all materials indicating the daily receipt(s), consumption(s) and balance of each material and category thereof. Such account shall be in the format, if any, prescribed by the Engineer-in-Charge and shall be supported by all documents necessary to verify the correctness of the entries in the account. Such account shall be maintained at the CONTRACTOR's relative officer(s) and site(s) and shall be open for inspection and verification (by verification of documents in support of the entry as also by feasible verification of the stock) at all times by the Engineer-in-Charge and his representative(s) with authority at all times without obstruction to enter into or upon any godown or other place(s) or premise(s) where the materials or any part of them are lying or stored and to inspect the same himself and or through his representative(s).
- iii. All materials shall be taken delivery of, held, stored and utilised by the CONTRACTOR as Trustee of the OWNER, and delivery of the material to the CONTRACTOR shall constitute an entrustment thereof to the CONTRACTOR, with the intent that any utilisation, application or disposal thereof by the CONTRACTOR otherwise than for permanent incorporation in the contractual works in terms of the contract shall constitute a breach of trust by the CONTRACTOR
- iv. All materials, including materials in respect of which licences/ release orders / permits / authorisation have been accorded in the name of the OWNER shall, without prejudice to the responsibility/ liability of the CONTRACTOR in respect thereof, vest in the OWNER at the time when it / they would have ordinarily vested in the OWNER on a direct delivery to the OWNER, and the CONTRACTOR shall be deemed to be acting on behalf of the OWNER and as an agent of the OWNER in respect of deliveries taken by the CONTRACTOR.
- v. The Engineer-in-Charge may at his discretion require that all premises in which any materials are stored, shall be double locked with the keys to one lock retained by the Engineer-in-Charge or his representative, with the intent that all issues of materials shall be with the concurrence of the Engineer-in-Charge or his representative, as the case may be, provided that any such double-locking and / or concurrence as aforesaid shall only be an additional precaution and shall not anyway absolve the CONTRACTOR of his full liabilities or responsibilities in respect of such material.
- vi. The CONTRACTOR shall at all times be exclusively responsible for any and all losses, damages, deterioration, misuse, wastage, theft, or other application or misapplication or disposal of the materials or any of them contrary to the provisions hereof and shall keep the OWNER indemnified from and against the same and shall forthwith at his own cost and expenses replace any such material, lost, damaged, deteriorated, misused, wasted, stolen, applied, mis-applied and /or

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 40 of 271

disposed as aforesaid with other material of equivalent quality and quantity delivered to Site at the CONTRACTOR's risks and costs in all respects.

- vii. The CONTRACTOR shall take out, at his own cost and keep in force at all times, during transit, handling, storage, and erection upto completion in all respect of the work, policy(ies) with Insurance Company(ies) approved by the OWNER for the full replacement value of the materials at Site against the risks hereinafter specified. Such policies shall be in the joint names of the OWNER and the CONTRACTOR, with exclusive right in the OWNER to receive all monies due in respect of such policy(ies) and with right in the OWNER (but without obligation to do so) to take out and pay the premia for any such policy(ies) and deduct the premia and any other costs and expense in this behalf from the monies for the time being due or in future becoming due to the CONTRACTOR.
- Notwithstanding anything herein provided, the CONTRACTOR shall be and remain solely and exclusively liable to repair, restore or replace, as the case may be, the materials damaged or destroyed as a result of any act or omission, notwithstanding the existence or otherwise of any policy(ies) of insurance aforesaid, with the intent that any policy(ies) of insurance aforesaid, taken out by the CONTRACTOR or by the OWNER, on default by the CONTRACTOR, shall not anyway absolve the CONTRACTOR from his full liability under Clause 5.3.4.0 hereof or otherwise with respect to the materials, but shall constitute merely an additional security and not a substitution of liability.
 - It shall be the exclusive responsibility of the CONTRACTOR to lodge and pursue any or all claims in respect of the insurance aforesaid.
 - The CONTRACTOR shall, as a condition to the certification of any Running Account Bill, satisfy the OWNER / Engineer-in-Charge of the existence of one or more policy(ies) of insurance, covering the materials as specified herein. The policy(ies) of insurance aforesaid shall cover all insurable risks, including but not limited to, any loss or damage commencing from the Supplier's warehouse in handling, transit, storage and during erection, theft, pilferage, riot, civil commotion, force majeure (including earth quake, flood, storm, cyclone, tidal wave, lightening and other adverse weather conditions), accidents of kinds, fire, war risks and explosion.
- viii. Notwithstanding anything herein provided and notwithstanding the transference of all risks in respect of the materials to the CONTRACTOR, the Ownership in respect of the material shall at all times be and remain in the OWNER.
- ix. An inventory shall be made by the CONTRACTOR of all surplus construction materials and empties including but not limited to scrap, wastages and unserviceable material supplied and / or remaining



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 41 of 271

in the hands of the CONTRACTOR upon completion of the contract for whatsoever reason, and the CONTRACTOR shall forthwith, upon being required to do so, place the OWNER in undisputed possession of and transport the said material to the OWNER's stores or otherwise as reasonably directed by the Engineer-in-Charge.

- x. If the CONTRACTOR shall default in replacing at the job site, free of any cost to the OWNER, any material lost, damaged, deteriorated, misused, wasted, short, stolen, misapplied or disposed of within the provisions hereof above, or shall fail to return to the OWNER any surplus material or empties within the provision hereof above, the CONTRACTOR shall be liable to pay to the OWNER the cost of such materials or empties delivered at OWNER's stockpile / godown plus departmental charges calculated at 15% (fifteen percent) of the said costs determined by the Engineer-in-Charge, and the decision of the Engineer-in-Charge as to such cost shall be final and binding upon the CONTRACTOR.

3.0.4.0 BILLS OF MATERIALS

- 3.0.4.1 The CONTRACTOR shall within 56 (fifty-six) days from the date of acceptance of bid, furnish to the OWNER a detailed Bill of Materials specifying the materials, which on preliminary determination made by the CONTRACTOR, will be required to be incorporated in the permanent works in order to establish the Works / Unit and to operate the Plant / Unit (to the extent of the mandatory spares), including construction materials.
- 3.0.4.2 Each item entered in the Bill of Materials shall be priced, so far as possible, in conformity with the details given in this behalf in the priced bid. The Bill of Materials and said price break-up therein and in the price bid are intended only to form a basis for the purpose of calculating on account payments and for calculating payments due to the CONTRACTOR under Clause 2.7.4.0 hereof upon cancellation of contract, and for no other purpose.
- 3.0.4.3 The OWNER shall review or cause to be reviewed the prima facie adequacy, sufficiency, validity and / or suitability of the materials listed in the Bill of Materials for the works for which they are intended, and of the prices indicated in the Bill of Materials in respect thereof. Such review shall be performed in conjunction with design, engineering, specification and other technical reviews to be done by the OWNER and all provisions applicable thereto with reference to critical drawings shall be applicable to the review of the Bill of Materials.
- 3.0.4.3.1 The priced Bill of Materials as approved by the OWNER shall constitute the Bill of Materials envisaged in the contract documents. However, no such approval shall, in any manner, absolve the



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 42 of 271

CONTRACTOR of his full responsibility under the Contract to sell and supply to the OWNER at and within the price of materials quoted in the Price Schedule, all materials required for the permanent incorporation in the works and which are required to establish, commission and operate (to the extent of mandatory spares) the Plant / Unit in accordance with the contract and the specifications, complete in all respects including spares, tools, tackles and testing equipment, so far as included within the scope of supply, whether or not any particular material is actually included within or omitted in the Bill of Materials and whether or not the price thereof is included in the price indicated in the Bill of Materials and whether or not the price thereof is in conformity with the price thereof indicated in the Bill of Materials. The review and approval of the Bill of Materials and the prices therein are intended only for the satisfaction of the OWNER that the priced Bill of Materials, prima-facie covers the materials required to be supplied by the CONTRACTOR within the scope of supply.



- 3.0.4.4 The Bill of Materials shall be subject to amendment in both items and prices in so far as necessary consequent upon any amendment in any relevant related technical particulars, and upon any amendment, the amended Bill of Materials as approved by the OWNER, shall thereafter constitute the Bill of Materials as envisaged in the contract documents, provided that unless the amendment results from a Change Order and / or Agreed Variation, no such amendment shall anyway impose any liability on the OWNER to pay customs and other import duties in excess of the customs and other import duties payable on the value of imported materials as indicated in the Price Schedule but for such amendment.

3.0.5.0 SUPPLY OF MATERIALS

- 3.0.5.1 The CONTRACTOR shall supply the materials required to be supplied within the Contractor's scope of supply for incorporation in the permanent works in accordance with and to meet the requirements in quality, quantity and other particulars of the descriptions, specifications, plans, drawings, designs and other documents applicable thereto and the CONTRACTOR shall be deemed to have undertaken that all materials selected, procured and supplied by the CONTRACTOR within the scope of supply shall be of the best quality and workmanship and shall be capable of producing the designed and desired results and to perform the designed and desired functions to meet the contractual requirements in all respects for the Project.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 43 of 271</div>

- 3.0.5.2 The CONTRACTOR shall undertake and complete the supply of materials within the scope of supply to meet the scheduled progress and requirements of the work within the scope of work, and on no account later than the delivery dates in this behalf specified in the Delivery Schedule.
- 3.0.5.3 Within 42 (forty-two) days from the date of issue of the Letter of Acceptance of bid, the CONTRACTOR shall submit to the OWNER for approval in respect of each work or groups of work, a detailed Delivery Schedule in Graphical or other suitable form giving dates of starting and finishing the various supplies relative to the work, providing sufficient margin to cover for contingencies. The Engineer-in-Charge and the CONTRACTOR shall thereafter, within 14 (fourteen) days, settle the Delivery Schedule which shall form part of the contract with attendant obligations upon the CONTRACTOR to make the various deliveries / supplies involved on or before the date(s) mentioned in respect thereof in the Delivery Schedule and default by the CONTRACTOR to make within the prescribed date(s) any supply shall be deemed to be a breach by the CONTRACTOR to which the provisions of clause 7.0.1.0 hereof relating to termination of contract shall be applicable, but without prejudice to any other right or remedy that OWNER may have in this behalf.
- 3.0.5.4 All materials shall be deemed to have been accepted only when the material is received at the project site and accepted by the Engineer-in-Charge. Such acceptance shall however, be subject to the terms and conditions hereof, including the right of rejection and/or replacement as elsewhere herein specified.
- 3.0.5.5 If the CONTRACTOR fails to submit to the OWNER a Delivery Schedule as envisaged above or if the Engineer-in-Charge and the CONTRACTOR shall fail to agree upon the Delivery Schedule as envisaged above, then the Engineer-in-Charge shall in consultation with the CONTRACTOR so far as reasonably feasible prepare the Delivery Schedule as best he can and the dates of delivery as fixed by the Engineer-in-Charge shall be final and binding upon the CONTRACTOR except as herein otherwise expressly provided. The Engineer-in-Charge shall issue the Delivery Schedule so prepared to the CONTRACTOR, and the provisions of Clause 3.0.5.3 hereof shall apply thereto as though it was an approved Delivery Schedule.
- 3.0.5.6 Any reference in the contract documents to the “approved Delivery Schedule” or to the “Delivery Schedule” shall mean the approved Delivery Schedule specified in Clause 3.0.5.3 above of the

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 44 of 271

Delivery Schedule prepared and issued by the Engineer-in-Charge as specified in Clause 3.0.5.5 above, whichever shall be in existence.

- 3.0.5.7 Within 7 (seven) days of the occurrence of any act, event or omission which, in the opinion of the CONTRACTOR, is likely to lead to delay in the commencement or completion of delivery of any particular material or of all material and is such as would entitle the CONTRACTOR for an extension of the time specified in this behalf in the Delivery Schedule(s), the CONTRACTOR shall inform the Engineer-in-Charge in writing of the occurrence of the act, event or omission and date of commencement of such occurrence. Thereafter, if even upon the cessation of such act or event or the fulfilment of the omission, the CONTRACTOR is of opinion that an extension of time specified in the Delivery Schedule relative to particular material(s) or in relation to all materials is necessary, the CONTRACTOR shall within 7 (seven) days after the cessation or fulfilment as aforesaid make a written request to the Engineer-in-Charge for extension of the relative time specified in the Delivery Schedule and the Engineer-in-Charge may at any time, prior to completion of the work, extend the relative time of completion in the Delivery Schedule for such period(s) as he considers necessary, if he is of opinion that such act / event / omission constitutes a ground for extension of time in terms of the contract and that such act / event / omission has infact resulted in insurmountable delay to the CONTRACTOR. The opinion / decision of the Engineer-in-Charge in this behalf and as to the extension necessary shall, subject to the provisions of Clause 3.0.5.8 hereof, be final and binding upon the CONTRACTOR.
- 3.0.5.8 Notwithstanding the provisions of Clause 3.0.5.7 hereof, the OWNER may at any time after the completion of the work in all respects at the request of the CONTRACTOR made by way of appeal either against a decision of the Engineer-in-Charge taken under Clause 3.0.5.7 or against the Engineer-in-Charge's refusal to take a decision under the said clause, if satisfied of the existence of any ground(s) justifying the delay / omission, extend the date of delivery of any materials for such period(s) as the OWNER may consider necessary, and the decision of the OWNER as to the existence or otherwise of any grounds justifying the extension and as to the periods of extension, if any necessary, shall be final and binding upon the CONTRACTOR.
- 3.0.5.9 Subject as elsewhere herein or in the contract documents, otherwise expressly provided, only the existence of force majeure circumstances as defined in Clause 3.0.5.10 hereof, shall afford the CONTRACTOR a ground for extension of time for delivery of materials, and specifically without prejudice to the generality of the foregoing:

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 45 of 271



- i) Inclement or unforeseen weather, strike or lock-out (except as provided in Clause 3.0.5.10), shutdown, third party breach, delay in payment or commercial hardship shutdown or idleness or other impediment in progress or completion of the supply or work due to any reason whatsoever shall not afford the CONTRACTOR a ground for extension of time or relieve the CONTRACTOR of his / its full obligations under the contract.
- ii) No delay whatsoever in the supply of any material by the CONTRACTOR or any of the CONTRACTOR's vendors, suppliers or sub-contractors shall anyway entitle the CONTRACTOR to any extension of time for completion or to any claim for additional costs, remuneration or damages or compensation notwithstanding that an increase in the time of performance of the Contract is involved by virtue of the delay or failure and notwithstanding that any labour, machinery or equipment bought to or upon the job site by the CONTRACTOR or any sub-contractor is rendered idle by such delay.

3.0.5.10 "Force Majeure" shall mean an event beyond the control of the CONTRACTOR and not involving the CONTRACTOR's fault or negligence and not foreseeable, such as, but not restricted to wars (declared or undeclared), revolutions, civil wars, tidal waves, fires, major floods, earthquakes, epidemics, quarantine restrictions and freight embargoes.

Notwithstanding the provisions of Clause 3.0.5.9 hereof, strike or lock-out in the works of manufacturers of critical equipment's (if any) as specified in the Special Conditions of Contract, in excess of a continuous period of 7 (seven) days at any time during the period established for the supply of such equipment, shall constitute a force majeure event provided that:

- i) The strike or lock-out, as the case may be, was not foreseeable at the time of placing the order on the manufacturer, and
- ii) The strike / lockout occurred at least 3 (three) months after the CONTRACTOR placed the order on the manufacturer.

It is clarified that the expression "manufacturer of Critical Equipment" and "manufacturer" shall not include a sub-manufacturer of such equipment or any part or component thereof or a vendor of such equipment or any part or component thereof; and the expression "Critical Equipment" shall not include any part or component thereof.




Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 46 of 271

3.0.5.11 No assurance, representation, promise or other statement by any personnel, Engineer or representative of the OWNER regarding the extension of time for the supply by the CONTRACTOR of any material within the CONTRACTOR's scope of supply shall be binding upon the OWNER or shall constitute an extension of time for the supply of any material(s) within the provision of Clause 3.0.5.7 or Clause 3.0.5.8 hereof, unless the same has been communicated by the Engineer-in-Charge to the CONTRACTOR in writing under Clause 3.0.5.7 or by the Executive Director under Clause 3.0.5.8 and the writing specifically states that it constitutes an extension of time within the provisions of Clause 3.0.5.7 or 3.0.5.8, as the case may be. Without prejudice to the foregoing, it is clarified that the mere agreement, acceptance or prescription of a Delivery or other Schedule containing an extended time of commencement or completion in respect of the entire delivery(ies) or any of them shall not anyway constitute an extension of time in a terms of the contract so as to bind the OWNER or relieve the CONTRACTOR of all or any of his liabilities under contract, nor shall constitute a promise on behalf of the OWNER or a waiver by the OWNER of any of its rights in terms of the contract relative to the performance of the contract within the time specified or otherwise, but shall be deemed only (at the most) to be a guidance to the CONTRACTOR for better organising his work on a recognition that the CONTRACTOR has failed to organise his supplies and / or make the same within the time specified in the Delivery Schedule.

3.0.5.12 If the CONTRACTOR fails to supply the materials in accordance with the dates in this behalf specified in the Delivery Schedule, the CONTRACTOR shall be deemed in breach of contract and the provisions of Clause 7.0.0.0 and associated Clauses thereunder with regard to the termination of the contract shall apply, but without prejudice to any other rights, discount or remedy available to the OWNER in respect of such delay or failure.

3.0.5.13 **MAKE OF MATERIALS**



- All equipment and materials to be supplied under this Contract shall be from approved vendors as indicated in the Bidding Document or as otherwise approved by the Engineer-in-Charge / OWNER.
- Wherever any item is specified by a brand name, manufacturer or vendor, the make mentioned shall be for establishing type, function and quality desired. Other makes will be considered, provided sufficient information is furnished to the OWNER / Engineer-in-Charge, to assess the makes proposed by the CONTRACTOR as equivalent and acceptable.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 
				Rev 00 Page 47 of 271

- iii. Where the makes of materials are not indicated in the Bidding Document, the CONTRACTOR shall furnish details of proposed makes and supplies and supply the same after obtaining the OWNER'S / Engineer-in-Charge's approval.

3.0.6.0 CERTIFICATE OF VERIFICATION AND GOOD CONDITION

- 3.0.6.1 The CONTRACTOR shall, before supply of material covered within the scope of supply, at his own risks, costs and initiative, undertake or cause to be undertaken all tests, analysis and inspections as shall be required to be undertaken with regard to the materials under the specifications and any codes, practices, orders and instructions with respect thereto and shall cause the results thereof to be recorded, reported or certified, as the case may be, and shall not offer for delivery or deliver any material(s) which has / have not passed such tests / analysis or inspection and which are not accompanied by the tests results, reports and /or certificates in this behalf provided in the applicable specifications, code(s) and / or practices.
- 3.0.6.2 On arrival of the material at site the CONTRACTOR shall give written notice thereof to the Engineer-in-Charge or Inspection Agency notified by the OWNER in this behalf, to inspect the materials, and shall keep in readiness for inspection, the materials and the relevant tests results, reports and certificates hereto.
- 3.0.6.3 Notwithstanding any other provisions in the contract documents for analysis or tests of materials and in addition thereto, the CONTRACTOR shall, if so required by the Engineer-in-Charge or Inspection Agency in writing at his own risks and costs, analyse, test, prove and weigh all materials (including materials incorporated in the works) required to be analysed, tested, proved, and / or weighed by the Engineer-in-Charge or Inspection Agency in this behalf and shall have such analysis or tests conducted by the agency(ies), or authority(ies) if any specified by the Engineer-in-Charge or Inspection Agency. The CONTRACTOR shall provide all equipment, labour, materials and other things whatsoever required for testing, preparation of the samples, measurement of work and / or proof of weightment of the materials as directed by the Engineer-in-Charge or Inspection Agency.
- 3.0.6.4 If on inspection of proof, analysis or tests as aforesaid the Engineer-in-Charge or Inspection Agency nominated by the OWNER in this behalf is prima facie satisfied that the material received is in conformity with the material requirements of the Bill of Materials and description given in the shipping

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 48 of 271



documents and in the Contractor's invoices in this behalf and that the test reports / results / certificates given in respect thereof are prima facie in conformity with the relevant result / reports / certificates required in respect thereof in terms of the specifications and / or relevant codes and practices, and that the material appears to be prima facie in good order and condition, the Engineer-in-Charge shall issue to CONTRACTOR, a Certificate of Verification and Good Condition in respect of such material, and this shall constitute the Certificate of Verification and Good Condition elsewhere envisaged in the contract documents.

3.0.6.5 Such certificate is only intended to satisfy the OWNER that prima facie the material supplied by the CONTRACTOR is in order and shall not anyway absolve the CONTRACTOR of his / its full responsibility under the contract in relation thereto, including in relation to specification fulfilment and / or performance or other guarantees.

3.0.6.6 Notwithstanding that any area(s) or source(s) has / have been suggested by the OWNER to the CONTRACTOR from which any material for incorporation in the works can be obtained, the CONTRACTOR shall independently satisfy himself of the suitability, accessibility and sufficiency of the source(s) of supply suggested by the OWNER and suitability of the material available from such source(s) with the intent that any suggestion as aforesaid shall not anyway relieve the CONTRACTOR of his full liability in respect of the suitability and quality of the material(s) obtained from said source(s) and the CONTRACTOR shall obtain material(s) therefrom and incorporate the same within the permanent works entirely at his own risks and costs in all respects, with the intent that any such suggestion by the Owner shall only be by way of assistance to the Contractor and shall not entail any legal responsibility or liability upon the OWNER.

3.0.7.0 MATERIALS WITHIN THE CONTRACTOR'S SCOPE OF SUPPLY

3.0.7.1 The OWNER does not warrant or undertake the provisions of any materials and the CONTRACTOR shall not imply, by conduct, expression or assurance or by any other means, any promise or obligation on the part of the OWNER in his respect understood by the CONTRACTOR.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 49 of 271

3.0.8.0 TAXES AND DUTIES AND OTHER LEVIES

The Special Conditions of Contract state the taxes, duties and levies which will be borne by the OWNER or which will be reimbursed by the OWNER to the CONTRACTOR in respect to the supplies and / or services / works, and the conditions under and / or subject to which such payments or reimbursements shall be made by the OWNER.

3.0.8.1 Except as specifically provided to the contrary in the Special Conditions of Contract:



- i. The CONTRACTOR shall within the price of materials and scope of supply be liable to pay and bear any and all duties, taxes, levies and cesses lawfully payable on any goods, equipment or materials imported into India or within any local limits for permanent incorporation in the work(s), and on materials sold and supplied to the OWNER pursuant to the Contract.
- ii. The CONTRACTOR shall within the price of services and scope of services be liable to pay and bear any and all duties, taxes, levies and cesses lawfully payable on any goods or equipment imported into India or within any local limits for use in the performance of the work(s), and on services performed pursuant to the contract.

3.0.8.2 TAXES, DUTIES AND LEVIES IN FOREIGN COUNTRIES

The CONTRACTOR shall accept full and exclusive liability at his own cost for the payment of any and all taxes, duties, cesses and levies howsoever designated, as are payable to any government, local or statutory authority in any country other than India as are now in force or as are hereafter imposed, increased or modified and as are payable by the CONTRACTOR, his agents, Sub-contractors and Suppliers and its / their respective employees for or in relation to the performance of this Contract. The CONTRACTOR shall be deemed to have been fully informed with respect to all such liabilities and shall further be deemed to have consideration and included the same in his bid and the Lumpsum Price shall not be varied in any way on this account.

3.0.8.3 TAX INDEMNITY

It will be the duty of the CONTRACTOR to duly observe and perform all laws, rules, regulations, orders and formalities applicable to Excise Duty, Sales Tax / VAT and Customs Duty on the manufacture,



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 50 of 271

sale, import and / or supply of any material to OWNER and / or applicable to Service Tax on the services performed by the CONTRACTOR pursuant hereto. The CONTRACTOR shall keep the OWNER indemnified for and against any and all claims, demands, prosecutions, penalties, damages, demurrages, and / or other levies whatsoever made or levied by the Court or Customs Authorities with respect to any alleged breach, evasion or infraction of such duties, taxes, charges or levies or any breach or infraction of such laws, rules, regulations, orders or formalities concerning the same and from the consequence thereof.

3.1.0.0 MATERIAL AND EQUIPMENT SUPPLIED BY THE OWNER

3.1.1.0 The OWNER may supply within its scope of supply specific equipment and/ or materials for permanent incorporation in the works. The supply of equipment and materials to the CONTRACTOR shall be on the following terms and conditions:

- a. Deliveries shall be either from the storage of the OWNER or from the factory / storage of supplier or from nearest suitable railhead or other point(s) of collection as may be determined by the OWNER taking into account the source(s) of supply of the material.
- b. It shall be the responsibility of the CONTRACTOR at his own risks and costs to take delivery of the materials from the stores, factory, railhead or other designated collection point, and to arrange for its loading, transportation to job site and unloading at the job site or other place of storage. The CONTRACTOR shall, in taking delivery, ensure compliance of any conditions for delivery applicable to deliveries from OWNER's or Supplier's factory / stores or railways or other transporters concerned, and shall be exclusively responsible to pay and bear any demurrage or penalty or other charges payable by virtue of any failure or delay by the CONTRACTOR in lifting the supplies and / or any failure by the CONTRACTOR to observe the conditions of supplies as aforesaid and the CONTRACTOR shall keep the OWNER indemnified from and against all consequences thereof.
- c. The CONTRACTOR shall inspect the equipment and materials at the time of taking delivery thereof and satisfy himself of the quality, quantity and condition thereof prior to taking delivery and the OWNER shall not be liable for any claims or complaints whatsoever in respect of quality, quantity or conditions of the equipment or materials once the CONTRACTOR has taken delivery



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 51 of 271

thereof, except for established latent defects which could not be determined at the time of delivery.

- d. The CONTRACTOR shall on receiving and opening the packing cases or other packaging of equipment and material on behalf of the OWNER, verify and tally the actual contents with the packing list and bring any discrepancies to the notice of the Engineer-in-Charge. The CONTRACTOR shall also sort out and segregate and hand over to the OWNER's stores, the Instruction Manuals, Operation and Maintenance Manuals, Special Maintenance Tools, Erection Spares, Commissioning Spares, and Maintenance Spares and other extras, if received with the equipment / materials.
- e. The equipment and / or material(s) supplied or procured by the OWNER shall be utilized by the CONTRACTOR only for incorporation in the permanent works and even so shall not (unless specifically authorized by the OWNER in this behalf) be utilized for manufacturing any item(s) which can be obtained in finished form from standard manufacturers.
- f. The CONTRACTOR shall furnish to the Engineer-in-Charge sufficiently in advance a detailed statement showing its requirement of all types and quantities of equipment and materials agreed to be supplied by the OWNER, indication of the time when relative types and quantities thereof shall be required by him for the works so as to enable the OWNER to verify the quantities of materials specified by the CONTRACTOR and to enable the OWNER to make arrangements for supply thereof.
- g. The provisions of sub-clauses (iii), (vi), (vii), (ix) and (x) of Clause 3.0.3.1 hereof shall mutatis mutandis apply to the OWNER supplied materials.

3.2.0.0 UTILITIES AND CONSUMABLES ETC.

- 3.2.1.0 The CONTRACTOR shall be and remain at all times exclusively responsible within the scope of work to provide all utilities, consumables, permits, licenses, easements and facilities and other items and things whatsoever required for or in connection with the work, including but not limited to those indicated by expression or implication in the bid documents and / or other contract documents or

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 52 of 271

howsoever otherwise as shall be or may from time to time be necessary for or in connection with the work.

3.3.0.0 LABOUR, MACHINERY AND EQUIPMENT



3.3.1.0 The CONTRACTOR shall be and remain at all times exclusively responsible within the scope of work at his / its own risks and costs in all respects to provide all labour, supervision, staff, personnel, machinery and equipment(s), tools, tackles and instruments whatsoever required for or in connection with the work, including all testing and / or measuring laboratories, equipment, instruments and / or facilities and associated personnel.

3.4.0.0 LAND, POWER, WATER AND OTHER FACILITIES

3.4.1.0 The CONTRACTOR shall be responsible to provide within the scope of work, all facilities necessary for performance of the work including (but not limited to) water (including water for hydrostatic testing if any), power, transportation, handling and construction equipment, vehicles, vessels and any additional land at or about the job site(s) required for the CONTRACTOR's field office(s), camps, godowns, workshops and residential accommodation for CONTRACTOR's staff, quarry rights, borrow areas and access roads to or about the job site(s) and CONTRACTOR's offices, camps, godowns, workshops, accommodations, and temporary works and facilities whatsoever.

3.4.2.0 The OWNER does not warranty or undertake the provisions of any facility aforesaid or otherwise whatsoever to the CONTRACTOR or assistance in obtaining, procuring the same or other assistance whatsoever for or in the performance or testing the work(s) and the CONTRACTOR shall not imply by conduct, expression or assurance or by any other means any promise or obligation on the part of the OWNER contrary to the provisions hereof, and any such promise or obligation understood by the CONTRACTOR shall not be binding upon the OWNER.

3.4.3.0 Any assistance which the OWNER renders to the CONTRACTOR, in terms hereof or otherwise relative to the work by provision of any facility, water, power, transportation, tools, vessels, vehicles, construction and / or testing equipment and machinery, provision of land for quarries or borrow areas or for CONTRACTOR's office, godown(s), workshop(s) or accommodations and / or access road(s) or otherwise howsoever in the performance or testing of the work(s), shall be, without any attendant




Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 53 of 271

obligation upon the OWNER or liability on the OWNER for any failure, omission, delay or refusal in providing or continuing to provide the same, and shall not for any cause afford a basis of defense to the CONTRACTOR for any breach by the CONTRACTOR of any of his obligations under the Contract or a ground for extension of time for completion.

- 3.4.4.0 After the completion of the works, certain areas shall be declared as Restricted Areas by the OWNER. If the CONTRACTOR is still in location or occupation of any such Restricted Area, the CONTRACTOR shall vacate the same forthwith on being required to do so by the OWNER, and meanwhile shall at all times comply with and ensure strict compliance with all regulations as the OWNER may from time to time issue with reference to such Restricted Area(s).

3.5.0.0 POWER SUPPLY

- 3.5.1.0 Without prejudice to the provisions of clause 3.4.0.0 hereof and following clauses thereunder, as and when adequate power supply becomes available for the Site, the OWNER may, at its discretion provide for supply of power to the CONTRACTOR for the work from the OWNER's convenient and nearest sub station, from which source the CONTRACTOR shall at his own cost and initiative make arrangements for temporary distribution of power to CONTRACTOR's work(s) at the site.
- 3.5.2.0. All arrangements for the distribution or power from source aforesaid and the work relative thereto shall be made, performed and / or installed in conformity with Indian Electricity Act and other applicable Laws and Regulations governing the supply and transmission, distribution of electricity and shall be subject to prior approval by the Engineer-in-Charge.
- 3.5.3.0 The CONTRACTOR shall, at his own costs and initiative, on completion or prior determination of work or otherwise during execution of the work, if required by the Engineer-in-Charge because of hindrance caused thereby or for any other cause, forthwith remove or re-route the distribution lines, installations and / or works or part(s) thereof, as the case may be required to be removed or re-routed.
- 3.5.4.0 The OWNER shall recover from the CONTRACTOR for the power consumed by the CONTRACTOR from the OWNER's source(s) of supply the cost thereof to the OWNER as determined by the OWNER in this behalf from time to time. The amount due to the OWNER in respect of such power supplied shall, without prejudice to any other mode of recovery available to the OWNER, be deductible from the



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 
				Rev 00 Page 54 of 271

Running Account / Final Bill(s) of the CONTRACTOR and / or any monies due or becoming due to the CONTRACTOR from time to time.



- 3.5.5.0 The CONTRACTOR shall provide at his own cost suitable electric meters certified by State Electricity Board or other authority approved by the Engineer-in-Charge for measurement of the power units supplied to the CONTRACTOR for determination of the payment due thereon to the OWNER. Such meters shall be under the custody and control of the OWNER.
- 3.5.6.0 In the event of failure or defect of meter(s), power charges shall be calculated on the consumption determined by the Engineer-in-Charge (whose decision shall be final both as regards the existence of a defect or failure and as regards the power consumed).
- 3.5.7.0 The OWNER may at any time without notice and without specifying any cause, suspend or discontinue power supply as aforesaid to the CONTRACTOR and such suspension or discontinuance shall not entitle the CONTRACTOR to any compensation or damages or constitute a basis for extension of time for completion.
- 3.5.8.0 Power supplied by the OWNER to the CONTRACTOR shall be entirely at the risk of the CONTRACTOR as to the continuity and regularity of supply, maintenance of voltage and adequacy of load and frequency without any warranty by or liability of the OWNER in respect thereof and without entitlement to the CONTRACTOR for any compensation, damages, extension of time or otherwise on ground of grid disturbances, discontinuance, fluctuation of voltage or inadequacy of load or frequency or any other cause whatsoever.

3.6.0.0 WATER SUPPLY

- 3.6.1.0 Without prejudice to the provisions of Clause 3.4.0.0 hereof and the following clauses thereunder in the event of the OWNER having adequate source of water supply at the Site available for distribution, the OWNER may at its discretion provide water to the CONTRACTOR for the work from the OWNER's source of supply. The CONTRACTOR shall, at CONTRACTOR's own cost and initiative provide suitable pumping installations and piping for the transportation of water to and distribution at the CONTRACTOR's place or work.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 55 of 271</div>

- 3.6.2.0 Such installations, pipes and other equipment shall be laid out / installed by the CONTRACTOR only with the prior approval of the Engineer-in-Charge so as not to interfere with the layout and progress of the other construction work at the Site and access to or about the job site.
- 3.6.3.0 The CONTRACTOR shall forthwith on completion of the work or earlier determination of the Contract or during the execution of the work(s), if so required by the Engineer-in-Charge, on grounds of hindrance or obstruction caused thereby or other cause whatsoever at his / its own cost and initiative remove or re-route, as the case may be, any installation, pipes and / or other equipment put up or erected by the CONTRACTOR for the transportation and / or distribution of water, and fill any trenches, ditches or other excavations done by the CONTRACTOR for the purpose thereof and restore the site to the same condition in which it was prior to the installation.
- 3.6.4.0 The OWNER shall recover from the CONTRACTOR, for water supplied to the CONTRACTOR from OWNER's source of supply at the cost thereof to the OWNER as determined by the OWNER in this behalf from time to time. The amount due to the OWNER in respect thereof shall (without prejudice to any other mode of recovery available to the OWNER) be deductible from the Running Account and Final Bill(s) of the CONTRACTOR and / or payments due to becoming due to the CONTRACTOR from time to time.
- 3.6.5.0 The CONTRACTOR shall provide at his own cost and initiative suitable water meters approved by the Engineer-in-Charge for measurement of the water units supplied to the CONTRACTOR for determination of the payments due in this behalf to the OWNER. Such meters shall be under the custody and control of the OWNER.
- 3.6.6.0 In the event of failure or defect of meters, water charges will be calculated on the consumption determined by the Engineer-in-Charge (whose decision shall be final both as regards the existence of a defect or failure and as regards the water consumed).
- 3.6.7.0 The OWNER may without notice or specifying any cause, suspend or discontinue water supply to the CONTRACTOR and such suspension or discontinuation shall not entitle the CONTRACTOR to any compensation or damages or constitute a basis or ground for extension of the time for completion.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 56 of 271</div>

3.6.8.0 Water supply by the OWNER to the CONTRACTOR shall be entirely at the risk of the CONTRACTOR as to the continuity and regularity of supply and maintenance and adequacy of pressure without any warranty by or liability to the OWNER in respect thereof and without entitlement to the CONTRACTOR on grounds of discontinuance, irregularity, drop or rise in pressure or other cause whatsoever to claim from the OWNER any damages, compensation or extension of time or otherwise in respect thereof or the consequences thereof.

3.7.0.0 LAND



3.7.1.0 Without prejudice to the provision of Clause 3.4.1.0 hereof and following clauses thereunder, the OWNER may at its discretion and convenience, if it has sufficient available land at its disposal, provide land to the CONTRACTOR near or about any jobsite, for the construction of the CONTRACTOR's field office(s), godown(s), workshop(s), assembly yard, residential accommodation and / or temporary works or any of them required for / or in connection with the execution of the works.

3.7.2.0 The CONTRACTOR shall at his own cost and initiative construct temporary buildings or other accommodation or works necessary and make suitable arrangement for water and power supply thereto and for provision of sanitary, drainage and de-watering arrangements in respect thereof in accordance with plans / designs, layouts previously approved by the Engineer-in-Charge in this behalf.

3.7.3.0 Any land provided by the OWNER to the CONTRACTOR within the provisions hereof shall be strictly on a license basis, and shall not create any right, title or interest whatsoever in the CONTRACTOR therein or in respect thereto.

3.7.4.0 The CONTRACTOR shall pay to the OWNER, license fee as specified by the OWNER in this behalf from time to time for any land made available to the CONTRACTOR within the provisions hereof, and the OWNER shall be entitled (without prejudice to any other mode of recovery), to recover the license fee from the Running Account and Final Bill(s) of the CONTRACTOR and / or other payments due or becoming due to the CONTRACTOR from time to time.

3.7.5.0 Notwithstanding anything herein provided, the OWNER reserves the right at any time during the pendency of the work to call upon the CONTRACTOR to vacate the land or any part thereof on giving 7 (seven) days' written notice to the CONTRACTOR in this behalf.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 57 of 271

3.7.6.0 Forthwith upon expiry of such notice or on completion of the works or earlier determination of the contract, the CONTRACTOR shall remove all constructions, works, piping and other installation whatsoever not forming part of the contractual works, put up or erected by the CONTRACTOR upon the land, and shall have the land cleared, levelled and dressed to the satisfaction of the Engineer-in-Charge.



3.7.7.0 The CONTRACTOR shall not be entitled, upon any vacation or notice within the provisions of clause 3.7.5.0 hereof, to claim any resultant compensation or damage from the OWNER nor shall such notice or vacation constitute a ground or basis for any claim by the CONTRACTOR for compensation or damages or ground for extension of time for completion.

3.7.8.0 The OWNER shall be entitled at any time without notice to the CONTRACTOR, to suspend or withdraw use by the CONTRACTOR of any part of such area or land or access thereto and no suspension or withdrawal of such facility, or disruption or inadequacy thereof by virtue of flood, storm, fire, disrepair or other cause whatsoever, shall form the basis of any claim by the CONTRACTOR for compensation or damages or ground for extension of time for completion.

3.7.9.0 Notwithstanding anything herein provided, the provisions of clause 7.0.6.0 hereof and related clauses applicable consequent upon termination of contract, shall apply to any breach by the CONTRACTOR of his obligations, within the provisions of clauses 3.4.4.0, 3.5.3.0, 3.6.3.0 and 3.7.6.0 hereof as to a breach of clause 7.0.5.0 hereof.

3.8.0.0 ACCESS TO SITE

3.8.1.0 The CONTRACTOR shall at his own cost and initiative arrange for and provide any access to the work area and stringing or other yards for labour, equipment and material as may be necessary for any cause in addition to the ingress and egress available through public highways. Any arrangements in respect thereof as may be entered into by the CONTRACTOR with any person interested in the land through which access is sought, shall be in writing and a copy of the writing (certified by or on behalf of the CONTRACTOR to be true copy thereof) shall forthwith be lodged with the OWNER. Such a writing shall specifically stipulate that the OWNER shall not be responsible for any claims under the Contract or for any damage, loss or injury to the land or any material, item or thing thereon or in, and

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 58 of 271

the CONTRACTOR shall keep the OWNER indemnified from and against any claim, action or proceedings in respect thereof.



1. The CONTRACTOR shall at his own cost and initiative arrange for and obtain all necessary permissions, permits, consents and licenses as may be necessary to transport the materials, tools, equipment, machinery and labour along or across any highway, roadway, or other way, or railway, tramway, bridge, dyke, dam or embankment, or lake, pond, canal, river, state terminal, toll octroi, or other line, border or barrier.

3.9.0.0 SHIPPING AND OTHER DOCUMENTS

- 3.9.1.0 Without prejudice to any other obligations of the CONTRACTOR under the Contract, and in addition to any other documents required to be furnished by the CONTRACTOR under the Contract, the CONTRACTOR shall, in respect of all items and materials imported into India, obtain and furnish within 7(seven) working days to the OWNER, at his own cost and initiative, the following documents (hereinafter for the sake of brevity collectively referred to as the "the said documents") according to the provisions of the following clauses, namely:

Signed Invoice(s);
 Clean Bill of Lading;
 Packing Lists / Mill Tally Sheets;
 Certificate of origin;
 Consular's Invoice, if necessary;
 Export Licence / documents, if applicable; and;
 Any other document(s) or literature required for Customs clearance;
 Phytosanitary Certificate for packing material as per International norms;

- 3.9.2.0 The Bill of Lading shall be drawn to show the OWNER's concerned project as the consignee, or otherwise as instructed by the OWNER, and shall clearly indicate the Contract Number specified in this behalf by the OWNER, the description of the items / materials giving the dimensions, quantities, weights, and all other details required for Customs clearance of the consignment, and / or as may be specified by the OWNER from time to time in this behalf.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
			Rev	00
			Page	59
			of	271

The Bill of Lading shall show the gross freight amount, and shall either indicate or be accompanied by the carrier's statement of charges and shall carry all other particulars necessary to bind the carrier.

The CONTRACTOR shall not less than 7 (seven) clear days before the contemplated date of shipment; inform the Engineer-in-Charge of the contemplated date of relative shipment of the item(s) or material(s) and of the contemplated date of arrival thereof in India.

In addition, within 7 (seven) working days of the date of shipment, the CONTRACTOR shall despatch, by Air courier, according to the instructions of the Engineer-in-Charge in this behalf, 10 (ten) sets / copies of the said documents.

The CONTRACTOR shall also, within 48 (forty-eight) hours of shipment, send intimation of shipment by Fax or scanned copy by e-mail to the addresses of the OWNER and / or Engineer-in-Charge specified in this behalf.



The Invoice shall be drawn in the name of the OWNER and shall state the quantity and detailed description of each item supplied reflecting the value of each item / material and the basis of delivery as CIF.

The description of each item / material indicated in the Invoice and the Bill of Lading shall conform to the description of the item / material as given in the relative Import Licence(s) / Permit(s) issued to the OWNER in this behalf.

The Invoice and Bill of Lading shall also indicate on the face of it, the Number, date and validity of the Import License (if the Import License has been revalidated, Number and date of re-validation) against which the import is being made.

Invoice(s) referred to with reference to the said documents are intended merely to comply with customs and import formalities and will not create any obligation for payment thereof or against unless specifically as provided elsewhere in the Contract.

The OWNER reserves the right to vary the said list of documents by addition thereto or subtraction therefrom and to vary applicable instruction(s) from time to time.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 60 of 271</div>



3.10.0.0 PACKING AND FORWARDING

(a) IMPORTED SUPPLIES

- i) The CONTRACTOR wherever applicable, shall, after proper painting, pack and crate all materials for shipment in a manner suitable for export to a tropical, humid climate in accordance with internationally accepted export practices and in such a manner so as to protect them from damage and deterioration in transit by road, rail and / or sea and during storage at the Site till the time of erection. Without prejudice to any other liabilities or obligations of the CONTRACTOR, the CONTRACTOR shall be responsible for all damage(s) to the materials due to improper packing.
- ii) The CONTRACTOR shall notify the OWNER and Engineer-in-Charge of the date of each shipment from the port of embarkation as well as of the expected date of arrival of such shipment at the designated port of arrival only for the OWNER's / Engineer-in-Charge's information and to enable the OWNER to pay customs duty at the port of dis-embarkation.
- iii) The CONTRACTOR's notification shall give complete shipping information concerning the weight, size and content of each package and such other information as the OWNER may require.
- iv) The packing material used should be duly certified by a Phytosanitary Certificate issued as per international norms.

(b) INDIGENOUS SUPPLIES

- i) The CONTRACTOR shall, wherever applicable, after proper painting, pack and crate all items in such a manner as to protect them from deterioration and damage during rail and road transportation to the Site and during storage at the Site till the time of erection. Without prejudice to any other liabilities or obligations of the CONTRACTOR, the CONTRACTOR shall be responsible for all damage(s) due to improper packing.
- ii) The CONTRACTOR shall notify OWNER / Engineer-in-Charge of the date of each shipment from the works and expected date of arrival at the Site for the information of OWNER / Engineer-in-Charge.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 61 of 271

iii) The CONTRACTOR's notification shall also give all shipping information concerning the weight, size and content of each packing and such other information as the OWNER / Engineer-in-Charge may require.



iv) The following documents shall be sent to the OWNER / Engineer-in-Charge within 3 (three) days from the date of shipment:

- Invoice (2 copies)
- Packing List (2 copies)
- Test Certificate (4 copies)
- Railway Receipt / Lorry Receipt (2 copies)
- Insurance Certificate (2 copies) or copy of MCE Policy
- Third Party Inspection Release Note or Inspection Certificate as per QAP approved by OWNER / Engineer-in-Charge or waiver certificate issued by OWNER / Engineer-in-Charge (2 copies).

3.11.0.0 EQUIPMENT



3.11.1.0 The CONTRACTOR shall be exclusively responsible to arrange for importation into India in its own name on drawback or re-export or other basis all equipment, if any, required to be imported into India for the purposes of the work and to pay and bear the customs, import and other duties and levies (if any) payable thereon or in respect thereof, and will be solely responsible for the timely and proper compliance of all applicable terms and conditions and formalities relative thereto.

3.11.2.0 The CONTRACTOR shall within 28 (twenty-eight) days from the date of receipt of Acceptance of Bid, furnish to the Engineer-in-Charge a list of the said equipment which he proposes to import into India on a draw-back / re-export basis for the purposes of the work, together with complete details thereof. The OWNER may without obligation or responsibility furnishes to the Import Licensing Authorities in India its recommendations relative to import of such equipment which the OWNER considers necessary for the work. The OWNER may also without obligation or responsibility render such assistance as may be reasonably required by the CONTRACTOR from the OWNER to enable the CONTRACTOR to obtain the relative Import License(s) / Permit(s) for the importation of the said equipment on a draw-back / re-export basis.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 62 of 271</div>



3.12.0.0 MISCELLANEOUS IMPORTS

- 3.12.1.0 The CONTRACTOR shall be exclusively responsible at his own costs and initiative to arrange for importation into India, to import into India, to pay Customs duties and Port and other charges and levies, to clear from Customs and to transport to job site all consumables, spares for the CONTRACTOR's equipment and other materials and things whatsoever not covered by the OWNER's obligation under clause 3.1.0.0 hereof provided that the OWNER may, without obligation or responsibility, render the CONTRACTOR such assistance by way of recommendation to the Import Control authorities in India or otherwise as may be reasonably required by the CONTRACTOR from the OWNER to enable the CONTRACTOR to obtain Import License(s) / Permit(s) for importation of such consumables, spares, material and other items as the OWNER considers necessary for importation by the CONTRACTOR for the purpose of the Contract, taking into account local availability.
- 3.12.2.0 Any obligation undertaken or recommendation, facility or assistance provided by the OWNER to the CONTRACTOR for or in relation to the importation of any equipment or material whatsoever into India by or on behalf of the CONTRACTOR pursuant to the provisions hereof or otherwise shall be without any responsibility or liability whatsoever upon the OWNER and without right in the CONTRACTOR to raise any claim or demand or to seek extension of time on account of any delay or failure on the part of the OWNER or any delay or failure by the CONTRACTOR in obtaining import License(s) and / or permits for importation thereof into India.
- 3.12.3.0 All materials and equipment imported into India by or on behalf of the CONTRACTOR for and in connection with the work and any obligation undertaken or recommendation, facility or assistance provided by the OWNER relative thereto shall be on the clear understanding that the materials and equipment shall be utilised only for and relative to the performance of the work covered by the Contract.
- 3.12.4.0 All the equipment and temporary works and materials when brought to or erected on the job site, shall be exclusively intended for execution of works and the CONTRACTOR shall not remove the same or any part thereof, except for the purpose of moving it from one part of the job site to another, without the prior consent in writing of the Engineer-in-Charge.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 63 of 271

3.12.5.0 Upon completion of the works, the CONTRACTOR shall within the scope of work remove from the job site all the equipment and temporary works remaining thereon.

3.12.6.0 All equipment, materials and temporary works shall at all times be and remain at the risks of the CONTRACTOR in all respects. The OWNER shall not, at any time, be liable for the loss or destruction of or damage to any equipment, temporary works or materials for any reason whatsoever.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 64 of 271

SECTION – 4

PERFORMANCE OF WORKS



4.0.0.0 GENERAL

- 4.0.1.0 All works shall be performed and executed by the CONTRACTOR in strict conformity with the job description(s), Specification(s), Plan(s), drawing(s), design(s) and other contract documents applicable to the specific work(s) and any relative instructions as may be issued to the CONTRACTOR by the Engineer-in-Charge from time to time.
- 4.0.2.0 The Engineer-in-Charge shall be entitled from time to time or at any time, at their discretion, to issue written orders or instructions to the CONTRACTOR relative to the performance and / or execution of work(s) by the CONTRACTOR or otherwise, relative to any matter touching or affecting the contract or arising therefrom and to revise or revoke any orders or instructions previously issued, and the CONTRACTOR shall, subject to the provisions of the following clause, obey and / or abide thereby.
- 4.0.2.1 Should the CONTRACTOR require any clarification in respect of any orders or instructions issued by the Engineer-in-Charge, or should there appear to the CONTRACTOR to be any contradiction between any orders or instructions issued by the Engineer-in-Charge and the contract documents or any of them, the CONTRACTOR shall refer the matter immediately in writing to the Engineer-in-Charge for his decision before proceeding further with the work and the decision of the Engineer-in-Charge on any such matters shall be final and binding upon the CONTRACTOR, who shall perform the work accordingly, without entitlement to any claim against or compensation from the OWNER resultant upon such order, instruction or decision.
- 4.0.3.0 The CONTRACTOR shall, within 28 (twenty-eight) days of receipt of notification of acceptance of bid, name Engineer(s) responsible for the work at the job site on behalf of the CONTRACTOR. The said Engineer(s) of CONTRACTOR shall be the representative(s) of the CONTRACTOR at the job site for and relative to all actions and transactions and dealings on behalf of the CONTRACTOR and to whom all plans, designs, drawings, orders and instructions or other documents or communications for or relative to the job site may be given, with the intent that all transactions and dealings had with the said Engineer(s) shall be deemed to have been had with the CONTRACTOR, and any and all plans,

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 65 of 271

drawings, orders, instructions, documents or communications delivered to said Engineer(s) shall be deemed to have been delivered to the CONTRACTOR. The CONTRACTOR shall also independently or from amongst the said Engineer(s) designate one person to be the CONTRACTOR's Project Manager with whom the OWNER may also deal with as the CONTRACTOR's representative in the manner specified above, and who is authorized to take decisions on behalf of the CONTRACTOR and to coordinate amongst the aforesaid Engineer(s) of the CONTRACTOR.

