

SECTION 1 - QUALITY PLAN

1. Contractor Work Scope Breakdown
2. Contractor Communications
3. Organization Chart
4. QA/QC Functions
5. Design Control
6. Project Control
 - a) Document Control
 - b) Material Control
 - c) Control System
7. Audit

SECTION 2 - INSPECTION & TEST PLAN

SECTION 3 - QUALITY RECORDS

SECTION 4 - CONTENTS OF QUALITY CONTROL DOSSIER

SECTION 1 - QUALITY PLAN

1.1 CONTRACTOR WORKSCOPE BREAKDOWN

The work scope of this contract consists of the supply and application of thermal insulation, including the application and fabrication of cladding, to pipe work and equipment as defined in the contract documents and specifications.

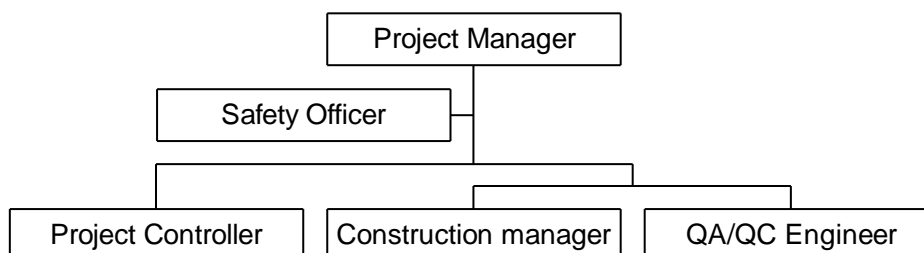
All activities involved in this work scope shall be executed by Lorven Energies India Pvt. Ltd. on site.

1.2 CONTRACTOR COMMUNICATIONS

SITE : Project Manager

HEAD OFFICE : Pankaj Kumar - Managing Director
Lorven House, 1st Floor, LBS Road,
Next to Bank of India, Bhandup
(West), Mumbai – 400 078
Tel : +91 22 2594 0141x`

1.3 ORGANISATION CHART



1.4 QA/QC FUNCTIONS

Ultimate responsibility for QA/QC lies with the Project Manager.

The day to day work quality is the responsibility of the Site Manager.

Impartial inspection of the on-site work and the off-site fabrication work will be maintained through a visiting QA/QC Engineer reporting directly to the Project Manager

1.5 PROJECT CONTROL

A) Document Control

A full set of contract documents (Contract, Specifications and Drawings) shall be issued to Lorven Energies India Pvt. Ltd. (hereafter referred to as “the contractor”) by the client.

The contractor will perform a take off from the contractual drawings to definitively establish the scope of work. These quantities will be entered into a computer database.

The original contract drawings and specifications will be contained in master files on site.

Any revised or new drawings or other documents received from the client will be immediately assessed for ramifications on the scope and the computer data base modified accordingly.

The new or revised drawings or documents will be inserted into the master file(s) and any superseded drawing or document removed, stamped “Superseded” and placed in a separate file.

B) Material Control

All materials will be delivered to Lorven Energies India Pvt. Ltd.

At site.

Upon receipt the Materials Controller will inspect the materials for conformance to the specifications and damage sustained in transit and will generate a Material Receipt Report (MRR) for each delivery.

If any delivery is incomplete or if any non - conformance is identified the Materials Controller will raise a Non Conformance Report (NCR) per the attached pro-forma.

The materials controller will invite the client to inspect materials after delivery.

Any non conforming materials will be segregated in a clearly defined quarantine area until the non-conformance is resolved.

Generally all materials will be stored under secure warehouse conditions. If warehouse capacity is exhausted, materials may be stored outside provided they are always adequately protected from the adverse effects of prevailing weather conditions and such storage complies with the manufacturers' recommendations.

The Materials Controller will maintain a database of all stocks held.

The Project Controller shall authorize the issue of materials to a supervisor or foreman through a Field Work Package (sample attached).

C) Process Control

No work will be undertaken prior to the receipt of a written release from the client. On receipt of the release the Project Manager or his delegate will raise a Workface Inspection Report. (Sample attached) This report will detail any circumstances which render all or part of the release as invalid. The report will be forwarded to the client.