- 4.0.3.1 The CONTRACTOR shall also nominate, at the job site, a Deputy Site Representative (which nomination shall also be subject to the approval of the Engineer-in-Charge) to deputize for the CONTRACTOR's Representative(s) during periods of unavoidable absence.
- 4.0.4.0 The CONTRACTOR shall also provide and maintain, at or about the job site, an office for the working accommodation of the CONTRACTOR's engineer and staff. Such office shall remain open and attended at all hours during which work is being performed at the job site, for the receipt of instructions, notices and other communications.
- 4.0.5.0 The CONTRACTOR shall, within the scope of work erect and / or cause to be erected any and all temporary works, ancillary works and enabling works, including preparing approaches and working areas for movement and operation of cranes, preparing and levelling areas for assembly and erection, dewatering of surface and sub-soil water and protection of existing works, drains, pipes, trenches, cables overhead and underground works and other facilities and utilities falling within the job site and / or approximate thereto and repair and / or replacement of any and all existing works, drains, pipes, trenches, cables, wires and facilities and / or utilities damaged or destroyed by the CONTRACTOR or which may have to be temporarily or permanently diverted or re-routed to enable the contractual works.
- 4.0.6.0 The CONTRACTOR shall cooperate with and afford the OWNER and other contractors engaged at Site, access to the work and shall supply at cost as determined by the Engineer-in-Charge (whose decision will be final), power and water for the performance of the work entrusted to them and / or for the carriage and storage of materials by them and whenever any work by the CONTRACTOR is being done in association, collaboration or in proximity with any other Contractors, the CONTRACTOR shall cooperate with the OWNER or other contractor(s) / agency(ies) involved in such work and shall ensure

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 66 of 271



the harmonious working between the CONTRACTOR and the Owner / contractor(s) / agency(ies) involved, and shall comply with any instructions issued by the Engineer-in-Charge for the purpose.

4.0.7.0 The OWNER shall be entitled, at its discretion, to appoint one or more engineers and / or other personnel at or about its job site on behalf of the OWNER to do such acts, deeds, matters and things as may be necessary to safeguard the OWNER's interests including (but not limited to), at the discretion of the OWNER, supervision and testing of the works being conducted by the CONTRACTOR at the job site and / or for rendering such assistance to the CONTRACTOR relative thereto as the OWNER or such Engineer(s) or personnel shall or may deem fit, it being understood, however, that the presence of any engineers or personnel of the OWNER's at or about the job site for any supervision, inspection or test performed or conducted by any such engineer(s) or any personnel of the OWNER in respect of any work(s) or any other assistance rendered by such engineer(s) and / or personnel to the CONTRACTOR relative thereto, shall be without any attendant obligation or liability of the OWNER vis-à-vis the CONTRACTOR, nor shall relieve the CONTRACTOR of his / its full responsibility in respect of the work(s) under the contract or bind the OWNER to accept as satisfactory or complete and / or in accordance with the contract, any work(s) performed by the CONTRACTOR which has / have been supervised, inspected, tested or assisted by the said engineer(s) and / or personnel of the OWNER.

4.0.8.0 If the CONTRACTOR's work or any part thereof shall be consequent or resultant upon any works performed by any other person or shall be in continuance thereof or otherwise based or founded or dependant thereon, the CONTRACTOR shall before commencing with his / its work, bring to the notice of the Engineer-in-Charge, in writing, any defects existing in said prior works.



4.1.0.0 THE JOB SITES

4.1.1.0 The OWNER shall furnish the CONTRACTOR with only four corners of the job site and level bench mark, and the CONTRACTOR shall at his own cost and initiative, set out the works to the satisfaction of the Engineer-in-Charge, but shall be solely responsible for the accuracy of such setting up notwithstanding satisfaction as aforesaid of the Engineer-in-Charge or any other assistance rendered by the Engineer-in-Charge for the purpose.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 67 of 271

The CONTRACTOR shall provide, fix and be responsible for the maintenance of all stakes, templates, level marks, profiles and the like and shall take all precautions necessary to prevent their removal or disturbance and for their efficient and timely reinstatement. The CONTRACTOR shall also be responsible for the maintenance of all survey marks, boundary marks, distance marks, whether existing or supplied / fixed by the CONTRACTOR.

- 4.1.2.0 So far as necessary to achieve the desired levels, the CONTRACTOR shall before commencing the work, remove, spread, and / or fill earth (brought from outside the job site, if necessary) to achieve and / or maintain the desired levels.
- 4.1.3.0 Before commencing the work, the CONTRACTOR shall at his / its own cost and initiative provide all necessary reference and level posts, pegs, bamboos, flags, ranging rods, strings and other materials for proper layout of the work in accordance with the scheme for bench marks acceptable to the Engineer-in-Charge. The centre, longitudinal or face line and cross line shall be marked by means of small masonry pillars. Each pillar shall have a distinct mark at the centre to enable a theodolite to be set over it. No work shall be started until all these points are approved by the Engineer-in-Charge in writing, but such approval shall not relieve the CONTRACTOR of any of his responsibilities in respect of the adequacy or accuracy thereof. The CONTRACTOR shall also provide all labour, material, tools and other facilities necessary for the proper checking of layout and inspection of the points during construction.
- 4.1.4.0 Pillars bearing geodetic marks located at the sites of units of works under construction should be protected and fenced by the CONTRACTOR.
- 4.1.5.0 On completion of works, the CONTRACTOR must submit to the Engineer-in-Charge the geodetic documents according to which the work was carried out.
- 4.1.6.0 The CONTRACTOR shall be exclusively responsible for the provision and maintenance of horizontal and vertical alignments and levels and for the correctness of every part of the work in accordance therewith and shall, at his own cost, rectify any error or imperfections therein.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 68 of 271

4.1.7.0 SITE CLEARANCE, FILLING AND LEVELLING



- 4.1.7.1 The CONTRACTOR shall clear the job site of all unwanted trees, bushes, undergrowth and over ground and underground structures, pipes and installations, and shall re-route, if necessary, any private utilities located on or within the job sites and shall take care to keep the job site clean at all times for easy access to the job site and also from the safety point of view to the satisfaction of the Engineer-in-Charge.

4.2.0.0 COMPLIANCE WITH CODES AND STANDARDS

4.2.1.0 (a) The Work and all systems, components and parts of the Works shall comply with:



- i. Those design criteria, codes and standards which are specified in this Contract, Scope of Contract and as agreed between CONTRACTOR and OWNER, and
- ii. The requirements of all relevant Indian authorities, including without limitation:
 - a) Factories Act;
 - b) Indian Petroleum Rules;
 - c) Tariff Advisory Committee Guidelines;
 - d) Liquid effluent discharge, as per Minimal National standards for liquid effluents and air emissions conforming to Pollution Control Board Standards;
 - e) Civil Aviation Rules;
 - f) Indian Boiler Regulations;
 - g) Indian Electricity Rules;
 - h) Requirement of Chief Controller of Explosives;
 - i) Requirement of Town & Country Planning Department;
 - j) Requirement of other authorities concerned with the Project or with any licence, permission, sanction, approval or no objection relative thereto, and the terms thereof.

- (b) Any modification to the agreed design criteria will be subject to the CONTRACTOR providing detailed justification and OWNER's / Engineer-in-Charge's approval of the same.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 69 of 271

4.2.2.0 CONDITIONS OF WORK

- 4.2.2.1 If necessary, the CONTRACTOR shall work overtime or in two or more shifts in a day. The CONTRACTOR shall not be entitled to any extra compensation or remuneration for overtime or double or triple shift working.
- 4.2.2.2 The CONTRACTOR will be expected to work on Sundays and holidays, if necessary, without extra compensation.
- 4.2.2.3 The CONTRACTOR shall plan and organise all operations taking into account all suspensions or shut downs necessitated by weather conditions and the severity of weather conditions (foreseen or unforeseen) shall on no account constitute a ground for extension of time for completion nor shall entitle the CONTRACTOR to claim any idle charges or additional compensation howsoever designated.
- 4.2.2.4 Notwithstanding the shut down or suspension of any operations necessitated by weather conditions, the CONTRACTOR shall, without entitlement to any additional compensation or remuneration, at his own cost and initiative take all steps necessary to protect the job site, and works, materials, equipment and machinery at Site during adverse weather conditions and the effects thereof and shall, at his own cost and initiative, do and perform, to the satisfaction of the Engineer-in-Charge, all such consequential rectification, repairs and / or reworking as shall be necessary.
- 4.2.2.5 The CONTRACTOR shall plan, well in advance for the collection of materials and equipment and the erection of such tarpaulins, sheds, wind breakers and / or other protection as shall or may be necessary for work during adverse weather conditions.
- 4.2.2.6 The CONTRACTOR shall also arrange and bring to job site and install such pumps and special equipment and machinery as may be necessary to enable work during the monsoon or adverse weather conditions and shall, at his own cost and initiative, arrange for dewatering the job sites so as to keep the construction site and areas to be worked upon free of water.
- 4.2.2.7 The CONTRACTOR shall not be entitled to any extra compensation or remuneration for or relative to any work during the monsoon or adverse weather conditions or for or relative to any special

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 70 of 271</div>



arrangements to be made and / or equipment or machinery to be brought to the job sites and / or operated to enable such workings.

4.3.0.0 TIME FOR COMPLETION



4.3.1.0 The CONTRACTOR shall complete in all respects in accordance with the Contract, the entire work within the time specified in this behalf in the Time Schedule included in the bid documents.

4.3.2.0 Within 28 (twenty-eight) days from the date of receipt of notification of acceptance of Bid the CONTRACTOR shall submit to the OWNER for approval a detailed Progress Schedule in graphical or other suitable form, giving dates of starting and finishing of various operations and works within the scope of work, providing sufficient margin to cover for contingencies and for final testing and commissioning and consequential repair, replacement and / or supply. The Engineer-in-Charge and the CONTRACTOR shall thereafter within another 14 (fourteen) days settle the Progress Schedule and the Progress Schedule so settled shall be the approved Progress Schedule and shall form part of the contract with attendant obligations upon the CONTRACTOR to commence the various works / operations involved on or before date(s) mentioned in this behalf in the approved Progress Schedule and to conclude the said works / operations on or before date mentioned in this behalf in the approved Progress Schedule and default by CONTRACTOR to commence or complete within prescribed date(s) any work or operation shall be deemed to be a breach by the CONTRACTOR to which the provisions of clause 7.0.1.0 hereof relating to termination of contract shall apply, but without prejudice to any other rights or remedies which the OWNER may have in this behalf.

4.3.2.1 The said Progress Schedule(s) to be submitted to the Engineer-in-Charge for approval shall be accompanied as part thereof by a document which will list, relative to each operation, the labour, machinery and equipment to be employed by the CONTRACTOR to achieve the desired rate of progress, it being understood, however, that the quantity and types therein indicated shall merely constitute an indication of minimums, and shall not absolve the CONTRACTOR from his / its obligations to complete the work in all respects within the time for completion specified in this behalf elsewhere in the bid documents and / or to employ additional labour, machinery and equipment necessary to achieve the desired rates of progress and / or to complete the work within the specified time.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 71 of 271

- 4.3.3.0 If the CONTRACTOR shall fail to submit to the OWNER a Progress Schedule as envisaged above or if the Engineer-in-Charge and CONTRACTOR shall fail to agree upon the Progress Schedule as envisaged above, then the Engineer-in-Charge shall in consultation with the CONTRACTOR prepare the Progress Schedule (the dates of progress as fixed by the Engineer-in-Charge being final and binding upon the CONTRACTOR except as herein otherwise expressly provided), and shall issue the Progress Schedule so prepared to the CONTRACTOR, and the provisions of clause 4.3.2.0 shall apply relative thereto as though it was as approved Progress Schedule.
- 4.3.4.0 Any reference in the contract documents to the “approved Progress Schedule” or to the “Progress Schedule” shall mean the “approved Progress Schedule” specified in clause 4.3.2.0 above or the “Progress Schedule” prepared and issued by the Engineer-in-Charge as specified in clause 4.3.3.0 above, whichever shall be in existence.
- 4.3.5.0 Within 7 (seven) days of the occurrence of any act, event of omission which, in the opinion of the CONTRACTOR, is likely to lead to delay in the commencement or completion of any particular work(s) or operation(s) or the entire work at any job site(s) and is such as would entitle the CONTRACTOR to an extension of time specified in this behalf in the Progress Schedule(s), the CONTRACTOR shall inform the OWNER and the Engineer-in-Charge, in writing, of the occurrence of the act, event or omission and the date of commencement of such occurrence. Thereafter, if even upon the cessation of such act or event or the fulfilment of the omission, the CONTRACTOR is of the opinion that an extension of the time specified in the Progress Schedule relative to particular operation(s) or item(s) or works or the entire work at the job site(s) is necessary, the CONTRACTOR shall, within 7(seven) days after the cessation or fulfilment as aforesaid, make a request to the Engineer-in-Charge for extension of the relative time specified in the Progress Schedule. The Engineer-in-Charge may on such request at any time prior to completion of the works extend the relative time of completion in the Progress Schedule for such period(s) as he considers necessary, if he is of opinion that such act, event or omission constitutes a ground for extension of time in terms of the Contract and that such act, event or omission has in fact resulted in insurmountable delay to the CONTRACTOR. The opinion / decision of the Engineer-in-Charge in this behalf and as to the extension necessary shall subject to the provisions of clause 4.3.6.0 hereof, be final and binding upon the CONTRACTOR.
- 4.3.6.0 Notwithstanding the provisions of clause 4.3.5.0 hereof, the OWNER may at any time after final completion of the Unit or works in all respects of its own initiative consider a request for extension of

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 72 of 271

time made by the CONTRACTOR to the Engineer-in-Charge under Clause 4.3.5.0 or at the request of the CONTRACTOR made by way of appeal either against the decision of the Engineer-in-Charge taken under clause 4.3.5.0 or against the Engineer-in-Charge's failure to take a decision under the said clause, if satisfied of the existence of any ground(s) justifying the delay, extend the date for completion of the work or any item or operation thereof for such period(s) as the OWNER may consider necessary, and the decision of OWNER as to the existence or otherwise of any grounds justifying the extension and as to the period(s) of extension necessary shall be final and binding upon the CONTRACTOR.

- 4.3.7.0 Subject as elsewhere herein or in the Contract documents expressly provided, only the existence of force majeure circumstances as defined in clause 4.3.8.0 hereof shall afford the CONTRACTOR a ground for extension of time for completion of the work or any part of the work or any operation(s) involved therein, and specifically without prejudice to the generality of the foregoing, inclement or unforeseen weather, strike, lockouts, third party breach, delay in supply of materials(s) or commercial hardship shall not afford the CONTRACTOR a ground for extension of time or relieve the CONTRACTOR of his/its full obligations under the Contract, nor will any forced shutdown or idleness or other impediment in progress or completion of the work due to any reason whatsoever afford the CONTRACTOR a ground for extension of time or relieve the CONTRACTOR of his/its full obligation under the Contract except and to the extent otherwise elsewhere herein specifically provided.
- 4.3.8.0 "Force Majeure" shall mean an event beyond the control of the CONTRACTOR and not involving the CONTRACTOR's fault or negligence and not foreseeable, such as, but not restricted to, wars (declared or undeclared) or revolutions, civil wars, tidal waves, fires, major floods, earthquakes, epidemics, quarantine restrictions and freight embargoes.
- 4.3.9.0 Upon an extension of the time for completion of the work or any part of the work or any operation(s) involved therein, the extended date of completion shall be deemed to be the relative date of completion in the Progress Schedule.
- 4.3.10.0 The extension of time shall be the sole remedy of the CONTRACTOR for any cause or event of delay and the CONTRACTOR shall not be entitled in addition to or in lieu of such extension, to claim any damages or compensation for extended stay or otherwise whether under the law governing contracts or quasi-contracts or any other relationship, and the CONTRACTOR hereby waives and disclaims any and all contrary rights.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div> Rev 00 Page 73 of 271 </div>

4.3.11.0 No assurance, representation, promise or other statement by any personnel, Engineer or representative of the OWNER in relation to extension of time for commencement or completion of any work(s) or operation thereof or of the entire works under the Contract shall be binding upon the OWNER or shall constitute an extension of time for commencement or completion of the entire work(s) or any part or operation thereof within the provision of Clause 4.3.5.0 or Clause 4.3.6.0 hereof, unless the same is communicated to the CONTRACTOR by the Engineer-in-Charge under Clause 4.3.5.0 or by the Executive Director under Clause 4.3.6.0 and the writing specifically states to embody an extension of time within the provisions of Clause 4.3.5.0 or 4.3.6.0 as the case may be, and without prejudice to the foregoing, the mere agreement or prescription of a Progress Schedule by the Engineer-in-Charge or any representative of the OWNER at variance with the Progress Schedule, or approved Progress Schedule, as the case may be, referred to in Clause 4.3.2.0 and/or 4.3.3.0, or containing an extended time of commencement or completion in respect of the entire work(s) or any part or operation thereof shall not anyway constitute an extension of time in terms of the contract so as to bind the OWNER or to relieve the CONTRACTOR of all or any of his/its liabilities under the Contract, nor shall constitute a promise on behalf of the OWNER or a waiver by the OWNER of any of its rights in terms of the Contract relative to the performance of the contract within the time specified or otherwise, but shall be deemed only (at the most) as a guidance to the CONTRACTOR for better organising his work on a recognition that the CONTRACTOR has failed to organise his work and/or to perform the same within the time specified in the Progress Schedule established within the provisions of clause 4.3.2.0 or 4.3.3.0 hereof as the case may be.

4.4.0.0 **PRICE ADJUSTMENT FOR SLIPPAGE IN COMPLETION**



4.4.1.0 The Lumpsum Price specified in the Contract is based (i) On the Mechanical Completion of the Unit(s) by the CONTRACTOR; and (ii) On Mechanical Completion of the Unit(s) within the time for Mechanical Completion of the Unit(s) specified in the Time Schedule. The Lumpsum Price shall be subject to adjustment by way of discount as hereinafter specified, if the Unit(s) is/are not mechanically completed by the CONTRACTOR or if the Unit(s) is/are mechanically completed subsequent to the date of Mechanical Completion specified in the Time Schedule.

4.4.2.0 If Mechanical Completion of the Unit(s) is/are not achieved by the date of Mechanical Completion of the Unit(s) specified in the Time Schedule or if any works for which a separate Progress Schedule has been established is/are not achieved by the date of completion thereof specified in the relevant

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 74 of 271</div>

Progress Schedule (each of the said date(s) is hereinafter referred to as the “starting date for discount calculation”), the OWNER shall be entitled to a discount in the Lumpsum Price in a sum equivalent to the Lumpsum Price specified below for each week or part thereof that the work remains incomplete beyond the starting date for discount calculation, namely :

- (i) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 1 (one) week of the starting date for discount calculation - 1 % (one percent) of the Lumpsum Price.
- (ii) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 2 (two) weeks of the starting date for discount calculation - 2 % (two percent) of the Lumpsum Price.
- (iii) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 3 (three) weeks of the starting date for discount calculation - 3 % (three percent) of the Lumpsum Price.
- (iv) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 4 (four) weeks of the starting date for discount calculation – 4% (four percent) of the Lumpsum Price.
- (v) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 5 (five) weeks of the starting date for discount calculation - 5% (five percent) of the Lumpsum Price.
- (vi) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 6 (six) weeks of the starting date for discount calculation - 6% (six percent) of the Lumpsum Price.
- (vii) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 7 (seven) weeks of the starting date for discount calculation - 7% (seven percent) of the Lumpsum Price.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 75 of 271

(viii) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 8 (eight) weeks of the starting date for discount calculation - 8% (eight percent) of the Lumpsum Price.

(ix) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 9 (nine) weeks of the starting date for discount calculation - 9% (nine percent) of the Lumpsum Price.



(x) For Mechanical Completion of the Unit(s) or completion of the works, as the case may be, achieved within 10 (ten) weeks of the starting date for discount calculation - 10% (ten percent) of the Lumpsum Price.

4.4.2.1 The starting date for discount calculation shall be subject to variation upon extension of the date for Mechanical Completion of the Unit(s) or final completion of the works as the case may be by the Engineer-in-Charge under Clause 4.3.5.0 or by the OWNER under Clause 4.3.6.0, with a view that upon any such extension there shall be an equivalent extension in the starting date for discount calculation under Clause 4.4.2.0 hereof.

4.4.3.0 Application of price adjustment under clause 4.4.2.0 above shall be without prejudice to any other right of the OWNER, including the right of termination under Clause 7.0.1.0 and associated clauses thereunder.

4.4.4.0 Nothing in Clause 4.4.2.0 above shall prevent the OWNER from exercising its right of termination of Contract under Clause 7.0.1.0 hereof and associated clauses thereunder, and the OWNER shall be entitled, in the event of exercising its said right of termination after the last date for Mechanical Completion of the Unit(s) and/or for final completion of the works as the case may be, as specified in the Progress Schedule or any extension thereof, without prejudice to any other right or remedy available to the OWNER, to discount as aforesaid in the contractual price of services in addition to any amount as may be due consequent to a termination under Clause 7.0.1.0 hereof and associated clauses thereunder.

4.4.5.0 It is specifically acknowledged that the provisions of this Clause 4.4.0.0 and associated Clauses thereunder constitute purely a provision for price adjustment and/or fixation and are not to be

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 76 of 271</div>

understood or construed as a provision for liquidated damages or penalty under Clause 74 of the Indian Contract Act or otherwise, and that the OWNER shall be entitled to damages or compensation, as the case may be, for breach or delay, independently of these provisions for price adjustment.

4.5.0.0 **SCHEDULE OF ACTIVITIES**



4.5.1.0 The CONTRACTOR shall within 28 (Twenty-Eight) days from the date of issue of the Letter of Acceptance, furnish to the OWNER a detailed Schedule of Activities specifying in detail the various activities which the CONTRACTOR would be required to perform and the milestones with respect to each which the CONTRACTOR would have to achieve in order to set-up, complete, establish and successfully commission the UNIT/ works in accordance with the Contract.

4.5.2.0 Each activity entered in the Schedule of Activities and each milestone therein shall be priced so as to break-up so far as possible, the Lumpsum Price of services into various priced milestones of achievements and priced activities required to achieve those milestones. The Schedule of Activities and the said priced break-up of activities therein are intended only to provide a basis for the purpose of calculating on account payments for services and for calculating payments due to the CONTRACTOR under clause 2.7.4.0 hereof upon cancellation of Contract, and for no other purpose.

4.5.3.0 The prices in Schedule of Activities shall be in conformity with the price(s) quoted by the CONTRACTOR for the various activities and the Contractual provisions for on account payments.

4.5.4.0 The OWNER shall review or cause to be reviewed the prima facie adequacy, sufficiency, validity and/or suitability of the activities listed in the Schedule of Activities for the works for which they are intended, and of the prices indicated in the Schedule of Activities in respect thereof. Such review shall be performed in conjunction with the design, engineering, specification and other technical reviews to be done by the OWNER and all provisions applicable thereto shall be applicable to the review of the Schedule of Activities.

4.5.5.0 The priced Schedule of Activities as approved by the OWNER shall constitute the Schedule of Activities envisaged in the contract documents. However, no such approval shall in any manner absolve the CONTRACTOR of his full responsibility under the contract to perform within the lump-sum price of services specified in the Price-Schedule, all services and to perform and undertake the work(s)

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 77 of 271

required to set up, establish and commission the Unit in accordance with the Contract and the specification, complete in all respects, whether or not any particular work or activity required is included within the Schedule of Activities and whether or not the price thereof is included in the price indicated in the Schedule of Activities and whether or not the price thereof is in conformity with the price thereof indicated in the Schedule of Activities.

4.5.6.0 The Schedule of Activities shall be subject to amendment in both items and prices in so far as necessary consequent upon any amendment in any relevant related technical particulars or consequent upon a Change Order, and upon any amendment, the amended Schedule of Activities as approved by the OWNER shall thereafter constitute the Schedule of Activities as envisaged in the Contract Documents, provided that no such amendment shall by itself anyway oblige the OWNER to pay any amount in addition to the Lumpsum Price of services as specified in the price Schedule or oblige the OWNER to pay or bear any tax or duty which it would not have had to pay or bear but for such amendment.



4.6.0.0 **REPORT AND RECORDS**

4.6.1.0 The CONTRACTOR shall from time to time maintain at each job site (in addition to any records or registers required to be maintained by the CONTRACTOR under any law, rule or regulation having the force to law), such records and registers with respect to the materials and/or works as the Engineer-in-Charge or the OWNER shall require the CONTRACTOR to keep and/or maintain from time to time.

4.6.2.0 In addition to any other records or registers to be maintained by the CONTRACTOR from time to time and/or reports required to be furnished by the CONTRACTOR, the CONTRACTOR shall submit to the Engineer-in-Charge and to the OWNER a Daily Progress Report of all work done and/or progress achieved by the CONTRACTOR at each job site within the preceding day.



The said daily Progress Report shall also contain category-wise the labour and equipment deployed in the various activities during the previous day.

4.6.2.1 The CONTRACTOR shall also submit to the Engineer-in-Charge and to the OWNER at the end of each week (terminating on Sunday), a Progress Report of all work done and/or progress achieved by the



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 78 of 271

CONTRACTOR at each job site within the preceding week. The Report shall also indicate the targets and the slippage (if any) in the achievement of targets, and the cause(s) for such slippage.

- 4.6.2.2 The CONTRACTOR shall also at the end of each English Calendar month submit to the Engineer-in-Charge and to the OWNER, a Progress Report of all work done and/or progress achieved by the CONTRACTOR at each job site within preceding month. Such Report shall also indicate the slippages of any achievement in the targets upto the previous month and the steps being taken and to be taken to catch up and the catch up plain of the CONTRACTOR relative thereto. The said Report shall also indicate in a separate statement, the equipment(s) received at the job site during the previous month, the date of receipt of each equipment at site and whether the equipments have been erected or deployed or not.
- 4.6.3.0 The failure by the CONTRACTOR to submit the reports as specified in Clause 4.6.2.0, 4.6.2.1 and/or 4.6.2.2 shall:
- (i) disentitled the CONTRACTOR from submitting any Running Account Bill or other Bill or Invoice for material or equipment or for work done until the CONTRACTOR shall have duly made up any shortfall in the compliance(s).
 - (ii) constitute a breach of contract under Clause 7.0.1.0 (i) (e) of the General Conditions of Contract.
- 4.6.4.0 The receipt and/or acceptance of any such report by the Engineer-in-Charge and/or the OWNER shall be without prejudice to the full rights and remedies of OWNER and obligations/liabilities of CONTRACTOR under the Contract, and shall not anyway operate as an estopped against OWNER by reason only of the fact that no notice or objection was taken of any information contained in any such report; nor shall any statement in any such report be deemed to be correct merely by virtue of the existence of such statement, and it being uncontroverted by the OWNER or the Engineer-in-Charge.
- 4.7.0.0 **QUALITY ASSURANCE/QUALITY CONTROL PROGRAMME**
- 4.7.1.0 The CONTRACTOR shall establish, document and maintain an effective Quality Assurance Programme conforming to ISO 9001. Within 28 days of the issue of the Letter of acceptance, a detailed Quality Assurance Programme conforming to the said specifications to be followed for the execution of the contract shall be submitted by the CONTRACTOR to the Engineer-in-Charge for approval.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 79 of 271</div>

- 4.7.2.0 The Quality Assurance Programme, plans and procedures shall be furnished in the form of a QA manual. This document should cover details of the personnel responsible for the quality assurance plan or procedures to be followed for quality control in respect of design, engineering, procurement, supply, work(s), fabrication, installation, testing and commissioning. The quality assurance system should indicate organizational approach for Quality Control and quality assurance of the construction activities, at all stages of work at site as well as at manufacturer's works and despatch of materials.
- 4.7.3.0 The Engineer-in-Charge shall review the Quality Assurance Programme within 3 (three) weeks of receipt.
- 4.7.4.0 The CONTRACTOR shall within the Scope of Supply, arrange for and carry out inspection activities in respect of imported equipment/materials through an approved Third Party Inspection Agency. Third party inspection shall be carried out by TPI office of -the country (ies) from where materials are being procured/sourced. The Third Party shall within its scope of work, examine the existence, correctness and completeness of all test and other certificates and Reports required to be furnished under the approved Quality Assurance Procedure (QAP), the applicable codes and specifications and the contract documents.
- 4.7.5.0 Payments to be made to the Third Party Inspection Agency shall be the responsibility of the CONTRACTOR. The responsibility for ensuring inspection/testing as per specifications approved documents and agreed QAP and plans shall be that of the CONTRACTOR. Inspection activities of the Third Party Inspection Agency shall be coordinated by the Inspection Coordinator of the CONTRACTOR.
- 4.7.6.0 The CONTRACTOR shall ensure the following to maintain utmost quality in supply of equipment/materials:
- No supply will be accepted unless drawings (wherever required) are approved under Code-1.
 - The Inspection Agency shall carry out inspection based on Code-1 approved drawings and approved QAP.
 - The Inspection Release Note issued by the Inspection Agency shall clearly stipulate that materials/equipment(s) has/have been inspected as per Code-1 approved drawings and approved QAP, and that the Certificate and Reports referred to in Clause 4.7.4.0 which have

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 80 of 271

been examined by the Inspection Agency are correct and complete and have been signed by the Inspection Agency in token thereof. Payment shall be released only after receipt of the said Release Note from the Inspection Agency.

- (d) No clearance shall be given to the CONTRACTOR for erection works or for installation of the equipment without receipt of the Inspection Release Note as indicated in para (c) above.
- (e) Pre-commissioning and commissioning of the plant and equipment and of the UNIT shall be undertaken only after complete satisfaction/verification of supplies as per final approved drawings (Code-1) and QAP (Code-1).

4.7.7.0 The CONTRACTOR has to ensure the deployment of Quality Assurance and Quality Control Engineer(s) depending upon the quantum of work. This QA/QC group shall be fully responsible to carry out the work as per standards and all code requirements. In case the Engineer-in-Charge feels that QA/QC Engineer(s) of the CONTRACTOR or any of them are incompetent or that the designated Engineer(s) are insufficient, the CONTRACTOR shall deploy other experienced Engineer(s) to the satisfaction Engineer-in-Charge.



4.7.8.0 If the CONTRACTOR fails to comply with the requirements of the QAP and the above provisions or to follow the instructions of Engineer-in-Charge under Clause 4.7.7.0, the next payment due to him shall not be certified, or if already certified, shall not be released unless the CONTRACTOR complies therewith to the satisfaction of Engineer-in-Charge.

4.7.9.0 If Third Party Inspection is specifically excluded from the CONTRACTOR's responsibility under the Contract, the inspection shall be carried out by the EIC or by any other Inspection Agency nominated by the OWNER, and Cl. 4.7.4.0, 4.7.5.0, 4.7.7.0 and 4.7.8.0 shall stand accordingly modified.

4.8.0.0 **EXECUTION OF THE WORK**

4.8.1.0 The CONTRACTOR shall provide sufficient labour, staff (qualified and unqualified), machinery, tools and equipment, material and things whatsoever necessary for the proper performance of the work and to ensure the rate of progress as envisaged in the Progress Schedule.



4.8.2.0 If in the opinion of the Engineer-in-Charge (the opinion of either of whom in this behalf shall be final), the work(s)/operation(s) at any job site or as a whole is/are not meeting the progress necessary to

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 81 of 271</div>

achieve the relative date of completion in the Progress Schedule, the Engineer-in-Charge may instruct the CONTRACTOR to employ/provide additional labour, staff, machinery, tools, equipment or material necessary to achieve the required progress and the CONTRACTOR shall forthwith comply with such instruction(s).



4.8.3.0 Should the CONTRACTOR fail to comply with such instruction(s) or fail to comply therewith to the satisfaction of the Engineer-in-Charge (whose opinion in this behalf shall be final and binding upon the CONTRACTOR), the Engineer-in-Charge may, at his discretion, at the risk and cost of CONTRACTOR, and after consulting the CONTRACTOR, appoint, procure or provide the material(s) and/or the additional labour/personnel and or equipment as the Engineer-in-Charge (whose decision in this behalf shall be final and binding upon the CONTRACTOR) considers necessary to achieve the necessary progress in relation to any particular work/operation or the work as a whole, or may appoint subcontractor(s) for the performance of any particular work or operation and/or for the supply of any requisite material. In so doing, the Engineer-in-Charge shall be deemed to be acting for and on behalf of and as agent of the CONTRACTOR and any such appointment(s), procurement or provision shall be deemed to have been made by the CONTRACTOR and shall be paid for by the CONTRACTOR and/or out of any monies payable to the CONTRACTOR. The OWNER shall also be entitled in this event to 15% (Fifteen Percent) as supervision charges on the total cost of such appointment(s), procurement(s) and/or provision(s), and the OWNER shall be entitled (without prejudice to any other mode of recovery) to deduct the same from the running account/final bills of the CONTRACTOR or any amount howsoever becoming payable to the CONTRACTOR from time to time and the decision of the Engineer-in-Charge as to the cost incurred in this behalf shall be final and binding upon the CONTRACTOR.

4.8.4.0 Should the Engineer-in-Charge at any stage (notwithstanding that the time for completion of the relative work or item of work as specified in the Progress Schedule has not expired) be of the opinion (the opinion of the Engineer-in-Charge in this behalf being final) that the performance of any work or item of work by the CONTRACTOR is unsatisfactory (whether in the rate of progress, the manner, quality or workmanship of the performance or in the adherence to specifications, or in the omission, neglect or failure to do, perform, complete or finish any works or item, or for any other cause whatsoever), the Engineer-in-Charge shall be entitled (without prejudice to any other rights of the OWNER and/or obligations of the CONTRACTOR under the Contract) at his discretion and after consulting the CONTRACTOR at the risk and cost of the CONTRACTOR either to appoint, procure and/or provide such labour, staff, machinery, tools, materials etc. as the Engineer-in-Charge (whose



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 82 of 271</div>

decision shall be final and binding upon the CONTRACTOR) considers necessary to achieve satisfaction in relation to the particular work, operation or item or work, or the work as a whole, as the case may be, or to appoint one or more subcontractors for the satisfactory performance thereof or any part thereof, or to undertake the performance thereof or any part thereof departmentally, and the provisions of clause 4.8.3.0 hereof shall mutates mutandis apply to any action taken by the Engineer-in-Charge pursuant to this clause in the same manner as applicable to an action taken under the said clause.

- 4.8.4.1 After and so far as the performance of any work or supply of any materials under Clause 4.8.3.0 or under Clause 4.8.4.0 shall involve payment of any advance(s) or down payment(s) or any other payment in advance of the payments for relative works or supplies to the CONTRACTOR, such payment(s) shall be funded out of the amounts payable or becoming payable on the Running Account Bills or other Bills of the CONTRACTOR and/or out of any Bank Guarantees to secure advance(s) or otherwise held by the OWNER pursuant to this contract.
- 4.8.5.0 Any action, taken by the Engineer-in-Charge under clause 4.8.3.0 and/or 4.8.4.0 shall be without prejudice to the full liability of the CONTRACTOR under the Contract including put not limited to the OWNER'S full rights under clauses 4.4.0.0 and associated clauses thereunder, and under clauses 7.0.7.0 and 7.0.8.0 hereof.
- 4.8.6.0 During the progress of the works, the CONTRACTOR shall keep the site reasonably free from all unnecessary obstruction and shall store or dispose of any constructional plant and surplus materials and clear away and remove from the site, any wreckage, rubbish or temporary works no longer required. Disposal of surplus materials shall be in accordance with the instructions of the Engineers-in Charge.
- 4.9.0.0 **SUB-CONTRACTS**
- 4.9.1.0 The CONTRACTOR shall not assign, sub-contract or subject the whole or any part of the work in any manner to any third party lien, right or interest, provided that the CONTRACTOR may, with the prior written approval of Engineer-in-Charge and subject to the other provisions in this behalf, sub contract any particular work or part of the work to subcontractor approved by the Engineer-in-Charge.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 83 of 271

- 4.9.2.0 Each Sub-Contractor shall be covered by the contract on the same basis as the CONTRACTOR, provided, however, that notwithstanding approval of the Sub-Contract as aforesaid and notwithstanding that the OWNER/Engineer-in-Charge shall have received a copy of the Contract between CONTRACTOR and Sub-Contractor, the CONTRACTOR shall be and shall remain exclusively responsible to the OWNER, for which purposes the Sub-Contractor shall, vis-a-vis the OWNER, be deemed to be the servant/agent of CONTRACTOR employed for the performance of the particular work with full responsibility on CONTRACTOR for all acts, omissions and defaults of the Sub-Contractor.
- 4.9.3.0 Subject as herein above in this behalf specifically permitted and provided, the CONTRACTOR shall not sub-contract or assign any work under the Contract, and any sub-contract in breach hereof shall be deemed to be an assignment of the Contract or part or portion thereof sub-contracted, as the case may be.
- 4.9.4.0 If any sub-contractor engaged upon the work at the site executes any work which in the opinion of the Engineer-in-Charge is not of the requisite standard (the opinion of the Engineer-in-Charge being final in this behalf), the Engineer-in-Charge may after consulting the CONTRACTOR, by written notice to the CONTRACTOR require the CONTRACTOR to terminate such sub-contract, and the CONTRACTOR shall upon the receipt of the such notice, terminate such sub-contract at the risks and cost of the CONTRACTOR, and shall keep OWNER indemnified against the consequences.
- 4.9.5.0 Notwithstanding such sub-contract being approved by Engineer-in-Charge as herein envisaged, the CONTRACTOR shall, at the commencement of every month, furnish the Engineer-in-Charge with a list of all sub-contractors engaged and working at the site during the previous month, with particulars of the general nature of the works performed by them.
- 4.9.6.0 **SUB-CONTRACTOR FOR CONSTRUCTION WORKS**
- 4.9.6.1 Following the issue of the Letter of Acceptance, the CONTRACTOR will submit to the OWNER and Engineer-in-Charge for approval the details of sub-Contractors for construction in the Format prescribed by the OWNER for the purpose. The CONTRACTOR shall ensure that only competent and resourceful agencies with proven track record and performance should be proposed for the work to be sub-contracted.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 84 of 271</div>

4.9.6.2 The list of construction sub-contractors proposed by the Bidders in the Bid shall be considered as indicative only.

4.9.6.3 A minimum of the following construction activities shall be performed by the CONTRACTOR directly and shall not be sub-contracted:

- (i) Total Project Management
- (ii) Planning, Scheduling, Monitoring
- (iii) Procurement: (except for procurement of Cement, Steel and aggregate)
- (iv) Quality Assurance
- (v) Construction Management
- (vi) Mechanical Completion, Pre-commissioning, Start up and Commissioning



4.9.6.4 Additionally, the CONTRACTOR must deploy its own manpower for planning, supervision and quality of works at site including Project Manager(s), Quality Control Engineer(s) for various disciplines, Planning Engineer(s) and front line supervisors for Civil, Electrical, Mechanical, Piping and Instrumentation jobs. Sub-contracting of these activities shall not be permitted under any circumstances.

4.9.7.0 **ENGINEERING SUB-CONTRACTOR**

4.9.7.1 The CONTRACTOR shall carry out residual process design and detailed engineering activities either himself an/or if so permissible in terms of the tender/bid documents, through an approved engineering sub-contractor having the requisite experience and qualifications.

4.9.7.2 The CONTRACTOR or Engineering sub-contractor executing residual process design and detailed engineering shall follow inter alia the methodology Residual Process Design and detailed Engineering shall be done by the CONTRACTOR or specified Engineering Subcontractor identified by the CONTRACTOR in his Bid and approved by the OWNER. No other or further subcontracting shall be permitted.



- a) Residual Process Design and detailed Engineering shall be done by the CONTRACTOR or specified Engineering Subcontractor identified by the CONTRACTOR in his Bid and approved by the OWNER. No other or further subcontracting shall be permitted.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 85 of 271</div>

- b) The Residual Process Design and detailed Engineering shall be carried out at the Principal International Design Office of the CONTRACTOR/Engineering Subcontractor, as the case may be with adequate strength of technical personnel and support design aids.
- c) The CONTRACTOR/Engineering Subcontractor shall extensively use latest design software including 3D Modelling with PDS/PDMS software.
- d) In the case of Residual Design Engineering and/or Detailed Engineering being done by engineering subcontractor, the CONTRACTOR shall locate its Lead Engineers of the respective disciplines viz CIVIL, STRUCTURAL, PRESSURE VESSELS, STATIC & ROTATING EQUIPMENT, PIPING, ELECTRICAL and INSTRUMENTATION at the design Centre (office) of the engineering subcontractor to control, monitor and approve the engineering design work/deliverables of the engineering subcontractor prior to their issue for Review or Construction, as applicable. Such placement shall be a pre-condition for the issue of any drawings for review or construction, to which end the CONTRACTOR shall keep the OWNER informed of such deployment with particulars of the Lead Engineers deployed, and the relevant dates of their deployment, and all drawings issued for review or construction shall be countersigned by the concerned Lead Engineers. All interactions on Design/Review/Discussions with OWNER/OWNER's representative shall be done under single point responsibility of the CONTRACTOR.
- e) After start of construction work, the CONTRACTOR and/or its engineering subcontractor, as the case may be, shall position at work site a field engineering team essentially consisting of General Civil, Piping and Structures initially and followed by Electrical and Instrumentation who have been involved in carrying out the design at the design center in order to closely co-ordinate with site construction group to resolve any issues related to design/construction and provide additional drawings/documents as required. Other specialists as required shall also be deployed. The field engineering team shall be equipped with all their design aids (both hardware and software) and with effective communication network facilities with their Principal International Design Office.

4.10.0.0 **RELATIONSHIP WITH CONSORTIA**

- 4.10.1.0 Where the CONTRACTOR is a consortium, the members of the consortium shall nominate or appoint one amongst them to be the consortium leader and to represent them in all dealings with the OWNER and to do all acts, deeds, matters and things required to be done by the CONTRACTOR under the contract, including (but not limited to) exchange of correspondence, raising invoices, drawings, documents and receiving payments. Failing such nomination or appointment, the OWNER shall be



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 86 of 271

entitled at its discretion to nominate any one member of consortium to be the consortium leader and to represent the CONTRACTOR and/or to deal with OWNER. The Consortium leader must be a person/entity who satisfies the qualification criterion for bidding.

- 4.10.1.1 All dealings had with and/or all acts, deeds, matters and things done by or payments made to and invoices/documents drawn and/or negotiated by a person/entity appointed or nominated by the consortium or the OWNER as aforesaid shall be binding upon the CONTRACTOR and each member of the consortium, and in so far as the OWNER shall require a discharge in respect of any dealing had or act, deed, matter or thing done or payment made as aforesaid, the same shall constitute a valid discharge to the OWNER
- 4.10.2.0 Each and every member of the consortium shall be jointly and severally liable to the OWNER for and in respect of all liabilities and obligations of the CONTRACTOR under the Contract.
- 4.10.3.0 The constitution of the consortium or the relative distribution of work(s) and/or activities amongst the consortium members within the relative expertise of each as approved by the OWNER shall not be altered or assigned, as the case may be, except with the prior written consent of the OWNER with the intent that any contrary alteration or assignment shall be deemed to be an unauthorised assignment of contract with attendant liabilities including termination of contract.



4.11.0.0 MISCONDUCT

- 4.11.1.0 If and whenever any of the CONTRACTOR's or Sub-contractor's agents, sub-agents, assigns, consultants or employees shall in the opinion of the Engineer-in-Charge (whose opinion in this behalf shall be final), be guilty of misconduct or be incompetent or indifferently qualified or negligent in the performance of his/their duties, or if in the opinion of the Engineer-in-Charge (which shall be final), it is undesirable for any reason (which need not be disclosed to the CONTRACTOR) for such person(s) to be employed in the works, the CONTRACTOR, is so directed by the Engineer-in-Charge, shall forthwith remove or cause to be removed such person(s) from employment thereon, and any person(s) so removed shall not be re-employed in the works except with the prior permission in writing of the Engineer-in-Charge. Should the CONTRACTOR be requested to repatriate any person removed from the works, the CONTRACTOR shall do so forthwith at his own cost. Any person(s) so removed

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 87 of 271</div>

from the works shall be immediately replaced at the expense of CONTRACTOR by a qualified and competent substitute.

- 4.11.2.0 The CONTRACTOR shall keep the OWNER indemnified from and against all personal and third party claims whatsoever (inclusive of all costs incurred between attorney and client) arising out of any act or omission on part the of any sub-contractor or agent, sub-agent, consultant or employee of the CONTRACTOR or any Sub-contractor, whether committed, omitted or arising within or without the scope of the contract, sub contract, agency or employment, as the case may be.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 88 of 271

SECTION – 5



INSPECTION AND TESTING

5.0.0.0 INSPECTION AND TESTING OF MATERIALS



- 5.0.1.0 All materials to be supplied by the CONTRACTOR within the scope of supply shall each be individually inspected, tested and analysed in terms of the specifications, applicable codes and the relevant practices specified therein or elsewhere in the contract document by expression or implication.
- 5.0.1.1 Inspection, tests and analysis shall be carried out in so far as possible, at the place of manufacture, production or fabrication of the materials, at the cost of the CONTRACTOR/manufacturer.
- 5.0.1.2 In each and every instance, the CONTRACTOR shall give the OWNER and its specified representatives, adequate advance (minimum 15 days) notification of the schedule of inspection or test so that the OWNER/its representative may witness the same. The CONTRACTOR shall afford the OWNER/its authorised representatives, access to any and all parts of manufacturer's facilities or other places where manufacture, production or fabrication is being done, of any material intended for supply within the scope of supply.
- 5.0.1.3 The OWNER shall be entitled at all times whether prior to despatch of stores, by itself and/or through inspectors appointed by the OWNER to inspect, test and/or analyse and/or to direct the manufacturers to inspect, test and/or analyse, any materials used or proposed to be used in the manufacture, production or fabrication of any material to be supplied by the CONTRACTOR within the scope of supply. The said inspection, test and analysis as far as required, shall be conducted in the presence of inspector. The manufacturer shall ensure that the inspecting personnel referred to above are given free access to all the required places and information connected with their work, besides working facilities to carry out their functions. The said inspection, test and analysis shall be so conducted as not to interfere with the manufacture's normal production.
- 5.0.1.4 The OWNER shall be entitled at any time at the risk of the CONTRACTOR to inspect and/or test by itself or through any independent person(s) or agency(ies) appointed by the OWNER any materials, items and components whatsoever supplied or proposed to be supplied for incorporation in the works.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 89 of 271

- 5.0.1.5 Further, the OWNER may, if so considers necessary for reasons to be recorded in writing, direct the CONTRACTOR to conduct such inspection or tests in addition to the inspection/tests specified in the Contract or the applicable codes, standards and/or practices. The inspection and/or tests, if conducted by the CONTRACTOR, shall be conducted at the expense of CONTRACTOR and may be directed by the OWNER to be conducted by agency(ies) nominated by the OWNER. Such tests may include destructive and/or non-destructive tests by ultrasonic, electromagnetic, radiological, visual and other means.
- 5.0.1.6 Where the manufacture or fabrication of any materials intended for incorporation in the works is being done by any person(s) other than the CONTRACTOR, and/or in the premises/workshop of any person other than the CONTRACTOR, the CONTRACTOR shall procure and arrange for the inspection or testing and/or analysis thereof by such other person(s) and shall provide the OWNER and/or its authorised representative(s) every facility and assistance necessary for the inspection and/or testing thereof.
- 5.0.1.7 The CONTRACTOR shall also, on receipt of intimation or any communication of any inspection or tests by the OWNER or any agencies nominated by the OWNER in this behalf, present himself or his authorised representative(s) at the place of inspection and/or testing to receive any orders or instructions consequent thereto, as shall be necessary.
- 5.0.1.8 The CONTRACTOR shall furnish to the OWNER and/or agency specified by the OWNER for the purpose of inspection or approval when requested, or as required by the inspection or other contract documents, adequate samples of all materials and finishes intended for incorporation in the works. Such samples shall be submitted before the work is commenced, permitting sufficient time for tests/examination(s) thereof by the OWNER. All materials furnished and finishes incorporated in the work shall conform to the approved sample(s) in all respects.
- 5.0.1.9 The CONTRACTOR/manufacturers including their authorised Sub-contractors/Suppliers shall make available to the OWNER and any other individual/agency authorised by the OWNER, for purpose of inspection, all its records and results in respect of inspection, test and analysis conducted by it as part of their manufacturing and testing operations under the applicable codes and practices.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 90 of 271

- 5.0.2.0 Should the manufacturers fail to comply with any of the provisions aforesaid relating to inspection, testing and/or analysis, the OWNER shall be entitled by itself and/or through inspector to conduct the inspection, test and/or analysis at the risk and expense of the manufacturer/CONTRACTOR in all respects.
- 5.0.2.1 No rejected material, component or sub-assembly shall be used or reused for manufacture, production or fabrication of any material(s) intended for permanent incorporation in the works.
- 5.0.3.0 Unless otherwise specifically authorised by the OWNER in writing, the supplier shall not ship or dispatch for shipment, within the scope of supply, any store(s) which have not been priorly inspected, tested and/or analysed as herein contemplated and in respect of which a certificate of quality has not been issued or signed by the inspectors.
- 5.0.4.0 If the rejection rates at the OWNER'S inspection for defects exceeds 5% (Five percent), the OWNER shall be entitled to halt production until the cause thereof is rectified, without any liability to the OWNER and without in any manner relieving the CONTRACTOR of its full liabilities under the Contract.
- 5.0.5.0 The Engineer-in-Charge shall be entitled for reasons to be recorded in writing to reject at any time even after delivery to the job site any defective materials (including specially manufactured or fabricated items and components) supplied by the CONTRACTOR for incorporation in the works, notwithstanding previous inspection and/or testing thereof by or on behalf of the OWNER without rejection or previous approval thereof by or on behalf of the OWNER and upon such rejection the CONTRACTOR shall either perform such work or improvement thereon or in respect thereof as shall be necessary to bring the material, item or component to the requisite standard, or shall if so required by the Engineer-in-Charge (whose decision in his behalf shall be final), remove the rejected material/item/component from the job site within the time specified by the Engineer-in-Charge and replace it at his own cost and expense (without additional remuneration or compensation in respect thereof) with material(s)/item(s)/component(s) approved by the Engineer-in-Charge.
- 5.0.6.0 Should the CONTRACTOR commit a breach of its obligations under Clauses 5.0.2.1 or Clause 5.0.3.0. or Clause 5.0.5.0 hereof, the CONTRACTOR shall be deemed to be in breach of contract within the provisions of Clause 7.0.1.0 hereof with regard to termination of Contract, and the provisions of the said Clause and associated provisions thereunder shall apply to such breach.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 91 of 271

5.0.7.0 Notwithstanding anything provided in the foregoing clauses hereof and notwithstanding that the OWNER and/or its representative or any agency appointed by the OWNER has inspected, tested and/or approved any raw material intended to be incorporated in any material(s) to be supplied pursuant to the Scope of Supply and/or has inspected, tested and/or approved any such materials(s), the CONTRACTOR shall be and remain fully responsible under the Contract for and in relation to specification fulfillments and performance guarantees. The said inspection, tests and related procedures are intended only for the OWNER'S satisfaction that prima facie the raw material and/or material(s), as the case may be, intended for incorporation and/or supply under the Contract, are in order.



5.1.0.0 **INSPECTION AND TESTING OF WORKS**

5.1.1.0 The CONTRACTOR shall at all times ensure highest standards of workmanship relative to the work to the satisfaction of the Engineer-in-Charge. The Engineer-in-Charge shall have the power to inspect or cause to be inspected the works in all respects at any and all times up to completion of the works, as also, to test or to instruct the CONTRACTOR to test the works or any structure, material or component thereof at the risk and cost of the CONTRACTOR, either by the CONTRACTOR or by any agency(ies) nominated by the Engineer-in-Charge in this behalf.



5.1.1.1 The CONTRACTOR shall provide all facilities, instruments, material, labour and equipment required for testing the work (including checking the setting out of the works) and shall afford the Engineer-in-Charge all assistance necessary to conduct or have conducted the inspection and tests.

5.1.1.2 The CONTRACTOR shall also provide and keep at all times during the progress of the work and maintenance period, proper means of access to the works and every part thereof by means of ladders, gangways etc. and the necessary attendants to move and set up the same as directed by the Engineer-in-Charge for inspection or measurement of the works.

5.1.2.0 On no account shall the CONTRACTOR proceed with cover up or otherwise place beyond reach of inspection, test or measurement any work before necessary inspection entries are filled in the Site Inspection Register by the Engineer-in-Charge or his authorised representative. Should the CONTRACTOR do so, the same shall be uncovered at CONTRACTOR'S risk and expense for carrying out of the inspection, test and/or measurement.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 92 of 271</div>

- 5.1.3.0 Should the CONTRACTOR fail to comply with any provisions foregoing relative to inspection and/or testing of the works, the Engineer-in-Charge shall in his absolute discretion be entitled to remove, dismantle and/or uncover, as the case may be, at the risk and cost of the CONTRACTOR, such cover-up thereof installed, erected or put up by the CONTRACTOR and to conduct or have conducted the test(s) and/or examination at the risk and cost of the CONTRACTOR. In such event the CONTRACTOR shall also bear the risk and cost of the replacement, reinstallation or re-erection of the concerned work(s) or part thereof, as case may be.
- 5.1.4.0 Notwithstanding anything provided in the foregoing clauses hereof, the CONTRACTOR shall be and remain liable at his own cost and initiative to conduct all tests at all relevant times during performance, erection and installation of any work(s), as shall be required in terms of the contract documents or the codes, standards or practices referred to therein, or as reasonably required by the Engineer-in-Charge, such tests to be conducted through agency(ies) or Laboratory(ies) specified or approved by the Engineer-in-Charge in this behalf.
- 5.1.5.0 Should the Engineer-in-Charge on inspection or test be not satisfied with the quality or workmanship of any work(s), or any part thereof (the decision of the Engineer-in-Charge being final in this behalf), the CONTRACTOR shall re-perform, replace, re-install and/or re-erect, as the case may be, such work(s) or part as the case may be and no such rejected work(s) or part shall be used or reused with reference to the works except with the prior permission of the Engineer-in-Charge and the provisions of Clause 5.1.7.0 hereof shall apply to default by the CONTRACTOR of the provisions of this clause.
- 5.1.6.0 Notwithstanding anything provided on foregoing clauses hereof and notwithstanding that the Engineer-in-Charge and/or his representative has inspected, tested and/or approved any particular work(s) or structure or part thereof, such inspection, test or approval shall not absolve CONTRACTOR of his full responsibility under the contract inclusive of and relative to specification fulfilments and performance guarantees. The said inspection and test procedure is intended basically to satisfy the OWNER that prima facie the work(s) done and/or structure or system installed is/are in order.
- 5.1.7.0 Should the CONTRACTOR fail to re-perform, replace, reinstall and/or re-erect, as the case may be, any work(s) or structure, or part thereof rejected or found defective in terms of clause 5.1.5.0 hereof within such period as the OWNER or Engineer-in-Charge may specify by written notice to the CONTRACTOR in this behalf, without prejudice to the rights of the Engineer-in-Charge under Clause

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 93 of 271



4.8.3.0 and Clause 4.8.4.0 thereof, the CONTRACTOR shall be deemed to be in breach of contract within the provisions of clause 7.0.1.0 hereof with regard to termination of Contract and the provision of the said clause and associated provisions thereunder shall apply to such breach , and the OWNER shall be entitled (without prejudice to any other right or remedy available to the OWNER) upon expiry of the period specified in said notice, to demolish and/or remove the rejected/defective work(s) and/or structure, or part thereof and to re-perform, replace, re-install and/or re-erect, as the case any be, the same by itself or through other agency or CONTRACTOR at the risks and cost of the CONTRACTOR in all respects, and to recover the costs incurred by the OWNER in this behalf together with a supervision charge of 15% (Fifteen percent) thereon admissible to the OWNER, and the OWNER shall be entitled (without prejudice to any other mode of recovery) to deduct the same from the Running Account/Final Bill(s) of the CONTRACTOR or any monies becoming due to the CONTRACTOR from time to time and the decision of the Engineer-in-Charge as to the cost incurred by the OWNER as aforesaid shall be final and binding upon the CONTRACTOR.

5.2.0.0 TESTS, COMMISSIONING AND POSSESSION OF WORKS

5.2.1.0 As soon as the works at any Site have been completed in all respects to the satisfaction of the Engineer-in-Charge, and prior to the start-up of the UNIT, Final Tests of the different equipments, sub-systems, and systems comprised in the works/UNIT shall be undertaken by the CONTRACTOR at the risks and costs of the CONTRACTOR in the presence of the Engineer-in-Charge or his authorised representative. The OWNER may at its discretion permit Final Tests, piece-meal in respect of particular part(s) or section(s) or group(s) of the works.



5.2.1.1 As soon as all the Final Tests have been completed in all respects to the satisfaction of the Engineer-in-Charge, pre-commissioning & startup of the complete system, plant(s), equipment(s), vessels and machinery, and associated systems or the UNIT, as the case may be shall be undertaken by the CONTRACTOR at the risk and cost of the CONTRACTOR under the overall supervision of the Engineer-in-Charge or his authorised representative and/or of the Process Licensor.

5.2.1.2 Upon satisfactory completion of the Final Tests in respect of all plant, machinery, equipment, sub-systems and systems constituting the works/UNIT and Mechanical Completion of the UNIT to the satisfaction of the OWNER, the Engineer-in-Charge shall prepare a Final Test Certificate which shall



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 94 of 271</div>

certify the date on which Final Tests in respect of various plant, machines, equipment, sub-systems and systems have been successfully completed and the date of Mechanical Completion of the UNIT.

- 5.2.1.3 Following Mechanical Completion of the UNIT to the satisfaction of the OWNER the CONTRACTOR shall, as soon as feasible, commission the UNIT insofar as the Scope of Contract comprises of a UNIT, in accordance with the contractual requirements.
- 5.2.1.4 Once the UNIT has been successfully commissioned, and the operation of the UNIT has been stabilized, the CONTRACTOR shall undertake Performance Tests for the UNIT to establish that the UNIT performs according to the contractual requirements. Such Performance Tests will be undertaken by the CONTRACTOR at the risks and costs of the CONTRACTOR under the overall supervision of the Engineer-in-Charge or his authorised representative and/or of the Process Licensor.
- 5.2.1.5 On successful completion of the Performance Tests to the satisfaction of the OWNER, the Engineer-in-Charge shall issue a Commissioning and Performance Test Certificate to the CONTRACTOR, which will set out the date of successful commissioning of the UNIT and the date of successful completion of the Performance Tests.
- 5.2.2.0 If within the scope of work, the Contractor is required to load the Catalyst into the UNIT, such loading shall include within its scope the handling and removal of the catalyst from the OWNER's godown or warehouse where the Catalyst is stored, its transportation to the job site, opening of packing or containers in which the catalyst is loaded, loading of the catalyst in accordance with the specifications and/or instructions of the Licensor and/or the Engineer-in-Charge, and return of empties to the OWNER's designated warehouse. Loading of the catalyst shall be an activity excluded from the scope of Mechanical Completion.
- 5.2.3.0 As and from the date of issue of Commissioning and Performance Test Certificate, the OWNER shall be deemed to have taken over the work(s) as mentioned in the Commissioning and Performance Test Certificate but without prejudice to CONTRACTOR's liability under clause 5.3.4.0 hereof. In respect of works which are not required to be commissioned by the CONTRACTOR, the OWNER shall be deemed to have taken over the works as and from the date of successful completion of the final tests and stated in the Final Test Certificate, but without prejudice to the CONTRACTOR's liability under Clauses 5.3.4.0 hereof.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 95 of 271

- 5.2.4.0 If during Final Tests and/or pre-commissioning, start up, commissioning and/or Performance Tests or at any time prior thereto, any defect(s) in the design or in any work performed or structure erected or component installed or in any installation or erection(s) or material(s) incorporated in the works is/are noticed, the CONTRACTOR shall forthwith within the scope of the work remove and/or demolish the same and re-perform, replace, re-install and re-erect the same and otherwise do not provide whatever is necessary to be done to correct, repair and/or rectify the defect(s) to the satisfaction of the Engineer-in-Charge, and if the defect(s) be discovered during Final Tests or commissioning or Performance Tests, the CONTRACTOR shall thereafter repeat the Final Tests or commissioning or Performance Tests or such of them as may be required to be repeated, and so on until successful conclusion of Final Tests, commissioning of the total system without defect, and/or successful completion of the Performance Tests. Any and all lubricants, consumables and spares required for commissioning the UNIT and to undertake the Performance Tests shall be provided by the CONTRACTOR within the scope of supply.
- 5.2.4.1 Should the CONTRACTOR fail to correct, repair or rectify any defects as aforesaid, the provision of Clause 5.1.7.0 hereof shall mutatis mutandis apply as for defects under Clauses 5.1.5.0.
- 5.2.5.0 Notwithstanding anything provided in Clause 5.2.3.0, Clause 5.2.4.0 and Clause 5.2.4.1 hereof, the OWNER shall be entitled without prejudice to any other rights of the OWNER or liabilities of the CONTRACTOR under the foregoing provisions hereof or otherwise under the Contract, including the rights of the OWNER under clause 4.4.0.0. hereof and associated clause thereunder and clause 7.0.1.0 hereof and associated clauses thereunder:
- If by reason of any default on the part of the CONTRACTOR a Commissioning and Performance Test Certificate has not been issued in respect of the entire works within 28 (Twenty Eight) days after the date fixed for completion of the entire works in the Progress Schedule(s), to take over and use any portion of works in respect of which Commissioning and Performance Test Certificate has not been issued, with or without affording the CONTRACTOR further opportunity for completing the work for issue of the Commissioning and Performance Test Certificate.
 - At any time during the progress of the works, notwithstanding that time for the completion of the entire works or concerned part, portion or section thereof according to the Progress Schedule(s) shall not have expired, to take over and/or use for any purpose the incomplete or partially completed works/UNIT or any part or portion or section thereof, as the case may be, and give the

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 96 of 271

CONTRACTOR an opportunity for completing the work or relative part or portion or section thereof, as the case maybe, within the time for completion permitted therefor under the Progress Schedule and if in the opinion of the CONTRACTOR, such taking over and/or use shall require an extension of time for completion, the provision of Clause 4.3.5.0 hereof and associated clauses thereunder relating to extension of time shall apply.



Provided always that take over, possession or use of the works/UNIT or any part or portion or section thereof by the OWNER within the provisions of item(i) and/or item(ii) above shall not be deemed to be an acceptance of work or relative part or portion or section thereof by the OWNER or relieve the CONTRACTOR of his full obligations in respect thereof under the Contract.

5.2.6.0 The CONTRACTOR shall be deemed to have successfully commissioned the UNIT contracted for when the following conditions are satisfied:

- (i) The UNIT and all its components/facilities have been successfully tested after installation at site individually and as a whole and Final Test Certificate shall have been issued in respect thereof.
- (ii) The UNIT is successfully commissioned by continuous and stabilised operation up to full capacity for a continuous period of not less than 7 (seven) days.
- (iii) The Performance Tests for the UNIT shall have been successfully completed.
- (iv) The Engineer-in-Charge shall have issued a Commissioning and Performance Test Certificate in respect of the UNIT.

5.3.0.0 **COMPLETION CERTIFICATE**

5.3.1.0 After the final tests have been successfully completed in respect of all the works envisaged in the contract, or after the UNIT has been Mechanically completed, as the case may be, the CONTRACTOR shall clear the job site of all scaffolding, wiring, pipes, surplus materials, CONTRACTOR's labour, equipment and machinery and shall demolish, dismantle and remove all CONTRACTOR's site offices and quarters and other temporary works, structure and constructions and other items and things whatsoever brought upon or erected at the job site or on any land allotted to the CONTRACTOR by the OWNER and not incorporated in the permanent works and shall remove all rubbish from the job site and the land allotted to the CONTRACTOR and shall clear, level and dress the job site and said land to the satisfaction of the Engineer-in-Charge and shall put the OWNER in undisputed custody and possession of the job site and all land allotted by the OWNER to the CONTRACTOR and unless the



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 97 of 271

CONTRACTOR shall have fulfilled the provisions of the clause, the works shall not be deemed to have been completed.

5.3.2.0 Upon the satisfactory fulfillment by the CONTRACTOR of the provisions of Clause 5.3.1.0 hereof, the CONTRACTOR shall be entitled to apply to the Engineer-in-Charge, for a Completion Certificate in respect of the entire work or work at any job site, as the case may be, upon submission of the following documents:



- (i) The Technical Documents according to which the work was carried out.
- (ii) Complete set of working drawings showing therein corrections and modifications (if any) made during the course of execution of the works, signed by the Engineer-in-Charge.
- (iii) Statement of final levels as set for various works, signed by the Engineer-in-Charge.
- (iv) Final Test Certificate issued by the Engineer-in-Charge (if commissioning is not within the CONTRACTOR's scope of the work with respect to which the Final Test Certificate has been issued) and Commissioning Certificate (if Performance Tests are not within the CONTRACTOR's scope of work) and Commissioning and Performance Test Certificate (if Performance Tests are within the CONTRACTOR's scope of work) issued by the Engineer-in-Charge.
- (v) Confirmation of Engineer-in-Charge of satisfactory fulfillment of the provisions of the Clause 5.3.1.0 hereof.
- (vi) Items-wise list of surplus materials including the quantity & estimated value of each surplus item (out of the materials issued by the OWNER or brought at site by the CONTRACTOR) returned to the OWNER's Store or otherwise disposed of, duly signed by the Engineer-in-Charge.
- (vii) Materials-at-Site accounting for OWNER-supplied materials, signed by the Engineer-in-Charge.
- (viii) Discharge in respect of OWNER-supplied equipment and machinery, signed by the Engineer-in-Charge, and
- (ix) Declaration by the CONTRACTOR that he has duly cleared any and all of the dues payable by him to his Labour/Piece rate workers (PRWs), Sub-Contractors, Suppliers, Vendors, Income Tax, Sales Tax, Octroi and Service Tax, Excise and Customs, Provident Fund, ESI and royalties, if any.

5.3.3.0 If the Engineer-in-Charge is satisfied of the completeness in all respects of all documents specified in Clause 5.3.2.0 and of proper reconciliation and accounting of all materials the Engineer-in-Charge shall, within 1 (One) month of receipt of the application for the Completion Certificate, issue a Completion Certificate in respect of the works for which the Completion Certificate has been applied. If the CONTRACTOR cannot produce to the satisfaction of the Engineer-in-Charge, the statement of

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 98 of 271

reconciliation or other explanation of issues, utilisation and balance of materials, the Engineer-in-Charge shall (after taking into account irrecoverable losses, if any, determined to be reasonable by Engineer-in-Charge) debit the CONTRACTOR the reasonable cost of such material plus 15% (Fifteen percent) thereof under the provision of item (x) of clause 3.0.3.1 hereof and issue the Completion Certificate subject thereto. The decision of the Engineer-in-Charge as to the acceptability of the material reconciliation furnished by the CONTRACTOR and as to the irrecoverable losses, if any, permissible shall be final and binding upon the CONTRACTOR.

- 5.3.3.1 The issue of a Completion Certificate shall be without prejudice to the OWNER's rights and CONTRACTOR's liabilities under the Contract, including the CONTRACTOR's liability for the defect liability period under clause 5.4.1.0 hereof nor shall the issue of a Completion Certificate in respect of the works be construed as a waiver of any right or claim of the OWNER against the CONTRACTOR in respect of works or any of them.
- 5.3.4.0 Up to and until issue of the Completion Certificate as provided for herein above in respect of the works, the work(s) and all materials incorporated therein shall be and remain at the risks of the CONTRACTOR in all respects, including (but not limited to) accident, lightning, earth-quake, fire, storm, flood, tempest, riot, civil commotion and/or war
- 5.3.4.1 Without limiting his obligations and liabilities under Clause 5.3.4.0 hereof, the CONTRACTOR shall takeout erection insurance and/or other suitable insurance and at all times from the commencement of the work keep insured for full value the works in progress and completed works in the joint names of the OWNER and the CONTRACTOR against loss or damage from whatsoever causes arising, including the risks specified below, in a manner that the OWNER and the CONTRACTOR are covered during the period of construction of the works and are also covered during the defect Liability Period for loss or damage arising from any cause occurring prior to the commencement of the Defect Liability Period and for any loss or damage occasioned by the CONTRACTOR in the course of any operation carried out by it for the purposes of complying with its obligation under clause 5.4.1.0 hereof. Such insurance(s) shall be effected with an insurer(s) and in terms approved by the OWNER (which approval shall not be unreasonably withheld) and the CONTRACTOR shall whenever required produce to the Engineer-in-Charge or his representative, the policy or policies of insurance and the receipt for payment of the current premium(s) PROVIDED THAT the OWNER shall, at the CONTRACTOR's cost,



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 99 of 271

insure under the Emergency Risk Insurance Law as applicable in India from time to time, the OWNER's works covered under this contract as insurable under the said law.

- 5.3.4.2 The policy(ies) of insurance aforesaid shall stipulate exclusive rights in the OWNER to receive all monies due in respect of such policy(ies), and the OWNER shall exclusively be entitled to receive all monies payable under said policy (ies). In default by the contractor to effect or maintain insurance as aforesaid, the Owner shall be entitled (but without obligation to do so) to take out/or pay the premium for any such policy (ies) and deduct the premium(s) and other costs and expenses incurred in this behalf by the Owner from the monies for the time due or payable or becoming due or payable to the Contractor.

PROVIDED ALWAYS THAT:

- (i) Notwithstanding anything herein provided, the CONTRACTOR shall be and remain solely and exclusively liable to repair, restore or replace, as the case may be, works (including the materials therein incorporated) damaged or destroyed as a result of any force majeure or other act or omission, notwithstanding the existence or otherwise of any policy(ies) of insurance aforesaid, with the intent that any policy(ies) of insurance aforesaid taken out by the CONTRACTOR or by the OWNER on default by the CONTRACTOR, shall not anyway absolve the CONTRACTOR from his full liability under Clause 5.3.4.0 hereof or otherwise but shall constitute merely an additional security and not a substitution of liability.
- (ii) It shall be the exclusive responsibility of the CONTRACTOR to lodge and pursue any or all claims in respect of the insurance aforesaid.
- (iii) The CONTRACTOR shall, as a condition to the certification of any Running Account Bill, satisfy the OWNER/Engineer-in-Charge of the existence of one or more policy(ies) of insurance covering the materials as specified herein. The policy(ies) of insurance aforesaid shall cover all insurable risks including but not limited to any loss or damage in handling at storage point, transit from storage point, storage at job site and during erection and upto issue of Completion Certificate against theft, pilferage, riot, civil commotion, force majeure (including earth quake, flood, storm, cyclone, tidal wave, lightening and other adverse weather conditions), accidents of kinds, fire, war risks and explosion.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 100 of 271

5.3.4.3 APPLICATION OF PROCEEDS OF INSURANCE



- (a) Proceeds of any policy(ies) of insurance received by the OWNER pursuant to Clause 3.0.3.1 (vii) or Clause 5.3.4.1 hereof shall be utilized at the sole discretion of the OWNER either for payment to the CONTRACTOR for repair, restoration or replacement, as the case may be, of the relative materials or works, or to meet the costs of repair, restoration or replacement in the event of the CONTRACTOR refusing or failing or neglecting to undertake such repair, restoration and/or replacement, as the case may be, without prejudice to any other right or remedy available to the OWNER in respect of such default, failure or neglect.
- (b) If the CONTRACTOR repairs, restores or replaces, as the case may be, the lost, damaged or destroyed materials or works affected to the satisfaction of the OWNER, the CONTRACTOR shall be entitled to the disbursement by the OWNER of the full monies received by the OWNER under the relative policy(ies) of insurance with respect to such materials or works repaired, restored or replaced, as the case may be, by the CONTRACTOR.

5.4.0.0 DEFECT LIABILITY PERIOD AND LATENT DEFECTS

- 5.4.1.0 Notwithstanding commissioning of the complete system prior to issue of the Completion Certificate in respect of the entire works/Unit(s), the primary Defect Liability Period for the complete works/Unit(s) shall be 12 (twelve) months from the date of the issue of the Completion Certificate or 8000 hours of run, whichever shall be earlier, provided that if the Unit(s) cannot be commissioned for a cause solely attributable to the OWNER within 12 (twelve) months from the Mechanical Completion, the primary Defect Liability Period shall be 24 (twenty four) months from the date of Mechanical Completion.



Notwithstanding the expiry of the primary Defect Liability Period aforesaid, the CONTRACTOR shall be and remain liable:

- (i) To correct and/or rectify or replace, as the case may be, the defective works or materials with respect to which a greater defect liability period has been specified in any of the Contract Documents, for the entirety of the period so specified; and
- (ii) To pass on to the OWNER the benefit(s) of any or all warranties or guarantees which may be available to the CONTRACTOR from its vendors in respect of materials or parts or components

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 101 of 271

thereof which enure(s) for a period in excess of the primary Defect Liability Period specified above.

- 5.4.2.0 The CONTRACTOR shall at its own cost and initiative, within the scope of work, correct, repair and/or rectify to the satisfaction of the OWNER/Engineer-in-Charge any and all defects and/or imperfections in the design of the work and/or in the works performed and/or systems, materials (including plant, equipment and machinery) incorporated therein as shall be discovered during the said defect liability period and if it be not possible to correct, repair and/or rectify any defective works and/or system(s), incorporated therein, the CONTRACTOR shall at his own cost and initiative replace and/or re-install the defective works, systems(s) and/or materials and shall, insofar as necessary for the purpose, at his own cost and initiative re-perform in whole or in part the relative and/or any associated works to the satisfaction of the OWNER/Engineer-in-Charge, and shall within the scope of supply, supply any and all materials required to correct, repair and/or rectify the defect and/or imperfections and/or to replace or re-install the defective works.
- 5.4.2.1 The responsibility under Clause 5.4.1.1 hereof shall, without prejudice to the foregoing, include the responsibility on the part of the CONTRACTOR at his own cost and initiative (and without cost to the OWNER), to provide and furnish, within the scope of work, all labour, equipment, crafts and inputs, whatsoever required in and relative to the correction, repair, rectification, replacement, installation and/or re-performance of the relative work(s) and/or systems(s), and to supply within the scope of supply, all materials and other items to be incorporated therein including, without prejudice to the generality of the foregoing, the supply by the CONTRACTOR of all materials.
- 5.4.3.0 The defect liability period for any works re-performed and/or systems, materials, components or other items supplied and incorporated therein pursuant to the obligations of the CONTRACTOR under Clause 5.4.1.0 shall be 12 (Twelve) months from the date of correction, repair, rectification, replacement and/or re-installation thereof, as the case may be, with the intent that the provisions of Clause 5.4.2.0 hereof and associated provisions thereunder shall apply thereto in respect of all defects discovered during a period of 12 (Twelve) months from the date of completion of the relative correction, repair, rectification, replacement and/or re-installation, as the case may be, in the same manner and to the same extent as apply in respect of the original works. For the purpose of clarification, it is stated that such extended defect liability period shall be applicable only to the particular work, system, material, component or other item corrected, repaired rectified, replaced, re-performed or re-installed, as the

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 102 of 271</div>

case may be (example: if the bearings of an equipment are replaced, the extended defect liability shall be applicable only with respect to the bearings, while the basic defect liability period shall be applicable to the relative equipment).

5.4.4.0 Should the CONTRACTOR fail to fulfill his obligations under Clause 5.4.1.0, 5.4.2.0 and/or 5.4.3.0 and associated clauses thereunder, the provisions of Clause 5.1.7.0 hereof shall mutates mutandis apply.

5.4.5.0 In fulfillment of the CONTRACTOR's obligations relative to defects, the CONTRACTOR shall so arrange the working as to cause the least inconvenience to the OWNER in operating the UNIT and/or avoid shut-downs thereof except during the periods of planned shut-down or idleness in the course of normal operation of the systems(s).



5.5.0.0 **CONTRACTOR' s GUARANTEES**

5.5.1.0 The guarantees herein set forth are without prejudice and in addition to any other guarantees or liabilities of the CONTRACTOR. The CONTRACTOR guarantees and undertakes that:

5.5.2.0 **GENERAL**

5.5.2.1 (i) The UNIT designed, supplied and installed and/or erected by the CONTRACTOR shall on operation under local conditions when operated under the specified operating conditions operate to the desired capacity to produce the desired product(s) of desired purity(ies) and quantity(ies) at desired economy(ies). Excluded from the scope of this guarantee are defects and shortcomings arising wholly out of defects in design(s) furnished by a Process Licensor other than CONTRACTOR.

(ii) The materials supplied and incorporated in the UNIT including plant and machinery and instruments shall be of good quality and workmanship and shall conform in all respects to the specifications and the provisions of the Contract.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 103 of 271

(iii) The work performed pursuant to the Contract including civil and associated work shall be of good quality and workmanship and shall conform in all respect to the specifications and the provisions of the Contract.

(iv) The plant, machinery and systems incorporated in the UNIT shall be so designed and arranged that even after the expiry of the said 2 (Two) years period, the spares, spare parts and/or suitable replacement parts shall be and remain available at reasonable cost to enable trouble free operation of the UNIT for its reasonable life expectancy.

5.5.3.0 **ENGINEERING GUARANTEE**



5.5.3.1 Since residual process design and detailed engineering (including Hazop&Hazan as specified) is within the CONTRACTOR's scope and the work shall be executed and UNIT established based on the engineering performed, it shall be the prime responsibility of the CONTRACTOR to carry out such design and engineering in accordance with good and sound engineering practices.

5.5.3.2 In case any error or omission in design or engineering within the CONTRACTOR's scope i.e. the residual process design or detailed engineering (including Hazop&Hazan) requires re-engineering which results in any new requirements for equipment/materials, the same shall be supplied and re-engineering shall be carried by the CONTRACTOR within the scope of relative Work and/or supply and within the contractual period without extra cost to the OWNER or entitlement of extension of time to the CONTRACTOR.

5.5.3.3 The CONTRACTOR shall guarantee that the system design for the UNIT/PLANT shall meet and comply with the OWNER's requirements and:

- the equipment approved and/or selected
- the Site Criteria
- the Engineering specifications, standards and design guides and codes
- the Front End Engineering Design (FEED) as mentioned in Bidding Document.

5.5.3.4 The CONTRACTOR shall check & satisfy itself the FEED for its accuracy and completeness and in case of deficiency, the CONTRACTOR shall inform the OWNER as well as Engineer-in-Charge, of the modifications proposed to be carried out to overcome the deficiency and the CONTRACTOR shall

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 104 of 271

immediately rectify the same in consultation with the Engineer-in-Charge within the scope of work at no extra cost before proceeding with re-work.

5.5.4.0 **WORKMANSHIP GUARANTEE**



5.5.4.1 Workmanship for manufacture and construction shall be carried out in accordance with the requirements of the Contract and the codes and standards and practices therein specified. Any defective material supplied or defective works done, shall be made good and shall, if so required by the OWNER or the Engineer-in-Charge, be replaced by new materials within the relative scope of Work and/or supply.

5.5.4.2 The CONTRACTOR accepts full responsibility for the quality and correctness of all materials (including plant and equipments and all components/parts) and Works within the CONTRACTOR's scope of supply and/or scope of work including but not limited to :

- Selection of materials;
- Material specifications and metallurgy;
- Work specifications;
- Fabrication/manufacturing workmanship;
- Engagement of experienced, reliable and qualified suppliers, engineers and/or sub-Contractors.



5.5.5.0 **PERFORMANCE GUARANTEE**

5.5.5.1 The CONTRACTOR is not responsible for the process guarantees of the LICENSOR. However, within and to the extent applicable to the scope of supply, the CONTRACTOR shall be responsible for performance guarantees of the UNIT in terms of product quality and design and rated capacities, including turn down capacity and facilities/systems incorporated therein as well as for guaranteed consumption of power. This guarantee shall cover the guaranteed mechanical performance for each and every related equipment, their efficiencies and their performance as laid down in the Process Package including guarantee for power consumption. Equipment which does not perform to the guarantees shall, in consultation with the OWNER/Engineer-in-Charge either be replaced or altered or repaired in parts or components or wholly (including dismantling, transportation, erection, hook-up, commissioning etc) with the relative scope of supply and/or services at no extra cost to the OWNER and without entitlement of extension of time to the CONTRACTOR. Although the CONTRACTOR is not

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 105 of 271

responsible for process guarantees, he shall carry all activities in collecting the required data during Performance Tests or other process guarantee runs to identify problems of non-performance, for further analysis and modifications required to meet process performance parameters.

- 5.5.5.2 The CONTRACTOR shall select the equipment considering the economy of power consumption and minimum effluent or pollution discharge.
- 5.5.5.3 All instruments required to establish performance are within the CONTRACTOR's scope of contract at no extra cost to the OWNER.
- 5.5.5.4 The CONTRACTOR shall provide a list of laboratory test procedures and frequencies thereof required for validating the CONTRACTOR's Performance Guarantees.
- 5.5.5.5 Performance tests shall be started when the operation of the UNIT is stabilized under design conditions. The UNIT shall be operated and controlled in accordance with procedures set up beforehand. One or more performance tests shall be carried out for a maximum of 120 hours under the technical direction of OWNER/Licensor and/or their designated representatives after successfully commissioning the UNIT in accordance with the procedures and conditions detailed in the Bid documents. At the end of the performance tests, an uninterrupted period of 72 hours shall be selected by OWNER/Engineer-in-Charge and average results obtained during that period shall form the basis of comparison between the actual performance and the guaranteed performance.
- 5.5.5.6 (a) If on any testing, any material or equipment or the UNIT does not meet the design, rated or guaranteed performance relative thereto, the CONTRACTOR shall forthwith, within the CONTRACTOR's scope of Work and at no additional cost to the OWNER, undertake such additional tests and/or operations as are necessary to identify the cause of such failure. Such tests and/or operations shall be conducted in conjunction with the Process Licensor, if the UNIT as a whole fails to meet the Process Licensor's process guarantees.
- (b) If as a result of such tests and/or operations it is determined that the design, rated and/or guaranteed outputs or capacities have not been met because of a defect in any material(s) (including plant and equipments) supplied by the CONTRACTOR, the CONTRACTOR shall forthwith in consultation with the Engineer-in-Charge take steps necessary to cause the defect

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 106 of 271</div>



to be identified and rectified, either by replacement of the defective material, plant or equipment or part thereof or by repair or replacement thereof. After such repair/replacement is carried out, the guarantee performance tests shall be repeated. The costs for such repeated tests (including charges payable to the Process Licensor or any other agency) shall be borne by the CONTRACTOR. The CONTRACTOR shall forthwith establish a Time Schedule acceptable to the Engineer-in-Charge for such replacement/rectification bearing in mind the exigencies of the Project requirement. Should the CONTRACTOR fail to establish such Time Schedule, the Engineer-in-Charge shall establish the Time Schedule, and the Time Schedule so established shall be binding on the CONTRACTOR.

- (c) Should the CONTRACTOR thereafter fail to adhere to a Time Schedule so established for the replacement/rectification, the OWNER may (but without obligation to do so) take over in whole or part such replacement/rectification at the risk and cost of and as agent of the CONTRACTOR. In so doing, the OWNER shall be entitled to identify and employ through private negotiations, the quickest available resources of supply and/or Work without resorting to the tender process or any other form of competitive bidding.

5.6.0.0 COMMISSIONING



5.6.1.0 The CONTRACTOR shall be responsible to commission the UNIT and to prove the CONTRACTOR's performance guarantees with respect thereto. The commissioning shall, to the extent necessary, be carried out under the supervision of Licensor, Engineer-in-Charge and with the assistance of the OWNER's personnel. The CONTRACTOR shall, within his responsibilities for and the scope of Commissioning the UNIT, train OWNER's personnel at the site of the UNIT in such number and for such period as the CONTRACTOR considers reasonably necessary for Commissioning the PLANT.

5.6.2.0 It is envisaged that the UNIT will be commissioned within 3 (three) months of Mechanical Completion, and the mobilisation and/or retention of the CONTRACTOR's personnel until completion of Final Testing and Commissioning shall be included within the Lumpsum Price of services. If, however, for any reason not attributable to the CONTRACTOR the Commissioning of the UNIT cannot be undertaken within 3 (three) months of Mechanical Completion of the UNIT, the CONTRACTOR may, in consultation with the OWNER, demobilise some or all of its personnel brought to or retained at the site for the purpose of Commissioning. The CONTRACTOR shall re-mobilise the required personnel on receipt of notice for Commissioning, and the OWNER and the CONTRACTOR shall agree upon the reasonable

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div> Rev 00 Page 107 of 271 </div>

cost to be incurred by the CONTRACTOR for re-mobilisation of such personnel, which shall be payable in addition to the price of services specified in the Contract, and this additional amount shall be included within and form part of the Final Bill of the CONTRACTOR.



- 5.6.3.0 In addition, within the CONTRACTOR's responsibilities for Commissioning and within the price of services, the CONTRACTOR shall be required to maintain watch and ward of and ensure the safety and integrity of the UNIT until successful completion of Commissioning and issue of Commissioning and Performance Test Certificate for the UNIT. If Commissioning of the UNIT commences later than 3 (three) months of Mechanical Completion of the UNIT for any reason not attributable to the CONTRACTOR, the OWNER and the CONTRACTOR shall agree upon the reasonable cost incurred for maintaining watch and ward and preservation and insurance of the UNIT beyond the said 3 (three) months period and upto commencement of Commissioning, which shall be payable to the CONTRACTOR in addition to the price of services and this additional amount shall be included within and form part of the Final Bill of the CONTRACTOR. If the Commissioning of the UNIT is delayed beyond 6 (six) months of Mechanical Completion of the UNIT, the OWNER and the CONTRACTOR shall work out the modalities for the takeover of the UNIT by the OWNER without prejudice to the CONTRACTOR's obligation for and related to and consequent to Commissioning.
- 5.6.4.0 As and when the UNIT is ready to be commissioned, the OWNER shall give the CONTRACTOR notice of not less than 10 (Ten) day for Commissioning the UNIT.
- 5.6.5.0 The OWNER shall supply free of cost to the CONTRACTOR, water, DM water, steam, plant air, instrument air and raw materials (required for producing the final product), hydrogen, nitrogen (excluding chemical & lubricating oil), required exclusively for pre-commissioning and commissioning and Guarantee Performance Tests of the UNIT. The OWNER will also make available its existing facilities for handling and disposal of waste water during pre-commissioning and commissioning.
- 5.6.6.0 If Commissioning of the UNIT and/or the conduct of the Performance Test is delayed beyond 6 (six) months from the date of Mechanical Completion of the UNIT for reasons not attributable to the CONTRACTOR, the OWNER shall (subject to such adjustments as permissible) release to the CONTRACTOR, the undisputable balance payable on commissioning and Performance Tests against the CONTRACTOR furnishing a Bank Guarantee from a scheduled bank in India (including the Indian branch of a foreign bank) acceptable to the OWNER in a format prescribed by the OWNER for an

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 108 of 271

amount equivalent to the amount of the payment(s) to be released. The validity of such Bank Guarantee(s) shall be initially for a period of 6 (six) months and shall be extended for one further period of 6 (six) months. If the commissioning and/or Performance Test cannot be conducted within such extended period for reasons solely attributable to the OWNER, the Bank Guarantee will be substituted by Corporate Guarantee of the CONTRACTOR in a format acceptable to the OWNER. If however, the UNIT cannot be commissioned within the said period for reason(s) attributable to the CONTRACTOR or if commissioning and/or the Performance Test conducted indicates that the UNIT does not perform to the contractual specifications and requirements, then the Bank Guarantee(s) shall even after the extension aforesaid continue to be extended upto and until successful commissioning and Performance Tests of the UNIT. In either event, the OWNER will be entitled to encash the Bank Guarantee(s) if the Bank Guarantee is not extended or substituted by an acceptable Corporate Guarantee, as the case may be, at least 14 (Fourteen) days prior to the date of expiry of Bank Guarantee(s).

5.7.0.0 **GUARANTEE PERFORMANCE TESTS**

- 5.7.1.0 For the purpose to demonstrate that the UNIT meets CONTRACTOR's contractual guarantees, one or more performance tests shall be carried out by the CONTRACTOR under the technical direction of the Process Licensor, the CONTRACTOR and the Engineer-in-Charge and/or their designated representatives after commissioning the UNIT in accordance with the stipulated and/or agreed procedures and conditions.
- 5.7.2.0 The Performance Tests shall be carried out in accordance with a detailed technical programme to be drawn up by Engineer-in-Charge and the CONTRACTOR in consultation with OWNER prior to the commencement of the performance tests.
- 5.7.3.0 Within five days after completion of a performance test, all relevant operating and production figures having any bearing on CONTRACTOR's guarantees or in connection therewith and actually achieved during the performance test conducted shall be recorded in a protocol to be signed by authorised representatives of OWNER and the CONTRACTOR.
- 5.7.4.0 The CONTRACTOR's guarantees shall be deemed to have been met once all guarantees have been established during one or more performance tests carried out in respect of the UNIT.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 109 of 271

5.8.0.0 SPARE PARTS

5.8.1.0 COMMISSIONING SPARES



The CONTRACTOR shall procure and supply all spare parts required during commissioning of the UNIT and various systems. The price of supply shall be deemed to be inclusive of the provision of all such commissioning spares required till successful commissioning of the UNIT. The CONTRACTOR should make available all the commissioning spares required at site at least 4 (four) weeks prior to commissioning.

5.8.2.0 MANDATORY SPARES

The CONTRACTOR shall within the Lumpsum Price supply all the mandatory spares as specified elsewhere in Bidding Document required for the UNIT. The handing over of the spares will be followed through ERP (Enterprise Resource Planning) or any other system of Owner and the templates against individual category of items shall be duly filled by in by the CONTRACTOR including price for each items before handing over the mandatory spares to OWNER.

5.8.3.0 OPERATION AND MAINTENANCE (O&M) SPARES

- The lump-sum price quoted shall include cost of O & M Spares required during the Defect Liability Period.
- The CONTRACTOR shall, within 3 (three) months of finalisation of all the suppliers by the CONTRACTOR, furnish to the OWNER the current price list for O&M spares for 2 (two) years operation beyond the Defect Liability Period as recommended by manufacturers of various equipment (other than commissioning, mandatory and O&M spares required during the defect liability period). Price lists of these spares are intended for information purpose only shall not be included in quoted Lumpsum Price.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 110 of 271

SECTION – 6

MEASUREMENTS, CERTIFYING INSPECTIONS AND PAYMENTS

6.0.0.0 CERTIFYING INSPECTIONS

6.0.1.0 All provisions hereinafter referred to in Clauses 6.1.2.0 to 6.1.5.0 in respect of measurement shall mutatis mutandis apply to all inspections required to be made in order to qualify the CONTRACTOR for any payment(s) under the Contract and any reference in the said clauses to measurements shall, for the purpose of this clause, be deemed to be a reference to certifying inspections and any reference therein to the measurement book shall, for the purpose of this clause, be deemed to be a reference to the certifying inspection book.



6.1.0.0 MEASUREMENT

6.1.1.0 All measurements shall be in the metric system, and except where expressly indicated to the contrary in the Contract, all measurements shall be taken in accordance with the procedure set forth in the Contract documents notwithstanding any provision(s) in the relative standard method of measurement or any other general or local custom to the contrary.

6.1.2.0 All measurements shall be taken jointly by the Engineer-in-Charge or his representative on the one hand and the CONTRACTOR or his representative on the other hand, and the CONTRACTOR shall be bound to present himself or his authorised representative for measurement(s) whenever so required by the Engineer-in-Charge or his designated representative, and shall remain present throughout the time required for joint measurements.

6.1.3.0 If the CONTRACTOR absents himself for any reason whatsoever on any date appointed for joint measurements, the joint measurements shall be taken by the Engineer-in-Charge or his representative in the absence of the CONTRACTOR and such measurements signed by the Engineer-in-Charge or his representative shall be final and binding upon the CONTRACTOR.

6.1.4.0 Measurements shall be signed and dated on each page by the CONTRACTOR/ CONTRACTOR's representative and Engineer-in-Charge or his representative. If the CONTRACTOR objects to any of the measurements recorded, including the mode of measurement, such objection shall be noted in

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 111 of 271



the Measurement Book/Sheet against the item objected to and such note shall be signed by the CONTRACTOR/CONTRACTOR's representative and Engineer-in-Charge or his representative. In the absence of any noted objections as aforesaid, the CONTRACTOR shall be deemed to have accepted the relative measurements as entered in the Measurement Book/ Sheets and shall be barred from making or recording any objection in respect of the measurements recorded in the Measurement Book/Sheets.

6.1.5.0 All measurement(s) relative to which any objection have been noted in the Measurement Book/Sheet shall be submitted to the Engineer-in-Charge for his decision, and the decision of the Engineer-in-Charge relative thereto (whether on the correct measurement to be adopted or on the mode of measurement to be adopted) shall be final and binding upon the CONTRACTOR.

6.2.0.0 **FINAL BILL**

6.2.1.0 On the basis of the Lumpsum Price provided in the Contract, the CONTRACTOR shall prepare a Final Bill in the prescribed form with reference to the total supplies covered by the scope of supplies and shall prepare a separate Final Bill with reference to the total services covered by the scope of services. Such Bill shall be prepared by applying the price of materials specified in FORM SP-1 of the Price Schedule in respect of supplies broken up with respect to the indigenous materials and with respect to imported materials (including plant, parts and components) in accordance with the break-up of the Price of Materials given in FORM SP-1 of the Price Schedule and the various formats thereunder, and by applying the price of services specified in FORM SP-2 of the Price Schedule in respect of works/services broken up with respect to the various heads of services/works in accordance with the break-up of the Price of services given in FORM SP-2 of the Price Schedule and the various formats thereunder. Additions claimed to the Lumpsum Price or reductions therefrom resultant upon any Change Order(s) shall be separately indicated in the Final Bill with reference to the relative Change Order(s).

6.2.2.0 The Final Bill shall, in addition to the payment entitlements arrived at according to the provisions of Clause 6.2.1.0 hereof separately state and include therein all claims of the CONTRACTOR as provided for in Clause 6.6.3.0 hereof.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 112 of 271

6.2.3.0 The Final Bill drawn in accordance with Clause 6.2.1.0 shall be submitted together with the Completion Certificate to the Engineer-in-Charge for certification, who shall certify the Final Bill, if drawn in accordance with Clause 6.2.1.0. After certification of the Engineer-in-Charge, the Final Bill shall be submitted in quadruplicate (or in such other number of copies as the OWNER may prescribe) accompanied by the Completion Certificate to the OWNER for payment.

6.2.4.0 All monies payable under the Contract for works to be performed and materials to be supplied up to and including successful completion and final tests and commissioning of the system and performance tests shall become due and payable to the CONTRACTOR only after submission to the OWNER of the Final Bill prepared in accordance with the provisions of Clause 6.2.1.0 hereof and associated provisions thereunder accompanied by the Completion Certificate in respect of the works.



6.2.5.0 Payments of the amount(s) due on the Final Bill to the extent certified by the Engineer-in-Charge, shall be made within 84 (Eighty-Four) days from the due date as specified in Clause 6.2.4.0 hereof, subject to the deductions provided in Clause 6.2.5.1.

6.2.5.1 All payments due to the CONTRACTOR on the Final Bill shall be subject to deduction of “on-account” payments and other amounts due from CONTRACTOR to the OWNER, tax deductions as provided for in Clause 6.5.2.0 and associated clauses thereunder, and any other deduction provided for herein or agreed to between the parties or required to be made under any law, rule or regulation having the force of law for the time being applicable, or elsewhere provided for in the Contract documents.



6.3.0.0 **PRICE SCHEDULE**

6.3.1.0 The remuneration determined due to the CONTRACTOR as provided for in Clause 6.2.1.0 hereof shall constitute the entirety of the remuneration and entitlement of the CONTRACTOR in respect of the work under the Contract, and no further or other payment whatsoever shall be or become due or payable to the CONTRRACTOR under the Contract.

6.3.2.0 Without prejudice to the generality of the provisions of Clause 6.3.1.0 hereof, the Price Schedule and Lumpsum Price shall be deemed to include and cover (unless otherwise expressly specified to the contrary in any contract document(s):



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 113 of 271</div>

- (i) All costs, expenses, outgoings and liabilities of every nature and description whatsoever and all risks whatsoever (foreseen or unforeseen, including force majeure) to be taken or which may occur in or relative to execution, completion, testing, commissioning and/or handling over the works to the OWNER and/or in or relative to acquisition, loading, unloading, transportation, storing, working upon, using, converting fabricating, or erecting any item, equipment, system, material or component in or relative to the works, and the CONTRACTOR shall be deemed to have known the nature, scope, magnitude and the extent of the works and items, materials, equipment, and components required for the proper and complete execution of the works though the Contract documents may not fully and precisely set out, describe or specify them, and the generality hereof shall not be deemed to be anyway limited, restricted or abridged because in certain cases the Contract documents or any of them shall or may and/or in other cases they shall or may not expressly state that the CONTRACTOR shall do or perform any particular labour or service or because in certain cases the Contract documents state that a particular work, operation, supply, labour or service shall be performed/made by the CONTRACTOR at his own cost or without additional payment, compensation or charge or without entitlement of claim against the OWNER or words to similar effect, and in other cases they do not, or because in certain cases it is stated that the same are included in or covered by the Price Schedule and in other cases it is not so stated.
- (ii) The cost of all construction and related vessels, craft, vehicles, movements, plant, equipment, supply of water and power, construction of temporary roads and access, temporary works, pumps, wiring, pipes, scaffolding, piling, shuttering and other materials, supervision, labour, insurance, fuel, stores, spares, supplies, appliances and materials, items, articles and things whatsoever (foreseen or unforeseen) by expression or implication to be supplied, provided or arranged in or relative to or in connection with the performance and/or execution of the works and/or related or incidental thereto, complete in every respect in accordance with the Contract document, and the plans, drawing, designs, orders and/or instructions;
- (iii) The cost of mobilisation including but not limited to mobilisation of vehicles, movements, machinery, equipment, gear, tools, tackle, consumables and other items and goods and personnel necessary for or to perform the works contemplated under the Contract, preparation and erection of work yards and other work places and facilities necessary for or to perform the works contemplated under the Contract and/or to supply the material included within the scope

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 114 of 271

of supplies including all work, labour, inputs, goods, equipment, and other items and things whatsoever necessary for the performance of the works, dismantling and/or removal of the same and restoration of the site, lifting the materials and transporting them to CONTRACTOR's stock piles/work yard, job sites and loading, stacking and/or storing the same.



- (iv) The costs and risks of all rents, royalties, licenses, permits, permission and other fees, duties, penalties, levies, and damages whatsoever payable for or in respect of any protected or patented goods, materials, equipment or processes employed in or relative to the works and of all rents, royalties, licenses, permits, permissions and any other fee, duty, penalty, levy, loss or damages payable on the excavation, removal or transportation of any material or acquisition or use of any right of way or other right, licenses, permit, privilege, permission or uses required for or relative to the performance of the work.
- (v) The cost of all sales taxes and/or octroi or terminal taxes payable in India with regard to materials supplied by the CONTRACTOR within the scope of supplies, all customs and import duties, excise duties, Indian Income Tax, Sales Tax and other direct and indirect taxes and duties, quay, wharfage, demurrage, detention and landing charges and all other duties, taxes, fees, charges, levies, and/or cesses whatsoever imposed or to be imposed by the Central Government or State Government or Municipal or Local Bodies or other Authorities whatsoever and payable on any materials supplied and/or on works performed without any entitlement to the CONTRACTOR for any exemption, remission, refund or reduction thereof.
- (vi) The cost of all indemnities under the Contract, and insurance premia on insurance required in terms of the Contract documents or otherwise under any law, rule or regulation, and the cost of all risks whatsoever (foreseen and unforeseen) including but not limited to risks of delay or extension of time or reduction or increase in the work or scope of work and/or cancellation of Contract, and/or accident, strike, civil commotion, war, strike, labour trouble, third party breach, fire, lightning, inclement weather, storm tempest, flood, earthquake and other acts of God, Government regulation or imposition or restriction, dislocation of road, rail, sea, air and other transport, access or facility, flooding of site and/or access roads and approaches thereto, suspension of work, sabotage and other cause whatsoever.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 115 of 271</div>

- (vii) The cost of all inspections, tests and certificates relative thereto including third party tests and/or inspections where necessary, and of items, instruments, plant and/or tools and appliances required to conduct such inspection and tests.
- (viii) The cost of all materials supplied and/or intended for incorporation in the works supplied within the scope of work, delivery thereof to the job site, loading, transportation and unloading thereof, waste on materials, and return of empties and surpluses.
- (ix) The cost of all escalations (foreseen and unforeseen) including but not limited to increase in Government taxes and duties, labour costs and material costs and other inputs whatsoever.
- (x) All supervision charges, establishment's overheads, finance charges and other costs and expenses and charges to the CONTRACTOR, and the CONTRACTOR's profit of and relative to the work and/or supply.
- (xi) The cost of all deductions, reductions, discounts, adjustments and withholdings whatsoever under or in connection with the Contract.

6.3.3.0 The rates stated in the Price Schedule and the lump sum price(s) shall not be subject to escalation or increase for any reason whatsoever.

6.3.4.0 Notwithstanding any provision to the contrary in these conditions, the Engineer-in-Charge may at his absolute discretion agree to accept as complete any incomplete works or items of work performed or supply made by the CONTRACTOR at variance with the specifications, subject and upon the terms and conditions of this clause. Upon such acceptance in writing by the Engineer-in-Charge, such works/materials shall be deemed to have been accepted as complete (but without prejudice to any right(s) of the OWNER or obligation(s) of the CONTRACTOR relative thereto under the Contract) subject to the terms and conditions of this clause. The conditions of such acceptance shall be that the CONTRACTOR shall be entitled to reduced remuneration therefor only as determined by the Engineer-in-Charge in accordance with the provisions of Clauses 2.4.2.0 hereof, and the provisions of the said clause shall in all respects mutatis mutandis apply to such work and/or supply, as the case may be, and for the determination of the reduced remuneration to the CONTRACTOR in respect thereof, provided always that the remuneration therefor shall on no account exceed the Lumpsum price or

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 116 of 271

remuneration therefor payable under the Price Schedule in respect of the relative completed works or supply.

6.4.0.0 **ADVANCE AND ON ACCOUNT PAYMENT**



6.4.1.0 Without prejudice to the provisions of Clause 6.2.4.0 hereof, the OWNER shall by way of assistance to the CONTRACTOR, make “advance” or “on-account” payments to the CONTRACTOR during the progress of the work and/or supply on the basis of Running Account Bills or otherwise as elsewhere more specially provided for in the Contract documents.

6.4.2.0 The following provisions shall apply with respect to “advance” payments to the CONTRACTOR:

6.4.2.1 Advance(s) paid to the CONTRACTOR shall carry interest at the rates specified in the Special Conditions of Contract, and shall be adjustable (without prejudice to the any other mode of recovery) from the Running Account Bills of the CONTRACTOR as provided in the Special Conditions of Contract.

6.4.2.2 The advances paid to the CONTRACTOR shall be used for execution of this contract only and the CONTRACTOR shall satisfy the OWNER in this regard whenever required. If it is found that an advance has been utilised by the CONTRACTOR in whole or part for any other purpose, the OWNER may at its discretion forthwith recall the entire advance and, without prejudice to any other right or remedy available to the OWNER, recover the same by recourse to any Bank Guarantee(s).