When any hold on the release has been resolved the work within the release will be split into appropriately sized work packages for the execution of an individual work crew. The details of this work package containing:-

- Specification
- Location
- Material requirements

are recorded on a Field Work Package (FWP) which has a drawing defining its scope attached (this may take the form of a marked up photo-copy of an isometric or other appropriate sketch.)

All FWPs will be allocated a unique number.

Copies of FWPs will be issued to :-

- The responsible field supervisor
- The materials controller
- The fabrication shop supervisor

The original will be kept in the master file which will be maintained by the Project Manager

The master copy will have a Field Inspection Sheet attached.

The Project Manager will monitor the progress of the works to ensure compliance with the specifications.

On completion the Project Manager will offer the FWP for inspection and acceptance by the client.

If for any reason items on the FWP cannot be completed exactly per the spec. the contractor must apply for a concession per the Technical query.

If for any reason items on the FWP cannot be completed for reasons outside the contractor's control (e.g. local obstructions) then the client will be notified immediately to allow them to take remedial action and these exceptions will be recorded on the FIS .

On final completion of the exceptions the FIS will be re-submitted to the client.

1.7 AUDIT

The QA/QC Engineer will be responsible for internal site audits.

Audits will be carried out on a quarterly basis.

SECTION 2 - INSPECTION AND TEST PLAN

ACTIVITY #	INSPECTION TO BE CARRIED-OUT BY CONTRACTOR	ACCEPTANCE CRITERIA / PROCEDURE	VERIFYING DOCUMENT	INSPECTION	
				SLIPL	CLIENT
1	Incoming Material Inspection		MMR	H	
2	Client Insulation Release		Client Release Note	H	H
3	Pre Insulation Inspection		WIR	FI	RI
4	Insulation		FIS	FI	RI
5	Jacketing		FIS	FI	FI
6	Final Inspection		FIS	FI	FI
7	Quality Dossier Review		Quality Dossier	FI	FI

H = HOLD ; RI = RANDOM INSPECTION ; FI = FULL INSPECTION

SECTION 3 - QUALITY RECORDS

Active Documents Listing:-

Workface Inspection Report (WIR)

Field Inspection Sheet (FIS)


Material Receipt Report (MRR)

Non-Conformance Report (NCR)

SECTION 4 - QUALITY DOSSIER CONTENTS

The quality dossier shall be maintained as on file on site for inspection at any time by the client and shall comprise:-

- | | |
|------------------|--|
| Section 1 | Copy of Contract Quality Plan |
| Section 2 | Materials <ul style="list-style-type: none">- Copies of all Material data sheets- Copies of all MRRs |
| Section 3 | Process Control <ul style="list-style-type: none">- The Client Release Forms- Field Inspection Sheets |
| Section 4 | Conformance |
| 4.a. | Copies of all NCRs and answers (the Client - NCR system will be utilized.) |
| 4.b. | Applications for concessions and field design change requests. |

		WORKFACE INSPECTION REPORT (Insulation work)		WIR NO. _____
Client: Project : Contractor :		Contract Number: _____ Date _____ Revision No. 0		
Line / Eqpt. # -----			Area _____	
Drawing # -----			Release Ref. _____	
No.	POTENTIAL SNAG	YES DATE / INITIAL	NO DATE/INITIAL	
1	MECHANICAL WORK COMPLETE			
2	TRACING WORK COMPLETE			
3	ACCESS OBSTRUCTED BY OTHERS			
+	OTHER (SPECIFY)			
4				
COMMENTS				
RELEASE OF SNAGS				DATE / INITIAL
For SLIPL : Release Accepted Name _____ Signature _____ Date _____		This inspection is executed visually to verify work availability only. A positive inspection does not imply any acceptance or approval of work executed by previous trades. Any fault becoming apparent in previous work after insulation work has commenced is entirely the responsibility of xxx.		