6.4.3.0 The approved Bill of Materials shall form the basis for the calculation of “on-account” payments with respect to supplies of materials. It is understood, however, that the Bill of Materials or approval thereof by the OWNER shall not in any way relieve the CONTRACTOR of its full responsibility to supply to the OWNER within the scope of supply, any and all materials whatsoever required for the performance of the work within the scope of work, or otherwise howsoever confine the responsibility of the CONTRACTOR within the scope of supply to the supply of materials indicated in the Bill of Materials, nor shall it otherwise be assumed or be deemed or construed as an acceptance by the OWNER of the adequacy or sufficiency of the materials listed in the Bill of Materials to meet the quantitative and/or qualitative requirements of the materials required to be supplied by the CONTRACTOR under the scope of supply or otherwise in any manner operate to bind the OWNER or to limit the liability of the CONTRACTOR, such Bill(s) of Materials being designed only to provide a basis for making “on

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 117 of 271



account” payments to the CONTRACTOR for materials supplied, with a view that the OWNER shall make “on account” payments to the CONTRACTOR for the various materials supplied on the basis thereof in the manner and at the time in this behalf provided for in the contract.

6.4.4.0 The approved Schedule of Activities shall form the basis for the calculation of on account payments with respect to services/works performed by the CONTRACTOR. It is however understood that the Schedule of Activities or approval thereof by the OWNER shall not in any way relieve the CONTRACTOR of his full responsibility to perform within the scope of services/works whatsoever is required for the performance of the work covered by the scope of work or otherwise however confine the responsibility of the CONTRACTOR to the performance of the services indicated in the Schedule of Activities, nor shall otherwise be assumed or be deemed or construed as an acceptance by the OWNER of the adequacy or sufficiency of the work/activities listed in the Schedule of Activities to meet the quantitative and/or qualitative requirements of services required to be performed or work required to be done by the CONTRACTOR under the scope of services or otherwise in any manner operate to bind the OWNER or to limit the liability of the CONTRACTOR, such Schedule of Activities being designed primarily to provide a basis for making On Account payments to the CONTRACTOR for works/services performed, with a view that the OWNER shall make “On Account” payments to the CONTRACTOR for the work/services performed on basis thereof in the manner and at the time in this behalf provided for in this Contract.

6.4.5.0 For the purposes of making “on account” payments for the work performed, monthly or otherwise as the Engineer-in-Charge may specify in this behalf, the CONTRACTOR shall make a quantitative assessment of the work performed by the CONTRACTOR as listed in the Schedule of Activities during the preceding month or other specified period and shall submit a Running Account Bill (in the form prescribed by the OWNER) in quadruplicate to the Engineer-in-Charge for the works performed during the said month/period with detailed measurement thereof, the said Running Account Bill(s) to be drawn by applying the rates applicable under the Schedule of Activities to the applicable items, which shall be subject to certification by the Engineer-in-Charge specified for the purpose. The Engineer-in-Charge shall thereafter have a summary verification undertaken of the work and quantities entered in the Running Account Bills and shall certify the Running Account Bills for payments on basis of such verification.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 118 of 271

- 6.4.5.1 For the purpose of making “On Account” payment for materials supplied within the scope of supply other than payments made in advance monthly or otherwise as the Engineer-in-Charge may specify in this behalf, the CONTRACTOR shall make a quantitative list of material supplied by the CONTRACTOR within the scope of supplies at the job site and of the “On Account” payment made in respect thereof prior thereto, and of the “On Accounts” payment(s) becoming due in respect thereof during the preceding month or other specified period as the case may be supported by the Certificate of Verification and Good Condition given by the Engineer-in-Charge in order to qualify for the relative on account payment claimed as due. The CONTRACTOR shall submit such assessment in the form of a Running Account Bill prepared in the format prescribed or approved by the OWNER in this behalf in quadruplicate to the Engineer-in-Charge. The Running Account Bill(s) shall be drawn by applying applicable parts of the price(s) for relative materials as indicated in the Bill(s) of materials for the applicable item(s) and shall be subject to certification by the Engineer-in-Charge. The Engineer-in-Charge shall thereafter have a summary verification undertaken of the materials and quantities entered in the Running Account Bill(s) and of the amount claimed and shall certify the Running Account Bill(s) for payment on the basis of such verification.
- 6.4.6.0 The amount certified for payment by the Engineer-in-Charge on any Running Account Bill within the provisions for “on account” payments in the Contract documents shall be conclusive for the determination of any “on account” payments and no claim shall be entertained by the OWNER contrary thereto or in contradiction thereof.
- 6.4.6.1 In any certificate for on account payment, the Engineer-in-Charge shall be authorised to adjust in whole or part, any previous amount certified by error.
- 6.4.7.0 All “on account” payments shall be subject to deduction of previous payments on account and of all claims of the OWNER, adjustments and/or deductions provided for in the Contract or agreed to between the parties, tax deductions and any other deductions required to be made under any law, rule or regulation for the time being in force.
- 6.4.7.1 All “advance” and “on account” payments shall be regarded merely as advance payments against the amounts due to the CONTRACTOR in terms of the Contract, and any such payments shall be without prejudice to the full rights of the OWNER under the contract and the liabilities of the CONTRACTOR thereunder, and specially shall not be regarded as an acceptance or completion of any

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 119 of 271

works or the acceptance of any materials paid for in terms of any Running Account Bill or otherwise, notwithstanding any verification or certification by the Engineer-in-Charge or otherwise in respect thereof.

6.4.7.2 Except as elsewhere herein to the contrary provided, the Schedule of Activities or Bill of Materials or other criterion applied by the CONTRACTOR in respect of any work or supply in his Running Account Bill(s) or acceptance thereof by the Engineer-in-Charge in verifying the bill in respect of such work or supply or criterion applied shall not be deemed to be binding upon the OWNER as determining the completeness, acceptance or price payable for relative work or supply.



6.4.8.0 Notwithstanding provisions aforesaid any failure or delay by the OWNER to make any advance or on account payment(s) shall not afford the CONTRACTOR a ground or basis for extension of time for completion or for any claim or otherwise relieve the CONTRACTOR from any of its liabilities and obligations under the Contract.

6.4.9.0 Notwithstanding anything elsewhere provided in the Contract documents, all advances made by the OWNER to the CONTRACTOR shall forthwith become repayable to the OWNER in the event of the contract being terminated for any cause.



6.5.0.0 **MODE OF PAYMENT AND TAX DEDUCTIONS**

6.5.1.0 All payments made under or in terms of the Contract, payable in Indian currency, shall be paid by crossed "Account payee" cheque sent to the office of the CONTRACTOR notified in this behalf by the CONTRACTOR by quickest means of postal delivery. All cheques drawn shall be payable at the designated office of the OWNER's bankers and in no case will the OWNER be responsible if the cheque is mislaid, mis-appropriated or otherwise lost or stolen.

6.5.1.1 Subject to the other provisions hereof, if the execution of the works or the supply of the materials shall necessitate the importation into India of materials, plant or equipment within the CONTRACTOR's scope of supply, or if the works or any part thereof are to be executed by labour from outside India or if any other circumstances exists as shall render this necessary or desirable, a portion of the payments to be made under the contract shall be made in the appropriate foreign currencies as requested in the CONTRACTOR's bid and accepted by the OWNER.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 120 of 271</div>

- 6.5.1.2 All payments required to be made by the OWNER to the CONTRACTOR in foreign exchange shall be paid by Banker's Draft drawn on any branch of State Bank of India in a country of the CONTRACTOR's choice in the currencies indicated in this behalf in the Contract.
- 6.5.1.3 On written request from the CONTRACTOR, the payments by the OWNER to the CONTRACTOR may be made by wire transfer to an account or accounts to be designated by the CONTRACTOR and maintained by the CONTRACTOR with a bank or banks in India in respect of Rupee payments and to a bank or banks in the country in which CONTRACTOR's relevant bank account is located in respect of the Dollar/Home Currency payments, and shall be deemed to have been fully discharged when deposited in Dollars/Home Currency or Rupees as the case may be, in the account or accounts designated by CONTRACTOR as aforesaid, provided that, once all acts necessary to initiate the relevant wire transfer have been completed within the time specified for such payment, any delays within the international or domestic banking system in the transfer of such payments to CONTRACTOR's account or accounts shall not give rise to a claim that OWNER has breached its payment obligations hereunder. If funds are not received in the account or accounts designated by CONTRACTOR, OWNER will furnish upon CONTRACTOR's written request, documentary substantiation that all steps necessary to initiate the transfer of such funds have been taken by OWNER's bank or banks. All costs associated with such wire transfer and incurred in India shall be for OWNER's account, and all other costs shall be borne by the CONTRACTOR.
- 6.5.2.0 The CONTRACTOR shall be primarily responsible for the payment of all Indian Income tax.
- 6.5.2.1 It is to understand that in terms of the Indian Law, the OWNER is responsible also to deduct at source Indian Income Tax at prescribed rates on any money paid or payable by the OWNER to a non-resident CONTRACTOR. With this in view, the following stipulations shall apply with respect to payments to non-resident CONTRACTOR.
- (i) The CONTRACTOR shall promptly apply for instructions from Income Tax Authorities in India of the rate at which deductions of tax at source shall be made by the OWNER on payments to the CONTRACTOR. Any information required by the Owner or Income Tax Authorities for such instructions shall promptly be furnished by the CONTRACTOR, in the form (if any) required. Pending such instructions, the OWNER shall not release any payment to a non-resident CONTRACTOR.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 121 of 271



- (ii) The amount(s) deductible at source by way of Indian Income Tax in accordance with the instructions of the Indian Authorities or otherwise as aforesaid shall be deducted from all amounts payable by the OWNER to the CONTRACTOR.
- (iii) The amounts deducted shall be paid by the OWNER directly to the Income Tax Authorities on behalf of the CONTRACTOR.
- (iv) In the event of the amounts deducted being found ultimately to be in excess of the Indian Income Tax assessed, the CONTRACTOR shall be exclusively responsible to apply for and collect the refund thereof from the Income Tax authorities concerned in this behalf.
- (v) In the event of the amount deducted being found to be less than the Indian Income Tax payable on assessment or otherwise, the CONTRACTOR shall forthwith pay the short-fall to the concerned Indian Income Tax Authorities, and shall indemnify and keep indemnified the OWNER from and against all claims and recoveries against the OWNER relative thereto.

6.5.2.2 The CONTRACTOR shall be exclusively liable to pay directly to the concerned Income Tax Authorities in India and to bear all Indian Taxes payable relative to employment of any personnel by the CONTRACTOR.

6.5.2.3 Payments to a CONTRACTOR resident in India shall be subject to deduction of taxes under Section 194 C of Income Tax and/or under other Section, law, rule or regulation for the time being in force providing for the deduction of tax at source.

6.6.0.0 CLAIMS BY THE CONTRACTOR

6.6.1.0 Should the CONTRACTOR consider that he is entitled to any extra payment or compensation in respect of the works or supplies over and above the amounts due in terms of the Contract as specified in Clause 6.3.1.0 hereof, the CONTRACTOR shall give notice in writing of its claim in this behalf to the Engineer-in-Charge and the OWNER within 14 (Fourteen) days from the date of the issue of orders or instructions relative to any work(s) for which the CONTRACTOR claims such additional payment or compensation, or from the date of the happening of any other event upon which the CONTRACTOR bases such claim, as the case may be. Such notice shall give full particulars of the nature of such

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 122 of 271



claim, grounds on which it is based, and the amount claimed. The OWNER shall not anyway be liable in respect of any claim by the CONTRACTOR unless notice of such claim shall have been given by the CONTRACTOR to the Engineer-in-Charge and the OWNER in the manner and within the time aforesaid, and the CONTRACTOR hereby waives and relinquishes any and all claims and all his rights in respect of any claim which is not notified by the CONTRACTOR to the Engineer-in-Charge and the OWNER in writing in the manner and within the time aforesaid.

6.6.2.0 The Engineer-in-Charge and/or the OWNER shall be under no obligation to reply to any notice of claim given or claim made by the CONTRACTOR within the provisions aforesaid or otherwise, or to otherwise reject the same, and no omission or failure on the part of the Engineer-in-Charge or the OWNER to reject any claim made or notified by the CONTRACTOR nor any consideration thereof or dealing therewith shall be deemed to be an admission by the OWNER of the validity of such claim or waiver by the OWNER of the provisions of Clause 6.6.1.0 hereof.

6.6.3.0 Any or all claims of the CONTRACTOR notified in accordance with the provision of Clause 6.6.1.0 hereof as shall remain/ persist at the time of preparation of the Final Bill by the CONTRACTOR shall be separately included in the Final Bill prepared by the CONTRACTOR in the form of a Statement of Claims attached thereto, giving particulars of the nature of such claim, grounds on which it is based, and the amount claimed, and shall be supported by copy(ies) of the notice(s) sent in respect thereof to the Engineer-in-Charge and the OWNER under Clause 6.6.1.0 hereof. In so far as such claim shall in any material particular be at variance with the claim notified by the CONTRACTOR within the provisions of Clause 6.6.1.0 hereof, it shall be deemed to be a claim different from the notified claim with consequence in respect thereof indicated in Clause 6.6.1.0 hereof, and with consequence in respect of the notified claim as indicated in Clause 6.6.3.1 hereof.

6.6.3.1 Any and all notified claims not specially reflected and included in the Final Bill in accordance with the provisions of Clause 6.6.3.0 hereof shall be deemed to have been waived and relinquished by the CONTRACTOR, and the CONTRACTOR hereby waives and relinquishes all rights to raise or include in the Final Bill any claim(s) other than a notified claim conforming in all respects to and in accordance with the provisions of Clause 6.6.3.0 hereof.

6.6.4.0 No claim(s) shall on any account be made by the CONTRACTOR after the Final Bill, with the intent that the Final Bill prepared by the CONTRACTOR shall reflect any and all claims whatsoever of the

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 123 of 271

CONTRACTOR against the OWNER arising out of or in connection with the Contract or any supply made or work performed by the CONTRACTOR thereunder or in relation thereto, and notwithstanding any enabling provision in any law or Contract and notwithstanding any claim in quantum meruit that the CONTRACTOR could have with respect thereto, the CONTRACTOR hereby waives and relinquishes any and all such claims not included in the Final Bill and absolves and discharges the OWNER from and against the same, even if in not including the same as aforesaid, the CONTRACTOR shall have acted under a mistake of law or of fact, or shall claim to have acted under economic compulsion or necessity.



6.6.5.0 Notwithstanding the existence of any claim by the CONTRACTOR in terms hereof or otherwise, the CONTRACTOR shall continue and be bound to continue and perform the works and supplies to completion in all respects according to the Contract (unless the contract be priority determined by the OWNER).

6.6.6.0 The payment of any sum on account to the CONTRACTOR during the performance of any work or the making of any supply in respect of which a claim has been notified by the CONTRACTOR in terms of Clause 6.6.1.0 hereof or the making or negotiation of any interim arrangement(s) by the OWNER in respect of the performance of such work or item of work or the making of any supply or item of supply by the CONTRACTOR shall not be deemed to be an acceptance of the related claim by the OWNER, or any part or portion thereof unless specifically signed by the authorised representative of the OWNER and the CONTRACTOR as an Amendment to Contract, or as an Agreed Variation, with the intent that any such payment or arrangement shall (unless signed as an amendment or variation aforesaid) constitute merely a facility or assistance to the CONTRACTOR, and not an obligation upon the OWNER.

6.6.7.0 If required by the OWNER, the Engineer-in-Charge shall be authorised to require the CONTRACTOR to furnish, and the CONTRACTOR shall, upon the request of the Engineer-in-Charge/OWNER, furnish all invoices, vouchers and accounting records as may be deemed necessary by the Engineer-in-Charge/OWNER for the purpose of verifying any CONTRACTOR's claim.

6.7.0.0 **DISCHARGE OF OWNER'S LIABILITY**

6.7.1.0 The acceptance by the CONTRACTOR of any amount paid by the OWNER to CONTRACTOR in respect of the Final Bill of the CONTRACTOR in settlement of all said dues to the CONTRACTOR under the Final Bill shall, without prejudice to the claims of the CONTRACTOR included in the Final Bill in accordance

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 124 of 271</div>



with the provisions of clause 6.6.3.0 hereof, be deemed to be in full and final satisfaction of all such dues to the CONTRACTOR notwithstanding any qualifying remarks, protest or condition imposed or purported to be imposed by the CONTRACTOR relative to the acceptance of such payment, with the intent that upon acceptance by the CONTRACTOR of any payment made as aforesaid, the contract (including the arbitration clause) shall stand discharged and extinguished insofar as relates to and/or concerns the entitlements of the CONTRACTOR under the Contract except for the CONTRACTOR's right, if any, to receive payment in respect of his notified claims included in his Final Bill and the right to receive payment of the unadjusted balance of the Security Deposit in accordance with the provisions of Clause 6.8.3.0 hereof on successful completion of the defect liability period. But nothing herein stated shall affect the CONTRACTOR's undischarged liabilities and obligations under the Contract.

6.7.2.0 The acceptance by the CONTRACTOR of any amount paid by the OWNER to the CONTRACTOR in respect of the notified claims of the CONTRACTOR included in the Final Bill, in settlement of the claims of the CONTRACTOR, shall be deemed to be in full and final settlement of all claims of the CONTRACTOR notwithstanding any qualifying remarks, protest or condition imposed or purported to be imposed by the CONTRACTOR relative to the acceptance of such payment made as aforesaid with the intent that upon acceptance by the CONTRACTOR of any payment made as aforesaid, the Contract shall stand discharged and extinguished insofar as relates to and/or concerns the claims of the CONTRACTOR except for the CONTRACTOR's rights to receive payments of the unadjusted balance, if any, of the security deposit in accordance with clause 6.8.3.0 hereof on successful completion of the defect liability. But nothing herein stated shall affect the CONTRACTOR's undischarged liabilities and obligations under the Contract.

6.7.3.0 Notwithstanding anything provided in Clause 6.7.1.0 and/or Clause 6.7.2.0 hereof, the CONTRACTOR shall be and remain liable for defects in terms of Clause 5.4.0.0 and associated clause thereunder and for any indemnity to the OWNER in terms of Clause 6.8.2.0 and shall be and remain entitled to receive the unadjusted balance of the Security Deposit remaining in the hands of the OWNER in terms of Clause 6.8.3.0 hereof and associated clauses thereunder.

6.8.0.0 **FINAL CERTIFICATE AND RELEASES OF SECURITY**

6.8.1.0 Forthwith on the CONTRACTOR's application made after the expiry of the period of defect liability provided for in Clause 5.4.0.0 hereof and associated clauses thereunder and satisfaction of all

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 125 of 271



liabilities of the CONTRACTOR in respect thereof, the Engineer-in-Charge shall issue a Final Certificate to the CONTRACTOR Certifying that the CONTRACTOR has performed his obligations in respect of the defect liability period in terms of Clause 5.4.0.0 hereof and associated clauses thereunder, and until issue of such Final Certificate, the CONTRACTOR shall be deemed not to have performed such liabilities notwithstanding issue of the Completion Certificate or payment of the Final Bill by the OWNER.

6.8.2.0 Upon application for the Final Certificate, the CONTRACTOR shall:

- (i) Be deemed to have warranted that it has been fully paid and satisfied all claims for or arising out of the work, labour, materials, supplies and equipment used in or connected with the Contract and all other liabilities whatsoever touching or affecting the Contract, or its performance, including in relation to sub-contractors and suppliers, and
- (ii) To have undertaken to indemnify and keep indemnified the OWNER from and against all claims, demands, debts, liens, obligations and liabilities whatsoever arising therefrom or relating thereto.



6.8.2.1 Upon issue of the Final Certificate, the CONTRACTOR shall be deemed to have released, acquitted and discharged the OWNER from and against all claims (known or unknown), liens, demands or causes of action of any kind whatsoever arising out of or relating to the Contract or otherwise howsoever touching or affecting the same.

6.8.3.0 Forthwith on application made by the CONTRACTOR in this behalf accompanied by the Final Certificate, or within 84 (Eighty Four) days of the OWNER passing the CONTRACTOR's Final Bill, whichever shall be later, the OWNER shall cancel and return to the CONTRACTOR all previous Bank Guarantees remaining unutilised in the hands of the OWNER, and upon such cancellation and return, the OWNER shall stand discharged of all obligations/ liabilities under the Contract provided that the cancellation and return of any Bank Guarantee(s) furnished by the CONTRACTOR as and by way of security deposit shall be subject to the CONTRACTOR replacing such Bank Guarantee(s) with a Bank Guarantee from any Bank in India (including the Indian Branch of foreign Bank) in a format acceptable to the OWNER covering 10% (ten percent) of the value (as determined by the OWNER) of equipments/ works replaced or repaired during the Defect Liability Period for the unexpired term of defect liability in respect thereof plus a 3 (three) months claim period.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
			Rev	00
			Page	126
			of	271

6.9.0.0 CLAIMS OF OWNER

- 6.9.1.0 No release/ payment of any unadjusted balance of the Security Deposit (furnished in the form of a Bank Guarantee or otherwise) by the OWNER to the CONTRACTOR as aforesaid or otherwise shall be deemed or treated as a waiver of any right(s) or claim(s) of the OWNER or shall stop or prevent the OWNER from thereafter making or enforcing any claim or any rights against the CONTRACTOR with the intent that the claims of the OWNER, against the CONTRACTOR shall continue to survive and shall not get extinguished notwithstanding the issue of Final Certificate and/or the release of Security Deposit to the CONTRACTOR

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 127 of 271</div>



SECTION – 7

TERMINATION



7.0.0.0 TERMINATION

7.0.1.0 Notwithstanding anything elsewhere herein provided and in addition to any other right or remedy of the OWNER under the CONTRACT or otherwise (including the right of the OWNER to discount by way of price adjustment under the provisions of Clause 4.4.0.0 hereof and associated Clauses thereunder), the OWNER shall be entitled to terminate the CONTRACT by written notice at any time during its currency on or after occurrence of any one of the following events/contingencies, namely:



- (i) Breach or failure by the CONTRACTOR of any of the obligations of the CONTRACTOR under the Contract, including:
 - a) Failure to start the work within 84 (Eighty-Four) days of the date of issue of the Acceptance of Bid by the OWNER, notwithstanding the OWNER having made available to the CONTRACTOR the work front necessary for the commencement of work.
 - b) Failure to commence work at site within 21 (Twenty-One) days of the time prescribed in this behalf in the Progress Schedule or to commence supply of any material within 21 (Twenty-One) days of the time prescribed in this behalf in the Delivery Schedule.
 - c) Failure to carry out or carry on the works or any of them to meet the Progress Schedule resulting in a delay of 28 (Twenty-Eight) days or more in the actual performance of the work, or failure to complete any supplies to meet the Delivery Schedule resulting in a delay of 28 (Twenty-Eight) days or more in the scheduled deliveries of materials.
 - d) Failure to provide at the job site, within 21 (Twenty-One) days of being required to do so by the Engineer-in-Charge, sufficient labour, material, equipment, machinery, temporary works and/or facilities required for the proper and/or due execution of the work or any part thereof.
 - e) Failure to execute the works or any of them in accordance with the Contract or disobedience of any order or instruction of the Engineer-in-Charge or negligence or lack of expertise in the performance of the work, or failure to supply materials of quality conforming to the requirements of the contract.
 - f) Abandonment of the works or any part thereof.
 - g) Substantial suspension of the works or any part thereof for a period of 14 (Fourteen) days or more without the authority of the Engineer-in-Charge.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 128 of 271

- h) Failure to execute the Contract in terms of the Form of Contract forming part of the Bid Documents within 30 (Thirty) days of the date of issue of the Letter of Acceptance by the OWNER or within such extended period as may be permitted by the OWNER in this behalf;
 - i) Failure to furnish the Bank Guarantee(s) required to be furnished by the CONTRACTOR under Clause 2.1.1.0 and related provisions hereof within 28 (Twenty-Eight) days of the date of issue of Letter of Acceptance by the OWNER.
 - j) Any other event which is an event of termination under the Contract or which in the opinion of the OWNER reasonably impinges on the CONTRACTOR's capability to fulfil its contractual commitments.
- (ii) Dissolution of the CONTRACTOR (if a firm), or commencement of liquidation or winding up (whether voluntary or compulsory) of the CONTRACTOR (if a company) or of any member (if the CONTRACTOR is a consortium), or insolvency of the CONTRACTOR or of any partner (if a firm), or appointment of a receiver or manager of the CONTRACTOR's assets or of any partner/member of the CONTRACTOR (if a firm or consortium) by a court;
- (iii) Distress, execution, or other legal process being levied on or upon any of the CONTRACTOR's goods and/or assets involved in or relative to the performance of the work or supply;
- (iv) Death of a CONTRACTOR (if an individual);
- (v) If upon any voluntary change in the partnership/constitution of CONTRACTOR's organisation (if a partnership or Company) the OWNER refuses in its sole discretion to Continue the Contract with the re-constituted firm or Company;
- (vi) If the CONTRACTOR or any person employed by him shall make or offer for any purpose connected with the contract, any gift, gratuity, royalty, commission, gratification or other inducement (whether money or in any other form) to any employee or agent or CONSULTANT of OWNER;
- (vii) If the CONTRACTOR shall assign or attempt to assign his interest or any part thereof in or under the Contract.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 129 of 271



- 7.0.1.1 The decision of the Executive Director as to whether any of the events or Contingencies mentioned in Clause 7.0.1.0 hereof entitling the OWNER to terminate the Contract has occurred or not shall be final and binding upon the CONTRACTOR.
- 7.0.2.0 The notice of termination shall set forth, in addition to statement of the reason or reasons for terminating the Contract, the time(s) and place(s) for conducting a survey and inspection/measurement of the work performed and materials supplied under the Contract upto the date of termination for the purpose of determining the final amount(s) due to the CONTRACTOR therefor. The reasons for the termination stated in the notice of termination shall be final and binding upon the CONTRACTOR.
- 7.0.2.1 Forthwith upon receipt of notice of termination, the CONTRACTOR shall at his own risks and costs within the scope of relative work, do and perform to the satisfaction of the Engineer-in-Charge all and whatsoever is necessary, in the opinion of the Engineer-in-Charge (which shall be final and binding upon the CONTRACTOR) to secure and protect all complete and incomplete works performed by the CONTRACTOR upto termination, and should it fail to do so, the OWNER shall be entitled by itself or through an independent Contractor(s) or partly by itself and partly through an independent Contractor(s), to do and perform at the risks and costs of the CONTRACTOR all such work(s) not done by the CONTRACTOR, and the provisions of Clause 7.0.9.0 therefore shall mutatis-mutandis apply thereto.
- 7.0.3.0 For the purpose of measurements, the provisions of Clause 6.0.0.0 to 6.1.5.0 hereof shall apply. Only completed items of work and materials shall be reckoned for the purpose of measurements and the decision of the Engineer-in-Charge as to whether or not any works have or supply has been completed for the purpose of measurement shall be final and binding upon the CONTRACTOR. Incomplete items or works shall be measured and paid for only on the basis of materials (if any) supplied by the CONTRACTOR, and the decision of the Engineer-in-Charge as to the quantity of material involved in or relative to any incomplete works shall be final and binding upon the CONTRACTOR.
- 7.0.4.0 Work done and/or supplies made by the CONTRACTOR qualifying for payment under Clause 7.0.3.0 hereof shall be paid for in respect of work done on the basis of on account payment due thereon based on Schedule of Activities, and for materials supplied on the basis of on account payment due thereon

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 130 of 271</div>

on the basis of Bill of Materials and the provisions of Clause 6.4.6.0, 6.4.6.1 and 6.4.7.0 hereof shall mutatis mutandis apply and accounting done and bill prepared by the CONTRACTOR on the basis thereof shall be the Final Bill and no other amount(s) shall be due to the CONTRACTOR in respect thereof, subject to the provisions of 6.6.0.0 and associated clauses thereunder with regard to the notified claim(s) of the CONTRACTOR included in the Final Bill in accordance with the provisions of Clause 6.6.3.0.

7.0.5.0 Within 28 (Twenty Eight) days of completion of the inspection/measurements, the CONTRACTOR shall clear the job site(s) made available by the OWNER to the CONTRACTOR of all surplus materials, CONTRACTOR's labour, equipment and machinery and shall demolish, dismantle and remove such temporary works, structure and construction and other items and things brought upon or erected at the job site(s) and not incorporated in the permanent works and shall remove all rubbish from the job site(s) and shall clear, dress and restore the job site(s) to the satisfaction of the Engineer-in-Charge and shall put the OWNER in undisputed custody and possession thereof and the entire works.



7.0.6.0 Should a CONTRACTOR fail to comply with the provisions of Clause 7.0.5.0 hereof in the manner and within the time specified therein, the OWNER shall have the right at the risk and costs of the CONTRACTOR in all respects to clear the job site(s) of all surplus materials, CONTRACTOR's labour, equipment and machinery and other materials and things and/or demolish/dismantle and remove any temporary works, structures and/or construction and other items and things brought upon or erected at the job site(s) and to remove all rubbish from the job site(s) and the land allotted to the CONTRACTOR and clear, dress and restore the said land to the satisfaction of the Engineer-in-Charge and take undisputed possession and custody thereof and of the works and CONTRACTOR's stores thereon and dispose of and/or otherwise deal with any and all equipment and machinery etc., stores and other items and things aforesaid and recoveries of any demolition/dismantling as the OWNER shall in its absolute discretion deem fit, and the CONTRACTOR shall forth with on demand pay the OWNER the entire costs/expenses of the OWNER relative to the above together with 15%(Fifteen percent) thereof to cover the OWNER's supervision, with right in the OWNER (without prejudice to any other mode or recovery) to recover the same from the proceeds of any sale or disposal as aforesaid or from any monies whatsoever of the CONTRACTOR held by the OWNER or dues of the CONTRACTOR and the CONTRACTOR hereby irrevocably nominates, constitutes and appoints the OWNER (with right to the OWNER to delegate any and all of its rights in terms hereof to such of its officer(s) and/or other person(s) as it shall deem fit) for and on behalf of and as attorney of the CONTRACTOR to do, commit

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 131 of 271</div>



and/or sign all acts, deeds, matters and things as shall or may be necessary to be done, committed and/or signed by the CONTRACTOR to put into effect the provisions of this clause with full right to enter into arrangements with third parties for or relative to the storage, sale and/or other disposal of any goods, equipment and machinery and other items and things and to enter into or upon any of the CONTRACTOR's premises and to break open if necessary any locks, bolts, fasteners, bonds or other devices restricting entry thereto and to do all other acts, deeds, matters and things as shall or may be necessary to give full effect to the provision of this Clause.

PROVIDED ALWAYS THAT:

- (i) The OWNER shall be entitled, without prejudice to the foregoing and in addition thereto, upon the CONTRACTOR failing to comply with the provisions of Clause 7.0.5.0 hereof after removing/demolishing/ dismantling from the job site any of the CONTRACTOR's goods, temporary works and other items and things, by written notice to the CONTRACTOR, to require the CONTRACTOR to take delivery of, lift and/or clear the same within 7 (seven) days (or such other period as may be specified in said notice) of date of said notice failing which the OWNER shall abandon the same at the risks and costs of the CONTRACTOR, and should the CONTRACTOR fail to take delivery of, lift and/or clear the same within the period in this behalf specified in the said notice, the OWNER shall be entitled at any time thereafter to abandon the same at the risks and costs of the CONTRACTOR, whereupon (without prejudice to any other rights of the OWNER) the OWNER shall stand absolutely discharged and absolved in respect of all and any material, equipment, machinery and other item and things whatsoever abandoned as aforesaid.
- (ii) Notwithstanding anything to the contrary herein provided, nothing herein stated shall constitute the OWNER as a trustee or bailee of any of the CONTRACTOR's material, equipment, machinery or other items or things removed, cleared, demolished, dismantled or abandoned as aforesaid, nor shall the OWNER be bound in law or fact by any duty of care in respect thereof, with the intent that all actions, dealings and disposals within the provisions of this clause shall be exclusively at the risk and liability of the CONTRACTOR (including relative to any loss or damage) and the OWNER shall not be howsoever responsible, accountable or liable in respect thereof.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 132 of 271</div>



- 7.0.7.0 If for any cause (including but not limited to resistance put up by the CONTRACTOR and/or his servants or agents or any court order consequent upon a suit or proceedings filed by the CONTRACTOR), the OWNER is unable to fully take over possession of the entire works within 7 (Seven) days from the date of completion of the measurements as contemplated above, the OWNER shall, in addition to all discounts, compensations and/or damages recoverable from the CONTRACTOR in terms hereof (including but not limited to OWNER's entitlements under Clause 4.4.0.0 and Clause 7.0.9.0 hereof) or otherwise, be entitled to recover from the CONTRACTOR liquidated damages in the amount equivalent to 1% (one percent) of the Lumpsum Price for each week or part thereof that the said taking over possession of any works is delayed beyond the period of 7 (seven) days specified above, subject to a maximum of 5% (five percent) of the Lumpsum Price.
- 7.0.8.0 Notwithstanding anything provided in Clause 7.0.5.0 hereof, the OWNER shall have the right at any time prior to the removal of the same from the job site, to take possession of such of the CONTRACTOR's goods or equipment at any and all jobs sites as the OWNER shall deem fit, and the CONTRACTOR shall be entitled to compensation for any such goods or equipment taken over at cost thereof to the CONTRACTOR or depreciated value thereof in the case of equipment, whichever shall be less, such cost or value not to include the cost of transport, carriage or handling or storage, but to include the cost of freight to India on imported goods. The cost of goods and/or depreciated value of equipment taken over as determined by the Engineer-in-Charge shall be final and binding upon the CONTRACTOR.
- 7.0.9.0 Upon termination of the Contract, the OWNER shall be entitled at the risk and expenses of the CONTRACTOR in all respects to either engage one or more contractors to complete the work and/or supplies and/or to redesign, reperform and/or redo and/or to alter, modify and/or replace the materials supplied by the CONTRACTOR and/or supply other materials or substitutes to the extent necessary to set up, install, erect, establish and operate the Unit and tools and spares in accordance with the Contract and/or to complete the works in accordance with the Contract, notwithstanding that the contractor(s) so engaged shall adopt design and/or processes or methods or materials different from those proposed or projected and/or adopted by the CONTRACTOR for any purpose.
- 7.0.10.0 In addition to rights under clauses 7.0.8.0 and 7.0.9.0 the OWNER shall, upon termination of the contract have an option to take over from the CONTRACTOR, in whole or part, any subsisting order or sub-contract entered into by the CONTRACTOR in or relative to performance of the CONTRACTOR's

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 133 of 271

obligations under the contract, for which purpose the provisions hereof shall operate as an assignment by the CONTRACTOR to OWNER of the orders and sub-contract opted to be taken over by the OWNER, with right in the OWNER as attorney for and on behalf of and in the name of the CONTRACTOR to sign, execute and/or deliver any document, notice or other communication as may be required under the law applicable to the relative contract or order to complete the assignment thereof in favour of the OWNER, and the provisions hereof shall constitute appropriate appointment by the CONTRACTOR in favour of the OWNER in this behalf, with right in the OWNER to act in this behalf through any of its directors or officers.

7.1.0.1 No amount shall be due and payable to the CONTRACTOR upon or in the event of termination of the Contract unless and until the entirety of the works as contemplated in the scope of services and the entirety of the supplies as contemplated in the scope of supplies shall have been completed in all respects and all payments finally due on any account to the OWNER and/or other contractor(s) in respect of the balance works and supplies have been finally settled and the OWNER has been discharged from all liabilities in respect thereof.

7.2.0.0 If upon the satisfaction of the Clause 7.0.9.0 and 7.1.0.0 hereof there shall remain in the hands of the OWNER any excess/balance after all accounting and adjustment of all dues from the CONTRACTOR to the OWNER, the OWNER shall forthwith pay over the excess/balance to the CONTRACTOR and in the event of the security deposit and other dues of the CONTRACTOR in the hands of the OWNER being insufficient to meet the dues of the OWNER as aforesaid, the CONTRACTOR shall forthwith on demand by the OWNER pay the OWNER the shortfall. For calculating the excess/balance aforesaid in the hands of the OWNER any price discount or adjustment due to the OWNER from any other contractor under the provisions of Clause 4.3.6.0 hereof or any equivalent or similar provisions in the Contract in this behalf between the OWNER and the other CONTRACTOR shall not be reckoned.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 134 of 271

SECTION – 8 MISCELLANEOUS



8.0.0.0 PERSONAL ACTS AND LIABILITIES

8.0.1.0 No director, officer or other employee of the OWNER shall anyway be personally bound or liable to the CONTRACTOR for the acts, commissions or obligations of the OWNER under the contract or otherwise or be personally answerable to the CONTRACTOR for on in respect of any default or omission in the performance of any act(s), deed(s), or things to be observed and/or performed by the OWNER under the contract.

8.0.2.0 The CONTRACTOR shall not be entitled to any increase in the rate(s) mentioned in the Price Schedule or in any of them or to any other payment, right, benefit or claim whatsoever by reason of any representation, explanation, statement, assurance or understanding given or alleged to have been given to him by the Engineer-in-Charge, PMC or any other agent or consultant of the OWNER, nor shall any director, officer or other employees or the Engineer-in-Charge, PMC or agent or consultant of the OWNER be personally liable for or in respect of any representation, explanation, statement or assurance or understanding given or alleged to have been given by him to the CONTRACTOR or any other person relative to the contract, nor shall the OWNER be responsible in respect thereof unless the same has been jointly signed by the CONTRACTOR and the OWNER as an agreed variation or amendment to Contract.

8.0.3.0 The CONTRACTOR shall not under any circumstances, pay or advance to any officer(s), servant or agent(s) of the OWNER, any sum or money on any account without prior authority of the OWNER in writing, and any such payment made or money advanced by the CONTRACTOR without such authority shall be entirely at the risks of the CONTRACTOR without any liability to the OWNER in respect thereof.

8.0.4.0 Any money paid to or dealing had with any partner or member of the CONTRACTOR (If a firm or consortium) and any receipt, settlement, acknowledgement of liability or other arrangement, agreement or document whatsoever signed by any one of the partners or members of the firm or consortium or erstwhile partner or member of the firm or consortium (without notice of the cessation of his interest) or to any person held out to be a partner of the firm or member of the consortium shall be binding upon the CONTRACTOR vis-à-vis the OWNER and shall constitute a full release and



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 135 of 271

discharge to the OWNER and/or a valid settlement, acknowledgement or obligation upon the CONTRACTOR, as the case may be, and the OWNER shall not be concerned with the application of any monies so paid or the authority of the concerned partner or member (or erstwhile or purported partner or member) vis-à-vis the other partner(s)/members to make the settlement, receipt, acknowledgment or other documents(s) concerned, provided always that the OWNER shall be entitled its discretion at any time to call upon all or any of the partners/members of the CONTRACTOR's firm/consortium to sign and receipt, settlement, acknowledgement or other document(s) including any receipt, settlement, acknowledgement or other document signed by a partner or member (or erstwhile or purported partner or member) as aforesaid, and all the partners of the firm or members of the consortium shall, when called upon to do so by the OWNER, forthwith sign the receipt, order, acknowledgement or other documents required to be so signed.

8.0.5.0 Any money paid to any director, attorney, agent, officer or employee of the CONTRACTOR and any receipt, settlement, acknowledgement of liability or other arrangement, agreement or document whatsoever signed by any such director, attorney, agent, officer or employee of the CONTRACTOR or erstwhile director, attorney, agent, officer or employee of the CONTRACTOR (without notice of his cessation of interest) or by any person held and to be a director, attorney, agent, officer or employee of the CONTRACTOR authorized to act on behalf of and/or to bind the CONTRACTOR, shall as between the OWNER and the CONTRACTOR, be binding upon the CONTRACTOR and shall constitute a full release and discharge to the OWNER and /or settlement, acknowledgement or obligation of, upon or with the CONTRACTOR, as the case may be, and the OWNER shall not be concerned with the actual authority of such director, attorney, agent, officer or employee (actual, erstwhile or purported, as the case may be) vis-à-vis the CONTRACTOR (and if the CONTRACTOR be a consortium vis-à-vis each member of the consortium) to make the settlement, receipt, acknowledgment, agreement or other document concerned.

8.1.0.0 **TAXES**

8.1.1.0 Except as herein elsewhere expressly otherwise provided, the CONTRACTOR shall be exclusively liable for the payment of any and all fees, cesses, duties, taxes and levies now or hereafter imposed, increased or modified in respect of any work done and/or material supplied and for the payment of all contributions and taxes for unemployment compensations, welfare, insurance, old age pension and/or annuity or gratuity now or hereinafter imposed by the Central of State Government or authority

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 136 of 271

with respect to or covered by wages , salaries or other compensations paid to person employed or engaged by the CONTRACTOR, and the CONTRACTOR hereby undertakes to indemnify and keep indemnified the OWNER from and against the same and all claims, actions, demands and payments whatsoever against the OWNER whatsoever arising there from or in connection therewith.

8.1.2.0 Except as herein elsewhere expressly otherwise provided, the CONTRACTOR shall be liable for and shall pay any and all Indian fees, cesses, taxes, duties and levies assessable against CONTRACTOR in respect of or pursuant to the Contract.



8.1.3.0 In addition, the CONTRACTOR shall be responsible for payment of all Indian duties, levies, and taxes assessable against the CONTRACTOR or CONTRACTOR's employees or Sub- contractor's whether corporate or personal or applicable in respect of property.

8.2.0.0 **GOVERNMENT REGULATIONS**

8.2.1.0 The CONTRACTOR shall comply with and ensure strict compliance by his/its subcontractors, servants and agents or all applicable Central, state, municipal and local laws and regulations of any Central, state or local bodies and authorities and undertakes to indemnify the OWNER from and against all levies, damages, penalties and payments whatsoever as may be imposed by reason of any breach or violation of any law, rule or regulation whatsoever and all actions, claims and demands arising there from and/or relative thereto.



8.3.0.0 **LABOUR LAWS AND REGULATIONS**

8.3.1.0 The CONTRACTOR shall be responsible for strict compliance of and shall ensure strict compliance by its sub-contractors, servants and agents of all laws, rules or regulations having the force of law affecting the relationship of employer and employee between the CONTRACTOR/sub-contractors and their respective employees and/or otherwise concerning labour, social welfare and provident fund, pension, bonus, gratuity and other benefits to employees. Without prejudice to the generality of this provision, the CONTRACTOR shall comply with and ensure that his sub-contractors and other agencies employed by him comply with the provisions of the Payment of Wages Act 1936, Minimum Wages Act 1948, Employers Liability Act 1938, Workmen's Compensation Act 1923, Industrial Disputes Act 1947, Maternity Benefit Act 1961, Mines act 1952, Contract Labour (Abolition & Regulation) Act 1970,



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 137 of 271</div>

Payment of Bonus Act, Gratuity Act, Factories Act and the Employees' Provident Fund and miscellaneous Provisions Act 1952 and Employees' State Insurance Act 1948 , all as amended from time to time and all rules, regulations and schemes framed there under form time to time.

- 8.3.2.0 The CONTRACTOR and sub-contractor (s) of the CONTRACTOR shall obtain from the authority (ies) designated in this behalf under any applicable law, rule or regulation (including but not limited to) the Factories Act and Labour (Abolition and Regulation) Act, 1970 (in so far as applicable) any and all such license(s), consent(s), registration(s) and/or other authorization(s) as shall from time to time be or become necessary for or relative to the execution of the work or any part or portion thereof or the storage or supply of any material(s) or otherwise in connection with the performance of the Contract and shall at all times observe and ensure due observance by the sub-contractors, servants and agents of all terms and conditions of the said license(s) , consent(s) , regulation(s) and other authorization(s) and laws, rules and regulations applicable thereto. Without prejudice to the generality of this provision, the CONTRACTOR shall obtain and ensure that his sub-contractors and other agencies employed by him on the Work, obtain a valid License under the Contract Labour (Abolition and Regulation) Act, 1970 and shall duly and faithfully observe and comply with the provisions of the Contract Labour (Regulation & Abolition) Central Rules 1971 and other Central and State Rules as amended from time to time and applicable to the work, and shall duly, promptly and faithfully maintain and/or cause to be maintained all records and facilities required to be maintained and /or provided in terms thereof or any license granted there under.
- 8.3.3.0 The CONTRACTOR shall ensure that wages are paid by himself or by his sub-contractors to their workmen directly without the intervention of any Jamadars or Thekedars and that no amount by way of commission of otherwise is deducted or recovered by the Jamadars from the wages of the workmen.
- 8.3.4.0 The OWNER shall be entitled at all times to carry out any check(s) or inspection(s) of the CONTRACTOR's facilities, records and accounts to ensure that the provisions aforesaid are being observed by the CONTRACTOR and the sub-contractors and that the workmen are not denied the rights and benefits to which they are entitled under such provisions. Any violation shall, without prejudice to any other rights or remedies available to the OWNER, constitute a ground for termination of the Contract as though specifically set forth under Clause 7.0.1.0 thereof.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 138 of 271

- 8.3.5.0 Nothing in the Contract Documents stated shall anyway constitute any workman/employee of the CONTRACTOR or any sub-contractor as or to be a workman/employee of the OWNER, or place obligation or liability in respect of any such workman/employee upon the OWNER.
- 8.3.6.0 The CONTRACTOR shall not employ in connection with the work, any person below the prohibited age of employment.
- 8.3.7.0 The establishment of the CONTRACTOR and its sub-contractors shall be duly registered under the Employees' Provident Fund and Miscellaneous Provisions Act, 1952 and the Employees' State Insurance Act, 1948 and the CONTRACTOR shall duly and timely pay and ensure payment by its sub-contractors of contributions and its/their employees to the Authorities prescribed under the said Acts and any schemes framed thereunder in respect of all labour employed by it/them for the execution of the contract. Copies of challans/receipt of such payments along with the list showing persons employed together with emoluments paid for the purpose of P.F. deductions shall be submitted to the OWNER before the end of every calendar months. In case the Provident Fund Authority's receipted challan referred to above are not furnished, the OWNER shall deduct 5% (five percent) of the payable amount from the CONTRACTOR'S running bill for services and retain the same as a security for the payment of the Provident Fund. Such retained amounts shall be released to the CONTRACTOR only on production of challans /receipt of the Provident Fund Authority for the period covered by the related deduction.
- 8.3.8.0 On receiving information of any breach, non-fulfillment and/or non-observance by the CONTRACTOR and/or his sub-contractors and other agencies engaged by him in connection with the Works or any of the provisions or requirements of any of the Labour Laws, rules and regulations and/or as to the inaccuracy of any of the returns or statements furnished by the CONTRACTOR and/or his sub-contractors and/or any records or accounts maintained by any of them with respect to which the OWNER as the principal employer or otherwise can have a liability, the OWNER shall be entitled to deduct form the bills and any amounts due or becoming due to the CONTRACTOR, under this or other contract(s) with the CONTRACTOR , any sum(s) required or estimated to be required, in its judgement which shall be final and binding on the CONTRACTOR, for making good or compensating for the liability or possible liability of the OWNER by reason of the said breach, non-fulfillment or non-observance and/or inaccuracy aforesaid.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
			Rev	00
			Page	139
			of	271

8.3.9.0 The CONTRACTOR shall indemnify and keep indemnified the OWNER from and against all actions, claims, demands and liabilities whatsoever under and in respect of the breach of any of the provisions hereof and/or against any claim, action or demand by any workman/employee of the CONTRACTOR or any sub-contractor and/or from any liability anywise to any sub-contractor under any law, rules or regulation having the force of law including (but not limited to) claims against the OWNER under the Workmen's Compensation Act 1923, the Employees' Provident Funds and Miscellaneous Provisions Act 1952 ,, the Employees' State Insurance Act 1948 and/or the Contract Labour (Abolition & Regulation) Act 1970.



8.3.10.0 The CONTRACTOR and his sub-contractors and agents employed by him for and/or in the performance of the Works shall strictly abide by and observe the provision of the "Contractors' Labour Regulations" and the "Model Rules for Labour Welfare" as set out in **Appendix I** and **Appendix II** to these General Conditions of Contract, which shall be binding on the CONTRACTOR, his sub-contractors and agents.

8.3.10.1 In the event of an irreconcilable conflict between the provisions herein and the provisions contained in the "Contractors' Labour Regulations" and/or the "Model Rules of Labour Welfare" (as set out in Appendix 1 and Appendix II hereto), the "Contractors' Labour Regulations" and/or the "Model Rules of Labour Welfare" shall prevail to the extent of the irreconcilable conflict.

8.3.10.2 In the event of an irreconcilable conflict between the "Contractors' Labour Regulations" and/or the "Model Rules of Labour Welfare" (set out in Appendix 1 and Appendix II hereto), and any applicable law, rule or regulation, the law, rule or regulation shall prevail over the "Contractors' Labour Regulations" and/or the "Model Rules of Labour Welfare" as the case may be, and shall be complied with.



8.4.0.0 **RISK, ACCIDENT AND DAMAGE**

8.4.1.0 The CONTRACTOR shall take due precaution to avoid damages to any pipelines, Railway lines, roads, canals, cables, culverts, bridges, drains, sewer, telegraph and telephone lines, water mains, dykes, poles, pillars, fences, wires, supports and embankments and other underground or over ground works, structural or constructions whatsoever and shall at his own cost and initiative forthwith restore

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 140 of 271

and repair any damage thereto the satisfaction of OWNER and/or the person or authority concerned relative to the line, pipe or other works, construction of installation as the case may be.

- 8.4.2.0 The CONTRACTOR shall be responsible at his own cost in and relative to performance of the work(s) and contract to observe and to ensure observance by his sub-contractor's agents and servants, of the provisions of the safety code as hereinafter appearing and all fire, safety and security instructions and regulations as may be prescribed by the OWNER, the Central Government or any State Government, any Marine or Port Authority or any other body or authority legally authorized to issue such instructions or regulations, from time to time and such other precautions and measures as shall be necessary, and shall employ/deploy all equipment necessary to protect all works, materials, properties, structures, equipment, installations, communications and facilities whatsoever from damage, loss or other hazard whatsoever (including but not limited to fire, collision or explosion) and shall during construction and other operations, minimize the disturbance and inconvenience to the OWNER, shipping, transportation, the public and the adjoining land and property of the OWNER and occupiers, and crops, trees and vegetations.
- 8.4.3.0 The CONTRACTOR shall indemnify and keep indemnified the OWNER from and against all losses and damages (including relative to any gas, crude oil, refined products and other commodities lost) and costs, charges and expenses and penalties, actions, claims, demands and proceedings whatsoever suffered or incurred by or against the OWNER, as the case may be, by virtue of any loss, alteration, displacement, disturbance or destruction or accident to any vessel, works, material, property, structure, equipment, installation, communication and facility and land and property of the OWNER and occupiers and crops, trees and vegetation as aforesaid, with the intent that the CONTRACTOR shall be exclusively responsible for any accident, loss, damage, alteration, displacement, disturbance or destruction as aforesaid directly or indirectly form any breach by the CONTRACTOR of his obligations aforesaid or upon any operation, act or omission of the CONTRACTOR, his Sub – contractor(s) or his or their agent(s) or servant(s).

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 141 of 271</div>



8.5.0.0 INDEMNITY AND INSURANCE

8.5.1.0 The CONTRACTOR shall at all times indemnify and keep indemnified the OWNER and its officers, servants, agents from and against all third party claims whatsoever (including but not limited to property loss and damage, personal accident, injury or death of/or to property or person of any Sub-contractor(s) and/or the servants/ agents of the CONTRACTOR or any Sub-contractor(s) and or the OWNER) arising out of any act or omission of the CONTRACTOR and the CONTRACTOR shall at his own cost and initiative at all times upto the successful conclusion of the defect liability period specified in clause 5.4.1.0 hereof take out and maintain all insurable liabilities under this clause, including but not limited to third party insurance and liabilities under the Motor Vehicles Act, Worker's Compensation Act, Fatal Accidents Act, Personal Injuries Insurance Act, Emergency Risk Insurance Act and /or other Industrial Legislation from time to time in force in India with Insurance Company(ies) approved by the OWNER, and such policy(ies) shall be of not lesser limit then the limits hereunder specified with reference to the matters hereunder specified, namely.



- (a) Workmen's Compensation Insurance to the limit to which compensation may be payable under the laws of the Republic of India.
- (b) Third party Insurance for body injury and property damage to the limit of not less than Rs.10,00,000 (Rupees one Million only) in each accident at each job site and to a limit of not less than Rs.100,00,000 (Rupees Ten Million only) for all accidents at all job sites for every year. Provided that the limits specified above shall operate only as a specification of minimum limits for insurance purposes, but shall not anyway limit the CONTRACTOR's liability in terms of this clause or otherwise to their limit(s) specified.

8.5.1.1 Should the CONTRACTOR fail to take out and/or keep afoot insurance as provided for in the foregoing clause the OWNER shall be entitled (but without obligation to do so) to take out and/or keep afoot such insurance at the cost and expense of the CONTRACTOR, and without prejudice to any other rights or remedies of the OWNER in this behalf, to deduct the sum(s) incurred therefore from any amounts however becoming payable to the CONTRACTOR.

8.5.2.0 In addition, the CONTRACTOR shall protect, defend, indemnify and hold the OWNER harmless from the against:

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 142 of 271</div>

- (a) any and all losses arising directly or indirectly from or incurred by reason of the acts or omissions of the CONTRACTOR, its Affiliates, Sub-contractors or Suppliers or any of their respective officers, directors, employees, servants or agents in the performance of CONTRACTOR's obligations under this Contract, whether or not resulting from any defect in or condition of the premises on which the Works are or are to be performed, or any equipment thereon or any materials furnished by OWNER including any losses arising from or in respect of or in consequence of any illness, accident or injury to any employees, directors, servants or agents of the CONTRACTOR , its affiliates, sub-contractors or suppliers.
- (b) any and all losses, arising directly or indirectly from or incurred by reason of claims or sanctions or penalties imposed by any Governmental Authorities or others for any actual or asserted failure by the CONTRACTOR or its affiliates, sub-contractors or suppliers or any to their respective officers, directors, employees, servants or agents to comply with any applicable law or applicable consent(s), sanction(s) and/or authorization(s) or with any rules or regulations applicable to it or them or to obtain or maintain any such consent, sanction or authorization.
- (c) any and all losses, arising directly or indirectly from or incurred by reason of any failure of CONTRACTOR or any sub-contractor or supplier (i) to pay any taxes relating to income or any other taxes required to be paid by such person (ii) to pay any amounts in respect of taxes which are to be paid by such person in connection with the performance of its obligations relating to this Contract or (iii) to file tax returns as required by applicable laws or comply with reporting or filing requirements under applicable law relating to taxes or (iv) arising directly or indirectly from or incurred by reason of any misrepresentation by or on behalf of such person to any competent authority in respect of taxes (nothing in this clause shall restrict any person's right to bonafide contest the amount of any tax or other liability owed to a competent authority provided such contest is bonafide and made in good faith); and
- (d) any and all losses, arising directly or indirectly from or incurred by reason of hazardous materials introduced to the job site or works or any other location by the CONTRACTOR, its affiliates, sub-contractors or suppliers or its or their agents in or in connection with the performance of the Contract.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 143 of 271

8.6.0.0 EFFECTS OF INSURANCE

The obligations of CONTRACTOR to indemnify and hold harmless the OWNER under the Contract shall not be limited or reduced to any insurance provided pursuant to the Contract or otherwise, provided always that the proceeds of any such insurance shall in the first instance be applied to meet the obligations of the CONTRACTOR under the relative indemnity (ies).

8.7.0.0 LIMITATION OF LIABILITY



The aggregate liability of the CONTRACTOR to the OWNER (whether based on contract or tort, including negligence and strict or absolute liability) arising out of or under this Contract shall not exceed twenty percent (20%) of the Lump sum Price provided that no such limit shall apply in respect of:

- (i) any liability pursuant to CONTRACTOR's indemnity obligations under the contract; or
- (ii) any loss resulting from fraud, intentional or wilful misconduct or illegal or unlawful acts or omissions of CONTRACTOR, its affiliates or any sub-contractor or any supplier or any of its or their respective officers, directors, employees, servants or agents; or
- (iii) any liability to rectify, repair, restore or replace any materials and/or works or deficiencies therein in terms of the Contract;
- (iv) any liability under clause 7.0.7.0 or Clause 7.0.9.0;

AND provided always that such limitation shall exclude any amounts recovered under any policy (ies) of insurance taken out and/or maintained by the CONTRACTOR pursuant to the provisions of the Contract.

8.8.0.0 TRAINING OF APPRENTICES

- 8.8.1.0 The CONTRACTOR shall if so required by law, himself engage and/or procure engagement by his sub-contractor(s) of such number of apprentices and for such period as may be required in this behalf in accordance with the provisions of the Apprentices Act, 1961 and any other act, rule and/or regulation having the force of law, regulating upon the employment of apprentices, and the CONTRACTOR shall be responsible at his own cost and initiative and without entitlement to any extra compensation or remuneration from the OWNER in this behalf, to fulfill all obligations of the employer under the said Act, including liability for payment to apprentices as required thereunder.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div> Rev 00 Page 144 of 271 </div>



8.9.0.0 RECORDS AND INSPECTION

8.9.1.0 The CONTRACTOR shall if and when required by the Engineer-in-Charge relative to the execution of the Contract produce or cause to be produced before the Engineer-in-Charge or any other person designated by the Engineer-in-Charge in this behalf, for examination, any records and documents in the possession of the CONTRACTOR or any sub-contractor or subsidiary or associated firm or company or the CONTRACTOR or any sub-contractor, and/or copies or extracts thereof and /or other information or returns relative thereto. Such returns shall be verified in the manner prescribed by the Engineer-in-Charge or other officer aforesaid designated in this behalf. The CONTRACTOR shall in addition produce and/or caused to be produced before the Engineer-in-Charge or any other person designated by the Engineer-in-Charge in this behalf, for examination any vouchers, bills and orders etc. required for verifying or ascertaining the cost of any material, labour, service or item or thing, to calculate any monies payable under the contract for which item rates are not mutually agreed. The decision of the Engineer-in-charge as to whether any book, record, document, information or return is relevant for any of the purpose aforesaid, shall be final and conclusive.

8.10.0.0 PATENTS AND ROYALTIES

8.10.1.0 The CONTRACTOR undertakes that all equipment, machinery, instruments and materials used or supplied by the CONTRACTOR or methods or processes practiced or employed by the CONTRACTOR in the works shall not be covered by any third party patent, design or other rights, with the intent that the OWNER shall be entitled to the unfettered use of and right to the same and any subsequent works in which the same are incorporated without any third party right, claim or entitlement.

8.10.2.0 If any equipment, machinery, instruments and/or materials, used or supplied by the CONTRACTOR, or methods or processes practiced or employed by the CONTRACTOR in the performance of this contract or resultant works, is/are covered by a patent, design or other rights under which the CONTRACTOR, is to licensed, the CONTRACTOR shall before supplying or installing or using or employing or practicing the same obtain such license(s) and pay such royalty (ies) and license fees as may be necessary in connection with the performance of this contract. In the event that the CONTRACTOR fails to pay such royalty or obtain such license, the CONTRACTOR shall defend at its own expense, any suit for infringement of patent, design or other right which is brought against the CONTRACTOR and/or the OWNER as a result of the failure, and shall pay any damages and costs



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 145 of 271</div>

awarded in such suit and shall keep the OWNER indemnified from and against all other consequences thereof, including (but not limited to) the costs incurred by the OWNER relative to such proceedings and in obtaining legal advice or opinion(s) relative to such proceedings , and shall perform all remedial and consequent works as shall be necessary, and the provision of Clause 8.10.3.0 shall mutatis mutandis apply.

- 8.10.3.0 Forthwith upon the CONTRACTOR acquiring any knowledge or information of any patent, design or information or other right in respect of which a claim for infringement of patent, design or other right could be brought involving any equipment, machinery, instrument or materials used or supplied by the CONTRACTOR or methods or processes practiced or employed by the CONTRACTOR in the performance of the contractual works, the CONTRACTOR shall notify the OWNER in respect thereof and shall, at its own cost and initiative take such steps as shall be necessary to procure the relative rights or licenses, or compound the relative claims, and/or shall at his own cost and initiative re-design, re-fabricate, re-supply, replace and/or install, as the case may be by alternative systems and works necessary to avoid such patent, design or other rights within the CONTRACTOR's scope of work and within the time for completion in this behalf prescribed in the contract documents, without entitlement to any additional remuneration in respect thereof, and the CONTRACTOR shall, meanwhile, keep the OWNER indemnified from and against all consequences and liabilities and losses, claims and damages whatsoever. Excluded from the scope of this indemnity is any patent, design information or other right arising out of work done or performed or materials supplied strictly in accordance with the process design provided by the Process Licensor within the exclusive scope of the Process Licensor.

8.11.0.0 **ARTICLES OF VALUE FOUND**

- 8.11.1.0 All gold, silver and other metals and minerals or ore of any kind or description and all precious and semi-precious stones and bearing earth, rock or shale, coins, treasures, treasure trove, bullion, antiques and other items and things whatsoever which may be found under or upon the job site shall, between the CONTRACTOR and the OWNER, be the exclusive property of the OWNER and the CONTRACTOR shall, forthwith upon discovery thereof, notify the OWNER of such discovery with the details of the item(s) or things discovered and pending directions by the OWNER for disposal thereof shall hold and preserve the same as trustee of the OWNER to the satisfaction of the Engineer-in-Charge.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 146 of 271

8.12.0.0 MATERIALS OBTAINED FROM DISMANTLING



8.12.1.0 Any materials obtained by the CONTRACTOR consequent upon dismantling-mantling of any building, structure or construction upon the job site (not being a temporary building, structure or construction erected by the CONTRACTOR for the performance of the works by him) shall be the exclusive property of the OWNER.

8.13.0.0 LIENS AND LIABILITIES

8.13.1.1 If, at any time there is evidence of any item or claim for which the OWNER might be or become liable and which in terms of the Contract or otherwise is chargeable to or the liability of the CONTRACTOR, the OWNER shall have the right to retain, out of any payment then due or thereafter becoming due to the CONTRACTOR, an amount sufficient to completely indemnify the OWNER against such lien or claim, and should the CONTRACTOR not dispute such lien or claim and/or if such lien or claim be found to be valid, the OWNER may pay and discharge the same and deduct the amount so paid together with any legal and other costs, charges and expenses incurred by the OWNER in defending any action and/or in obtaining legal advice or opinion relative to the lien, claim or action, from any monies retained as aforesaid and any monies then due or thereafter becoming due to the CONTRACTOR, and if no monies have been retained and/or if the same be insufficient to satisfy the payment(s) aforesaid, the CONTRACTOR shall on demand pay to the OWNER the same, and failing such payment within 10 (ten) days or demand by the OWNER in this behalf, shall be liable to pay interest on the amount due from the date of demand up to and until the date of payment in full at the State Bank of India lending rate applicable to the OWNER plus 1% (one percent) per annum and the provisions hereof (in so far as such notice shall be deemed to be necessary in addition to the contractual provisions herein) shall be deemed to constitute a notice for the payment of interest under provisions of the Indian Interest Act, 1839.

8.14.0.0 COLLECTION OF INDEBTEDNESS

8.14.1.0 Without prejudice to any other rights or remedies of the OWNER and in addition to any other provisions thereof, the OWNER shall be entitled to deduct out of the security Deposit or the proceeds of and Bank Guarantee or any monies for the time being of the CONTRACTOR in its hands and any payment then

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 147 of 271</div>

due or becoming due to the CONTRACTOR on any account, any and all amounts claimed by the OWNER from the CONTRACTOR arising out for or in connection with the Contract.



8.14.2.0 Where the OWNER makes any deduction pursuant to the provisions of Clause 8.14.1.0 hereof, the OWNER shall furnish to the CONTRACTOR all details of the deduction(s) with copies of the documents, if any, in support the deduction(s).

8.15.0.0 **LIABILITIES OF SUB-CONTRACTOR(S)**

8.15.1.0 Without prejudice to any other liabilities or obligations of the CONTRACTOR relative to Sub-contractor(s) in terms hereof or otherwise, the CONTRACTOR shall require every Sub-contractor to whom any portion of the work to be performed under the contract has been sub-contracted, to comply with the provisions of the Contract insofar as applicable to each Sub-contractor, and the CONTRACTOR shall hold the OWNER harmless and indemnified, from and against any and all penalties, actions, claims and demands and costs, charges and expenses whatsoever arising out of or occasioned by failure of the CONTRACTOR or any Sub-contractor(s) to fully and properly comply with any of the terms and conditions of Contract.

8.16.0.0 **CONFIDENTIAL HANDLING OF INFORMATION**

8.16.1.0 The CONTRACTOR and his employees, agents and Sub-Contractors and employees and agents of the Sub-Contractor(s) shall treat as strictly confidential and shall take all steps necessary to ensure confidential handling of all maps, plans, charts, designs, drawings, photographs, data, reports, tests, specifications, methods and other information developed or acquired by the CONTRACTOR from or by means of the Tender Documents or any facility extended to the CONTRACTOR pursuant thereto or the award or performance of the contract or any of them or otherwise disclosed or made available to the CONTRACTOR or any aforesaid persons and without prejudice to the generality of the foregoing, the CONTRACTOR, its sub-contractor(s) and their respective employees and agents shall not report, disclose or reproduce the same in any book, article, speech or other publications, provided always that, the OWNER may, upon application by the CONTRACTOR to the OWNER in this behalf, permit report, disclosure or re-production of the same in any book, article, speech or other publications if it is satisfied that this would not involve the disclosure of any classified or other proprietary information

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 148 of 271

which would not be in the interest of public or security to disclose and/or which should not be in breach of any obligation of confidentiality.



- 8.16.1.1 Application for such consent shall be submitted to the OWNER in writing outlining the intended use of the relative material and shall be submitted to the OWNER at least one month prior to the expected use accompanied by the text of the relative publication in which it is sought to be used. Photographs should be accompanied by their caption. An application shall not be understood to have been permitted unless expressly permitted in writing by the OWNER.

8.17.0.0 **WAIVER**

- 8.17.1.0 It shall always be open to the OWNER, by written communication to the CONTRACTOR, to waive in whole or part any right or the enforcement of any right or remedy which the OWNER may have against the CONTRACTOR or of any obligations which the CONTRACTOR may have hereunder, provided always that:
- No waiver shall be presumed or inferred unless made in a written communication addressed by the OWNER to the CONTRACTOR and specifically communicated as a Waiver;
 - No waiver of any right or part of any right on one occasion shall be deemed to be a waiver or abandonment of that right for all occasions with the intent that a waiver once given shall be limited to the specific waiver and shall be without prejudice to the right of the OWNER to insist upon the strict adherence of the attendant obligations of the CONTRACTOR and/or the future enforcement of the right by the OWNER in respect of the same and/or any other dependent obligation.

8.18.0.0 **CONTRACTOR's ESTABLISHMENT**

- 8.18.1.0 It is understood that the establishment of the CONTRACTOR (and any sub-contractor engaged by the CONTRACTOR) constitutes an independent establishment involved inter alia in undertaking works and /or services for others of the nature and kind forming the subject matter of the Contract. It is consequently understood that all the employees of the CONTRACTOR (and any sub-contractor engaged by the CONTRACTOR) are the employees of the independent establishment of the CONTRACTOR or sub-contractor (as the case may be) who have been and will be appointed solely for and/or with reference to the work of that establishment, and have not been and will not be appointed

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 149 of 271

specifically or otherwise for the sole purpose of the work covered by the present Contract. To this end, each CONTRACTOR (and sub-contractor engaged by the CONTRACTOR) shall issue to each of its employees deputed to the job-site to perform any work in relation to the Contract, a regular letter of appointment for employment in the CONTRACTOR'S/ sub-contractor's independent establishment, with authority in the CONTRACTOR/ sub-contractor to employ or depute him for or in relation to any work or engagement assumed by the CONTRACTOR/ sub-contractor from time to time in the course of its business and the production of a certified copy of each letter of appointment duly acknowledged by the concerned employee shall be a pre-condition for the issue of a Gate Pass to any employee of the CONTRACTOR/ sub-contractor into any area, the entry to which is restricted by the OWNER.



8.19.0.0 **OBSERVANCE OF ENVIRONMENTAL REGULATIONS AND ENVIRONMENTAL PROTECTION**

8.19.1.0 The CONTRACTOR shall ensure that its servants and agents and sub-contractors and their servants and agents shall duly comply with all environmental laws, rules and regulations and the conditions of any permit, permission, consent and/or no-objection granted in this behalf by any authority with respect to or concerning the work, and shall independently so organize and conduct its operations and cause its sub-contractors to so organize and conduct their operations as not to cause any hazard or pollution to health, life, property or environment including (but not limited to) discharge of any noxious substance or effluent into the atmosphere or into the earth or into any drain, canal, stream, river, pond, lake or other water body.

8.19.2.0 The CONTRACTOR shall indemnify and keep indemnified the OWNER from and against the breach, non-observance, infraction or dereliction of any of the provisions of Clause 8.16.1.0 hereof, and against any and all claims, actions or proceedings, prosecutions and liabilities, and losses and damages, and costs (including legal costs), charges and expenses whatsoever suffered or incurred or instituted against the OWNER as the case may be.

8.20.0.0 **REGISTRATION OF THE CONTRACTOR WITH STATUTORY AUTHORITIES**

8.20.1.0 Within 30 days of execution of the Contract Agreement, the CONTRACTOR shall, in so far as necessary, register itself and the Contract at its own cost with the Reserve Bank of India, Income Tax, Sales Tax, Excise and other statutory authorities as required under the rules and regulations governing

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 150 of 271</div>

in India. A copy of all documents related to all such registrations shall be submitted to the OWNER for record.

8.20.2.0 Immediately after notification of the Letter of Acceptance, the CONTRACTOR shall, in so far as necessary obtain permission for opening of office(s) in India from the Reserve Bank of India.



8.21.0.0 **STATUTORY APPROVALS**

8.21.1.0 Unless otherwise specified, it shall be the CONTRACTOR's sole responsibility to obtain all approvals from any authority (except for environment clearance) required under any statute, rule or regulation of the Central or State Government concerned with the performance of the Contract and/or the contractual Work. The application on behalf of the OWNER for submission to relevant authorities along with copies of required certificates complete in all respects shall be prepared and submitted the CONTRACTOR well ahead of time so that the actual construction/commissioning of the works is not delayed for want of the approval/inspection by the concerned authorities. The CONTRACTOR shall arrange for the inspection of the works by the authorities and will undertake necessary coordination and liaison required and shall not be entitled to any extension of time for any delay in obtaining such approvals.

8.21.2.0 Any deficiency (ies) as pointed out by any such authority shall be rectified by the CONTRACTOR within the scope of relative supply and/or Work at no extra cost to the OWNER. The inspection and acceptance of the Works by such authorities shall, however, not absolve the CONTRACTOR from any of its responsibilities under this Contract.

8.21.3.0 Statutory Approval of Oil Industry Safety Director (OISD) is also required to be taken by the CONTRACTOR and any deficiency (ies) as pointed out by Internal and External audit team of OISD shall be rectified by the CONTRACTOR within the scope of relative supply and/or Work at no extra cost to the OWNER.

8.21.4.0 No extension of time shall be granted for meeting the requirement and/or obtaining approval of statutory authorities.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 151 of 271

8.22.0.0 RENTS & ROYALTIES

8.22.1.0 Unless otherwise specified, the CONTRACTOR shall pay all tonnage and other royalties, rents and other payments or compensation (if any) for getting stone, sand, gravel, clay, bricks or other materials required for the works or any temporary works and the price quoted shall be deemed to be inclusive of such payment.



8.23.0.0 UTILISATION OF LOCAL RESOURCES

8.23.1.0 The CONTRACTOR shall ascertain the availability of local sub-Contractor's and skilled/unskilled manpower and engage them to the extent possible for performance of the works.

8.23.2.0 The CONTRACTOR shall not recruit personnel of any category from among those who are already employed by the other agencies working at the site, but shall make maximum use of local labour available.

8.24.0.0 FUEL REQUIREMENT OF WORKERS

8.24.1.0 The CONTRACTOR and its sub-contractor(s) shall be responsible to arrange for the fuel requirement of its workers and staff without resorting to cutting of trees and shrubs. Cutting of trees and shrubs is strictly prohibited for this purpose.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 152 of 271

SECTION -9
ARBITRATION & CONCILIATION



9.0.0.0 ARBITRATION&CONCILIATION: Applicable for all the Tenders valuing above Rs. 5 Lakhs:

Parties hereby agree as under:

If any difference or dispute (hereinafter referred as “Dispute”) under the Contract arises, the party shall give a 60 days written notice ("Dispute Notice") to the identified officer of the other party mentioned in the Contract giving details of the Dispute. The Parties shall use all reasonable endeavors to resolve the Dispute mutually and amicably. All efforts by either party within these 60 days Dispute Notice Period shall be kept confidential by both the parties under Section 75 of the Arbitration and Conciliation Act, 1996. Parties shall not rely upon any views expressed or suggestions made by the other party, admissions made by the other party or the fact that the other party had indicated his willingness to enter into a settlement as evidence in any Forum / arbitration / court proceeding.

If Parties are unable to resolve the Dispute amicably within 60 days of receipt of the Dispute Notice, then after expiry of the 60 days' Dispute notice period, the aggrieved Party can refer the Dispute to conciliation and / or arbitration subject to terms and conditions contained herein below:

- 1) Parties further agree that following matters shall not be referred to Conciliation or Arbitration:
 - i) Any claim, difference or dispute relating to, connected with or arising out of MRPL decision to initiate any proceedings for suspension or banning, or decision to suspend or to ban business dealings with the Bidder / Contractor and/or with any other person involved or connected or dealing with bid / contract / bidder / contractor.
 - ii) Any claim, difference or dispute relating to, connected with or arising out of MRPL decision under the provisions of Integrity Pact executed between MRPL and the Bidder / Contractor.
- 2) Part-I: Conciliation (Not applicable in contracts valuing less than ₹ 10 lakhs).
- 3) Part-II: Arbitration (Not applicable in contracts valuing less than ₹ 5 lakhs) If the parties are not able to resolve the dispute through OEC or do not opt for conciliation through OEC, the party may invoke arbitration clause as provided in the contract.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 153 of 271

9.0.1.0 **PART - I: CONCILIATION: Resolution of disputes through conciliation by OEC** (Not applicable in Contracts valuing less than Rs.10 lakhs):



If any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, in connection with construction, meaning, operation, effect, interpretation of the contract or breach thereof which parties are unable to settle mutually, the same may first be referred to conciliation through Outside Expert Committee ("OEC") to be constituted by MD, MRPL as provided hereunder:

Submission of proposal for OEC

1. Conciliation through OEC will be resorted in all cases involving disputed amount up to ₹ 250 crores only. The disputed amount will be calculated by considering the amount of claim and counter-claim of the parties.
2. Claimant shall give a 30 days' notice for conciliation. In cases where the contractor is claimant then the notice shall be given to the concerned MRPL office as per the contract, clearly bringing out the points of dispute and the amount claimed with documents in support of the claim and the party concerned shall not raise any new issue thereafter.



Constitution of OEC

3. MD, MRPL will have the sole discretion to constitute OEC. OEC will be formed from the panel of experts maintained by MRPL and will normally comprise of three members, one member from each category i.e., Technical, Finance, Commercial and Legal. However, there will be a single member OEC for disputes involving a claim and counter claim (if any) up to ₹ 1 crore.
4. MD, MRPL will have authority to reconstitute an OEC to fill any vacancy or if any OEC member is not available to attend the OEC Meetings.
5. Upon constitution of the OEC, Head-Legal will issue the appointment letters to OEC members and inform same to the parties concerned.
6. The OEC members shall give a declaration of independence and impartiality (in the format at **Annexure D**) to both the parties before the commencement of the OEC proceedings.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 154 of 271

Proceedings before OEC



7. The claimant shall submit its statement of claims to OEC members, and to the party(s) prescribed in the appointment letter within 30 days of the issue of the appointment letter. The claims shall be raised as per the format at **Annexure E**.
8. The respondent shall file its reply and counter claim (if any) within 30 days of the receipt of the statement of claims. (As per aforesaid format at **Annexure E**).
9. Parties may file their rejoinder/additional documents, if any in support of their claim/counter claim within next 15 days. No documents shall be allowed thereafter.
10. OEC will commence its meetings only after completion of the pleadings.
11. In case of 3 members OEC, 2 members will constitute a valid quorum and the meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary video conferencing may be arranged. However, OEC Recommendations will be signed by all Members. Further, efforts must be made for unanimous recommendations.
12. The parties shall be represented by their in-house employees/executives. No party shall be allowed to bring any advocate or outside consultant/advisor/agent to contest on their behalf. Ex-officers of MRPL who have handled the dispute matter in any capacity are not allowed to attend and present the case before OEC on behalf of Contractor. However, ex-employees of parties may represent their respective organizations.
13. Solicitation or any attempt to bring influence of any kind on either OEC Members or MRPL is completely prohibited in conciliation proceedings and MRPL reserves the absolute right to close the conciliation proceedings at its sole discretion if it apprehends any kind of such attempt made by the Contractor or its representatives.
14. Parties agree to rely only upon documentary evidence in support of their claims and not to bring any oral evidence in the OEC proceedings.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 155 of 271</div>



15. OEC will give full opportunity of hearing to the parties before giving its recommendations.
16. OEC will conclude its proceedings in maximum 10 meetings, and give its recommendations within 90 days of its first meeting. OEC will give its recommendations to both the parties recommending possible terms of settlement MD, MRPL may extend the time/ number of meetings, in exceptional cases, if OEC requests for the same with sufficient reasons.
17. OEC members will be paid fees (plus applicable tax) and provided facilities as detailed in clause 29 below, subject to revision by MRPL from time to time and subject to Government guidelines on austerity measures, if any. All the expenditure incurred in the OEC proceedings shall be shared by the parties in equal proportion. The parties shall maintain account of expenditure and present to the other for the purpose of sharing on conclusion of the OEC proceedings.
18. Depending upon the location of the OEC members and the parties, the venue of the OEC meeting shall be either Delhi /Mangaluru / Bengaluru or any other location whichever is most economical from the point of view of travel and stay etc.
19. Parties shall not claim any interest on claims/counterclaims from the date of notice invoking conciliation till execution of settlement agreement, if so arrived at. In case, parties are unable to reach a settlement, no interest shall be claimed by either party for the period from the date of notice invoking conciliation till the date of OEC recommendations and 30 days thereafter in any further proceeding.
20. Legally, parties are under no obligation to refer a dispute to conciliation or continue with conciliation proceedings. Parties are free to terminate the conciliation proceedings at any stage as provided under the Arbitration and Conciliation Act, 1996 and subsequent amendments or re-enactment thereof.

Actions after OEC Recommendations

21. The recommendations of OEC are non-binding and the parties may decide to accept or not to accept the same. Parties are at liberty to accept the OEC recommendation with any modification they may deem fit.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 156 of 271</div>

22. The contractor shall give its response to MRPL within 7 days of receiving OEC Recommendation.
23. If the recommendations are acceptable to the contractor partly or fully, MRPL will consider and take a decision on OEC recommendations. MRPL shall communicate its decision to the contractor. If decision of MRPL is acceptable to the contractor, a settlement agreement under Section 73 of the Arbitration and Conciliation Act, 1996 will be signed within 15 days of contractor's acceptance and same shall be authenticated by all the OEC Members.
24. The timelines mentioned in the above guidelines are with an objective to achieve expeditious conclusion of OEC proceedings. However, it does not mean that any action beyond the timelines will be invalid. However, the party concerned will make all efforts to complete the actions within the stipulated time.
25. Parties shall keep confidential matters relating to the conciliation proceedings including minutes of OEC meeting and Recommendations of OEC. Parties shall not rely upon them as evidence in any Forum/arbitration/court proceeding, whether or not such proceedings relate to the dispute that is the subject of the conciliation proceedings,
- Views expressed or suggestions made by the other party in respect of a possible settlement of the dispute.
 - Admissions made by the other party in the course of the OEC proceedings;
 - Proposals made by the OEC;
 - The fact that the other party had indicated his willingness to accept a proposal for settlement made by the OEC.
26. Confidentiality extends also to the settlement agreement, except where its disclosure is necessary for purposes of implementation and enforcement. This stipulation will not apply to disclosure made by MRPL to Govt. of India, if required.
27. Subject to terms and conditions contained in the above paras, the provisions of the Part III of Arbitration and Conciliation Act, 1996 shall be acceptable to the conciliation proceedings and the parties and the OEC members shall be bound by the same.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 157 of 271</div>



28. If the parties are not able to resolve the dispute through OEC or do not opt for conciliation through OEC, the party may invoke arbitration clause as provided in the contract.

29. **Fees and Facility to the OEC Members:**

OEC members shall be entitled for the following fees plus applicable taxes per member and facilities:

Sl. No	Fees/Facility	Entitlement	To be paid by
1.	Fees	Rs 20,000/- per meeting subject to maximum of Rs. 2,00,000/-* for the whole case. In addition, one OEC member chosen by OEC shall be paid an additional amount of Rs 10,000/- towards secretarial expenses in writing minutes/ OEC Recommendations.	Contractor
2.	Fee for attending meeting/s to authenticate the settlement agreement.	Rs 10,000/-	Contractor
3.	Transportation in the city of meeting	Car as per entitlement or Rs 2,000/- per day	Contractor
4.	Venue of the meeting	MRPL conference rooms/Hotels	MRPL
Facilities to be provided to the out-stationed member			
5.	Travel from the city of residence to the city of meeting	Business class air tickets/first class train tickets/ car/ reimbursement of actual fare. However, entitlement of air travel by Business class shall be subject to austerity measures, if any, ordered by Govt. of India.	Contractor
6.	Transport to and fro airport / railway station in the city of residence	Car as per entitlement or Rs 3,000/-	Contractor
7.	Stay for out stationed members	5 Star Hotel	MRPL
8.	Transport in the city of meeting	Car as per entitlement or Rs 2,000/- per day	Contractor



* except in exceptional cases, where the no. of meetings may extend beyond 10.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 158 of 271

9.0.2.0 PART – II: ARBITRATION (Applicable in case of supply orders/Contracts with firms, other than Public Sector Enterprises) (Not applicable in contracts valuing less than ₹ 5 lakhs).



Except as otherwise provided elsewhere in the contract, if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, in connection with construction, meaning, operation, effect, interpretation of the contract or breach thereof which parties are unable to settle mutually or through conciliation, the same shall be referred to Arbitration as provided hereunder:

1. There shall be no arbitration for disputes involving claims up to ₹ 25 lakhs and more than ₹ 100 crores. The disputed amount will be calculated by considering the amount of claim and counter-claim of the parties. Unresolved disputes involving claims above ₹ 100 crores shall be adjudicated under the Commercial Courts, Commercial Division and Commercial Appellate Division of High Courts Act, 2015.
2. A party wishing to commence arbitration proceeding shall invoke Arbitration Clause by giving 60 days' notice to the other party. The notice invoking arbitration shall specify all the points of disputes with details of the amount claimed to be referred to arbitration at the time of invocation of arbitration and not thereafter. If the claim is in foreign currency, the claimant shall indicate its value in Indian Rupee for the purpose of constitution of the arbitral tribunal.
3. Arbitration can be invoked by giving Invocation Notice only after expiry of the 60 days' period as per Dispute Notice.
4. For a dispute involving claims above ₹ 25 lacs and upto ₹ 5 crores, in case other party is Claimant, MRPL will forward a list containing names of five jurists to the other party for selecting one from the list who will be appointed as sole arbitrator by MRPL. In case MRPL itself is the Claimant, it shall appoint the Sole Arbitrator by invoking the Arbitration clause and inform the Contractor. Such dispute shall be resolved on fast track procedure specified in Section 29B of the Arbitration and Conciliation Act, 1996.
5. For a dispute involving claims above ₹ 5 crores and upto ₹ 100 crore, the claimant shall appoint an Arbitrator and communicate the same to the other Party in the Invocation Notice itself along with the copy of disclosure made by nominated Arbitrator in the form specified in Sixth Schedule

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 159 of 271</div>

of the Arbitration & Conciliation Act, 1996. For the purpose of Section 21, the Arbitration Proceeding shall commence only upon date of receipt of Invocation Notice complete in all respects mentioned above. The other Party shall then appoint the second Arbitrator within 15 days from the date of receipt of written notice. The two Arbitrators appointed by the Parties shall appoint the third Arbitrator, within 30 days, who shall be the Presiding Arbitrator. The parties agree that they shall appoint only those persons as arbitrators who accept the conditions of this arbitration clause. No person shall be appointed as arbitrator or presiding arbitrator who does not accept the conditions of this arbitration clause.

6. For the purpose of appointment of Arbitrator(s), claims amount shall be computed excluding claim for interest, if any.
7. The parties agree that they shall appoint only those persons as arbitrators who accept the conditions of this arbitration clause. No person shall be appointed as arbitrator or presiding arbitrator who does not accept the conditions of this arbitration clause.
8. Parties agree that there will be no objection if the Arbitrator appointed holds equity shares of MRPL and/or is a retired officer of MRPL / any PSU. However, neither party shall appoint its serving employee as arbitrator and shall have been retired before 3 years on the date of commencement of the Arbitration.
9. If any of the Arbitrators so appointed dies, resigns, becomes incapacitated or withdraws for any reason from the proceedings, it shall be lawful for the concerned party/arbitrators to appoint another person in his place in the same manner as aforesaid. Such person shall proceed with the reference from the stage where his predecessor had left if both parties consent for the same; otherwise, he shall proceed de novo.
10. Parties agree that neither party shall be entitled for any pre-reference or pendente-lite interest on its claims, i.e. date of cause of action till date of Award by Arbitral Tribunal. Parties agree that claim for any such interest shall not be considered and shall be void. The Arbitrator / Tribunal shall have no right to award pre-reference or pendente-lite interest in the matter.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 160 of 271</div>

11. The arbitral tribunal shall make and publish the award within time stipulated as under:

Amount of Claims and Counter Claims (excluding interest)	Period for making and publishing of the award (counted from the date of first meeting of the arbitrators):
UptoRs. 5 Crore	Within 8 months
Above Rs. 5 Crore	Within 12 months

The above time limit can be extended by the arbitrator, for reasons to be recorded in writing, with the consent of the parties.

12. The fees payable to each Arbitrator shall be as per rules framed by the High Court in whose territorial jurisdiction as per contract and seat of arbitration is situated. In case no rules have been framed, the fees prescribed may be as per Fourth Schedule of the Arbitration and Conciliation Act, 1996. However, Arbitrator may fix their fees keeping the aforesaid schedule as guiding factor.



13. The parties may, after invocation of dispute, agree for sharing the cost of Arbitration equally on 50:50 basis.

14. If after commencement of the Arbitration proceedings, the parties agree to settle the dispute mutually or refer the dispute to conciliation, the arbitrators shall put the proceedings in abeyance until such period as requested by the parties. Where the proceedings are put in abeyance or terminated on account of mutual settlement of dispute by the parties, the fees payable to the arbitrators shall be determined as under:

- (i) 20 % of the fees if the claimant has not submitted statement of claim.
- (ii) 40 % of the fees if the pleadings are complete.
- (iii) 60% of the fees if the hearing has commenced.
- (iv) 80% of the fees if the hearing is concluded but the award is yet to be passed

15. Each party shall pay its share of arbitrator's fees in stages as under:

- (i) 20% of the fees on filing of reply to the statement of claims.
- (ii) 40% of the fees on completion of pleadings.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 161 of 271

(iii) 20% of the fees on conclusion of the final hearing.

(iv) 20% at the time when award is given to the parties.

16. Each party shall be responsible to make arrangements for the travel and stay etc of the arbitrator appointed by it. Claimant shall also be responsible for making arrangements for travel / stay arrangements for the Presiding Arbitrator and the expenses incurred shall be shared equally by the parties. In case of sole arbitrator, MRPL shall make all necessary arrangements for his travel stay and the expenses incurred shall be shared equally by the parties.

17. The Arbitration shall be held at the place from where the contract has been awarded. However, parties to the contract can agree for a different place for the convenience of all concerned.

18. The Arbitrator(s) shall give reasoned and speaking award and it shall be final and binding on the parties.

19. Subject to aforesaid, provisions of the Arbitration and Conciliation Act, 1996 and any statutory modification or re-enactment thereof shall apply to the arbitration proceedings under this clause.

20. Insofar as practicable, the Parties shall continue to implement the terms of the Contract notwithstanding the initiation of Arbitration proceedings.



9.0.2.1 **Arbitration Clause applicable in case of Purchase Orders/ Contracts on Public Sector Enterprises**

Ref: No.4 (1) /2011-DPE (PMA)-GL, Government of India, Department of Public Enterprises. Dated 12th June 2013.

In the event of any dispute or difference relating to, arising from or connected with the CONTRACT, such dispute or difference shall be referred by either party to the arbitration of one of the Arbitrators in the Department of Public Enterprises, to be nominated by the Secretary to the Government of India, In charge of the Bureau of Public Enterprises.

The Arbitration and Conciliation Act 1996 shall not be applicable to the Arbitration under this clause.

The award of the Arbitrator shall be binding upon the parties to the dispute, provided however; any party aggrieved by such award may make a further reference for setting aside or revision of the award to the

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 162 of 271



Law Secretary, Deptt. of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference, the dispute shall be decided by the Law Secretary or the Special Secretary / Additional Secretary, whose decision shall bind the parties finally and conclusively.

The parties in the dispute will share equally the cost of the arbitration as intimated by the Arbitrator.

9.0.3.0 **JURISDICTION:**

Contract / Purchase Order, including all matters connected with this Contract / Purchase Order shall be governed by the Indian law both substantive and procedural, for the time being in force and shall be subject to the exclusive jurisdiction of Indian Courts at Mangaluru.

Foreign companies, operating in India or entering into Joint ventures in India, shall have to obey the law of the land and there shall be no compromise or excuse for the ignorance of the Indian legal system in any way.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 163 of 271

Annexure D to Clause 9.0.1.0 - Conciliation

Declaration of independence and impartiality by OEC Member

To,

1. **MRPL**

2. **Contractor**.....

Subject: Declaration of independence and impartiality by OEC Member in the dispute between MRPL
.....And.....under Contract No.....

I, the undersigned, hereby accept to act as Member of the Expert Committee and conciliate in the disputes under reference between the parties above named.

I confirm that I am aware of the requirements of law particularly of the Arbitration and Conciliation Act, 1996, to act as a conciliator. I am able to act as conciliator and I am available to act as Member of the Expert Committee. I hereby declare that I am independent of each of the parties and have no ownership interest in any part of the contract under reference or any financial interest in the said contract. I have no interest in the outcome of the dispute or its settlement.

I hereby affirm that I shall act with honesty, integrity, diligence, and will remain independent and impartial while discharging my duties as conciliator/OEC Member. I will disclose any interest or relationship with the parties or the subject matter which might compromise in any manner my ability or capacity to remain impartial and independent in the matter.

The fees and other facilities offered to me and the terms and conditions contained in the appoint letter and guidelines issued by MRPL are acceptable to me. I will not demand for enhancement of the same.

(Signature)



Name:

Address:

Phone:

Email:

Date:

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 164 of 271

Annexure E to Clause 9.0.1.0 - Conciliation

STATEMENT OF CLAIM(S)/COUNTERCLAIM(S)

1. Chronology of the dispute
2. Brief of the contract
3. Brief history of the dispute:
4. Issues:
5. Details of claim(s)/Counter Claim(s):

SI NO	Description of claim(s)/ Counter Claim	Amount (in INR/USD)	RelavantContract Clause

6. Basis/Ground of claim(s)/counter claim(s) (along with relevant clause of contract). Statement of claims may kindly be restricted to maximum limit of 20 pages. Relevant documents may be compiled and submitted along with the statement of claims. The statement of claims is to be submitted to all OEC members, to other party and to the office of Head Legal Services-MRPL, by post as well as mail.



Authorized Signatory of the Claimant

Place:

Contact No.:

Date

Email:

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 165 of 271

SECTION 10

SAFETY CODE AND REGULATIONS

10.0.0.0 GENERAL

10.0.1.0 CONTRACTOR shall adhere to safe construction practices and guard against hazardous and unsafe working conditions and shall comply with the OWNER's safety rules as set forth herein.

10.0.2.0 In addition, the contractor shall adhere to and be bound by the "Safety Practices During Construction" (OISD-GDN-192) formulated by the Oil Industry Safety Directorate from time to time. A copy of the existing "Safety Practices During Construction" as presently formulated by the Oil Industry Safety Directorate is annexed hereto as Appendix III.



10.0.3.0 In the event of any irreconcilable conflict between the "Safety Practices during Construction" prescribed by the Oil Industry Safety Directorate and the Safety provisions set out herein, the "Safety Practices During Construction" established by the Oil Industry Safety Directorate shall prevail to the extent of the irreconcilable conflict.

10.0.4.0 In this Section any reference to the Refinery shall wherever applicable include any existing Plant, Unit or Installation (other than a Refinery) in or adjacent to which the job site or any part thereof is located.

10.1.0.0 FIRST AID AND INDUSTRIAL INJURIES:

10.1.1.0 The CONTRACTOR shall maintain first aid facilities for its employees and those of its sub-contractors.

10.1.2.0 The CONTRACTOR shall make outside arrangements for ambulance service and for the treatment of industrial injuries. Names of those providing these services shall be furnished to Engineer-in-Charge prior to start of construction, and their telephone numbers shall be prominently posted in CONTRACTOR's field office.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev		00	Page	166	of	271

10.1.3.0 All critical industrial injuries shall be reported promptly to Engineer-in-charge, and a copy of CONTRACTOR's report covering each personal injury requiring the attention of a physician shall be furnished to the OWNER.

10.2.0.0 **GENERAL RULES:**

10.2.1.0 Carrying/Striking of matches, lighters inside the Refinery area, smoking within the refinery, tank farm, or dock limits are strictly prohibited. Violators of the "No Smoking" rules shall be discharged immediately. Within the operation area, no hot work shall be permitted without valid gas safety/fire permits. The CONTRACTOR shall be held liable and responsible for all lapses of his sub-contractors/employees in this regard.



10.3.0.0 **CONTRACTOR'S BARRICADES**

10.3.1.0 The CONTRACTOR shall erect and maintain barricades required in connection with his operation to guard or protect:

- (i) Excavation
- (ii) Hoisting areas
- (iii) Areas adjudged hazardous by the CONTRACTOR's or OWNER's inspectors.
- (iv) OWNER's existing property liable to damage by CONTRACTOR's operations, in the opinion of Engineer-in-Charge.
- (v) Railroad unloading spots.



10.3.2.0 The CONTRACTOR's employees and those of its sub-contractors shall become acquainted with the OWNER's barricading practices and shall respect the provisions thereof.

10.3.3.0 Barricades and hazardous areas adjacent to but not located in normal routes of travel shall be marked by red flasher lanterns at nights.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 167 of 271

10.4.0.0 **SCAFFOLDING:**

- 10.4.1.0 Suitable scaffolding shall be provided for workmen for all works that cannot safely be done from the ground or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra person shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1 in 4 (1 horizontal 4 vertical).
- 10.4.2.0 Scaffolding or staging than 12' above the ground floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise rewinded at least 3', high above the floor or platform of scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- 10.4.3.0 Working platform, gangways and stairways should be so constructed that they should not sag unduly or unequally and if the height of the platform or the gangway or the stairway is more than 12', above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in Clause 10.4.2.0 above.
- 10.4.4.0 Every opening in the floor of a building or in a working platform shall be provided with suitable fencing or railing whose minimum height shall be 3 feet to prevent the fall of persons or materials by providing.
- 10.4.5.0 Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 30' in length while the width between the side rails in rung ladder shall in no case be less than 11.5" for ladder up to and including 10' in length. For longer ladders this width would be increased at least 1/4" for each additional foot of length. Uniform step spacing shall not exceed 12". Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the site of work shall be so stacked or placed as to cause danger or inconvenience to any person

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
		Rev	00	Page	168	of 271

or public. The CONTRACTOR shall also provide all necessary fencing and lights to protect the workers and staff from accidents, and shall be bound to bear the expenses of defense of every suit, action or other proceedings, that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay damages and costs which may be awarded in any such suit or action or proceedings to such person, or which may with the consent of the CONTRACTOR be paid to compromise any claim by any person.

10.5.0.0 **EXCAVATION AND TRENCHING:**

10.5.1.0 All trenches 4' or more in depth, shall at all times be supplied with at least one ladder for each 100' length or fraction thereof.



10.5.2.0 The Ladder shall be extended from bottom of the trench to at least 3' 3" above the surface of the ground. The site of the trenches which is 5' or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger or sides to collapse. The excavated material shall not be placed within 5' of the edge of the trench or half of trench depth whichever is more. Cutting shall be done from top to bottom. Under no circumstances shall undermining or undercutting be done.

10.6.0.0 **DEMOLITION**

10.6.1.0 Before any demolition work is commenced and also during the process of such work all roads and open area adjacent to the work site shall either be closed or suitably protected.



10.6.2.0 No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.

10.6.3.0 All practical steps shall be taken to prevent danger to persons employed, from risk of fire or explosion or flooding. No floor, or other part of the building shall be so overloaded with debris or material as to render it unsafe.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
		Rev	00	Page	169	of 271

10.7.0.0 SAFETY EQUIPMENT

- 10.7.1.0 All necessary personal safety equipment as considered adequate by the Engineer-in-charge should be made available for the use to the persons employed on the site and maintained in a condition suitable for immediate use, and the CONTRACTOR should take adequate steps to ensure proper use of equipment by those concerned.
- 10.7.2.0 Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective gloves.
- 10.7.3.0 Those engaged in white washing and mixing or stacking of cement bags or any materials which are injurious to the eyes shall be provided with protective goggles.
- 10.7.4.0 Those engaged in welding and cutting works shall be provided with protective face and eye shields, and gloves, etc.
- 10.7.5.0 Stonebreakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- 10.7.6.0 When workers are employed in sewers and manholes, which are in use, the CONTRACTOR shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers and allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident.
- 10.7.7.0 The CONTRACTOR shall not employ men below the age of 18 years and women on the work of painting or products containing lead in any form. Wherever men above the age of 18 years are employed on the work of lead painting, the following precautions should be taken:
- 10.7.7.1 No paint containing lead product shall be used except in the form of paste or readymade paint.
- 10.7.7.2 Suitable face masks shall be supplied for use by the workers when paint is applied in the form of spray or if a surface having lead paint dry rubbed and scrapped.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev		00	Page	170	of	271

10.7.7.3 Overalls shall be supplied by the CONTRACTOR to workmen and adequate facilities shall be provided to enable the working painters to wash during and on cessation of work

10.8.0.0 **RISKY PLACES:**

10.8.1.0 When the work is done near any place where there is a risk of drowning, all necessary safety equipments shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

10.9.0.0 **HOISTING EQUIPMENT:**



10.9.1.0 Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:

10.9.1.1 These shall be of good mechanical construction, sound materials and adequate strength and free from patent defect and shall be kept in good condition and in good working order.

10.9.1.2 Every rope use in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength and free from patent defects.

10.9.1.3 Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to the operator.

10.9.1.4 In case of every hoisting machine and of every chain, ring, hook, shackle, swivel and pulley block used in hoisting or lowering or as a means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev		00	Page	171	of	271

10.9.1.5 In case of departmental machines, the safe working load shall be notified by the Engineer-in-Charge. As regards CONTRACTOR's machines, the CONTRACTOR shall notify the safe working load of the machine to the Engineer-in-charge, whenever he brings any machinery to site of work and get it verified by the Engineer-in-charge concerned.

10.10.0.0 ELECTRICAL EQUIPMENT

10.10.1.0 Motor, Gearing, Transmission, wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum, the risk of accidental descent of the load. Adequate precautions shall be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, insulating mats, wearing apparel, such as gloves and boots as may be necessary shall be provided. The workers shall not wear any rings, watches and carry keys or other material, which are goods conductors of electricity.



10.11.0.0 MAINTENANCE OF SAFETY DEVICES:

10.11.1.0 All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near the place of work.

10.12.0.0 DISPLAY OF SAFETY INSTRUCTIONS:

10.12.1.0 These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at the job site. The person responsible for compliance of the safety code shall be named therein by the CONTRACTOR.

10.13.0.0 ENFORCEMENT OF SAFETY REGULATIONS:

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
		Rev	00	Page	172	of	271

10.13.1.0 To ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by the CONTRACTOR shall be open to inspection by the Welfare Officer, Engineer-in-charge or Safety Engineer of the OWNER or their representatives.

10.14.0.0 **NO EXEMPTION**

10.14.1.0 Notwithstanding anything provided in Clauses 10.0.0.0 to 10.13.0.0, the contractor shall be bound by the provisions of any other Act or rules in force in the Republic of India, with a view that the provisions hereof shall be in addition thereto and not in lieu thereof.

10.14.2.0 The works throughout including any temporary works shall be carried on in such a manner as not to interfere in any way whatsoever with the traffic on any roads or footpaths at the site or in the vicinity thereof or with any existing works whether the property of the OWNER or of a third party.



10.14.3.0 In addition to the above, the CONTRACTOR shall abide by the safety code provision as per CPWD safety code framed from time to time.

10.14.4.0 The CONTRACTOR shall also arrange to obtain valid gate passes for his men and equipment from the concerned authorities of the Refinery/Project.

10.14.5.0 No man/material/equipment not covered by valid passes shall be permitted within the Refinery/project area and no material/equipment shall be permitted to be taken out of the Refinery/Project area, unless authorized by the concerned authorities of the Refinery/ Project. The CONTRACTOR shall be held fully responsible for any or all delays/losses/damages that may result consequent on any lapse(s) that may occur on the part of his sub-contractors/employees in this regard.

10.15.0.0 **ENTRY PASSES**

10.15.1.0 The CONTRACTOR has to apply for photo Entry Passes for his workers and staff and the workers and staff of his sub-contractors in a prescribed proforma provided by the OWNER. The

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 173 of 271

Application shall be accompanied by a Statement and Declaration in the form prescribed by the OWNER signed by the employees for whom the Entry Passes are sought and confirmed by the employer. The photo Entry Passes shall be issued by the OWNER for a maximum period of 3 (three) months, which will be extendable upon the CONTRACTOR's application. As a special case, Temporary Passes may be issued for a maximum period of 7(seven) days.

10.15.2.0 Unutilized/expired Entry Passes/Identity cards shall have to be immediately surrendered to the OWNER.



10.15.3.0 In case of the loss of an Entry Pass/Identity card, the CONTRACTOR shall immediately lodge an FIR with the local police station and inform the Engineer-in-charge of the loss and shall pay a charge of Rs.150/- against Entry Pass/Identity card lost. The CONTRACTOR is required to keep an account and track of all the entry passes issued and surrendered.

Gate Passes/Identity Cards issued by the security section should always be displayed by the CONTRACTOR's or Sub-Contractor's employees while working inside the Plant.