FIELD INSPECTION SHEET

(Insulation work)

FIS No

Client: Project : Contractor :	Contract No. Date Revision No. 0
---	---


Line # _____


Drawing # : _____

Release Ref : _____

No.	INSPECTION POINTS	For SLIPL	STP&I/ STECON	FWW
		Conforms Initials/Date	Conforms Initials/Date	Conforms Initials/Date
<u>INSULATION</u>				
1	PREINSULATION INSPECTION			
2	INSULATION THICKNESS (.....mm)			
3	INSULATION FIXINGS (As per contract specification)			
<u>CLADDING</u>				
4	CLADDING THICKNESS (.....mm)			
5	CLADDING SECUREMENT AND FIXINGS (As per contract specification)			
6	SEALANT APPLICATION (As per contract specification)			
7	FINAL INSPECTION			NOT RANDOM
8	EXCEPTIONS (HOLD POINTS, NOT RELEASED)			
9	RELEASE OF EXCEPTIONS			

For SLIPL : Confirms Name _____ Signature _____ Date _____	For STP & I / STECON : Verified and Accepted Name _____ Signature _____ Date _____	For FWW : Verified and Accepted Name _____ Signature _____ Date _____
---	---	--

		MATERIAL RECEIPT REPORT		MRR No
Client:		Contract Number:		
Project :		Date		
Contractor :		Revision No. 0		
Original Supplier:		Carrier:		
Delivery Note Ref:			Date Recd:	
MATERIAL DESCRIPTION	UNIT	QTY		
Check List (Initial Box)				
Good Condition				
Correct Dimensions				
Correct Quality				
Correct Specification				
Delivery Accepted				
Partial Acceptance			(Exceptions, if any, listed in Comments below)	
Comments :				
Part Shipment				
Prepared By				
NAME :	SIGN :	Date :		

 LORVEN ENERGIES INDIA PVT. LTD.	<h2 style="margin: 0;">NON-CONFORMANCE REPORT</h2>	NCR No																									
Client: Project : Contractor :	Contract No. _____ Date _____ Revision No. 0																										
A. Definition of Non-Conformance Drawing or Specification Reference : _____																											
Description of non-conformance :																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">Identified by:</td><td></td></tr> <tr><td>Title:</td><td></td></tr> <tr><td>Signature:</td><td></td></tr> </table>				Identified by:		Title:		Signature:																			
Identified by:																											
Title:																											
Signature:																											
B. Corrective Action Req.																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">Proposed:</td><td></td></tr> <tr><td>Title:</td><td></td></tr> <tr><td>Signature:</td><td></td></tr> <tr><td>Approved:</td><td></td></tr> <tr><td>Title:</td><td style="text-align: center;">Project/Construction Manager</td></tr> <tr><td>Signature:</td><td></td></tr> </table>				Proposed:		Title:		Signature:		Approved:		Title:	Project/Construction Manager	Signature:													
Proposed:																											
Title:																											
Signature:																											
Approved:																											
Title:	Project/Construction Manager																										
Signature:																											
C. Corrective Action Taken																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">Confirmed:</td><td></td><td></td><td></td></tr> <tr><td>Title:</td><td></td><td></td><td></td></tr> <tr><td>Signature:</td><td></td><td></td><td></td></tr> <tr><td>Confirmed:</td><td></td><td></td><td></td></tr> <tr><td>Title:</td><td></td><td></td><td style="text-align: center;">Project/Construction Manager</td></tr> <tr><td>Signature:</td><td></td><td></td><td></td></tr> </table>				Confirmed:				Title:				Signature:				Confirmed:				Title:			Project/Construction Manager	Signature:			
Confirmed:																											
Title:																											
Signature:																											
Confirmed:																											
Title:			Project/Construction Manager																								
Signature:																											
D. Action Taken To Prevent Recurrence																											
Prepared By																											
Name:		Signature:																									

Material Requisition



LORVEN ENERGIES
INDIA PVT. LTD.

Date:

Contract No.	PROJECT NAME	CLIENT	REQUISITION No.

SL. NO	DESCRIPTION	Size	Thickness (mm)	Width (mm)	Length (mm)	Height (mm)	Specification	Density	QTY Requested	QTY Issued	Unit

Requested By :

Signature :

Name :

Authorized By :

Signature :

Name :