10.16.0.0 **GATE PASSES**

10.16.1.0 To bring materials, equipment tools and tackle and other things inside the Refinery for construction work, the CONTRACTOR has to produce proper documents of title or authority relative thereto for inspection by the OWNER'S personnel at the gate. These shall be checked thoroughly by the OWNER's personnel at the Gate and recorded in their register before permitting the same to be brought inside the Refinery limits. It is the CONTRACTOR's responsibility to see that the entry is duly recorded in the Register with proper Entry number, date and signature of OWNER's authorized representative and that the supporting challans/documents are stamped and signed by the OWNER's personnel at the gate at the time of entry.

10.16.2.0 Those materials which need repairing/replacement as per site condition will be allowed to move beyond Owner's battery limit only after exchange of good equivalent material.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 174 of 271

10.17.0.0 **WORK PERMIT**



10.17.1.0 In order to keep the OWNER informed of the various jobs being undertaken within the Refinery and to enable the OWNER to regulate the same to ensure the observance of safety regulations relative thereto, when Work is to be carried out in hazardous areas, a Hot Work Permit is to be obtained by the CONTRACTOR from the OWNER before start of Work on jobs which are capable of generating a flame, spark or heat e.g., gas cutting, grinding, welding, use of any electrical, diesel, petrol or battery operated prime mover, machine, tool or equipment or generator set, mixer machine, drilling machine, pump, crane, fork lift or hand truck or trailer or chipping or breaking of rocks or concrete or hacksaw cutting and drilling. Similarly the CONTRACTOR shall obtain a Cold Work Permit from the OWNER for jobs which do not come under the category of hot work and in respect of which there is no risk of fire e.g., transportation, backfilling of ordinary soil by manual process, pile testing, hydrotesting, shuttering, fixing of reinforcement, hand mixed concreting, plastering and brickwork.

10.17.2.0 Depending on the nature of the Work and the equipments and tools involved, the CONTRACTOR shall apply for Cold/Hot Permit in a prescribed format at least 7(seven) days before the Work is planned to start. No Work Permit shall be issued by the OWNER unless proper arrangement is made by the CONTRACTOR to ensure safe performance of the Work inside the Refinery limit. Job-wise and area-wise permits shall be issued to the CONTRACTOR and for work against each permit the CONTRACTOR shall post at site at least one Construction Supervisor and one safety supervisor of required level to ensure the due observance of all safety requirements.

10.18.0.0 **VEHICLE PERMIT**

10.18.1.0 Permits are to be obtained separately for entry/use of vehicles/trailers and other mobile equipment inside the Refinery limits. All the Contractor's vehicles should have a valid 'PUC Certificate'. The following requirements are to be met to obtain vehicle permit:

- Vehicle/Equipment shall be in good condition and fitted with spark arrestor.
- Vehicles should carry, wherever applicable, valid Road Tax Certificate and Fitness Certificate from the Competent authority and insurance policy.
- Valid operating/driving license of driver/operator.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
Rev 00 Page 175 of 271							

10.18.2.0 **VALIDITY OF THE PERMIT**

- (i) Any Hot or Cold Work Permit issued is valid only for 24 hours.
- (ii) Thereafter the validity of the permit must be renewed for each shift (morning & evening) by the shift in-charge/shift representative of the OWNER.
- (iii) The permit may be renewed for a maximum period of one month from the date of issue and if extension is required. the CONTRACTOR has to apply for a fresh permit.
- (iv) A permit is not valid for Work on holidays unless special permission of the OWNER is obtained for the purpose.

10.19.0.0 **SPECIAL SAFETY REGULATIONS**

10.19.1.0 **REGARDING WORK PRMIT**



10.19.1.1 The Work shall be carried out inside the Refinery limits to conform to the Owner's safety section and in accordance with any instructions of the Engineer-in-charge issued from time to time. Sometimes working hours may be drastically reduced or increased to satisfy safety requirements and the CONTRACTOR shall meet these requirements without any time and cost implications. No claim for idling of machinery, plant, manpower or equipment shall be entertained for reason of delay in the issue of a Work Permit and it shall be the exclusive responsibility of the CONTRACTOR to apply for, pursue and obtain the requisite Work Permit(s) well in advance of the relative requirement(s).

10.19.1.2 The CONTRACTOR shall abide by all safety regulations of the Plant and ensure that safety equipment for specific jobs as stipulated in the Factories Act Safety Handbook issued to all employees during the execution of Work, failing which all the works at site shall be suspended.

10.19.1.3 HSE specifications, OISD and other requirements shall be followed in totality.



10.19.2.0 **REGARDING HOT WORK**

10.19.2.1 When doing hot work inside the plant, the CONTRACTOR must ensure that the fire hose is hooked up with the fire water system and extended to the work site. In addition, at least one

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
		Rev	00	Page	176	of 271

fire extinguisher must be kept near the working spot. The area around and below the place of hot work must be adequately protected from sparks and hot metals by a booth made of asbestos cloth/sheet and by wetting with water. In addition, depending on the location and hazard of the work, the CONTRACTOR shall at its own cost arrange sufficient number of additional fire hoses and such fire fighting equipment of approved quality as may be required to carry out hot job inside the plant.

- 10.19.2.2 Welding & electrical cable should be of approved quality and no jointing or loose connection shall be permitted
- 10.19.2.3 At the end of the working day the CONTRACTOR must inform the electrical section to switch off power at sub-station end.
- 10.19.2.4 The CONTRACTOR must provide cotton cloths, safety shoes, safety helmet, safety belt, and hand gloves of approved quality to his workers to meet the safety requirement of various jobs to be carried out inside the plant.
- 10.19.3.0 **REGARDING USE OF VEHICLE**
- 10.19.3.1 Vehicle must not ply on any road within the Refinery limit at a speed exceeding 20 KM/hr.
- 10.19.3.2 Mobile cranes, loaded trucks and trailers must not exceed the speed limit of 15 km/hr inside the plant.
- 10.19.3.3 No crane is allowed to move inside the plant with load.
- 10.19.3.4 No vehicle is allowed to be parked inside the plant.
- 10.19.3.5 Limited number of vehicles will be permitted inside the battery area due to security reasons.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 177 of 271

10.20.0.0 DEDUCTIONS FROM LUMP SUM PRICE



10.20.1.0 In addition to price reduction and deductions as provided for, the OWNER shall be entitled to deduct from any payment due to the CONTRACTOR, any amount claimed by the OWNER under the Contract and any costs, damages or expenses for which the CONTRACTOR is liable under the Contract.

10.20.2.0 In addition to price reduction and deductions as provided for in the Contract, the OWNER shall be entitled to deduct from any payment due to the CONTRACTOR, for violations of safety provisions, as per details given below:

- (i) Violation of applicable safety, health and environment related norm, a price reduction of Rs.5000/- per occasion.
- (ii) Violation as above resulting in:
 - a) Any physical injury – a price reduction of 0.5% of the lump sum Price (maximum of Rs.2,00,000) per injury in addition to Rs. 5,000/-.
 - b) Fatal accident – a price reduction of 1% of the Lump sum Price (maximum of Rs.10,00,000) per fatality in addition to Rs. 5,000/-.

10.21.0.0 SPECIAL CONTRIBUTIONS



10.21.1.0 With a view to ensure the formulation and enforcement of a safety code by the CONTRACTOR, it is stipulated that in the event of any act, omission or accident at the job site which results in the death of a person, the CONTRACTOR shall contribute a sum of Rs.5,00,000/- (Rupees five lakh only), or which results in the permanent disablement of a person, the CONTRACTOR shall contribute a sum of Rs.3,00,000 (rupees three lakh only) in addition to any other sum(s) required to be paid by the CONTRACTOR under any law or other contract, to a welfare fund to be established by the OWNER for , inter alia, such contributions, and until such fund is established, to a charity nominated by the OWNER.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 178 of 271

APPENDICES

The following documents listed in Appendices hereto shall be deemed to form part of these General Conditions of LSTK Contracts:



- (i) CONTRACTOR'S LABOUR REGULATIONS (APPENDIX-1)
- (ii) MODEL RULES FOR LABOUR WELFARE (APPENDIX-II)
- (iii) SAFETY PRACTICES DURING CONSTRUCTION (APPENDIX –III)
- (iv) FOR OF CONTRACT (APPENDIX-IV)
- (v) FOR OF BANK GUARANTEE TO COVER EARNEST MONEY DEPOSIT (EMD) (APPENDIX-V)
- (vi) FOR OF BANK GUARANTEE TO COVER LUMP SUM ADVANCE (MOBILIZATION) (APPENDIX-VI)
- (vii) FOR OF BANK GUARANTEE TO COVER SECURITY DEPOSIT (APPENDIX-VII)
- (viii) FORM OF TENDER (APPENDIX- VIII)

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 179 of 271



APPENDIX-1

CONTRACTORS' LABOUR REGULATIONS

1. These regulations may be called Model Contractors Labour Regulations.
2. **Definition:** In these regulations, unless otherwise expressed or indicated, the following words and expressions shall have the meaning hereby assigned to them:
 - (a) "Labour" mean workers employed by a contractor, directly or indirectly through a sub-contractor, or by an agent on his behalf to do any skilled, semi-skilled or unskilled manual, supervisory, technical or clerical work.
 - (b) "Fair wage" means wages, which shall include wages for weekly day of rest and other allowances, whether for time or piece work, after taking into consideration prevailing market rates for similar employments in the neighborhood but shall not be less than the minimum rates of wages fixed under the payment of Minimum Wages Act.
 - (c) "Wages" shall have the same meaning as defined in the Payment of Wages Act.
 - (d) "Contractor" for the purpose of these regulations shall include an agent or sub-contractor employing labour on the work taken on the contract.
 - (e) "Inspecting Officer" means any Labour Enforcement Officer or Assistant Labour Commissioner of the Chief Labour Commissioner's Organization.
 - (f) "Prescribed" means prescribed under the Contract Labour (Regulation and Abolition) Act 1970 and Rules framed there under.
3. **Notice of commencement:** The Contractor shall within SEVEN days of commencement of the work, furnish in writing, to Inspecting Officer of the area concerned the following information:
 - (a) Name and Situation of the work.
 - (b) Contractor's name and address.
 - (c) Particulars of the Department for which the work is undertaken.
 - (d) Name and address of sub-contractors as and when they are appointed.
 - (e) Commencement and probable duration of the work.
 - (f) Number of workers employed and likely to be employed.
 - (g) "Fair wages" for different categories of workers.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 180 of 271

- (i) Number of hours of work to constitute a normal working day: The number of hours, which shall constitute a normal working day for an adult shall be NINE hours. The working day of an adult worker shall be so arranged that it is inclusive of intervals, if any, for rest, it shall not spread over more than twelve hours on any day. When a worker is made to work for more than NINE hours on any day or for more than FORTY-EIGHT hours in a week, he shall, in respect of overtime work, be paid wages at double the ordinary rate of wages.
- (ii) Weekly day of rest: Every worker shall be given a weekly day of rest which shall normally be a Sunday unless otherwise fixed and notified at least TEN days in advance. A worker shall not be required or allowed to work on the weekly rest day unless he has or will have a substituted rest day, on one of the five days immediately before or after the rest day, provided that no substitution shall be made which will result in the worker working for more than ten days consecutively without a rest day for a whole day.
4. Where, in accordance with the foregoing provisions, a worker works on the rest day and has been given a substituted rest day, he shall be paid wages for the work done on the weekly rest day at the overtime rate of wages.
(NOTE: The expression “ordinary rate of wages” means the fair wage the worker is entitled to.)
5. **Display of notice regarding Wages, Weekly day of Rest etc.:** The contractor shall, before the commencement of his work on the Contract, display and correctly maintain and continue to display and correctly maintain in a clean and legible condition in conspicuous places on the works, notice in English and in the local Indian language, spoken by majority of workers, giving the rate or fair wages, the hours of work for which such wages are payable, the weekly rest days workers are entitled to and name and address of the Inspecting Officer. The contractor shall send a copy each of such notices to the Inspecting Officers.
- 6.1 **Fixation of Wage Periods:** The Contractor shall fix wage periods in respect of which wages shall be payable. No wage period shall normally exceed one month.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
		Rev	00	Page	181	of 271

6.2 Payment of wages:

- (i) Wages due to every worker shall be paid to him direct. All wages shall be paid in current coins or currency or in both. The wages shall be paid without deductions of any kind except those specified by Central Government by General Order or Special Order in this behalf or permissible under the Payment of Wages Act.
- (ii) Wages of every worker employed as contract labour in an establishment or by Contractor are less than one thousand, such workers shall be paid within SEVEN days from the end of the wage period; and before the expiry of the 10th day from the end of the wage period accordingly as the number of workers exceed 1,000.
- (iii) When employment of any worker is terminated by or on behalf of the Contractor, the wages earned by him shall be paid before expiry of the second working day from the date on which his employment is terminated.
- (iv) All payment of wages shall be made at the work site on a working day except when the work is completed before expiry of the wage period, in which case final payment shall be made at the work site within 48 hours of the last working day and during normal time.

(NOTE: The term “working day” means a day on which labour is employed, and the work is in progress)

7. **Register for Workmen:** A register of workmen shall be maintained in the prescribed form and kept at the work site or as near to it as possible, and the relevant particulars of every workmen shall be entered therein within THREE days of his employment.
8. **Employment Card:** The Contractor shall issue an employment card in the Form appended to these regulations to each worker on the day of work or entry into his employment. If a worker already has any such card with him issued by the previous employer, the Contractor shall merely endorse that Employment Card with relevant entries. The Contractor may, alternatively, issue an attendance-cum-wage slip to each worker in the form appended. This card shall be valid for a wage period. The Contractor shall mark attendance on the cards twice each day and again after the rest interval, before

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page



he actually starts the work. On termination of employment, the Employment card shall again be endorsed by the Contractor, service certificate issued and returned to the Worker.

9. Register of Wages etc.:



- (i) A register of Wages-cum-Muster Roll in the prescribed form shall be maintained and kept at the work site or as near to it as possible.
- (ii) A wage slip in the prescribed Form shall be issued to every worker employed by the Contractor at least a day prior to disbursement of wages.

10. Fines and deductions, which may be made from wages:



- (i) Wages of a worker shall be paid to him without any deduction of any kind except the following:
 - (a) Fines;
 - (b) Deduction for absence from duty, i.e. from the place of his employment he is required to work. The amount of deductions shall be in proportion to the period for which he was absent;
 - (c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money which he is required to account for, where such damage or loss is directly attributable to his neglect or default;
 - (d) Deductions for recovery of advances or for adjustment of overpayment of wages. Advance granted shall be entered in a register; and
 - (e) Any other deduction, which the Owner may from time to time allow.
- (ii) No fines shall be imposed on any worker say in respect of such acts and omissions on his part as have been approved by the Chief Labour Commissioner or Competent Authority.
- (iii) No fine shall be imposed on a worker and no deductions for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- (iv) The total amount of fines which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the wages payable to him in respect of that wage period.
- (v) No fine imposed on a worker shall be recovered from him in installments, or after expiry of sixty days from the date on which it was imposed. Every fine shall be deemed to have been imposed on the day of the act or commission in respect of which it was imposed.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 183 of 271

- (vi) The contractor shall maintain both in English and the local Indian language, a list approved by the Chief Labour Commissioner or Competent Authority clearly stating the acts and commissions for which penalty or fine may be imposed on a workman and display it in good condition in a conspicuous place on the work site.
- (vii) The Contractor shall maintain a register of fines and the register of deductions for damage or loss in the prescribed Forms which should be kept at the place of work.
- (viii) The Contractor shall display in a conspicuous place of work the list of acts and omissions for which the fines can be imposed. They are as under:
1. Willful insubordination or disobedience, whether alone or in combination with other.
 2. Theft, fraud or dishonest in connection with the Contractors beside a business or property of Owner.
 3. Taking or giving bribes or any illegal gratification.
 4. Habitual late attendance.
 5. Drunkenness, fighting, riotous or disorderly or indifferent behavior.
 6. Habitual negligence.
 7. Smoking near or around the area where combustible or other material are locked.
 8. Habitual indiscipline.
 9. Causing damage to work in the progress or to property of the Owner or of the Contractor.
 10. Sleeping on duty.
 11. Malingering or slowing down work.
 12. Giving of false information regarding name, age, father's name etc.
 13. Habitual loss of wage cards supplied by the employers.
 14. Unauthorized use of employer's property of manufacture or making of unauthorized articles at the work place.
 15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the Owner and for which the Contractor is compelled to undertake rectification.
 16. Making false complaints and/or misleading statements.
 17. Engaging trade within the premises of the establishments.
 18. Any unauthorized divulgence of business affairs of the employers.
 19. Collection or canvassing for the collection of money within the premises of an establishment unless authorized by the employer.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 184 of 271

20. Holding meeting inside the premises without previous sanction of the employers.
 21. Threatening or intimidating any workmen or employer during the working hours within the premises.
 22. Non-observance of Safety norms/practices applicable to the Worksite.
11. **Register of Accidents:** The Contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:
- (a) Full particulars of the labourers who met with accident.
 - (b) Rate of wages.
 - (c) Sex
 - (d) Age
 - (e) Nature of accident and cause of accident
 - (f) Time and date of accident
 - (g) Date and time when admitted in hospital
 - (h) Date of discharge from the hospital
 - (i) Period of treatment and result of treatment
 - (j) Percentage of loss of earning capacity and disability as assessed by Medical Officer.
 - (k) Claim required to be paid under Workmen's Compensation Act.
 - (l) Date of payment of compensation
 - (m) Amount paid with details of the person to whom the same was paid.
 - (n) Authority by whom the compensation was assessed.
 - (o) Remarks.
12. **Preservation of Registers:** The Register of Workmen and the Register of wages-cum-Muster roll required to be maintained under these Regulation shall be preserved for 3 years after the date of which the last entry is made therein.
13. **Enforcement:** The Inspecting Officer shall either, on his own motion or on a complaint received by him, carryout investigations and send a report to the Engineer-in-charge specifying the amounts representing Workers' dues and amount of penalty to be imposed on the Contractor for breach of these Regulations, that have to be recovered from the Contractor, indicating full details of the recoveries proposed and the

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 185 of 271



reasons therefor. It shall be obligatory on the part of the Engineer-in-charge on receipt of such a report to deduct such amounts from payments due to the Contractor.

14. **Disposal of amounts recovered from the Contractor:** The Engineer-in-charge shall arrange payment to workers concerned within FORTY-FIVE days from receipt of a report from the Inspecting Officer. In cases where there is an appeal, payment of workers dues would be arranged by the Engineer-in-charge wherever such payments arise, within THIRTY days from the date of receipt of the decision of the Regional Labour Commissioner (RLC).
15. **Appeal against decision of Inspecting Officer:** Any person aggrieved by a decision of the Inspecting Officer may appeal against such decision to the RLC concerned within THIRTY days from the date of decision, forwarding simultaneously a copy of his appeal to the Engineer-in-charge. The decision of the RLC shall be final and binding upon the Contractor and the workmen.
16. **Representation of parties:**
 - (i) A workman shall be entitled to be represented in any investigation or enquiry under these Regulations by an officer of a registered trade union of which he is a member or by an officer of a Federation of Trade Unions to which the said trade union is affiliated or where the workman is not a member of any registered trade union, by an officer of a registered trade union, connected with, or by any other workman employed in the industry in which the worker is employed.
 - (ii) A contractor shall be entitled to be represented in any investigation or enquiry under these Regulations by an officer of an Association of Contractors of which he is a member or by an officer of a Federation of Association of Contractors to which the said association is affiliated or where the Contractor is not a member of any Association of Contractors, by an officer of association of employers, connected with, or by any other employer engaged in the industry in which the Contractor is engaged.
 - (iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these Regulations.
17. **Maternity benefits for female employees:** The Contractor shall extend the leave, pay and other benefits as admissible to the female employees. No maternity benefits shall be admissible to a female worker unless she has been employed for a total period of not less than 6 months immediately preceding

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723					
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU								
				Rev	00	Page	186	of	271

the date on which she proceeds on leave. The Contractor shall maintain a register of maternity benefits in prescribed form, and shall be kept in all places of work.

18. **Inspection of Books and other documents:** The Contractor shall allow inspection of the Registers and other documents prescribed under these Regulations by Inspecting Officers and the Engineer-in-charge or his authorized representative at any time and by the worker or his agent on receipt of due notice at the convenient time.
19. **Submission of Returns:** The Contractor shall submit periodical returns as may be specified from time to time.
20. **Amendments:** The Owner may, from time to time, add to or amend these Regulations, and issue such directions as it may consider necessary for the proper implementation of these regulations or for the purpose of removing any difficulty which may arise in the administration thereof.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

APPENDIX – II



MODEL RULES FOR LABOUR WELFARE

1. Definitions

- (a) “Workplace” means a place at which, on an average, twenty or more workers are employed on any day during which the Contract work is in progress.
- (b) “Large Workplace” means a place at which, on an average 500 or more workers are employed.

2. First Aid



- (i) At every workplace, there shall be provided and maintained in a readily accessible place First Aid appliances including an adequate supply of sterilized dressings and sterilized cotton wool as prescribed in the Factory Rules of the State in which the work is carried on. The appliances shall be kept in good order and in large work places, they shall be placed under the charge of a responsible person who shall be trained in First Aid treatment and who shall also be readily available during working hours. The first aid boxes at the rate of not less than one box for 150 contract labour or part thereof shall be ordinarily employed. Adequate arrangement shall be made for immediate recoupment of items/equipment when necessary.
- (ii) At large work places, where hospital facilities are not available within easy distance of the Works, First Aid posts shall be established and be run by a trained compounder.
Where large work places are remotely situated far away from regular hospitals, an indoor ward shall be provided with one bed for every 250 employees.
Where large work places are situated in cities, towns or in their suburbs and no beds are considered necessary owing to proximity of city or town hospitals, suitable transport shall be provided to facilitate removal of urgent cases to these hospitals. At other workplaces, some conveyance shall be kept readily available to take injured person or persons suddenly taken seriously ill to the nearest hospital.
At large work places, there shall be provided and maintained an ambulance room of the prescribed sizes, containing the prescribed equipment and in the charge of such medical and nursing staff as may be prescribed. For this purpose, the relevant provisions of the Factory Rules of the State Government area where the work is carried on may be taken as the prescribed standard.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

3. **Accommodation for labour:** The Contractor shall during the progress of the Works, provide, erect and maintain necessary temporary living accommodation and ancillary facilities for labour at his own expense and to standard and scales as approved by the Engineer-in-charge. However, following specifications shall be followed:

- (a) (i) The minimum height of each hut at the eaves level shall be 2.10m (7ft) and the floor area to be provided will be at the rate of 2.7 sq.m (30 sq.ft.) for each member of the worker's family staying with the labourer.
- (ii) The Contractor shall in addition construct suitable cooking places having a minimum area of 1.80mX1.50m (6'x5') adjacent to the hut for each family.
- (iii) The Contractor shall also construct temporary latrines and urinals for the use of the labourers, each on the scale of not less than four per each one hundred of the total strength. Separate latrines and urinals shall be provided for women.
- (iv) The Contractor shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These washing and bathing places shall be suitably screened.
- (b) (i) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local material as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobi on both sides. The floor may be katcha, but plastered with mud gobi and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the Contractor shall ensure that throughout the period of their occupation, the roofs remain water-tight.
- (ii) The Contractor shall provide each hut with proper ventilation.
- (iii) All doors, windows and ventilators shall be provided with suitable leaves for security purposes.
- (v) There shall be kept an open space at least 7.2 m (8 yards) between the rows of huts, which may be reduced to 6m (20ft) according to the availability of site with the approval of the Engineer-in-charge. Back to back construction will be allowed.

4. **Drinking Water:** In every workplace, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
Where drinking water is obtained from an intermittent public water supply, each workplace shall be provided with storage where drinking water should be stored.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

Every water supply storage shall be at a distance of not less than 15 meters from any latrine, drain or other source or pollution. Where water has to be drawn from an existing well, which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn for drinking. All such wells shall be entirely closed in and be provided with a trap door, which shall be dust and waterproof.

A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. **Washing and Bathing Places:** Adequate washing and bathing places shall be provided separately for men and women. Such places shall be kept in clean and drained conditions.

6. **Scale of accommodation in latrines and urinals:** There shall be provided within the precincts of every workplace, latrines and urinals in an accessible place and the accommodation separately for each of these, shall not be less than at the following scales:



No. of seats

- | | | | |
|-----|--|---|---|
| (a) | Where number of persons does not exceed 50 | - | 2 |
| (b) | Where number of persons exceeds 50 but does not exceed 100 | - | 3 |
| (c) | For additional persons (per 100 or part thereof) | - | 3 |



In particular cases, the Engineer-in-Charge shall have the power to increase the requirement, where necessary.

7. **Latrines and Urinals:** Except in workplaces provided with water-flushed latrines connected with a water-borne sewage systems, all latrines shall be provided with receptacles on dry earth system which shall be cleaned at least four times daily and at least twice during working hours and kept in strictly sanitary condition. Receptacles shall be tarred inside and outside at least once a year.

If women are employed, separate latrine and urinals screened from those for men and marked in the vernacular in conspicuous letters "For Women Only" shall be provided on the scale laid down in Rule 6. Those for men shall be similarly marked "For men Only". A poster showing the figure of man and a woman shall also be exhibited at the entrance to latrines for each sex. There shall be adequate supply of water close to latrines and urinals.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 190 of 271

8. **Construction of latrines:** Inside walls shall be constructed of masonry or other non-absorbent materials and shall be cement-washed inside and outside at least once a year. The dates of cement washing shall be noted in a register maintained for the purpose and kept available for inspection. Latrines shall have at least thatched roof.
9. **Disposal of excreta:** Unless otherwise arranged for by the local municipal authority, arrangement for proper disposal of excreta by incineration at the workplace shall be made by means of a suitable incinerator approved by the local medical, health and medical or cantonment authorities. Alternatively, excreta may be disposed off by putting a layer of night soils at the bottom of pucca tank prepared for the purpose and covering it with a 15 c.m. Layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn into manure).
The Contractor shall, at his own expense, carry out all instructions issued to him by the Engineer-in-charge to effect proper disposal of soil and other conservancy work in respect of Contractor's work people or employees at the site. The Contractor shall be responsible for payment of any charges which may be levied by municipal or cantonment authority for execution of such work on his behalf.
10. **Provision of shelters during rest:** At every workplace shall be provided, free of cost, for suitable sheds, two for meals and two others for rest, separately for use of men and women labour. Height of each shelter shall not be less than 3 meters from the floor level to lowest part of roof. Sheds shall be kept clean and the space provided shall be on the basis of at least 0.5 sq.m per head.
11. **Creches:** At a place at which 20 or more women workers are ordinarily employed, there shall be provided at least one but for use of children under the age of 6 years belonging to such women. Huts shall not be constructed to a standard lower than that of thatched roof, mud floor and wall with wooden planks spread over mud floor and covered with matting.
Huts shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean. There shall be two dais in attendance. Sanitary utensils shall be provided to the satisfaction of local medical, health and municipal or cantonment authorities. Use of huts shall be restricted to children, their attendants and mothers of children.
Where the number of women workers is more than 25 but less than 50, the Contractor shall provide at least one hut and one Dai to look after the children of women workers.
Size of crèche(s) shall vary according to the number of women workers employed.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 191 of 271

Creche(s) shall be properly maintained and necessary equipment like toys etc. Provided.

12. **Canteen:** A cooked food canteen on a moderate scale shall be provided for the benefit of workers wherever it is considered necessary.
13. Planning, setting and erection of the above mentioned structures shall be approved by the Engineer-in-charge and the whole of such temporary accommodation shall at all times during the progress of the works be kept tidy and in a clean and sanitary condition as per requirements of the local bodies and to the satisfaction of the Engineer-in-charge and at the Contractor's expense. The Contractor shall conform generally to sanitary requirements of local medical, health and municipal of cantonment authorities and at all time adopt such precautions as may be necessary to prevent soil pollution of the site.
On completion of the Work, the whole of such temporary structures shall be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in and effectively sealed off and the whole of site left clean and tidy to the entire satisfaction of the Engineer-in-charge and at the Contractor's expense.
14. **Anti-malarial precautions:** The Contractor shall, at his own expense, conform to all anti-malarial instructions given to him by the Engineer –in-charge, including filling up any burrow pits which may have been dug by him.
15. **Enforcement:** The Inspecting Officer mentioned in the Contractor's Labour Regulations or any other officer nominated in his behalf by the Engineer-in-charge shall report to the Engineer-in-charge all cases of failure on the part of the Contractor and or his sub- Contractors to comply with the provisions of these Rules either wholly or in part and the Engineer-in-Charge shall impose such fines and other penalties as are prescribed in the conditions.
16. **Interpretations** etc: On any question as to the application, interpretation of effect of these Rules, the decision of the Chief Labour Commissioner or Deputy Chief Labour Commissioner (Central) shall be final and binding.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page 192 of 271

17. **Amendments:** Government/Owner may, from time to time, add to or amend these rules and issue such directions, as it may consider necessary for the proper implementation of these Rules or for the purpose of removing any difficulty, which may arise in the administration thereof.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page 193 of 271

APPENDIX – III
SAFETY PRACTICE DURING CONSTRUCTION
CONTENTS

SECTION	DESCRIPTION
1.0	INTRODUCTION
2.0	SCOPE
3.0	DEFINITIONS
4.0	GENERAL DUTIES
4.1	GENERAL DUTIES OF EXECUTION AGENCIES
4.2	GENERAL DUTIES OF OWNERS
5.0	SAFETY PRACTICES AT WORK PLACES
5.1	GENERAL PROVISIONS
5.2	MEANS OF ACCESS AND EGRESS
5.3	HOUSEKEEPING
5.4	PRECAUTIONS AGAINST THE FALL OF MATERIALS AND PERSONS AND COLLAPSE OF STRUCTURES
5.5	PREVENTION OF UNAUTHORIZED ENTRY
5.6	FIRE PREVENTION AND FIRE FIGHTING
5.7	LIGHTING
5.8	PLANT, MACHINERY, EQUIPMENT AND HAND TOOLS
6.0	CONSTRUCTION ACTIVITIES
6.1	EXCAVATION
6.2	SCAFFOLDING, PLATFORMS & LADDERS
6.3	STRUCTURAL WORK, LAYING OF REINFORCEMENT & CONCRETING
6.4	ROAD WORK
6.5	CUTTING/WELDING
6.6	WORKING IN CONFINED SPACES
6.7	PROOF /PRESSURE TESTING
6.8	WORKING AT HEIGHTS
6.9	HANDLING AND LIFTING EQUIPMENT
6.10	VEHICLE MOVEMENT
6.11	ELECTRICAL
6.12	OFFSHORE

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev 00 Page 194 of 271						

- 6.13 DEMOLITION
- 6.14 RADIOGRAPHY
- 6.15 SAND /SHOT BLASTING/SPRAY PAINTING
- 6.16 WORK ABOVE WATER
- 7.0 ADDITIONAL SAFETY PRECAUTION FOR UNITS WITH HYDROCARBONS
- 8.0 FIRST
- 9.0 DOCUMENTATION
- 10.0 SAFETY AWARENESS & TRAINING
- 11.0 REFERENCES
- ANNEXURE-1

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 195 of 271

SAFETY PRACTICES DURING CONSTRUCTION

1.0 INTRODUCTION

Safety in Construction Management deserves utmost attention especially in the hydrocarbon industry, such as Exploration, Refineries, Pipelines and Marketing installations, Gas Processing units etc. Construction is widely recognized as one of the accident-prone activities. Most of the accidents are caused by inadequate planning, failure during the construction process and/or because of design deficiencies. Besides property loss, accidents also result in injuries and fatalities to the personnel; same needs to be prevented.

The reasons for accidents during construction activities are related to unique nature of the industry, human behaviour, difficult work-site conditions, extended odd duty hours, lack of training & awareness and inadequate safety management. Unsafe working methods, equipment failure and improper housekeeping also tend to increase the accident rate in construction.



Ensuring good quality of materials, equipment and competent supervision along with compliance of standard engineering practices shall go a long way to in built safety in the system.

The objective of this standard is to provide practical guidance on technical and educational framework for safety and health in construction with a view to:

- (a) prevent accidents and harmful effects on the health of workers arising from employment in construction;
- (b) ensure appropriate safety during implementation of construction;
- (c) Provide safety practice guidelines for appropriate measures of planning, control and enforcement.

2.0 SCOPE



This document specifies broad guidelines on safe practices to be adhered to during construction activities in oil industry. However, before commencing any job, specific hazards and its effects should be assessed and necessary corrective/preventive actions should be taken by all concerned. The document is intended only to supplement and not to replace or supersede the prevailing statutory requirements, which shall also be followed as applicable. For Personal Protective Equipment (PPE's), OISD-STD-155 (Part 1& II) shall be referred to. The scope of this document does not include the design aspects and quality checks during construction.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 196 of 271

3.0 DEFINITIONS

Definitions of various terminologies are given below:

- **Adequate, appropriate or suitable** are used to describe qualitatively or quantitatively the means or method used to protect the worker.
- **Brace:** As structural member that holds one point in a fixed position with respect to another point; bracing is a system of structural members designed to prevent distortion of a structure.
- **By hand:** The work is done without the help of a mechanized tool.
- **Competent Authority:** A statutory agency having the power to issue regulations, orders or other instructions having the force of law.
- **Competent person:** A person possessing adequate qualifications, such as suitable training and sufficient knowledge, experience and skill for the safe performance of the specific work. The competent authorities may define appropriate criteria for the designation of such persons and may determine the duties to be assigned to them.
- **Execution agency:** Any physical or legal person, having contractual obligation with the owner, and who employs one or more workers on a construction site.
- **Owner:** Any physical or legal person for whom construction job is carried out. It shall also include owner's designated representative/ consultant/ nominee/ agent, authorized from time to time to act for and on its behalf, for supervising/coordinating the activities of the execution agency.
- **Hazard:** Danger or potential danger.
- **Guardrail:** An adequately secured rail erected along an exposed edge to prevent persons from falling.
- **Hoist:** A machine, which lifts materials or persons by means of a platform, which runs on guides.
- **Lifting Gear:** Any gear or tackle by means of which a load can be attached to a lifting appliance but which does not form an integral part of the appliance or load.
- **Lifting appliance:** Any stationary or mobile appliance used for raising or lowering persons or loads.
- **Means of access or egress:** Passageways, corridors, stairs, platforms, ladders and any other means for entering or leaving the workplace or for escaping in case of danger.
- **Scaffold:** Any fixed, suspended or mobile temporary structure supporting workers and material or to gain access to any such structure and which is not a lifting appliance as defined above.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 197 of 271



- **Toe-board:** A barrier placed along the edge of a scaffold platform, runway, etc., and secured there to guard against the slipping of persons or the falling of material.
- **Worker:** Any person engaged in construction activity.
- **Work place:** All places where workers need to be or to go by reason of their work.

4.0 GENERAL DUTIES

4.1 GENERAL DUTIES OF EXECUTION AGENCIES



4.1.1 Execution agency should:

- provide means and organization to comply with the safety and health measures required at the workplace.
- provide and maintain workplaces, plant, equipment, tools and machinery and organize construction work so that, there is no risk of accident or injury to health of workers. In particular, construction work should be planned, prepared and undertaken so that:
 - dangers, liable to arise at the workplace, are prevented;
 - excessively or unnecessarily strenuous work positions and movements are avoided;
 - Organization of work takes into account the safety and health of workers;
 - materials and products used are suitable from a safety and health point of view;
 - Working methods are adopted to safeguard workers against the harmful effects of chemical, physical and biological agents.
- Establish committees with representatives of workers and management or make other arrangement for the participation of workers in ensuring safe working conditions.
- Arrange for periodic safety inspections by competent persons of all buildings, plant, equipment, tools, machinery, workplaces and review of systems of work, regulations, standards or codes of practice. The competent person should examine and ascertain the safety of construction machinery and equipment.
- Provide such supervision to ensure that workers perform their work with due regard to safety and health of theirs as well as that of others.
- Employ only those workers who are qualified, trained and suited by their age, physique, state of health and skill.
- Satisfy themselves that all workers are informed and instructed in the hazards connected with their work and environment and trained in the precautions necessary to avoid accidents and injury to health.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 198 of 271

- viii) Ensure that buildings, plant, equipment, tools, machinery or workplaces in which a dangerous defect has been found should not be used until the defect has been rectified.
- ix) Organize for and remain always prepared to take immediate steps to stop the operation and evacuate workers as appropriate, where there is an imminent danger to the safety of workers.
- x) Establish a checking system by which it can be ascertained that all the members of a shift, including operators of mobile equipment, have returned to the camp or base at the close of work on dispersed sites and where small groups of workers operate in isolation.
- xi) Provide appropriate first aid, training and welfare facilities to workers as per various statutes like the Factories Act, 1948 etc. and, wherever collective measures are not feasible or are insufficient, provide and maintain personal protective equipment and clothing in line with the requirement as per OISD-STD-155 (Vol.1&II) on Personnel Protective Equipment. They should also provide access to workers to occupational health services.
- xii) Educate workers about their right and the duty at any workplace to participate in ensuring safe working conditions to the extent of their control over the equipment and methods of work and to express views on working procedures adopted as may affect safety and health.
- xiii) Ensure that except in an emergency, workers, unless duly authorized, should not interfere with, remove, alter or displace any safety device or other appliance furnished for their protection or the protection of others, or interfere with any method or process adopted with a view to avoiding accidents and injury to health.
- xiv) Ensure that workers do not operate or interfere with plant and equipment that they have not been duly authorized to operate, maintain or use.
- xv) Ensure that workers do not sleep, rest or cook etc. in dangerous places such as scaffolds, railway tracks, garages, confined spaces or in the vicinity of fires, dangerous or toxic substances, running machines or vehicles and heavy equipment etc.
- xvi) Obtain the necessary clearance/permits as required and specified by owner
- xvii) As per Govt. circular as amended from time to time all contractors who employ more than 50 workers or where the Lumpsum Price exceeds Rs.50 crores, the following facilities are to be provided by contractor at site:

- Arrangement for drinking water
- Toilet facilities
- A crèche where 10 or more women workers are having children below the Age of 6 years.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev 00 Page 199 of 271						

- . Transport arrangement for attending to emergencies.

xviii) Should deploy a safety officer at site.

4.2 GENERAL DUTIES OF OWNERS

4.2.1 Owners should:

- co-ordinate or nominate a competent person to co-ordinate all activities relating to safety and health on their construction projects;
- inform all contractors on the project of special risks to health and safety;
- Ensure that executing agency is aware of the owner's requirements and the executing agency's responsibilities with respect to safety practices before starting the jobs.

5.0 SAFETY PRACTICES AT WORK PLACES

5.1 GENEAL PROVISIONS

- All openings and other areas likely to pose danger to workers should be clearly indicated.
- Workers & Supervisors should use the safety helmet and other requisite Personal Protective Equipment according to job & site requirement. They should be trained to use personal protective equipment.
- Never use solvents, alkalis and other oils to clean the skin
- Lift the load with back straight and knees bent as far as possible. Seek the help in case of heavy load.
- Ensure the usage of correct and tested tools and tackles. Don't allow the make shift tools and tackles.
- No loose clothing should be allowed while working near rotating equipment or working at heights.



5.2 MEANS OF ACCESS AND EGRESS

Adequate and safe means of access (at least two, differently located) to and egress from all workplaces should be provided. Same should be displayed and maintained.

5.3 HOUSEKEEPING

5.3.1 Ensure:

- proper storage of materials and equipment;
- Removal of scrap, inflammable material, waste and debris at appropriate intervals.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 200 of 271

5.3.2 Removal of loose materials, which are not required for use, to be ensured. Accumulation of these at the site can obstruct means of access to and egress from workplaces and passageways.

5.3.3 Workplaces and passageways, that are slippery owing to oil, grease or other causes, should be cleaned up or strewn with sand, sawdust, ash etc.

5.4 PRECAUTIONS AGAINST THE FALL OF MATERIALS & PERSONS AND COLLAPSE OF STRUCTURES

5.4.1 Precautions should be taken such as the provision of fencing, lookout men or barriers to protect any person against injury by the fall of materials, or tools or equipment being raised or lowered.

5.4.2 Where necessary to prevent danger, guys, stays or supports should be used or other effective precautions should be taken to prevent the collapse of structures or parts of structures that are being erected, maintained, repaired, dismantled or demolished.

5.4.3 All openings through which workers are liable to fall should be kept effectively covered or fenced and displayed prominently.

5.4.4 As far as practicable, guardrails and toe-boards should be provided to protect workers from falling from elevated workplaces.

5.5 PREVENTION OF UNAUTHORISED ENTRY

5.5.1 Construction sites located in built-up areas and alongside vehicular and pedestrian traffic routes should be fenced to prevent the entry of unauthorized persons.



5.5.2 Visitors should not be allowed access to construction sites unless accompanied by or authorized by a competent person and provided with the appropriate protective equipment.

5.6 FIRE PREVENTION AND FIRE FIGHTING

5.6.1 All necessary measures should be taken by the executing agency and owner to:

- i) avoid the risk of fire;
- ii) Control quickly and efficiently any outbreak of fire;
- iii) Bring out a quick and safe evacuation of persons.
- iv) Inform unit/fire station control room, where construction work is carried out within existing operating area.

5.6.2 Combustible materials such as packing materials, sawdust, greasy/oily waste and scrap wood or plastics should not be allowed to accumulate in workplaces but should be kept in closed metal containers in a safe place.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723					
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU								
				Rev	00	Page	201	of	271

- 5.6.3 Places where workers are employed should, if necessary to prevent the danger of fire, be provided with;
- suitable and sufficient fire-extinguishing equipment, which should be easily visible and accessible;
 - an adequate water supply at sufficient pressure meeting the requirements of various OISD standard.
- 5.6.4 To guard against danger at places having combustible material, workers should be trained in the action to be taken in the event of fire, including the use of means of escape.
- 5.6.5 At sites having combustible material, suitable visual signs should be provided to indicate clearly the direction of escape in case of fire.
- 5.6.6 Means of escape should be kept clear at all times. Escape routes should be frequently inspected particularly in high structures and where access is restricted.



5.7 LIGHTING

- 5.7.1 Where natural lighting is not adequate, working light fittings or portable hand-lamps should be provided at workplace on the construction site where a worker will do a job.
- 5.7.2 Emergency lighting should be provided for personnel safety during nighttime to facilitate standby lighting source, if normal system fails.
- 5.7.3 Artificial lighting should not produce glare or disturbing shadows.
- 5.7.4 Lamps should be protected by guards against accidental breakage.
- 5.7.5 The cables of portable electrical lighting equipment should be of adequate size & characteristics for the power requirements and of adequate mechanical strength to withstand severe conditions in construction operations.

5.8 PLANT, MACHINERY, EQUIPMENT AND HAND TOOLS

5.8.1 General Provisions

- Plant, machinery and equipment including hand tools, both manual and power driven, should:
 - be of proper design and construction, taking into account health, safety and ergonomic principles.
 - Be maintained in good working order;
 - Be used only for work for which they have been designed.
 - Be operated only by workers who have been authorized and given appropriate training.
 - Be provided with protective guards, shields or other devices as required.
- Adequate instructions for safe use should be provided.
- Safe operating procedures should be established and used for all plant, machinery and equipment.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 202 of 271



- iv) Operators of plant, machinery and equipment should not be distracted while work is in progress.
- v) Plant, machinery and equipment should be switched off when not in use and isolated before any adjustment, clearing or maintenance is done.
- vi) Where trailing cables or hose pipes are used they should be kept as short as practicable and not allowed to create a hazard.
- vii) All moving parts of machinery and equipment should be enclosed or adequately guarded.
- viii) Every power-driven machine and equipment should be provided with adequate means, immediately accessible and readily identifiable to the operator, of stopping it quickly and preventing it from being started again inadvertently.
- ix) Operators of plant, machinery, equipment and tools should be provided with PPEs, including where necessary, suitable ear protection.

5.8.2 Hand tools

- i) Hand tools should be repaired by competent persons.
- ii) Heads of hammers and other shock tools should be dressed or ground to a suitable radius on the edge as soon as they begin to mushroom or crack.
- iii) When not in use and while being carried or transported sharp tools should be kept in sheaths, shields, chests or other suitable containers.
- iv) Only insulated or non-conducting tools should be used on or near live electrical installations.
- v) Only non-sparking tools should be used near or in the presence of flammable or explosive dusts or vapours.

5.8.3 Pneumatic Tools

- i) Operating triggers on portable pneumatic tools should be:
 - a) so placed as to minimize the risk of accidental starting of the machine.
 - b) So arranged as to close the air inlet valve automatically when the pressure of the operator's hand is removed.
- ii) Hose and hose connections for compressed air supply to portable pneumatic tools should be:
 - a) designed and tested for the pressure and service for which they are intended;
 - b) fastened securely on the pipe outlet and equipped with the safety chain, as appropriate.
- iii) Pneumatic shock tools should be equipped with safety clips or retainers to prevent dies and tools from being accidentally expelled from the barrel.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

- iv) Pneumatic tools should be disconnected from power and the pressure in hose lines released before any adjustment or repair is made.

5.8.4 Electrical Tools

- low voltage portable electrical tools should generally be used.
- All electrical tools should be earthed, unless they are “all insulated” or “double insulated” tools which do not require earthing.
- All electrical tools should get inspected and maintained on a regular basis by a competent electrician and complete records kept.



5.8.5 Engines

- Engines should:
 - be installed so that they can be started safely and the maximum safe speed cannot be exceeded.
 - Have controls for limiting speed
 - Have devices to stop them from a safe place in an emergency
- IC engines should not be run in confined spaces unless adequate exhaust ventilation is provided.
- When IC engines are being fuelled:
 - The engine should be shut off.
 - Care should be taken to avoid spilling fuel;
 - No person should smoke or have a naked light in the vicinity.
 - A fire extinguisher should be kept readily available.
- Secondary fuel reservoir should be placed outside the engine room.

6.0 CONSTRUCTION ACTIVITIES

The various common activities in construction are as under;

- Excavation
- Scaffolding, Platforms & Ladders.
- Structural Work, Laying of reinforcement & Concreting
- Road work (laying of roads)
- Cutting/Welding



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
				Rev	00	Page	204

- Working in Confined Space
- Proof/Pressure Testing
- Working at heights
- Handling & Lifting Equipments
- Vehicle Movement
- Electrical
- Offshore
- Demolition
- Radiography
- Sand/shot blasting/spray painting
- Work above water



The safe practices to be followed during the implementation of above construction activities are given below:

6.1 EXCAVATION

- 6.1.1 All excavation work should be planned and the method of excavation and the type of support work required should be decided considering the following:
- the stability of the ground;
 - the excavation will not affect adjoining buildings, structures or roadways;
 - to prevent hazard, the gas, water, electrical and other public utilities should be shut off or disconnected, if necessary;
 - presence of underground pipes, cable conductors, etc.,
 - the position of culvert/bridges, temporary roads and spoil heaps should be determined;
- 6.1.2 Before digging begins onsite, all excavation work should be planned and the method of excavation and the type of support work required decided.
- 6.1.3 All excavation work should be supervised.
- 6.1.4 Sites of excavation should be thoroughly inspected:
- daily, prior to each shift and after interruption in work of more than one day;
 - after every blasting operation;
 - after an unexpected fall of ground;

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 205 of 271

- iv) after substantial damage to supports;
 - v) after a heavy rain, frost or snow;
 - vi) when boulder formations are encountered.
- 6.1.5 Safe angle of repose while excavating trenches exceeding 1.5m depth upto 3.0m should be maintained. Based on site conditions, provide proper slope, usually 45⁰ and suitable bench of 0.5m width at every 1.5m depth of excavation in all soils except hard rock or provide proper shoring and strutting to prevent cave-in or slides.
- 6.1.6 As far as possible, excavated earth should not be placed within one meter of the edge of the trench or depth of trench whichever is greater.
- 6.1.7 Don't allow vehicles to operate too close to excavated area. Maintain at least 2m distance from edge of excavation. No load, plant or equipment should be placed or moved near the edge of any excavation where it is likely to cause its collapse and thereby endanger any person unless precautions such as the provision of shoring or piling are taken to prevent the sides from collapsing.
- 6.1.8 Adequately anchored stop blocks and barriers should be provided to prevent vehicles being driven into the excavation. Heavy vehicles should not be allowed near the excavation unless the support work has been specially designed to permit it.
- 6.1.9 If an excavation is likely to affect the security of a structure on which persons are working, precautions should be taken to protect the structure from collapse.
- 6.1.10 Barricade at 1m height (with red & white band/self glowing caution board) should be provided for excavations beyond 1.5m depth. Provide two entries/exits for such excavation.
- 6.1.11 Necessary precautions should be taken for underground utility lines like cables, sewers etc. and necessary approvals/clearances from the concerned authorities shall be obtained before commencement of the excavation job.
- 6.1.12 Water shall be pumped/bailed out, if any accumulates in the trench. Necessary precautions should be taken to prevent entry of surface water in trenches.
- 6.1.13 During rains, the soil becomes loose. Take additional precaution against collapse of sidewall.
- 6.1.14 In hazardous areas, air should be tested to ascertain its quality. No one should be allowed entry till it is suitable for breathing.
- 6.1.15 In case of mechanized excavation, precaution shall be taken to not to allow anybody to come within one meter of extreme reach of the mechanical shovel. The mechanized excavator shall be operated by a well-trained experienced operator. When not in operation, the machine shall be kept on firm leveled ground with mechanical shovel resting on ground. Wheel or belt shall be suitably jammed to prevent

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
		Rev	00	Page	206	of 271



any accidental movement of the machine. Suitable precautions as per manufacturer guidelines should be taken for dozers, graders and other heavy machines.

6.1.16 In case of blasting, follow strictly IS: 4081-1986 & Indian Explosive Act and rules for storage, handling and carrying of explosive materials and execution of blasting operation.

6.2 SCAFFOLDING, PLATFORMS & LADDERS

6.2.1 Metal as material of construction



- i) A scaffold should be provided and maintained or other equally safe and suitable provision should be made where work cannot safely be done on or from the ground or from part of a building or other permanent structure.
- ii) Scaffolds should be provided with safe means of access, such as stairs, ladders or ramps. Ladders should be secured against inadvertent movement.
- iii) Every scaffold should be constructed, erected and maintained so as to prevent collapse or accidental displacement when in use.
- iv) Every scaffold and part thereof should be constructed:
 - (a) in such a way so as not to cause hazards for workers during erection and dismantling;
 - (b) in such a way so as guard rails and other protective devices, platforms, ladders, stairs or ramps can be easily put together;
 - (c) with sound material and of requisite size and strength for the purpose for which it is to be used and maintained in a proper condition.
- v) Boards and planks used for scaffolds should be protected against splitting.
- vi) Materials used in the construction of scaffolds should be stored under good conditions and apart from any material unsuitable for scaffolds.
- vii) Couplers should not cause deformation in tubes. Couplers should be made of drop forged steel or equivalent material.
- viii) Tubes should be free from cracks, splits and excessive corrosion and be straight to the eye, and tube ends cut cleanly square with the tube axis.
- ix) Scaffolds should be designed for their maximum load as per relevant code.
- x) Scaffolds should be adequately braced.
- xi) Scaffolds which are not designed to be independent should be rigidly connected to the building at designated vertical and horizontal places.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723					
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU								
				Rev	00	Page	207	of	271

- xii) A scaffold should never extend above the highest anchorage to an extent, which might endanger its stability and strength.
- xiii) Loose bricks, drainpipes, chimney pots or other unsuitable material should not be used for the construction or support of any part of a scaffold.
- xiv) Scaffolds should be inspected and certified:
 - (a) before being taken into use;
 - (b) at periodic intervals thereafter as prescribed for different types of scaffolds;
 - (c) after any alteration, interruption in use, exposure to weather or seismic conditions or any other occurrence likely to have affected their strength or stability.
- xv) Inspection should more particularly ascertain that:
 - (a) the scaffold is of suitable type and adequate for the job;
 - (b) materials used in its construction are sound and of sufficient strength;
 - (c) it is of sound construction and stable;
 - (d) that the required safeguards are in position.
- xvi) A scaffold should not be erected, substantially altered or dismantled except by or under the supervision.
- xvii) Every scaffold should be maintained in good and proper condition, and every part should be kept fixed or secured so that no part can be displaced in consequence of normal use.
- xviii) If out-rigger scaffolding is to be used, it should be specifically designed and inspected before putting in use.



6.2.2 Lifting appliances on scaffolds

- i) When a lifting appliance is to be used on a scaffold;
 - a) the parts of the scaffolds should be carefully inspected to determine the additional strengthening and other safety measures required;
 - b) any movement of the scaffold members should be prevented;
 - c) if practicable, the uprights should be rigidly connected to a solid part of the building at the place where the lifting appliance is erected.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
				Rev	00	Page	208

6.2.3 Prefabricated scaffolds

- i) In the case of prefabricated scaffold systems, the instructions provided by the manufacturers or suppliers should be strictly adhered to. Prefabricated scaffolds should have adequate arrangements for fixing bracing.
- ii) Frames of different types should not be intermingled in a single scaffold.
- iii) Scaffolding shall be erected on firm and level ground.
- iv) All members of metal scaffolding shall be checked periodically to screen out defective/rusted members. All joints should be properly lubricated for easy tightening.
- v) Entry to scaffolding should be restricted.
- vi) Erection, alteration and removal shall be done under supervision of experienced personnel.
- vii) Use of barrels, boxes, loose bricks etc., for supporting platform shall not be permitted.
- viii) Each supporting member of platform shall be securely fastened and braced.
- ix) Where planks are butt-joined, two parallel putlogs shall be used, not more than 100mm apart, to give support to each plank.
- x) Platform plank shall not project beyond its end support to a distance exceeding 4 times the thickness of plank, unless it is effectively secured to prevent tipping. Cantilever planks should be avoided.
- xi) The platform edges shall be provided with 150mm high toe board to eliminate hazards of tools or other objects falling from platform.
- xii) Erect ladders in the "four up-one out position"
- xiii) Lash ladder securely with the structure.
- xiv) Using non-slip devices, such as, rubber shoes or pointed steel ferules at the ladder foot, rubber wheels at ladder top, fixing wooden battens, cleats etc.
- xv) When ladder is used for climbing over a platform, the ladder must be of sufficient length, to extend at least one meter above the platform, when erected against the platform in "four up-one out position."
- xvi) Portable ladders shall be used for heights not more than 4 mt. Above 4mt flights, fixed ladders shall be provided with at least 600 mm landings at every 6 mt or less.
- xvii) The width of ladder shall not be less than 300 mm and rungs shall be spaced not more than 300 mm.
- xviii) Every platform and means of access shall be kept free from obstruction.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723					
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU								
				Rev	00	Page	209	of	271



- xix) If grease, mud, gravel, mortar etc., fall on platform or scaffolds, these shall be removed immediately to avoid slippage.
- xx) Workers shall not be allowed to work on scaffolds during storms or high wind. After heavy rain or storms, scaffolds shall be inspected before reuse.
- xxi) Don't overload the scaffolding. Remove excess material and scrap immediately.
- xxii) Dismantling of scaffolds shall be done in a pre-planned sequential manner.

6.2.4 Suspended scaffolds/boatswain's chair

- i) In addition to the requirements for scaffolds in general as regards soundness, stability and protection against the risk of falls, suspended scaffolds should meet the following specific requirements.
 - (a) platforms should be designed and built with dimensions that are compatible with the stability of the structure as a whole, especially the length;
 - (b) the number or anchorage should be compatible with the dimensions of the platform;
 - (c) the safety of workers should be safeguarded by an extra rope having a point of attachment independent of the anchorage arrangements of the scaffold;
 - (d) the anchorage and other elements of support of the scaffold should be designed and built in such a way as to ensure sufficient strength;
 - (e) the ropes, winches, pulleys or pulley blocks should be designed, assembled, used and maintained according to the requirements established for lifting gear adapted to the lifting of persons according to national laws and regulations;
 - (f) Before use, the whole structure should be checked by a competent person.

6.2.5 Bamboo scaffolding

- i) In general, it should be avoided as far as possible. It should not be used in the unit/off-site areas and where hot work is to be done.
- ii) For construction and maintenance of residential and office buildings, situated outside explosive licensed area, bamboo scaffold, if used, should conform to provisions given in IS-3696 (Part 1) – 1987.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 210 of 271



6.3 STRCUTURAL WORK, LAYING OF REINFORCEMENT & CONCRETING

6.3.1 General provisions



- i) The erection or dismantling of buildings, structures, civil engineering works; formwork, false work and shoring should be carried out by trained workers only under the supervision of a competent person.
- ii) Precautions should be taken to guard against danger to workers arising from any temporary state of weakness or instability of a structure.
- iii) Formwork, false work and shoring should be so designed, constructed and maintained that it will safely support all loads that may be imposed on it.
- iv) Formwork should be so designed and erected that working platforms, means of access, bracing and means of handling and stabilising are early fixed to the formwork structure.

6.3.2 Erection and dismantling of steel and prefabricated structures



- i) The safety of workers employed on the erection and dismantling of steel and prefabricated structures should be ensured by appropriate means, such as provision and use of:
 - a) Ladders, gangways or fixed platforms;
 - b) Platforms, buckets, boatswain's chairs or other appropriate means suspended from lifting appliances;
 - c) safety harnesses and lifelines, catch nets or catch platforms;
 - d) Power –operated mobile working platforms
- ii) Steel and prefabricated structures should be so designed and made that they can be safely transported and erected.
- iii) In addition to the need for the stability of the part when erected, the design should explicitly take following into account:
 - a) the conditions and methods of attachment in the operations of transport, storing and temporary support during erection or dismantling as applicable;
 - b) Methods for the provision of safeguards such as railings and working platforms, and, when necessary, for mounting them easily on the structural steel or prefabricated parts.
- iv) The hooks and other devices built in or provided on the structural steel or prefabricated parts that are required for lifting and transporting them should be so shaped, dimensioned and positioned as:
 - a) to withstand with a sufficient margin the stresses to which they are subjected;

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723					
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU								
				Rev	00	Page	211	of	271

- b) Not to set up stresses in the part that could cause failures, or stresses in the structure itself not provided for in the plans, and be designed to permit easy release from the lifting appliance. Lifting points for floor and staircase units should be located (recessed if necessary) so that they do not protrude above the surface.
- c) To avoid imbalance or distortion of the lifted load.
- v) Store places should be so constructed that:
 - a) there is no risk of structural steel or prefabricated parts falling or overturning;
 - b) storage conditions generally ensure stability and avoid damage having regard to the method of storage and atmospheric conditions;
 - c) racks are set on firm ground and designed so that units cannot move accidentally.
- vi) While they are being stored, transported, raised or set down, structural steel or prefabricated parts should not be subjected to stresses prejudicial to their stability.
- vii) Every lifting appliance should:
 - a) be suitable for the operations and not be capable of accidental disconnection;
 - b) be approved or tested as per statutory requirement.
- viii) Lifting hooks should be of the self-closing type or of a safety type and should have the maximum permissible load marked on them.
- ix) Tongs, clamps and other appliances for lifting structural steel and prefabricated parts should:
 - a) Of such shape and dimensions as to ensure a secure grip without damaging the part;
 - b) be marked with the maximum permissible load in the most unfavorable lifting conditions.
- x) Structural steel or prefabricated parts should be lifted by methods or appliances that prevent them from spinning accidentally.
- xi) When necessary to prevent danger, before they are raised from the ground, structural steel or prefabricated parts should be provided with safety devices such as railings and working platforms to prevent falls of persons.
- xii) While structural steel or prefabricated parts are being erected, the workers should be provided with appliances for guiding them as they are being lifted and set down, so as to avoid crushing of hands and to facilitate the operations. Use of such appliances should be ensured.
- xiii) A raised structural steel or prefabricated part should be so secured and wall units so propped that their stability cannot be imperiled, even by external agencies such as wind and passing loads before its release from the lifting appliance.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 212 of 271

- xiv) At work places, instruction should be given to the workers on the methods, arrangements and means required for the storage, transport, lifting and erection of structural steel or prefabricated parts, and, before erection starts, a meeting of all those responsible should be held to discuss and confirm the requirements for safe erection.
- xv) During transportation within the construction area, attachments such as slings and stirrups mounted on structural steel or prefabricated parts should be securely fastened to the parts.
- xvi) Structural steel or prefabricated parts should be so transported that the conditions do not affect the stability of the parts or the means of transport result in jolting, vibration or stresses due to blows, or loads of material or persons.
- xvii) When the method of erection does not permit the provision of other means of protection against fall of persons, the workplaces should be protected by guardrails, and if appropriate by toe-boards.
- xviii) When adverse weather conditions such as snow, ice and wind or reduced visibility entail risks of accidents, the work should be carried on with particular care, or, if necessary, interrupted.
- xix) Structures should not be worked on during violent storms or high winds, or when they are covered with ice or snow, or are slippery from other causes.
- xx) If necessary, to prevent danger, structural steel parts should be equipped with attachments for suspended scaffolds, lifelines or safety harnesses and other means of protection.
- xxi) The risks of falling, to which workers moving on high or sloping girders are exposed, should be limited by all means of adequate collective protection or, where this is impossible, by the use of a safety harness that is well secured to a strong support.
- xxii) Structural steel parts that are to be erected at a great height should as far as practicable be assembled on the ground.
- xxiii) When structural steel or prefabricated parts are being erected, a sufficiently extended area underneath the workplace should be barricaded or guarded.
- xxiv) Steel trusses that are being erected should be adequately shored, braced or guyed unit they are permanently secured in position.
- xxv) Load bearing structural member should not be dangerously weakened by cutting, holding or other means.
- xxvi) Structural members should not be forced into place by the hoisting machine while any worker is in such a position that he could be injured by the operation.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
				Rev	00	Page	213



xxvii) Open-web steel joists that are hoisted singly should be directly placed in position and secured against dislodgment.

6.3.3 Reinforcement

- Ensure that workers use Personnel Protective equipment like safety helmet, safety shoes, gloves etc.
- Don't place the hand below the rods for checking clear distance. Use measuring devices.
- Don't wear loose clothes while checking the rods.
- Don't stand unnecessarily on cantilever rods.
- To carry out welding/cutting of rods, safety procedures/precautions as mentioned in Item no.6.5 to be followed.
- For supplying of rods at heights, proper staging and/or bundling to be provided.
- Ensure barricading and staging for supplying and fixing of rods at height.
- For short distance carrying of materials on shoulders, suitable pacts to be provided.
- While transporting material by trucks/ trailers, the rods shall not protrude in front of or by the sides of driver's cabin. In case such protrusion cannot be avoided behind the deck, then it should not extend 1/3rd of deck length or 1.5M which ever is less and tied with red flags/lights.

6.3.4 Concreting

- Ensure stability of shuttering work before allowing concreting.
- Barricade the concreting area while pouring at height/ depths.
- Keep vibrator hoses, pumping concrete accessories in healthy conditions and mechanically locked.
- Pipelines in concrete pumping system shall not be attached to temporary structures such as scaffolds and formwork support as the forces and movements may affect their integrity.
- Check safety cages & guards around moving motors/parts etc. provided in concreting mixers.
- Use Personal Protective Equipment like gloves, safety shoes etc. while dealing with concrete and wear respirators for dealing with cement.
- Earthing of electrical mixers, vibrators, etc. should be done and verified.
- Cleaning of rotating drums of concrete mixers shall be done from outside. Lockout devices shall be provided where workers need to enter.
- Where concrete mixers are driven by internal combustion engine, exhaust points shall be located away from the worker's workstation so as to eliminate their exposure to obnoxious fumes.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page



- x) Don't allow unauthorised person to stand under the concreting area.
- xi) Ensure adequate lighting arrangements for carrying out concrete work during night.
- xii) Don't allow the same workers to pour concrete round the clock. Insist on shift pattern.
- xiii) During pouring, shuttering and its supports should be continuously watched for defects.

6.4 ROAD WORK



- 6.4.1 Site shall be barricaded and provided with warning signs, including night warning lamps at appropriate locations for traffic diversion.
- 6.4.2 Filled and empty bitumen drums shall be stacked separately at designated places.
- 6.4.3 Mixing aggregate with bitumen shall preferably be done with the help of bitumen batch mixing plant, unless operationally non-feasible.
- 6.4.4 Road rollers, Bitumen sprayers, Pavement finishers shall be driven by experienced drivers with valid driving license.
- 6.4.5 Workers handling hot bitumen sprayers or spreading bitumen aggregate mix or mixing bitumen with aggregate, shall be provided with PVC hand gloves and rubber shoes with legging up to knee joints.
- 6.4.6 At the end of day's work, surplus hot bitumen in tar boiler shall be properly covered by a metal sheet, to prevent anything falling in it.
- 6.4.7 If bitumen accidentally falls on ground, it shall be immediately covered by sprinkling sand, to prevent anybody stepping on it. Then it shall be removed with the help of spade.
- 6.4.8 For cement concrete roads, besides site barricading and installation of warning signs for traffic diversion, safe practices mentioned in the chapter on "Concreting", shall also be applicable.

6.5 CUTTING/WELDING

- 6.5.1 Common hazards involved in welding/cutting are sparks, molten metal, flying particles, harmful light rays, electric shocks etc. Following precautions should be taken:
 - i) A dry chemical type fire extinguisher shall be made available in the work area.
 - ii) Adequate ventilation shall be ensured by opening manholes and fixing a shield or forced circulation of air etc. while doing a job in confined space.
 - iii) Ensure that only approved and well-maintained apparatus, such as torches, manifolds, regulators or pressure reducing valves, and acetylene generators, be used.
 - iv) All covers and panels shall be kept in place, when operating an electric Arc welding machine.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
				Rev	00	Page	215

- v) The work piece should be connected directly to Power supply, and not indirectly through pipelines/ Structures/ Equipments etc.
- vi) The welding receptacles shall be rated for 63 A suitable for 415V, 3-Phase system with a scraping earth. Receptacles shall have necessary mechanical interlocks and earthing facilities.
- vii) All cables, including welding and ground cables, shall be checked for any worn out or cracked insulation before starting the job. Ground cable should be separate without any loose joints.
- viii) Cable coiling shall be maintained at minimum level, if not avoidable.
- ix) An energised electrode shall not be left unattended.
- x) The power source shall be turned off at the end of job.
- xi) All gas cylinders shall be properly secured in upright position.
- xii) Acetylene cylinder shall be turned and kept in such a way that the valve outlet points away from oxygen cylinder.
- xiii) Acetylene cylinder key for opening valve shall be kept on valve stem, while cylinder is in use, so that the acetylene cylinder could be quickly turned off in case of emergency. Use flash back arrestors to prevent back-fire in acetylene/oxygen cylinder.
- xiv) When not in use, valves of all cylinders shall be kept closed.
- xv) All types of cylinders, whether full or empty, shall be stored at cool, dry place under shed.
- xvi) Forced opening of any cylinder valve should not be attempted.
- xvii) Lighted gas torch shall never be left unattended.
- xviii) Store acetylene and oxygen cylinders separately.
- xix) Store full and empty cylinders separately.
- xx) Avoid cylinders coming into contact with heat.
- xxi) Cylinders that are heavy or difficult to carry by hand may be rolled on their bottom edge but never dragged.
- xxii) If cylinders have to be moved, be sure that the cylinder valves are shut off.
- xxiii) Before changing torches, shut off the gas at the pressure reducing regulators and not by crimping the hose.
- xxiv) Do not use matches to light torches, use a friction lighter.
- xxv) Move out any leaking cylinder immediately.
- xxvi) Use trolleys for oxygen & acetylene cylinder and chain them.
- xxvii) Always use Red hose for acetylene and other fuel gases and Black for oxygen, and ensure that both are in equal length.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

- xxviii) Ensure that hoses are free from burns, cuts and cracks and properly clamped.
- xxix) Avoid dragging hoses over sharp edges and objects.
- xxx) Do not wrap hoses around cylinders when in use or stored.
- xxxi) Protect hoses from flying sparks, hot slag and other hot objects.
- xxxii) Lubricants shall not be used on Ox-fuel gas equipment.
- xxxiii) During cutting/welding, use proper type goggles/face shields.

6.6 WORKING IN CONFINED SPACES

6.6.1 Following safety practices for working in confined space like towers, columns, tanks and other vessels should be followed in addition to the safety guidelines for specific jobs like scaffolding, cutting/welding etc.



- i) Shut down, isolate, depressurise and purge the vessel as per laid down procedures.
- ii) Entry inside the vessel and to carry out any job should be done after issuance of valid permit only in line with the requirement of OISD-STD-105.
- iii) Ensure proper and accessible means of exit before entry inside a confined space.
- iv) The number of persons allowed inside the vessel should be limited to avoid overcrowding.
- v) When the work is going on in the confined space, there should always be one man standby at the nearby manway.
- vi) Before entering inside the vessels underground or located at lower elevation, probability of dense vapours accumulating nearby should also be considered in addition to inside the vessel.
- vii) Ensure requisite O₂ level before entry in the confined space and monitor level periodically or other wise use respiratory devices.
- viii) Check for no Hydrocarbon or toxic substances before entry and monitor level periodically or use requisite Personal Protective Equipment.
- ix) Ensure adequate ventilation or use respiratory devices.
- x) Depending upon need, necessary respirator system, gas masks and suit shall be worn by everyone entering confined space. In case of sewer, OWS or in the confined area where there is a possibility of toxic or inert gas, gas masks shall be used by everyone while entering.
- xi) Barricade the confined spaces during hoisting, radiography, blasting, pressure testing etc.
- xii) Use 24V flameproof lamp fittings only for illumination.
- xiii) Use tools with air motors or electric tools with maximum voltage of 24V.
- xiv) House keeping shall be well maintained.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
				Rev	00	Page	217

- xv) Safety helmet, safety shoes and safety belt shall be worn by everyone entering the confined space.
- xvi) Don't wear loose clothing while working in a confined space.
- xvii) In case of the vessels which are likely to contain pyrophoric substances (like Iron Sulphide), special care need to be taken before opening the vessel. Attempt should be made to remove the pyrophoric substances. Otherwise, these should be always kept wet by suitable means.
- xviii) The cutting torches should also be kept outside the vessel immediately after the cutting.
- xix) The gas cylinders used for cutting/welding shall be kept outside.
- xx) All cables, hoses, welding equipment etc., shall be removed from confined space at end of each work day, even if the work is to be resumed in the same space the next day.
- xxi) To the extent possible sludge shall be cleared and removed from outside before entering.
- xxii) No naked light or flame or hot work such as welding, cutting and soldering should be permitted inside a confined space or area unless it has been made completely free of the flammable atmosphere, tested and found safe by a competent person. Only non-sparking tools and flameproof hand lamps protected with guard and safety torches should be used inside such confined space or area for initial inspection, cleaning or other work required to be done for making the area safe.
- xxiii) Communication should be always maintained between the worker and the attendant.

6.7 PROOF/PRESSURE TESTING

- 6.7.1 Review test procedure before allowing testing with water or air or any other fluid.
- 6.7.2 Provide relief valves of adequate size while testing with air or other gases.
- 6.7.3 Ensure compliance of necessary precautions, step wise loading, tightening of fasteners, grouting etc. before and during testing.
- 6.7.4 Inform all concerned in advance of the testing.
- 6.7.5 Keep the vents open before opening any valve for filling/draining of liquid used for hydro testing. The filling/draining should not exceed the designed rate for pressure testing.
- 6.7.6 Provide separate gauges of suitable range for pressurising pump and the equipment to be tested.
- 6.7.7 Prove gauges at designated locations for monitoring of pressures.
- 6.7.8 Check the calibration of all pressurising equipment and accessories and maintain records.
- 6.7.9 Take readings at pre-defined intervals.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev		00	Page	218	of	271



6.8 WORKING AT HEIGHTS

6.8.1 General Provision

- i) While working at a height of more than 3 meters, ISI approved safety belt shall be used.
- ii) While working at a height of more than 3 meters, permit should be issued by competent person before commencement of the job.
- iii) Workers should be well trained on usage of safety belt including its proper usage at the time of ascending/descending.
- iv) All tools should be carried in tool kits to avoid their falling.
- v) If the job is on fragile/sloping roof, roof walk ladders shall be used.
- vi) Provide lifeline wherever required.
- vii) Additional safety measures like providing Fall Arrestor type Safety belt, safety net should be provided depending upon site conditions, job requirements.
- viii) Keep working area neat and clean. Remove scrap material immediately.
- ix) Don't throw or drop material/equipment from height.
- x) Avoid jumping from one member to another. Use proper passageway.
- xi) Keep both hands free while climbing. Don't try to bypass the steps of the ladder.
- xii) Try to maintain calm at height. Avoid over exertion.
- xiii) Avoid movements on beam.
- xiv) Elevated workplaces including roofs should be provided with safe means of access and egress such as stairs, ramps or ladders.

6.8.2 Roof Work



- i) All roof-work operations should be pre-planned and properly supervised.
- ii) Roof work should only be undertaken by workers who are physically and psychologically fit and have the necessary knowledge and experience for such work.
- iii) Work on roofs shouldn't be carried on in weather conditions that threaten the safety of workers.
- iv) Crawling boards, walkways and roof ladders should be securely fastened to a firm structure.
- v) Roofing brackets should fit the slope of the roof and be securely supported.
- vi) Where it is necessary for a person to kneel or crouch near the edge of the roof, necessary precautions should be taken.
- vii) On a large roof where work have to be carried out at or near the edge, a simple barrier consisting of crossed scaffold tubes supporting a tubing guardrail may be provided.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723					
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU								
				Rev	00	Page	219	of	271

- viii) All covers for openings in roofs should be of substantial construction and be secured in position.
- ix) Roofs with a pitch of more than 10 should be treated as sloping.
- x) When work is being carried out on sloping roofs, sufficient and suitable crawling boards or roof ladders should be provided and firmly secured in position.
- xi) During extensive work on the roof, strong barriers or guardrails and toe-boards should be provided to stop a person from falling off the roof.
- xii) Where workers are required to work on or near roofs or other places covered with fragile material, through which they are liable to fall, they should be provided with suitable roof ladders or crawling boards strong enough and when spanning across the supports for the roof covering to support those workers.
- xiii) A minimum of two boards should be provided so that it is not necessary for a person to stand on a fragile roof to move a board or a ladder, or for any other reason.

6.8.3 Work on tall chimneys

- i) For the erection and repair of tall chimneys, scaffolding should be provided. A safety net should be maintained at a suitable distance below the scaffold.
- ii) The scaffold floor should always be at least 65 cm below the top of the chimney.
- iii) Under the working floor of the scaffolding the next lower floor should be left in position as a catch platform.
- iv) The distance between the inside edge of the scaffold and the wall of the chimney should not exceed 20 cm at any point.
- v) Catch platforms should be erected over:
 - (a) the entrance to the chimney;
 - (b) Passageways and working places where workers could be endangered by falling objects.
- vi) For climbing tall chimneys, access should be provided by:
 - (a) stairs or ladders;
 - (b) a column of iron rungs securely embedded in the chimney wall;
 - (c) Other appropriate means.
- vii) When workers use the outside rungs to climb the chimney, a securely fastened steel core rope looped at the free end and hanging down at least 3 m should be provided at the top to help the workers to climb on to the chimney.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 220 of 271



- viii) While work is being done on independent chimneys the area surrounding the chimney should be enclosed by fencing at a safe distance.
- ix) Workers employed on the construction, alteration, maintenance or repair of tall chimneys should not:
 - a) Work on the outside without a safety harness attached by a lifeline to a rung, ring or other secure anchorage;
 - b) Put tools between the safety harness and the body or in pockets not intended for the purpose;
 - c) Haul heavy materials or equipment up and down by hand to or from the workplace on the chimney;
 - d) Fasten pulleys or scaffolding to reinforcing rings without first verifying their stability;
 - e) Work alone;
 - f) Climb a chimney that is not provided with securely anchored ladders or rungs;
 - g) Work on chimneys in use unless the necessary precautions to avoid danger from smoke and gases have been taken.
- x) Work on independent chimneys should not be carried on in high winds, icy conditions, fog or during electrical storms.

6.9 HANDLING AND LIFTING EQUIPMENT:



6.9.1 General Provisions

Following are the general guidelines to be followed with regard to all types of handling and lifting equipment in addition to the guidelines for specific type of equipment's dealt later on.

- i) There should be a well-planned safety programme to ensure that all the lifting appliances and lifting gear are selected, installed, examined, tested, maintained, operated and dismantled with a view to preventing the occurrence of any accident.
- ii) All lifting appliances shall be examined by competent persons at frequencies as specified in "The Factories act".
- iii) Check thoroughly quality, size and condition of all lifting tools like chain pulley blocks, slings, U-clamps, D-shackles etc. before putting them in use.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 221 of 271

- iv) Safe lifting capacity of all lifting & handling equipment, tools and shackles should be got verified and certificates obtained from competent authorities before its use. The safe working load shall be marked on them.
- v) Check periodically the oil, brakes, gears, horns and tire pressure of all moving equipment's like cranes, forklifts, and trailers etc. as per manufacturer's recommendations.
- vi) Check the weights to be lifted and accordingly decide about the crane capacity, boom length and angle of erection.
- vii) Allow lifting slings as short as possible and check packing at the friction points.
- viii) While lifting/placing of the load, no unauthorized person shall remain within the radius of the boom and underneath the load.
- ix) While loading, unloading and stacking of pipes, proper wedges shall be placed to prevent rolling down of the pipes.
- x) Control longer jobs being lifted up from both ends.
- xi) Only trained operators and riggers should carry out the job. While the crane is moving or lifting the load, the trained rigger should be there for keeping a vigil against hitting any other object.
- xii) During high wind conditions and nights, lifting of heavy equipment's should be avoided. If unavoidable to do erection in night, operator and rigger should be fully trained for night signalling. Also proper illumination should be there.
- xiii) Allow crane to move on hard, firm and levelled ground.
- xiv) When crane is in idle condition for long period or unattended, crane boom should either be lowered or locked as per manufacturer's guidelines.
- xv) Hook and load being lifted shall remain in full visibility of crane operators, while lifting, to the extent possible.
- xvi) Don't allow booms or other parts of crane to come within 3 meters reach of overhead electrical cables.
- xvii) No structural alterations or repairs should be made to any part of a lifting appliance, which may affect the safety of the appliance without the permission and supervision of the competent person.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
		Rev	00	Page	222	of	271

6.9.2 Hoists

- i) Hoist shafts should be enclosed with rigid panels or other adequate fencing at:
 - (a) ground level on all sides;
 - (b) all other levels at the points at which access is provided;
 - (c) all points at which persons are liable to be struck by any moving part.
- ii) The enclosure of hoist shafts, except at approaches should extend where practicable at least 2mt above the floor, platform or other place to which access is provided except where a lesser height is sufficient to prevent any person falling down the hoistway and there is no risk of any person coming into contact with any moving part of the hoist, but in no case should the enclosure be less than 1 mt in height.
- iii) The guides of hoist platforms should offer sufficient resistance to bending and, in the case of jamming by a safety catch, to buckling.
- iv) Where necessary to prevent danger, adequate covering should be provided above the top of hoist shafts to prevent material falling down them.
- v) Outdoor hoist towers should be erected on firm foundations, and securely braced, guyed and anchored.
- vi) A ladderway should extend from the bottom to the top of outdoor hoist towers, if no other ladderway exists within easy reach.
- vii) Hoisting engines should be of ample capacity to control the heaviest load that they will have to move.
- viii) Hoists should be provided with devices that stop the hoisting engine as soon as the platform reaches its highest stopping place.
- ix) Winches should be so constructed that the brake is applied when the control handle is not held in the operating position.
- x) It should not be possible to set in motion from the platform a hoist, which is not designed for the conveyance of persons.
- xi) Winches should not be fitted with pawl and ratchet gears on which the pawl must be disengaged before the platform is lowered.
- xii) Hoist platforms should be capable of supporting the maximum load that they will have to carry with a safety factor.
- xiii) Hoist platforms should be equipped with safety gear that will hold the platform with the maximum load if the hoisting rope breaks.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 223 of 271

- xiv) If workers have to enter the cage or go on the platform at landings there should be a locking arrangement preventing the cage or platform from moving while any worker is in or on it.
- xv) On sides not used for loading and unloading, hoist platforms should be provided with toe-boards and enclosures of wire mesh or other suitable material to prevent the fall of parts of loads.
- xvi) Where necessary to prevent danger from falling objects, hoist platforms should be provided with adequate covering.
- xvii) Counterweights consisting of an assemblage of several parts should be made of specially constructed parts rigidly connected together.
- xviii) Counterweights should run in guides.
- xix) Platforms should be provided at all landings used by workers.
- xx) Following notices should be posted up conspicuously and in very legible characters:
 - (a) on all hoists:
 - on the platform; the carrying capacity in kilograms or other appropriate standard unit of weight;
 - on the hoisting engine; the lifting capacity in kilograms or other appropriate standard unit of weight;
 - (b) on hoists authorised or certified for the conveyance of persons:
 - on the platform or cage: the maximum number of persons to be carried at one time;
 - (c) on hoists for goods only:
 - on every approach to the hoist and on the platform: prohibition of use by persons.
- xxi) Hoists intended for the carriage of persons should be provided with a cage so constructed as to prevent any person from falling out or being trapped between the cage and any fixed part of the structure when the cage gate is shut, or from being struck by the counterbalance weight or by articles or materials tailing down the hoistway.
- xxii) On each side in which access is provided, the cage should have a gate fitted with devices which ensure that the gate cannot be opened except when the cage is at a landing and that the gate must be closed before the cage can move away from the landing.
- xxiii) Every gate in the enclosure of the hoist shaft which gives access from a landing place to the cage should be fitted with devices to ensure that the gate cannot be opened except when the cage is at that landing place, and that the cage cannot be moved away from that landing place until the gate is closed.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 224 of 271

6.9.3 Derricks

Stiff-leg Derricks



- i) Derricks should be erected on a firm base capable of taking the combined weight of the crane structure and maximum rated load.
- ii) Devices should be used to prevent masts from lifting out of their seating.
- iii) Electrically operated derricks should be effectively earthed from the sole plate or framework.
- iv) Counterweights should be so arranged that they do not subject the backstays, sleepers or pivots to excessive strain.
- v) When derricks are mounted on wheels:
 - a) a rigid member should be used to maintain the correct distance between the wheels;
 - b) They should be equipped with struts to prevent them from dropping if a wheel breaks or the derrick is derailed.
- vi) The length of a derrick jib should not be altered without consulting the manufacturer.
- vii) The jib of a scotch derrick crane should not be erected within the backstays of the crane.

Guy Derricks

- i) The restraint of the guy ropes should be ensured by fitting stirrups or anchor plates in concrete foundations.
- ii) The mast of guy derricks should be supported by six top guys spaced approximately equally.
- iii) The spread of the guys of a guy derrick crane from the mast should not be more than 450 from the horizontal.
- iv) Guy ropes of derricks should be equipped with a stretching screw or turnbuckle or other device to regulate the tension.
- v) Gudgeon pins sheave pins and fool bearings should be lubricated frequently.
- vi) When a derrick is not in use, the boom should be anchored to prevent it from swinging.

6.9.4 Gin poles



- i) Gin poles should;
 - (a) be straight;
 - (b) consist of steel or other suitable metal;
 - (c) be adequately guyed and anchored;

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

- (d) be vertical or raked slightly towards the load;
- (e) be of adequate strength for the loads that they will be required to lift/move.
- ii) Gin poles should not be spliced and if a gin pole is composed of different elements, they should be assembled in conformity with their intrinsic material strength.
- iii) Gin poles should be fastened at their feet to prevent displacement in operation.
- iv) Gin poles, which are moved from place to place and re-erected, should not be taken into use again before the pole, lifting ropes, guys, blocks and other parts have been inspected, and the whole appliance has been tested under load.
- v) When platforms or skips are hoisted by gin poles, precautions should be taken to prevent them from spinning and to provide for proper landing.

6.9.5 Tower cranes

- i) Where tower cranes have cabs at high level, persons, capable and trained to work at heights, should only be employed as crane operators.
- ii) The characteristics of the various machines available should be considered against the operating requirements and the surroundings in which the crane will operate before a particular type of crane is selected.
- iii) Care should be taken in the assessment of wind loads both during operations and out of service. Account should also be taken of the effects of high structures on wind forces in the vicinity of the crane.
- iv) The ground on which the tower crane stands should have the requisite bearing capacity. Account should be taken of seasonal variations in ground conditions.
- v) Bases for tower cranes and tracks for rail-mounted tower cranes should be firm and level. Tower cranes should only operate on gradients within limits specified by the manufacturer. Tower cranes should only be erected at a safe distance from excavations and ditches.
- vi) Tower cranes should be sited where there is clear space available for erection, operation and dismantling. As far as possible, cranes should be sited so that loads do not have to be handled over occupied premises, over public thoroughfares, other construction works and railways or near power cables.
- vii) Where two or more tower cranes are sited in positions where their jibs could touch any part of the other crane, there should be direct means of communication between them and a distinct

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 226 of 271

warning system operated from the cab so that one driver may alert the other of impending danger.



- viii) The manufacturers' instructions on the methods and sequence of erection and dismantling should be followed. The crane should be tested before being taken into use.
- ix) The climbing operation of climbing tower cranes should be carried out in accordance with manufacturers' instructions. The free-standing height of the tower crane should not extend beyond what is safe and permissible in the manufacturers' instructions.
- x) When the tower crane is left unattended, loads should be removed from the hook, the hook raised, the power switched off and the boom brought to the horizontal. For longer periods or at times when adverse weather conditions are expected, out of service procedures should be followed. The main jib should be slewed to the side of the tower away from the wind, put into free slew and the crane immobilised.
- xi) A windspeed measuring device should be provided at an elevated position on the tower crane with the indicator fitted in the drivers' cab.
- xii) Devices should be provided to prevent loads being moved to a point where the corresponding safe working load of the crane would be exceeded. Name boards or other items liable to catch the wind should not be mounted on a tower crane other than in accordance with the manufacturers' instructions.
- xiii) Tower cranes should not be used for magnet, or demolition ball service, piling operations or other duties, which could impose excessive loading on the crane structure.

6.9.6 Lifting ropes

- i) Only ropes with a known safe working capacity should be used as lifting ropes.
- ii) Lifting ropes should be installed, maintained and inspected in accordance with manufacturers' instructions.
- iii) Repaired steel ropes should not be used on hoists.
- iv) Where multiple independent ropes are used, for the purpose of stability, to lift a work platform, each rope should be capable of carrying the load independently.

6.10 VEHICLE MOVEMENT

- 6.10.1 Park vehicles only at designated places. Don't block roads to create hindrance for other vehicles.
- 6.10.2 Don't overload the vehicle.
- 6.10.3 Obey speed limits and traffic rules.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 227 of 271

- 6.10.4 Always expect the unexpected and be a defensive driver.
- 6.10.5 Drive carefully during adverse weather and road conditions.
- 6.10.6 Read the road ahead and ride to the left.
- 6.10.7 Be extra cautious at nights. Keep wind screens clean and lights in working condition.
- 6.10.8 All vehicles used for carrying workers and construction materials must undergo predictive/preventive maintenance and daily checks.
- 6.10.9 Driver with proper valid driving license shall only be allowed to drive the vehicle.
- 6.10.10 Routes shall be levelled, marked and planned in such a way so as to avoid potential hazards such as overhead power lines and sloping ground etc.
- 6.10.11 While reversing the vehicles, help of another worker should be ensured at all times.
- 6.10.12 An unattended vehicle should have the engine switched off.
- 6.10.13 Wherever possible one-way system shall be followed.
- 6.10.14 Barriers/fixed stops should be provided for excavation/openings to prevent fall of vehicle.
- 6.10.15 Load should be properly secured.
- 6.10.16 The body of the tipper lorry should always be lowered before driving the vehicle off.
- 6.10.17 Signs/signals/caution boards etc. should be provided on routes.

6.11 ELECTRICAL



6.11.1 General Provisions

- i) Only persons having valid licenses should be allowed to work on electrical facilities.
- ii) No person should be allowed to work on live circuit. The same, if unavoidable, special care and authorisation need to be taken.
- iii) Treat all circuits as “LIVE” unless ensured otherwise.
- iv) Electrical “Tag Out” procedure “MUST” be followed for carrying out maintenance jobs.
- v) Display voltage ratings prominently with “Danger” signs.
- vi) Put caution/notice signs before starting the repair works.
- vii) All electrical equipment operating above 250V shall have separate and distinct connections to earth grid.
- viii) Proper grounding to be ensured for all switch boards and equipment including Portable ones prior to taking into service.
- ix) Make sure that electrical switchboards, portable tools, equipment’s (like grinding machine etc.) don’t get wet during their usage. If it happens, stop the main supply, make the tools dry and

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 228 of 271

then only use them. Check proper Earthing. All temporary switch boards/ KIOSKS put up at work site should be suitably protected from rain and the level of same should be high enough to avoid contact with water due to water logging.

- x) Don't work wet on electrical system.
- xi) Don't overload the electrical system.
- xii) Use only proper rated HRC fuses.
- xiii) Industrial type extension boards and Plug sockets are only to be used.
- xiv) ELCB for all temporary connections must be provided. Use insulated 3-pin plug tops.
- xv) All power supply cables should be laid properly and neatly so that they don't cause hindrance to persons working and no physical damage also takes place to the cables during various construction activities.
- xvi) All Power cables to be properly terminated using glands and lugs of proper size and adequately crimped.
- xvii) Use spark-proof/flame proof type electrical fittings in Fire Hazard zones as per area classification under OISD-STD-113.
- xviii) Check installations of steel plates/pipes to protect underground cables at crossings.
- xix) Don't lay unarmored cable directly on ground, wall, roof or trees. All temporary cables should be laid at least 750 mm below ground and cable markers should be provided. Proper sleeves should be provided at road crossings. In case temporary cables are to be laid on wooden poles/steel poles, the minimum cable heights should be 4.5 M.
- xx) Maintain safe overhead distance of HT cables as per Indian Electricity Rules and relevant acts.
- xxi) Don't connect any earthing wire to the pipelines/structures.
- xxii) Don't make any unsafe temporary connections, naked joints/wiring etc.
- xxiii) Ensure that temporary cables are free from cuts, damaged insulation, kinks or improper insulated joints.
- xxiv) Check at periodic intervals that pins of sockets and joints are not loose.
- xxv) Protect electrical wires/equipment's from water and naked flames.
- xxvi) Illuminate suitably all the work area.
- xxvii) All switchboards should be of MS structure only and incoming source should be marked.
- xxviii) Hand lamps should not be of more than 24V rating.
- xxix) Fire extinguishers (DCP/CO2/Sand buckets) should be kept near temporary switch boards being used for construction purposes. Don't use water for fighting electrical fires.



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 229 of 271

- xxx) Insulating mats shall be provided in the front and back end of switch boards.
- xxxi) All parts of electrical installations should be so constructed, installed and maintained as to prevent danger of electric shock, fire and external explosion. Periodic checking/certification of electrical safety appliances such as gloves, insulating mats, hoods etc. to be done/witnessed along with maintaining a register at site signed by competent authority.
- xxxii) A notice displaying following, should be kept exhibited at suitable places:
 - a) prohibiting unauthorised persons from entering electrical equipment rooms or from handling or interfering with electrical apparatus;
 - b) containing directions as to procedures in case of fire, rescue of persons in contact with live conductors and the restoration of persons suffering from electric shock;
 - c) specifying the person to be notified in case of electrical accident or dangerous occurrence, and indicating how to communicate with him.
- xxxiii) No other cables/pipes to be laid in trench used for electrical cables.
- xxxiv) Utmost care should be taken while excavating Earth from cable trench to avoid damage or any accident.
- xxxv) Sub-station floor cut-outs meant for switch board installations to be covered wherever installation is incomplete.

NOTE: A Residual Current Operated Circuit Breaker (RCCB) or Earth Leakage Circuit Breaker (ELCB), when installed, protects a human being to the widest extent. RCCB or ELCB should be provided as per Indian Electricity Rules.

6.11.2 Inspection and maintenance

- i) All electrical equipment should be inspected before taking into use to ensure suitability for its proposed use.
- ii) At the beginning of every shift, the person using the electrical equipment should make a careful external examination of the equipment and conductors, especially the flexible cables.
- iii) Apart from some exceptional cases, work on or near live parts of electrical equipment should be forbidden.
- iv) Before any work is begun on conductors or equipment that do not have to remain live:
 - a) the current should be switched off by a responsible authorised person;
 - b) precautions should be taken to prevent the current from being switched on again;
 - c) the conductors or the equipment should be tested to ascertain that they are dead;
 - d) the conductors and equipment should be earthed and short-circuited;

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

- e) neighbouring live parts should be adequately protected against accidental contact.
- v) After work has been done on conductors and equipment, the current should only be switched on again on the orders of a competent person after the earthing and short-circuiting have been removed and the workplace reported safe.
- vi) Electricians should be provided with approved and tested tools, and personal protective equipment such as rubber gloves, mats etc.
- vii) All conductors and equipment should be considered to be live unless there is a proof of the contrary.
- viii) When work has to be done in dangerous proximity to live parts the current should be cut off. If for operational reasons this is not possible, the live parts should be fenced off or enclosed by qualified staff from the sub-station concerned.

6.11.3 Testing



- i) Electrical installations should be inspected and tested and the results recorded.
- ii) Periodic testing of the efficiency of the earth leakage protective devices should be carried out.
- iii) Particular attention should be paid to the earthing of apparatus, the continuity of protective conductors, polarity and insulation resistance, protection against mechanical damage and condition of connections at points of entry.

6.12 OFFSHORE

6.12.1 General

The isolated nature of offshore installations are hazardous. They call for greater need for safety and survival at offshore. Safety at offshore is safety of installations and safety of personnel. Safety problems and accidents at offshore have high risks due to limited space, helicopter operation, sea transport etc. Following are the general safety guidelines to be followed in addition to the safety guidelines stipulated for specific jobs dealt later on:

- i) Workers should be well trained to do their job independently with high degree of self-control and self-discipline.
- ii) On arrival at offshore, everyone should be briefed about the safety rules to be followed at offshore, evaluation system etc. All personnel should wear overall (dangri), helmet and shoes for personnel protection.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 231 of 271



- iii) In case of emergency, workers should follow instruction of Field Production Superintendent (F.P.S). In certain cases instructions may be given to abandon the offshore installation and evacuate the persons to safe location.
- iv) To overcome above problems, offshore personnel must receive training for using life saving appliances and other personal survival techniques.
- v) Any person working at offshore should have one person as standby for any eventuality.

6.12.2 Drilling Rigs

- i) Location of jack up rigs should not be less than 5 Kms from shipping route. Orientation of the rig, wind direction etc. are required for safe landing of helicopter. Information w.r.t sea currents, wind speed, Hi-lo tide etc. are required for mooring of supply vessels.
- ii) Sea bed condition at every location should be ensured for safety of rig.
- iii) Radio and other communication facilities should be such to maintain contact with base all times.
- iv) During toeing of rig, the rig deck should be clear of load, toeing lines should be in good condition and tensions in various toeing lines should be constantly monitored.
- v) Few steps during toeing are:
 - a) crane booms should be secured to their vesta,
 - b) all hatches and water tight doors should be closed,
 - c) number of personnel on board should be restricted,
 - d) Evacuate in case of emergency and operation should be completed preferably in day light.

6.12.3 Drilling



- i) In view of CO₂ and H₂S gas cut from well, effective ventilation should be provided where drilling is in progress.
- ii) Safety alarm shall be checked in advance in view of failure of ventilation system.
- iii) Suitable sensors for H₂S and Methane should be function tested time to time and suitable colour code should be given.
- iv) Working areas of the crane should be illuminated during night to avoid accident.
- v) Clear space should be available for despatch and receipt of load and, in particular, basket transfer of passengers. Persons engaged in loading/unloading of materials should be protected from falling into the sea.
- vi) Signal light should be fitted at the top of the jib.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 232 of 271

- vii) Crane hook should be fitted with safety latches.
- viii) Experienced person should be engaged in operation of specific equipment like winches, cranes etc.
- ix) At least three cable turns shall always be there on the winch drum.
- x) Adequate communication like walkie talkie, round robin phone should be available between the crane operator, supervisor and helper.
- xi) Crane operation should be completely stopped during helicopter landing/taking off.
- xii) Except for helicopter landing deck, all decks, platforms, bridges, ladders should have rigid and fixed guard rails atleast one-meter-high and should have one intermediate rail midway between the handrail and 100 mm toe board.
- xiii) Wooden ladders shall not be used at offshore.
- xiv) Flow sensor in the flow line should be ensured for safe working and avoid blow out.
- xv) Hydrogen sulphide gas in offshore is of great risk and at 10 ppm (0.001%) concentration in air, a person should not be exposed for more than 8 hours, if concentration is more, then breathing apparatus should be used. Corrosion of equipment is also caused by H₂S.
- xvi) Portable H₂S gas detector should be continuously used.

6.12.4 Production Platforms



- i) In case hydrocarbon is released due to overpressure, leak, overflow, gas blow etc., shut down process to stop flow of hydrocarbon. Prevent ignition of released hydrocarbon and in case of fire shut in the process complex and follow emergency contingency plan.
- ii) Sub surface safety valve (SSSV) below the well head should be actuated during uncontrolled well-flow and they should be regularly checked.
- iii) Surface safety valve or SDV should be checked for no gas leakage from bleed port/flange etc., in the well head area. It should not be in “mechanical override” or bypassed from panel.
- iv) High pressure gas lift lines – blow down system should be O.K.
- v) Auto actuation of SDVs in the inlet of pressure vessels should be O.K. and in “normal position” from shutdown panels. A record of status of switches normal/bypassed in auto-con” panels (PSH, PSL, LSL, and ILSL) should be maintained.
*Shut down Panels
- vi) Welder’s rectifier set and electrical connections to it should be checked and approved by electrical-in-charge for proper electrical safety.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723					
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU								
				Rev	00	Page	233	of	271

- vii) "SCADA" telemetry system if available should be operational for remote opening and closing of wells at unmanned platforms (through RPMC).
- viii) Local ESD/FSD (near the work site) should be provided for jobs of very critical nature, so that the persons working can access it immediately in emergency for safety. Safety officer should judge the requirement & inform FPS for the same.
- ix) Railings and Gratings etc. in and around work area should be O.K. and inspected to avoid slippage of man into sea.
- x) Emergency shutdown (ESD) system is initiated when an abnormal condition is detected. ESD should be checked once in six months.
- xi) Platform should be manned round the clock.
- xii) Welding and cutting work should be regulated by hot work permit.
- xiii) All detectors should be calibrated as per recommendation of the manufacturer.
- xiv) No system should be by-passed which affects the system of platform.
- xv) In H2S field platforms, due care shall be taken as per recommendations.
- xvi) Follow the instructions of F.P.S during stay at platform.

6.12.5 Fire Prevention and Control

- i) Provision be made for safe handling and storage of dirty rags, trash, and waste oil. Flammable liquids and chemicals applied on platform should be immediately cleaned.
- ii) Paint containers and hydrocarbon samples, gas cylinders for welding and cutting should be stored properly. Cylinders should be transported in hand-cart.
- iii) Smoking should be restricted and no smoking area should be identified.
- iv) Special attention should be given to crude oil pump seals; diesel and gas engines which are potential source of ignition in the event of failure.
- v) Fire and smoke detectors i.e. ultraviolet heat, thermal and smoke detector should be function tested once in three months.
- vi) Fire is controlled in offshore by water spraying, Halon, CO2 flooding, DCP and sprinkler system.
- vii) Foaming agent is applied for controlling fire in liquid hydrocarbon. The system is not effective in gas fire.
- viii) Light weight breathing system should be used.
- ix) The fire control plan at offshore should reveal control station, fire alarms and fire detectors, deluge valves and sprinkler, fire extinguishing appliances, fireman outfit and ventilation system.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page



- x) Fire fighting equipment should be maintained in ready to use condition.

6.12.6 Life Saving Appliances

- i) Life boats with a speed of 6 knots and carrying capacity upto 50 persons are used in offshore.
- ii) No. of life boats on one installation should have a capacity to accommodate twice the number of persons on board installation.
- iii) Launching appliances and life boat equipment should be checked every week.
- iv) Boat landing areas should be adequately illuminated.
- v) Life raft has no power and they rely on drift.
- vi) Life jacket lifts the wearer after entering water.
- vii) Life buoys are used to rescue persons if any person accidentally falls in the sea.
- viii) All lifesaving appliances should be inspected by the MMD surveyor/ sr. officials once a year.
- ix) Every life boat shall be inspected once a week.
- x) Every life boat and life raft should be serviced once a year by a competent authority.

6.12.7 Safety Precautions during Helicopter Transportation



- i) Passenger briefing regarding safety rules while travelling in helicopter should be carried out before boarding the helicopter.
- ii) Emergency procedure should be briefed to all the passenger in case helicopter is to ditch into the sea.
- iii) Heli-pad should have a non-skid surface. Nylon rope net should be stretched on the deck.
- iv) Proper drainage should be available on helideck.
- v) There should be no obstruction on the helideck itself and within 3 meters of its parameter. Closest super structure above the helideck should have red obstruction light.
- vi) While landing fire crew of two persons should be standby adjacent to helideck.
- vii) Heli-deck should be properly illuminated for night landing.
- viii) During switching off helicopter, persons should not be allowed to go out/ towards helicopter.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 235 of 271

6.13 DEMOLITION

6.13.1 General provision

- i) When the demolition of any building or structure might present danger to workers or to the public:
 - (a) necessary precautions, methods and procedures should be adopted, including those for the disposal of waste or residues;
 - (b) the work should be planned and undertaken only under the supervision of a competent person.
- ii) Before demolition operations begin:
 - (a) structural details and builders' drawings should be obtained wherever possible;
 - (b) details of the previous use should be obtained to identify any possible contamination and hazards from chemicals, flammables, etc;
 - (c) an initial survey should be carried out to identify any structural problems and risks associated with flammable substances and substances hazardous to health. The survey should note the type of ground on which the structure is erected, the condition of the roof trusses, the type of framing used in framed structures and the load-bearing walls;
 - (d) a method of demolition should be formulated after the survey and recorded in a method statement having taken all the various considerations into account and identifying the problems and their solutions;
- iii) All electric, gas, water and steam service lines should be shut off and, as necessary, capped or otherwise controlled at or outside the construction site before work commences.
- iv) If it is necessary to maintain any electric power, water or other services during demolition operations, they should be adequately protected against damage.
- v) As far as practicable, the danger zone round the building should be adequately fenced off and sign posted. To protect the public a fence 2m high should be erected enclosing the demolition operations and the access gates should be secured outside working hours.
- vi) The fabric of buildings contaminated with substances hazardous to health should be decontaminated. Protective clothing and respiratory devices should be provided and worn.
- vii) Where plant has contained flammable materials, special precautions should be taken to avoid fire and explosion.
- viii) The plant to be demolished should be isolated from all other plant that may contain flammable materials. Any residual flammable material in the plant should be rendered safe by cleaning, purging or the application of an inert atmosphere as appropriate.
- ix) Care should be taken not to demolish any parts, which would destroy the stability of other parts.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev 00 Page 236 of 271						



- x) Demolition activities should not be continued under adverse climatic conditions such as high winds, which could cause the collapse of already weakened structures.
- xi) To prevent hazards parts of structures should be adequately shored, braced or otherwise supported.
- xii) Structures should not be left in a condition in which they could be brought down by wind pressure or vibration.
- xiii) Where a deliberate controlled collapse technique is to be used, expert engineering advice should be obtained, and:
 - (a) It should only be used where the whole structure is to come down because it relies on the removal of key structural members to effect a total collapse;
 - (b) It should only be used on sites that are fairly level and where there is enough surrounding space for all operatives and equipment to be withdrawn to a safe distance.
- xiv) When equipment such as power shovels and bulldozers are used for demolition, due consideration should be given to the nature of the building or structure, its dimensions, as well as to the power of the equipment being used.
- xv) If a swinging weight is used for demolition, a safety zone having a width of at least one-and-a-half times the height of the building or structure should be maintained around the points of impact.

6.13.2 Demolition of structural steelwork

- i) All precautions should be taken to prevent danger from any sudden twist, spring or collapse of steelwork, ironwork or reinforced concrete when it is cut or released.
- ii) Steel construction should be demolished tier by tier.
- iii) Structural steel parts should be lowered and not dropped from a height.

6.14 RADIOGRAPHY



- 6.14.1 All radiography jobs shall be carried out as per BARC Safety Regulations.
- 6.14.2 During field radiography, nearby area around the radiation source should be cordoned off.
- 6.14.3 If the field radiography is to be done at the same location repeatedly, it is advisable to provide either a wire fencing around or a temporary brick enclosure.
- 6.14.4 Special permission/permit should be taken for radiography from area-in-charge.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev		00	Page	237	of	271

- 6.14.5 As far as possible, field radiography should be done only during night time when there is little or no occupancy there.
- 6.14.6 Radiation warning signals should be pasted all along the cordoned off area.
- 6.14.7 Entry into the restricted area by unauthorised persons should be strictly prohibited during exposure.
- 6.14.8 The radiation level along with the cordon should be monitored by a suitable and well-calibrated radiation survey meter.
- 6.14.9 All personnel working with radiography sources should wear appropriate protective equipment and film badges issued by BARC.
- 6.14.10 Protection facilities such as manipulator rod, remote handling tongs, lead pots, radiation hazard placards and means of cordon off shall be available at each site.
- 6.14.11 The radiography source shall never be touched or handled directly with hands.
- 6.14.12 The package containing radiography cameras and sources should never be carried by public transport like bus, train etc.
- 6.14.13 Radiography sources and cameras, when not in use, should be stored inside a source pit with lock and key arrangement as approved by BARC. The storage room should preferably be located in an isolated area of minimum occupancy and radiation level outside the storage room should not exceed 0.25 mR/hr as per BARC Regulations.
- 6.14.14 In case of an accident (due to loss or of damage to radiography source), action should be taken in line with BARC Safety Rules/Guidelines.

6.15 SAND/SHOT BLASTING/ SPRAY PAINTING

- 6.15.1 Sand blasting should be used only after approval from competent person.
- 6.15.2 Air Compressor used for sand/shot blasting/painting should have guard and positioned away from the work place.
- 6.15.3 Exhaust of the prime mover, if IC engine is used, should be directed away from the work place.
- 6.15.4 In case of motor driven compressor, the body of the motor as well as the compressor to be properly earthed.
- 6.15.5 The hoses used for compressed air should be of proper quality, and health of the same to be ensured through regular check/ test.
- 6.15.6 The operator of sand/shot blasting/painting should wear suitable PPE's including mask.
- 6.15.7 Adequate measures to be taken to suppress dust/spray particle.
- 6.15.8 Sand used for sand blasting should be suitably covered & protected from rain/moisture.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 238 of 271

6.15.9 When these activities are done in confined places, adequate measure to be taken for proper ventilation.



6.16 WORK ABOVE WATER

6.16.1 General Provisions

- i) Where work is done over or in close proximity to water & where possibility of drowning exists, provision should be made for:
 - a) Preventing workers from falling into water;
 - b) The rescue of workers in danger of drowning;
 - c) Safe and sufficient transport.
- ii) Provisions for the safe performance of work over or in close proximity to water should include, where appropriate, the provision and use of suitable and adequate:
 - a) fencing, safety nets and safety harnesses;
 - b) lifebuoys, life jackets and manned boats;
 - c) protection against such hazards as reptiles and other animals.
- iii) Gangways, pontoons, bridges, footbridges and other walkways or work places over water should:
 - a) possess adequate strength and stability;
 - b) be sufficiently wide to allow safe movement of workers;
 - c) have level surfaces free from tripping hazards;
 - d) be adequately lit when natural light is insufficient;
 - e) where practicable and necessary, to prevent danger, be provided with toe-boards, guard rails, hand ropes etc.
 - f) be secured to prevent dislodgment by rising water or high winds;
 - g) if necessary, be equipped with ladders which should be sound, of sufficient strength and length and be securely lashed to prevent slipping.
- iv) All deck openings including those for buckets should be fenced.

6.16.2 Rescue & Emergency procedures



- i) Persons who work over water should be provided with some form of buoyancy aid. Life jackets should provide sufficient freedom of movement, have sufficient buoyancy to bring persons to the surface and keep them afloat face upwards, be easily secured to the body, be readily visible by way of self luminous paint/strip.
- ii) Nobody should work alone on or above water.
- iii) Each worker should be trained in the procedure to be followed in the event of an emergency.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 239 of 271

7.0 ADDITIONAL SAFETY PRECAUTION FOR UNITS WITH HYDROCARBONS

In addition to general safety precautions as outlined above for the activities in Clause 6.0, following additional safety precautions need to be taken for the sites within the operating area or nearby, where presence of Hydrocarbons cannot be ruled out.

- i) No job shall be carried out without a valid permit. Permit should be in line with OISD-STD-105 "Work Permit System".
- ii) Smoking should be prohibited in all places containing readily combustible or flammable materials and "No Smoking" notices be prominently displayed.
- iii) In confined spaces and other places where flammable gases, vapours or dusts can cause danger, following measures should be taken:
 - (a) only approved type electrical installations and equipment, including portable lamps, should be used;
 - (b) there should be no naked flames or source of ignition;
 - (c) oily rags, waste and clothes or other substances liable to spontaneous ignition should be removed without delay to a safe place;
 - (d) ventilation should be provided.
- iv) Regular inspections should be made of places where there are fire risks. These include the vicinity of heating appliances, electrical installations and conductors, stores of flammable and combustible materials, welding and cutting operations.
- v) Welding, flame cutting and other hot work should only be done after issuance of work permit in line with the requirement of OISD-STD-105 after appropriate precautions, as required, are taken to reduce the risk of fire. For carrying out other jobs also, OISD-STD-105 should be followed strictly.
- vi) Fire-extinguishing equipment should be well maintained and inspected at suitable intervals by a competent person. Access to fire-extinguishing equipment such as hydrants, portable extinguishers and connections for hoses should be kept clear at all times.
- vii) All supervisors and a sufficient number of workers should be trained in the use of fire-extinguishing equipment, so that adequate trained personnel are readily available during all working periods.
- viii) Audio means to give warning in case of fire should be provided where this is necessary to prevent danger. Such warning should be clearly audible in all parts of the site where persons are liable to work. There should be an effective evacuation plan so that all persons are evacuated speedily without panic and accounted for and all plant and processes shut down.
- ix) Notices should be posted at conspicuous places indicating:



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
		Rev	00	Page	240	of 271

- (a) the nearest fire alarm;
- (b) the telephone number and address of the nearest emergency services.
- x) The work site shall be cleared of all combustible materials, as Sparks and molten metal coming from the welding job can easily ignite combustible materials near or below the welding site. If the combustible materials cannot be removed from the area, the same shall be properly shielded.
- xi) A dry chemical type fire extinguisher shall be made available in the work area. Also fire protection facilities like running hoses etc. as per permit should be complied with.
- xii) Wherever required, welding screens shall be put up to protect other equipment in adjoining areas against flying sparks. Material used should be metal/asbestos/water curtain.
- xiii) Welding or cutting of vessels/ equipments used in Hydrocarbon/ hazardous chemicals shall be done after proper gas freeing and verifying the same with the explosive-meter.
- xiv) The confined space/equipment shall be gas freed and cleaned.
- xv) Absence of any toxic gas and any flammable gas above explosion limit shall be ensured with the help of gas detection instrument and explosive meter respectively.
- xvi) Used and hot electrode stubs shall be discarded in a metal bucket.
- xvii) Use approved and certified flame arrestors for vehicles.
- xviii) Work permit to be obtained, if construction work is carried out within existing operating area.

8.0 FIRST AID

First aid facilities should be provided in line with various statutory regulations like factory act etc. However, following care should be taken:

- i) First aid, including the provision of trained personnel should be ensured at work sites. Arrangement should be made for ensuring the medical attention of the injured workers. First aid box should be as per the Factory rules.
- ii) Suitable rescue equipment, like stretchers should be kept readily available at the construction site.
- iii) First-aid kits or boxes, as appropriate and as per statutory requirements, should be provided at work places and be protected against contamination by dust, moisture etc.
- iv) First-aid kit or boxes should not keep anything besides material for first aid in emergencies.
- v) First-aid kits and boxes should contain simple and clear instructions to be followed, be kept under the charge of a responsible person qualified to render the first aid and be regularly inspected and stocked.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723					
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU								
				Rev	00	Page	241	of	271

- vi) Where the work involves risk of drowning, asphyxiation or electric shock, first aid personnel should be proficient in the use of resuscitation and other life saving techniques and in rescue procedures.
- vii) Emergency telephone numbers of nearby Hospitals, Police, Fire Station and Administration should be prominently displayed.

9.0 DOCUMENTATION

The intention of keeping documentation of all types of accident(s) is to prevent recurrence of similar accident(s). All accidents should be reported as per OISD Guidelines (OISD-GDN-107) and Factories act, 1948.



All accidents (major, minor or near miss) should be investigated, analysed and recommendations should be documented along with implementation status.

All related data should be well-documented and further analysis highlighting the major cause(s) of accidents be done. This will help in identifying thrust areas and training needs for prevention of accidents.

10.0 SAFETY AWARENESS & TRAINING

Safety awareness to all section of personnel ranging from site-in-charge to workmen helps not only preventing the risk but also build up the confidence. Time and expenditures also get saved as a result. Safety awareness basically seeks to persuade/inform people on safety besides supplementing skill also. Awareness programme may include followings:



- i) Poster: Posters with safety slogan in humorous, gruesome demonstrating manner may be used to discourage bad habits attributable to accidents by appealing to the workers' pride, self-love, affection curiosity or human aspects. These should be displayed in prominent location(s).
- ii) Safety Sign Boards: Different type of message of cautioning, attention, notice etc. should be displayed at the appropriate places for learning/ awareness of the workmen while working at site.
- iii) Films & Slides: Film(s) narrating the accident including the causes and possible remedial ways of preventing the recurrence of a similar accident should be displayed at regular intervals. Slides consisting main points of the film show may also be shown to workers.
- iv) Talks, lectures & conferences: The success of these events would depend much on audience's understandings of the speaker(s). The speakers are to be knowledgeable and good presenter. Speakers should know to hold the attention and to influence the audiences.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

- v) Competitions: Organise competition(s) between the different deptts/ categories of workers. The sense of reward/recognition also will improve safety awareness and result in enhancing safety levels.
- vi) Exhibitions: Exhibitions also make the workers acquainted with hazards and means of preventive measures.
- vii) Safety Publication: Safety publications including pocket books dealing with ways of investigation and prevention in the field of safety and so on, may be distributed to workers to promote the safety awareness.
- viii) Safety Drives: From time to time, an intensive safety drive by organizing a safety day or a safety week etc. should be launched.
- ix) Training: Training for covering the hazards for different trade should be imparted. Training should also include the specific hazards related to a job in addition to the general safety training as has been dealt in various chapters and should include all workers. Reference may be drawn from OISD-STD-154.

11.0 REFERENCES



- i) Factory Act, 1948
- ii) Indian Electricity Rules
- iii) Safety & Health in Construction by ILO
- iv) The Building & other Construction Workers (Regulation, Employment and Conditions of Service) Act 1996

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page



ANNEXURE – I

LIST OF SAFETY CODES FOR CIVIL WORKS PUBLISHED BY BUREAU OF INDIAN STANDARDS



<u>Sr. No.</u>	<u>Code No.</u>	<u>Title</u>
01	IS : 818	Code of Practice for Safety and Health Requirements in Electric and Gas Welding and Cutting Operations – First Revision.
02	IS : 875	Code of practice for Structural safety of buildings: Masonry walls
03	IS : 933	Specification for Portable Chemical Fire Extinguisher, Foam Type - Second Revision.
04	IS : 1179	Specification for Equipment for Eye and Face Protection during welding – First Revision.
05	IS : 1904	Code of practice for Structural safety of buildings: Shallow foundations.
06	IS : 1905	Code of practice for Structural safety of buildings: Masonry walls.
07	IS : 2171	Specification for Portable Fire Extinguishers, Dry Powder Type – Second Revision..
08	IS : 2361	Specification for Building Grips – First Revision.
09	IS : 2750	Specification for Steel Scaffoldings.
10	IS : 2925	Specification for Industrial Safety Helmets – First Revision.
11	IS : 3016	Code of Practice for Fires Precautions in Welding and Cutting Operations – First Revision.
12	IS : 3521	Industrial safety belts and harnesses
13	IS : 3696 Part-I	Safety Code for Scaffoldings and Ladders : Part I – Scaffoldings
14	IS : 3696 – Part-II	Safety Code for Scaffoldings and Ladders : Part II – Scaffoldings
15	IS : 3764	Safety Code for Excavation Work.
16	IS : 4014 – Part I & II	Code of practice for Steel tubular scaffolding
17	IS : 4081	Safety Code for Blasting and Related Drilling Operations.
18	IS : 4082	Recommendations on staking and storage of construction materials at site.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

Sr. No.	Code No.	Title
19	IS : 4130	Safety Code for Demolition of Buildings – First Revision.
20	IS : 4138	Safety Code Working in Compressed Air – First Revision
21	IS :4756	Safety code for Tunneling works
22	IS : 4912	Safety requirements for Floor and Wall Openings, Railings and toe Boards – First Revision
23	IS : 5121	Safety Code for Piling and other Deep Foundations.
24	IS : 5916	Safety Code for Construction involving use of Hot Bituminous Materials.
25	IS : 5983	Specification for Eye Protectors – First Revision.
26	IS : 6922	Structures subject to underground blasts, criteria for safety and design of
27	IS : 7155	Code of recommended practices for conveyor safety
28	IS : 7205	Safety Code for Erection on Structural steel Works.
29	IS : 7069	Safety Code for Handling and Storage of Building Materials.
30	IS : 7293	Safety Code for Working with Construction Machinery.
31	IS : 7323	Guidelines for operation of Reservoirs.
32	IS : 7969	Safety code for handling and storage of building material.
33	IS : 8758	Recommendation for Fire Precautionary Measures in construction of Temporary Structures and Pandals.
34	IS : 8989	Safety Code for Erection of Concrete Framed Structures.
35	IS : 9706	Code of Practices for construction of Arial ropeways for transportation of material.
36	IS : 9759	Guidelines for de-watering during construction
37	IS : 9944	Recommendations on safe working load for natural and manmade fibreroap slings
38	IS : 10291	Safety code for dress divers in civil engineering works
39	IS : 10386 – Part I	Safety Code for Construction, Operation and Maintenance for River Valley Projects.
40	IS : 10386 – Part II	Safety Code for Construction, Operation and Maintenance of River Valley Projects.
41	IS : 11057	Code of Practice for Industrial safety nets.
42	IS : 13415	Code of Practice on safety for Protective barriers in and around building.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 245 of 271

<u>Sr. No.</u>	<u>Code No.</u>	<u>Title</u>
43	IS : 13416	Recommendations for preventive measures against hazards at working places.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 246 of 271

APPENDIX-IV

FORM OF CONTRACT

(To be executed on a Non Judicial Stamp Paper of appropriate value)

CONTRACT NO.:

THIS CONTRACT made at New Delhi this..... day of 200.... BETWEEN MANGALORE REFINERY AND PETROCHEMICALS LIMITED., registered in India under the Indian Companies Act –1956, having its registered Office at -----and the head Office at -----
------(hereinafter referred to as the “OWNER” which expression shall include its successors and assigns) of the One Part;

AND

_____, a Company registered in India under the Indian Companies Act 1913/1956 having its registered office at _____ (hereinafter referred to as the “CONTRACTOR”) of the other part:



WHEREAS

WHEREAS the OWNER issued Tender No._____ for Residual Process Design, Detailed Engineering, Procurement, Supply, Transportation, Storage, Fabrication, Construction, Installation, Testing, Pre-commissioning, Commissioning, Performance, Guarantee Test Run and handing over of Unit for the _____ of Mangalore Refinery and Petrochemicals Ltd. at _____.

AND WHEREAS the Contract with respect to the said Tender has been awarded to the CONTRACTOR, pursuant whereto, the CONTRACTOR has to make supplies of materials and to execute works and to undertake services with the use of the said material as more specifically mentioned and described in the Contract Documents as hereinafter defined.



AND WHEREAS it is desirable to have a formal Document setting out the documents which comprise the Contract and determining certain other aspects as hereinafter appearing.

NOW, THEREFORE, THIS CONTRACT WITNESSETH as follows:

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 247 of 271

ARTICLE 1 CONTRACT DOCUMENTS

- 1.1 The Contract Document shall comprise the following:
- (i) Letter Inviting Bid/ Invitation to Bidder
 - (ii) Instructions to Bidder
 - (iii) General Conditions of Contract
 - (iv) Special Conditions of Contract (including the Scope of work and Time Schedule)
 - (v) Specifications
 - (vi) Plans Exhibits _____ to _____
 - (vii) Drawings Exhibits _____ to _____.
 - (viii) Form of Contract
 - (ix) Form of Bid, including formats attached to the Form of Bid as embodied in the CONTRACTOR's final bid.
 - (x) Form of Schedule of Payment as embodied in the CONTRACTOR's final bid.
 - (xi) Addendum/Addenda to the Bid Documents.
 - (xii) Notification of Acceptance of Bid
 - (xiii) Detailed Letter of Acceptance (including Statement of Agreed Variations and other enclosures/ annexures to the Detailed Letter of Acceptance).
- 1.2 A copy of each of the Tender Documents is annexed hereto and the said copies have been collectively marked Annexure 'A' while a copy of the Detailed Letter of Acceptance of Tender along with Annexures thereto and a copy of Notification of Acceptance of Bid dated..... are annexed hereto & said copies have been collectively marked as Annexure- 'B'.
- 1.3 Where the CONTRACTOR is a Consortium of one or more entities or persons, all members of the Consortium shall be jointly and severally liable for the performance of the Contract and of all obligations of the CONTRACTOR arising under the Contract and for the discharge of all the CONTRACTOR's liabilities to the OWNER under or in respect of the Contract and any claim of the OWNER without any limitation of liability as between the OWNER and the members aforesaid, notwithstanding the existence of any agreement between the said members inter se limiting the liability of any member for or in the performance of any duties or obligations under the Contract.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 248 of 271

ARTICLE 2

SERVICES, SUPPLIES AND WORK

- 2.1 The CONTRACTOR shall make the Supplies specified in the Contract Documents upon the terms and conditions and within the time specified in the Contract Documents.
- 2.2 The CONTRACTOR shall undertake the works and perform the services specified in the Contract Documents upon the terms and conditions and within the time specified in the Contract documents.

ARTICLE 3



PRICE AND COMPENSATION

- 3.1 Subject to and upon the terms and conditions contained in the Contract Documents, the OWNER shall pay CONTRACTOR the price for the said supplies and Compensation for the said works and services as specified in respect to each in the Contract Documents upon the satisfactory completion of the said supplies and satisfactory performance of the services and/or otherwise as may be specified in this behalf in the Contract Documents.

ARTICLE 4

JURISDICTION & GOVERNING LAW

- 4.1 Notwithstanding any other Court or Courts having jurisdiction to decide the question(s) forming the subject matter of the reference if the same had been the subject matter of a suit, any and all actions and proceeding arising out of or relative to the contract or any award arising therefrom, shall lie only in the Court of competent civil jurisdiction in this behalf at Mangaluru (where this Contract has been signed on behalf of OWNER) and only the said Court(s) shall have jurisdiction to entertain and try any such action(s) and/or proceeding(s) to the exclusion of all other Courts.
- 4.2 The Contract shall be governed in all aspects by the law of the Republic of India, without application of the doctrine of Renvoi.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 249 of 271

ARTICLE 5 ENTIRE CONTRACT



- 5.1 The Contract Documents mentioned in Article – 1 hereof embody the entire Contract between the parties hereto, and the parties declare that in entering this Contract they do not rely upon any previous representation, whether express or implied and whether written or oral, or any inducement, understanding or agreements of any kind not included within the Contract Documents and all prior negotiations, representations, contracts and/or agreements and understandings are hereby cancelled.

ARTICLE 6 NOTICES

- 6.1 Subject to any provisions in the Contract documents to the contrary, any notice, order or communication sought to be served by the CONTRACTOR on the OWNER with reference to the CONTRACT shall be deemed to have been sufficiently served upon the OWNER notwithstanding any enabling provisions under any law to the contrary, only if delivered by hand or by Courier to the Engineer-in-Charge as defined in the General Conditions of Contract.
- 6.2 Without prejudice to any other mode of service provided for in the Contract Documents or otherwise available to the OWNER, any notice, order or other communication sought to be served by the OWNER on the CONTRACT with reference to the CONTRACT, shall be deemed to have been sufficiently served if delivered by hand or through Courier to the principal office of the CONTRACTOR at _____ or other address for service subsequently notified by CONTRACTOR to the OWNER in this behalf in writing.

ARTICLE 7 WAIVER

- 7.0 No failure or delay by the OWNER in enforcing any right or remedy of the OWNER in terms of the CONTRACT or any obligation or liability of the CONTRACTOR in terms thereof, shall be deemed to be a waiver of such right, remedy, obligation or liability, as the case may be, by the OWNER and notwithstanding such failure or delay, the OWNER shall be entitled at any time to enforce such right, remedy, obligation or liability, as the case may be.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

ARTICLE 8

NON-ASSIGNABILITY

- 8.0 The Contract and benefits and obligations thereof shall be strictly personal to the CONTRACTOR and shall not on any account be assignable or transferable by the CONTRACTOR.

ARTICLE 9



LANGUAGE OF CONTRACT AND COMMUNICATION

- 9.0 The language of the Contract shall be English and all communications, drawings, design, data, information codes specifications and other document whatsoever supporting the bid or otherwise exchanged under the Contract shall be in English. In the event that any technical documentation is in any language other than English, the document should be translated and presented to the OWNER/Engineer-in-Charge in English and English document/translated document shall be regarded as the only authentic document.

ARTICLE 10

GOVERNMENT OF INDIA NOT LIABLE

- 10.0 It is expressly understood and agreed by and between the CONTRACTOR and the OWNER that the OWNER is entering into this agreement solely on its own behalf and not on behalf of any other person or entity. In particular, it is expressly understood and agreed that the Government of India is not a party to this agreement and has no liabilities, obligations or rights thereunder. It is expressly understood and agreed that the OWNER is an independent legal entity with power and authority to enter into contracts, solely in its behalf under the applicable laws of India and general principles of Contract Law. The CONTRACTOR expressly agrees, acknowledges and understands that the OWNER is not an agent, representative or delegate of the Government of India. It is further understood and agreed that the Government of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the Contract. Accordingly, CONTRACTOR hereby expressly waives, releases and foregoes any and all actions or claims, including cross claims, impleader claims or counter claims against the Government of India arising out of this Contract and covenants not to sue the Government of India on any matter, claim, cause or action or thing whatsoever arising out of or under this Contract.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 251 of 271

ARTICLE 11

NO LIABILITY ON DIRECTOR AND EMPLOYEE

- 11.0 No Director, employee, consultant or agent of the OWNER or other person representing the OWNER or acting on behalf of the OWNER in or pursuant to the Contract or in the discharge of any obligation to the OWNER under the Contract or otherwise in relation to the Contract shall have any personal liability to the CONTRACTOR or any Sub-Contractor, agent, representative, director or employee of the CONTRACTOR or to any other person acting for or on behalf of the CONTRACTOR and the CONTRACTOR on its own behalf and on behalf of the Sub-Contractors, directors, employees, agents and representatives hereby waives and disclaims any and all right of action which it or they may have whether under tort or Contract or otherwise against the OWNER or any director, employee, agent, consultant or representative of the OWNER for act of omission or commission done or omitted to be done.

IN WITNESS WHEREOF THE PARTIES hereto have executed this Contract in duplicate at the place, day and year first above written.

SIGNED & DELIVERED
FOR & ON BEHALF OF
MANGALORE REFINERY AND
ETROCHEMICALS LTD.

BY _____

(THIS DAY OF _____ 20__)

IN THE PRESENCE OF:

1.

2.

SIGNED & DELIVERED
FOR & ON BEHALF OF



(CONTRACTOR)

BY _____

IN THE PRESENCE OF:

1.

2.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 252 of 271

APPENDIX-V

FORM OF BANK GUARANTEE IN LIEU OF EARNEST MONEY DEPOSIT

The irrevocable Bank Guarantee (BG) in the following prescribed format if submitted against Earnest Money Deposit/PBG/SD/Mobilisation advance shall be subject to verification from the issuing Bank, the email ID of bank for the same must be incorporated in the BG.

The BG issued by the issuing Bank on behalf of Bidder/Contractor/Supplier in favour of “Mangalore Refinery and Petrochemicals Limited” shall be in paper form and also be made available under the “Structured Financial Messaging System” (SFMS).

A separate advice of the BG will invariably be sent by the issuing bank to the beneficiary’s ‘Bank through SFMS and SFMS transmission message reference number (currently 32digits code) is to be sent along with BG directly to MRPL through speed post/regd. Post.

The details of beneficiary for issue of BG under SFMS platform is furnished below:

Name of Beneficiary: Mangalore Refinery and Petrochemicals Limited

Beneficiary Bank, Branch and address: Union Bank of India (Erstwhile Corporation Bank)

Kuthethoor Post Mangaluru 575030, Karnataka

IFSC code: UBIN0905925

SWIFT Code: UBININBBMAP

MICR Code: 575026018



Any bank guarantee submitted in physical mode which cannot be verifiable through SFMS will not be accepted under any circumstances

(To be executed on non-judicial stamp paper of appropriate value)

BG NO. _____

DATED: _____

VALID UPTO: _____

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
				Rev	00	Page	253

To

M/s. Mangalore Refinery and Petrochemicals Ltd.,

Regd. Office: Kuthethur P.O

Katipalla, Mangaluru 575 030



In consideration of Mangalore Refinery And Petrochemicals Ltd., (hereinafter called “the Owner” which expression shall include its successors and assigns), having agreed interalia to consider the tender of (Name of the Tenderer) having its Head Office/Registered Office at (Address of the Tenderer) (hereinafter called the “Tenderer” which expression shall include its successors and assigns), for the work of..... (Name of the Project/ Work) at..... to be awarded under Tender No..... Upon the Tenderer furnishing an undertaking from the Bank as hereinafter appearing in lieu of cash deposit of the Earnest Money.

We (Name of the Bank), a Bank Constituted/Registered under the Act, having our Head Office/Registered Office at (hereinafter called the “Bank” which expression shall include its successors and assigns), at the request of the Tenderer and with the intent to bind the Bank and its successors and assigns do hereby unconditionally and irrevocably undertake to pay the Owner at Mangaluru forthwith on first demand without protest or demur or proof or satisfaction or condition and without reference to the Tenderer, all sums payable by the Tenderer as and by way of Earnest Money to the Owner, upto an aggregate limit of (Amount in figures and words).



AND THE BANK DOTH HEREBY FURTHER AGREES AS FOLLOWS:

1. This Guarantee/Undertaking shall be a continuing guarantee and shall remain in full force and effect for all claims or demands made by the Owner on the Bank until the Owner discharges this Guarantee/Undertaking subject, however, that the Owner shall have no claims under this Guarantee/Undertaking after the midnight of200..... or any written extension(s) thereof.

PROVIDED that if the aforesaid work tendered for or any part thereof shall be awarded to the Tenderer on or before the said date, whether on the basis of accompanying tender or any other basis, then the validity of this guarantee/undertaking shall stand automatically extended for all claims and demands made by the Owner for a further three months.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
		Rev	00	Page 254 of 271

2. The Owner shall have the fullest liberty without reference to the Bank and without affecting in any way the liability of the Bank under this Guarantee/Undertaking at any time and/or from time to time any wise to postpone and/or vary any of the powers, rights, and obligations exercisable by the Owner against the Tenderer and either to enforce or to forbear from enforcing all or any of the terms and conditions of or governing the said Tender and/or any contract consequent upon any award of work or the said Earnest Money Deposit or the securities available to the Owner or any of them and the Bank shall not be released from its liability under these Presents and the Liability of the Bank hereunder shall remain in full force and effect notwithstanding any exercise by the Owner of the liberty with reference to any or all the matters aforesaid or by reason of any other act, matter or thing whatsoever which under law relating to the sureties or otherwise which could, but for this provision have the effect of releasing the Bank from all or any of its obligations hereunder or any part thereof, and the Bank specifically waives any and all contrary rights whatsoever.
3. It shall not be necessary for the Owner to proceed against the Tenderer before proceeding against the Bank and the Guarantee/Undertaking herein contained shall be enforceable against the Bank as principal debtor notwithstanding the existence of any other undertaking or security for any indebtedness of the Tenderer to the Owner and notwithstanding that any such security shall at the time when claim is made against the Bank or proceedings taken against the Bank hereunder, be outstanding or unrealised.
4. The amount stated by the Owner in any demand, claim or notice made with reference to this guarantee shall as between the Bank and the Owner for the purpose of these Presents be conclusive of the amount payable by the Bank to the Owner hereunder.
5. The liability of the Bank to the Owner under this Guarantee/Undertaking shall remain in full force and effect notwithstanding the existence of any difference or dispute between the Tenderer and the Owner, the Tenderer and the Bank and/or the Bank and the Owner or otherwise howsoever touching these Presents or the liability of the Tenderer to the Owner, and notwithstanding the existence of any instructions or purported instructions by the Tenderer or any other person to the Bank not to pay or for any cause withhold or defer payment to the Owner under these Presents, with the intent that notwithstanding the existing of such difference, dispute or instructions, the Bank shall be and remain liable to make payment to the Owner in terms thereof.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
				Rev	00	Page	255

6. This Guarantee/Undertaking shall not be determined or affected by the liquidation or winding up or dissolution or change of constitution or insolvency of the Tenderer or any change in the legal constitution of the Bank or the Owner.
7. Without prejudice to any other mode of service, a demand or claim or other communication may be transmitted by the Owner to the Bank either by post or by fax. If transmitted by fax, the transmission shall be complete as soon as acknowledged by the Bank.
8. Notwithstanding anything contained herein:
- The Bank's liability under this guarantee/undertaking shall not exceed (Amount in figures & words);
 - The guarantee/undertaking shall remain in force upto_____ and any extension(s) thereof; and
 - The Bank shall be released and discharged from all liability under this guarantee/undertaking unless a written claim or demand is issued to the Bank on or before_____ or the date of expiry of any extension(s) thereof if this guarantee/undertaking has been extended.

The Bank doth hereby declare that Shri_____ (designation)_____ who is authorised to sign this Guarantee/Undertaking on behalf of the Bank and to bind the Bank thereby.



This_____ day of_____ 20_____.

Yours faithfully

Signature:_____

Name & Designation:_____

Name of the Branch:_____

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 256 of 271

APPENDIX-VI

GUARANTEE AGAINST ADVANCE PAYMENT (MOBILIZATION)

The irrevocable Bank Guarantee (BG) in the following prescribed format if submitted against Earnest Money Deposit/PBG/SD/Mobilisation advance shall be subject to verification from the issuing Bank, the email ID of bank for the same must be incorporated in the BG.

The BG issued by the issuing Bank on behalf of Bidder/Contractor/Supplier in favour of “Mangalore Refinery and Petrochemicals Limited” shall be in paper form and also be made available under the “Structured Financial Messaging System” (SFMS).

A separate advice of the BG will invariably be sent by the issuing bank to the beneficiary’s Bank through SFMS and SFMS transmission message reference number (currently 32digits code) is to be sent along with BG directly to MRPL through speed post/regd. Post.

The details of beneficiary for issue of BG under SFMS platform is furnished below:

Name of Beneficiary: Mangalore Refinery and Petrochemicals Limited

Beneficiary Bank, Branch and address: Union Bank of India (Erstwhile Corporation Bank)

Kuthethoor Post Mangalore 575030, Karnataka

IFSC code: UBIN0905925

SWIFT Code: UBININBBMAP

MICR Code: 575026018



Any bank guarantee submitted in physical mode which cannot be verifiable through SFMS will not be accepted under any circumstances

(To be executed on non-judicial stamp paper of appropriate value)

BG NO. _____

DATED : _____

VALID UPTO : _____

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 257 of 271

To

M/s. Mangalore Refinery And Petrochemicals Ltd.,

Regd. Office: Kuthethur P.O

Katipalla, Mangaluru 575 030

This deed of Guarantee made this day of between and wherever the context so required includes its successors and assigns hereinafter called 'The surety' and "a company registered under the Companies Act of 1956 and having its Registered Office at and wherever the context so required includes its successors and assigns, hereinafter called 'The Owner'.



Whereas M/s..... a Company registered under the Companies Act of 1956 having at its registered office at (wherever applicable) and wherever the context so requires includes its successors and assignees, hereinafter called 'the Contractor' has undertaken to on the terms and conditions mentioned in the

a) Letter of Intent No
Dated.....

OR

b) Agreement No.....
Dated.....
Referred to as " the said Contract",



And whereas the Owner has agreed to make an advance of Rs..... (Rupees.....) being% value of the contract on as provided in the contract as the said advance to the Contractor carrying no interest.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
				Rev	00	Page	258



AND WHEREAS the Contractor has agreed with the Owner authorizing him to deduct the said advance thereon under the terms of the said contract from the amount that becomes due and payable to the Contractor as per the terms and conditions described under the clause 'Terms and conditions of Payment' of the Contract on proper execution of the Contract.

Now this deed witnesseth that in consideration of the said advance or any balance thereof made by the Owner to the Contractor, the surety hereby GUARANTEES the payment of the said advance thereon by the Contractor, and undertakes to pay the Owner on demand the sum of Rs..... Subject to the following conditions.

- a) "Surety hereby gives an irrevocable guarantee and declares that its liability under this bond shall extend to the payment of the whole of amount viz. Rs..... paid as advance as provided for in the contract "as the said advance".
- b) This Guarantee shall remain in full force and effect so long as the said advance or any part thereof remains outstanding and shall expire and become ineffectual only after the recovery of the entire sum of Rs..... covered by the guarantee and upon intimation thereof being given by the Owner to the Surety, in which event, the Surety shall be discharged by the Owner.
- c) The Surety shall not be discharged or released from the Guarantee by any arrangements made between the Owner and the Contractor with or without the consent of the surety or by any alteration in the obligations of the parties or by any indulgence, forbearance, whether as to payment, time performance or otherwise.
- d) The Guarantee shall come into force from the date Contractor receives from the Owner the said advance i.e, - (specify the date).
- e) Notwithstanding anything stated above, the liability of the Surety under the guarantee is restricted to Rs..... (Rupees) and this guarantee will remain in force upto at the first instance. However, if the contract for which this guarantee is

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 259 of 271

given is not completed or fully performed, the surety (bank) hereby agrees to further extend the Guarantee till such time as is required by the owner to fulfil the contract.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev 00 Page 260 of 271						

APPENDIX-VII

PROFORMA OF BANK GUARANTEE FOR SECURITY DEPOSIT/PERFORMANCE BOND

The irrevocable Bank Guarantee (BG) in the following prescribed format if submitted against Earnest Money Deposit/PBG/SD/Mobilisation advance shall be subject to verification from the issuing Bank, the email ID of bank for the same must be incorporated in the BG.

The BG issued by the issuing Bank on behalf of Bidder/Contractor/Supplier in favour of “Mangalore Refinery and Petrochemicals Limited” shall be in paper form and also be made available under the “Structured Financial Messaging System” (SFMS).

A separate advice of the BG will invariably be sent by the issuing bank to the beneficiary’s Bank through SFMS and SFMS transmission message reference number (currently 32digits code) is to be sent along with BG directly to MRPL through speed post/regd. Post.

The details of beneficiary for issue of BG under SFMS platform is furnished below:

Beneficiary Bank, Branch and address: Union Bank of India (Erstwhile Corporation Bank)



Kuthethoor Post Mangaluru 575030, Karnataka

IFSC code: UBIN0905925

SWIFT Code: UBININBBMAP

MICR Code: 575026018

Any bank guarantee submitted in physical mode which cannot be verifiable through SFMS will not be accepted under any circumstances

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
				Rev	00	Page

(To be executed ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)



Ref: Bank Guarantee No.....
Date.....

To:

M/s. Mangalore Refinery and Petrochemicals Ltd.,
Regd. Office: Kuthethur P.O
Katipalla, Mangaluru 575 030



Dear Sir,

1. In consideration of Mangalore Refinery And Petrochemicals Ltd., having its Registered Office at..... (hereinafter referred to as the "Company" which expression shall unless repugnant to the context or meaning thereof, include all its successors, administrators, executors) and having entered into a contract dated (hereinafter called the "Contract" which expression shall include all the amendments thereto) with M/s. having its Head/Registered Office at..... (hereinafter referred to as the "Contractor" (which expression unless repugnant to the context or meaning thereof, shall include all its successors, administrators, executors and assigns) and the contract having been unequivocally accepted by the Contractor resulting in a contract bearing No..... dated..... Valued at for (scope of work) and the Company having agreed that the Contractor shall furnish to the Company a performance guarantee for the faithful performance of the entire contract to the extent of % of the contract price, i.e. Rs..... (in word) we (bank)..... having its Registered Office at..... (hereinafter referred to as the "Bank" which expression shall unless repugnant to the context or meaning thereof, include all its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay on demand to the Company any money or all moneys to the extent of Rs..... (Rupees) in aggregate at any time without any demur, reservation, recourse, contest or protest and/or without any reference to the Contractor. Any such demand made, by the Company on the Bank shall be conclusive

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev 00 Page 262 of 271						

and binding notwithstanding any difference between the Company and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that Guarantee herein contained shall be irrevocable and shall continue to be enforceable till it is discharged by the Company in writing.

2. The Company shall have the fullest liberty, without affecting in any way the liability of the Bank under this Guarantee from time to time, to extend the time for performance of the contract by the Contractor, or vary the terms of the Contract. The Company shall have the fullest liberty without affecting this Guarantee to postpone, from time to time, the exercise of power vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner and either to enforce, or to forbear from enforce, any covenants contained or implied in the contract between the Company and the Contractor or any other course or remedy or security available to the Company. The Bank shall not be released of its obligations under these presents by any exercise by the Company of its liberty with reference to matters aforesaid or any of them or by reason of any other act or forbearance of other act or forbearance of other acts of Company or any other indulgence shown by the Company or by any other matter or thing whatsoever, which under law would, but for this provision, have the effect of relieving the Bank.
3. The Bank also agrees that the Company at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the Contractor and notwithstanding any security or other guarantee that Company may have in relation to the Contractor's liabilities.
4. The Bank further agrees that the guarantee herein contained shall remain in full force during the period that is taken for the performance of the contract and it shall continue to be enforceable till all the dues of the Company under or by virtue of this contract have been fully paid and claim satisfied or discharged or till the Company discharges the Guarantee in writing.
5. We further agree that as between us and Company for the purpose of this Guarantee any notice given to us by the Company and any amount claimed in such notice by the Company that the money is payable by the Contractor and any amount claimed in such notice by the company shall be conclusive and binding on us notwithstanding any difference between the Company and the Contractor or any dispute

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 Rev 00 Page 263 of 271

pending before any Court, Tribunal, Arbitrator or any other authority. We further agree that this Guarantee shall not be affected by any change in our Constitution or that of the Contractor or in the Constitution of the Company. We also undertake not to revoke this Guarantee during its currency or till the Company discharges the Guarantee in writing.

6. Notwithstanding anything contained hereinabove, our liability under this Guarantee is limited to Rs..... (Rupees) in aggregate and it shall remain in full force upto and including ninety days after unless extended further, from time to time, for such period as may be instructed in writing by M/s..... on whose behalf this Guarantee has been given, in which case it shall remain in full force upto and including 90 days after extended date. Any claim under this Guarantee must be received by us before the expiry of the 90 days from or before the expiry of the 90 days from the extended date. If no such claim has been received by us within the sixty days after the said date/extended date, the Company's right under this guarantee will cease. However, if such a claim has been received by us within and upto sixty days after the said date/extended date, all the Company's rights under this Guarantee shall be valid and shall not cease until we have satisfied that claim

Dated this Day of200....

WITNESS:

(SIGNATURE)



(SIGNATURE)

(NAME)

(NAME)

(OFFICIAL ADDRESS)



(Designation with Bank Stamp)

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 264 of 271

_____ Attorney as per power of

Attorney No.....

Dated:.....

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 265 of 271

APPENDIX-VIII

FORM OF TENDER

(To be filled up by the Tenderer)

For Price Bid

Serial No.

Date:

From

To



Mangalore Refinery and Petrochemicals Limited

Phase III Refinery Project

Mangaluru

Tender No. _____

Having examined the Tender Documents consisting of the Notice inviting Tender, General Instruction of Tenderer, General Conditions of Contract, Special Instructions to Tenderers, Special Conditions of Contract, specifications, plans, drawings, time-schedule, form of Contract, form of tender, form of Schedule of Rates and Addendum (s) to Bidding Document having understood the provisions of the said Tender Documents and having thoroughly studied the requirements of Mangalore Refinery And Petrochemicals Ltd., relating to the work tendered for in connection with the construction of (Name of Refinery/ Project , Mangaluru", and having conducted a thorough study of the job site(s) involved, the site conditions, soil conditions, the climatic conditions, labour, power, water, material and equipment availability, the transport and communication facility, the availability and suitability of borrow areas, the availability of land for right-of-way and temporary office and accommodation quarters and all other factors and facilities and things whatsoever necessary or relative to the formulation of the tender and the performance of work. I/We hereby submit our tender offer for the performance of the proposed work in accordance with the terms and conditions and within the time mentioned in the Tender Documents at the rate(s) quoted by me/us in the accompanying schedules of rates based on the form of schedule (s) of Rates included within the Tender documents and arrived at a Total Contract Value of Rs.....(Rupees..... ...Only)



Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			 <div>Rev 00 Page 266 of 271</div>

based on an application of the rates tendered in the accompanying Schedule(s) of Rates to the relative quantities indicated in the form of Schedule (s) of Rates forming part of the Tender Documents.

If the work or any part thereof is awarded to me/us, I/We undertake to perform the work in accordance with the contract document as defined in Form of contract forming part of the Tender Documents and accept the terms and conditions of Contract as laid down therein, and undertake within 10 (ten) days of receipt of Acceptance / Award of Tender to pay to and/or deposit with the Accounts Officer, Mangalore Refinery And Petrochemicals Ltd., Mangaluru, a sum which, together with the amount of Earnest Money deposited by me/us in terms hereof, shall make Rupees/- (Rupees.....) as specified in the Acceptance / Award of Tender for the purpose of security deposit, by any one or more of the modes of payments specified in the general conditions of contract, and to commence work at each job site(s) involved within 10 (ten) days of handing over the job site or any part thereof to me/us, and to sign, the formal contract in terms of the form of contract forming part of Tender Documents, within 10 (ten) days of receipt of Letter of Acceptance / Award from or on behalf of Mangalore Refinery And Petrochemicals Ltd., in this behalf failing which Mangalore Refinery and Petrochemicals Ltd., shall be at liberty, without further reference to me/us and without prejudice to any of its rights or remedies, to terminate the contract and/or to forfeit the Earnest Money deposited in terms hereof.

In consideration of the sum of Rupee 1/- (Rupee one only) paid to me/us by Mangalore Refinery And Petrochemicals Ltd., by adjustment in the price of Tender Documents, I/We further undertake to keep my/our this tender offer open for a period of not less than 4/6 (four/six) months from the Schedule date of opening of Tender as specified in the General Instructions to tenderers forming part of the Tender Documents.

I/We hereby further state that I/We/None of us (in the case of partnership firm) was/were employed as Directors of Mangalore Refinery And Petrochemicals Ltd., during the period of 2 (two) years immediately preceding the date hereof or I/We hereby declare that I/Sri....., one of our partners in the case of a partnership firm, was employed as a Director in the Mangalore Refinery And Petrochemicals Ltd. during the period of 2 (two) years immediately preceding the date hereof and that I/Sri..... have/has obtained previous permission of Mangalore Refinery And Petrochemicals Ltd., to participate in this tender.

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723					
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU								
				Rev	00	Page	267	of	271

I/We have annexed to this tender the following documents:

- (i) Schedule of Rates in the prescribed form;
- (ii) Original Power of Attorney or proof of authority of the person who has signed the Tender OR copy of Power of Attorney or duly attested by a Gazetted Officer in proof of authority of the person who has signed the tender;
- (iii) Original Income-tax Clearance certificate OR copy of Income-tax Clearance Certificate duly attested by a Gazetted Officer;
- (iv) Original Sales Tax Clearance Certificate OR copy of Sales-tax Clearance Certificate duly attested by a Gazetted Officer;
- (v) Information regarding tenderer in the form annexed to the Form of Tender;
- (vi) Information regarding experience of work of a comparable nature in the form annexed to Form of Tender;
- (vii) Information regarding construction organisation and equipment in for form annexed to the Form of Tender;
- (viii) Solvency Certificate from a Nationalised/Scheduled Bank;
- (ix) Set of Tender Documents, as issued duly signed;
- (x) Any additional documents as listed below;

I/We hereby undertake that the statements made herein and the information given in the Annexures referred to above are true in all respects and that in the event of any such statement or information being found to be incorrect in any particular, the same may be construed to be mis-representation entitling Mangalore Refinery And Petrochemicals Ltd.to avoid any resultant contract.

I/We further undertake as and when called upon by Mangalore Refinery and Petrochemicals Ltd., to produce, for its inspection, original(s) of the document(s) of which copies have been annexed hereto.



I/We confirm having deposited Earnest Money of Rs.....
(Rupees.....) as detailed hereunder: (strike-off whichever is not applicable.)

By Demand Draft No..... Dated..... drawn.....
Bank..... Branch.....attached hereto)

Dated this day of200 .

Witness (Signature)

yours faithfully,

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU			
				Rev 00 Page 268 of 271

Name in block letters



Address

Signature(s) of the Tenderer (s)

Occupation:

Name and designation of authorised person signing the tender on behalf of the tender (s).

Full name and address of the tenderer(s).

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723			
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU						
				Rev	00	Page	269

FORM OF TENDER

(To be filled up by the Tenderer)

For Commercial Bid

Serial No.

Date:

From

To

Mangalore Refinery and Petrochemicals Limited

Phase III Refinery Project

Mangaluru



Tender No. _____

Dear Sirs,

Having examined the Tender Documents consisting of the Tender Notice, General Instructions to Tenderers, General Conditions of Contract, Special Instructions to Tenderers, Special conditions of Contract, Specifications, Plans (Exhibits_____to_____), Drawings (Exhibits_____to_____) Time Schedule, Form of Contract, Form of Schedule of rates, and Addendum (a) to the Tender Documents, and having understood the provisions of the said Tender Documents and having thoroughly studied the requirements of Mangalore Refinery and Petrochemicals Limited, relative to the work tendered for in connection with the _____(Name of the Refinery/Project) and having conducted a thorough study of the job site(s) involved, the site conditions, soil conditions, the climatic conditions, labour , power, water, material and equipment availability, the transport and communication facilities, the availability and suitability of borrow areas, the availability of land for right of way and temporary office accommodation and quarters and all other facilities and things whatsoever necessary for or relative to the formulation of the tender of the performance of work, I/we hereby submit my/our tender offer for the performance of proposed work in accordance with the terms and conditions and within the time mentioned in the Tender Documents.

In consideration of the sum of Rupee 1/- (Rupee one) only paid to me/us by Mangalore Refinery and Petrochemicals Limited, by adjustment in the price of Tender Documents, I We further undertake to keep my/our this tender offer open for a period of not less than 4 (four) months from the schedule date of opening of Tenders as specified in the General Instructions to Tenderer forming part of the Tender Documents:

I/ We hereby further state that I/We/None of us (in the case of partnership firm) and none of our Directors (in the case of a Company) was/were employed as Directors of Mangalore Refinery and Petrochemicals Limited,

Plant MRPL Mangalore	Client MRPL	Contract Code WSS for PFCC Flue Gas	Document ID	tkIS India Project No. 66-6723		
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU					
Rev		00	Page	270	of	271

during the period of 2(two) years immediately preceding the date hereof OR I/We hereby declare that I/Shri _____ on of our partners (in case of partnership firm/Directors in the case of a company) was employed as a Director in Mangalore Refinery and Petrochemicals Limited, during the period of 2 (two) years immediately preceding the date hereof and that I/Shri _____ have/has obtained previous permission of Mangalore Refinery and Petrochemicals Limited, to make this tender .

I/We have annexed to this Bid the following documents:

- (i) Schedule or Rates in the prescribed form.
- (ii) Original Power of Attorney or other proof of authority of the person who has signed the Tender OR copy of Power of Attorney attested by a Gazetted Officer or a Notary Public in proof of authority of the person who has signed the Tender.
- (iii) Original Income-tax clearance certificate OR copy of Income-Tax Clearance certificate duly attested by Gazetted Officer/Notary Public.
- (iv) Information regarding tenderer in the form annexed to the Form of Tender.
- (v) Information regarding experience of the tenderer in the performance of work of a comparable nature in the form annexed to the Form of Tender.
- (vi) Information regarding construction organization and equipment in the form annexed to the Form of Tender.
- (vii) Solvency Certificate from a Nationalized/Scheduled bank.
- (viii) Set of Tender Documents, as issued duly signed.
- (ix) Additional Documents as listed below.

I/We hereby undertake that the statements made herein/information given in the Annexures referred to above are true in all respects and that in the event of any such statement or information being found to be incorrect in any particular, the same may be construed to be a misrepresentation entitling Mangalore Refinery and Petrochemicals Limited, to avoid any resultant contract.



I/We further undertake as and when called upon by Mangalore Refinery and Petrochemicals Limited to produce, for its inspection, original(s) of the document(s) of which copies have been annexed hereto.

I/We confirm having deposited earnest Money of Rs. _____ (Rupees _____) as detailed hereunder (Strike off whichever is not applicable).

(Signature(s) of the Tenderer(s))

Name & Designation of Authorized Person

Singing the Tender on behalf of The Tenderer(s)

Plant	Client	Contract Code	Document ID	tkIS India Project No.				
MRPL Mangalore	MRPL	WSS for PFCC Flue Gas		66-6723				
	LSTK PACKAGE FOR PFCC UNIT FLUE GAS WET GAS SCRUBBER SYSTEM AT MRPL, MANGALURU							
				Rev	00	Page	271	of

Full Name and address of the Bidder(s)

Witness:
 Signature
 Name:
 Occupation:

Name & Designation of Authorized person
 Singing the Tender on behalf of The Tenderer(s)
 Full Name and address of the Bidder(s)

Witness:
 Signature
 Name:
 Occupation:
