





Plant 1.0 MTPA ALUMINA REFINERY STREAM-5	Client NALCO	Contract Code NAL	Document ID 6695-INS-556-CA-0001	Contract No. 66-6695
	Battery Limit & Interfaces for Contractor - Instrumentation			 नेशनल एल्युमिनियम कम्पनी लिमिटेड National Aluminium Company Ltd.
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tkIS India / Vendor		tkIS India / Owner / Client	
Category Codes (Submission Purpose)	<input type="checkbox"/> 1 For Approval <input type="checkbox"/> 2 For Review / Comments <input type="checkbox"/> 3 For Information <input checked="" type="checkbox"/> 4 For Engineering <input type="checkbox"/> 5 For Enquiry <input type="checkbox"/> 6 For Order Placement <input type="checkbox"/> 7 Final & Approved <input type="checkbox"/> 8 Released for Construction	Category Codes (Submission Purpose)	<input type="checkbox"/> 1 For Approval <input type="checkbox"/> 2 For Review / Comments <input type="checkbox"/> 3 For Information <input type="checkbox"/> 4 For Engineering <input type="checkbox"/> 5 For Enquiry <input type="checkbox"/> 6 For Order Placement <input type="checkbox"/> 7 Final & Approved <input type="checkbox"/> 8 Released for Construction
Acceptance Codes (Approval Codes)	<input type="checkbox"/> 1 Approved <input type="checkbox"/> 2 Approved for Manufacturing / Fabrication with Comments as marked <input type="checkbox"/> 3 Not Approved / Resubmit <input type="checkbox"/> 4 Retained for Information / Records <input type="checkbox"/> 5 Reviewed <input type="checkbox"/> 6 Reviewed as Noted / Resubmit	Acceptance Codes (Approval Codes)	<input type="checkbox"/> 1 Approved <input type="checkbox"/> 2 Approved for Manufacturing / Fabrication with Comments as marked <input type="checkbox"/> 3 Not Approved / Resubmit <input type="checkbox"/> 4 Retained for Information / Records <input type="checkbox"/> 5 Reviewed <input type="checkbox"/> 6 Reviewed as Noted / Resubmit
<p>Remarks for AC2 : This marked-up drawings is hereby approved for fabrication / manufacturing and shall be re-submitted after revision. This drawing should be revised only to the extent of tkIS India / Owner / Client comments. Any other changes made by you will not be considered unless clearly highlighted in covering letter asking for approval.</p>			
<p>This approval / review does not absolve the supplier from the full responsibility for design and fabrication.</p>			
Date : __/__/____ Name : _____		Date : __/__/____ Name : _____	

00		Issued for Tender	27-02-2018	YTI	27-02-2018	SHD	27-02-2018	SHD	-
Rev.	Status	Description	Date	Prepared	Date	Checked	Date	Approved	AC
			<div style="text-align: center; font-size: 2em;">Barcode</div>						Category Code: -
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1 GENERAL

The battery limit of LSTK Contractor for instrumentation shall be as indicated in:

- Overall Plot Plan (Dwg. No. 6695-LAY-G00-LD-0001).
- Plot Plan for lime storage & preparation (slaking) package (Dwg. No. 6695-LAY-556-LD-0001).



All instrumentation items in the area indicated in above mentioned documents shall be in the LSTK Contractor's scope and shall be supplied along with necessary accessories, cabling etc. and installed by the LSTK Contractor.

In case of any difference of opinion between the LSTK Contractor and Other Contractor regarding scope, it shall be brought to the notice of Owner / Consultant . Decision on the same given by Owner / Consultant shall be binding on all the concerned parties.

2 BATTERY LIMIT DEFINITIONS

This is an elaboration of Battery Limit (B/L) conditions mentioned above. The scope shall include but not limited to the following:

- All instrumentation and control within the battery limit of lime slaking package of LSTK Contractor.
- Supply of Control System (i.e. DCS System) for lime slaking shall **NOT** be by LSTK contractor. However if any package PLC is required for execution of the referred LSTK unit, the same shall be in the scope of LSTK Contractor.
- All types of cables for lime slaking package areas.
- For fibre optic cables, refer note 6 in the below diagram.
- All types of Power Supplies and distribution of power to control system and instruments in lime slaking package unit as per the philosophy mentioned in the enquiry documents. Power supply and feed to Power distribution cabinet of Control System and field instruments for lime slaking unit shall be provided by LSTK Contractor.
- Main cable trays / trenches for instrumentation of complete lime slaking package unit within the battery limit.
- Cable tray routes in lime slaking package unit area shall be designed and implemented by LSTK Contractor taking into account the requirement for cable space required for future.
- LSTK Contractor shall make the necessary provisions for space, infrastructure and UPS/non -UPS power inside the Remote IO Room for installation and operation of Control System and Operator Consoles.
- Lime slaking package areas Control System Marshalling and System Cabinets including that of Package unit PLC cabinets (if applicable) shall be located in Remote IO room. The Operator Consoles for lime slaking package unit shall be located in Substation US-501.
- Any other activity not explicitly specified in this section but required as per the enquiry documents for lime slaking package areas are also in LSTK Contractor's scope.
- Bare laying of unarmoured special cables, RS-485 cables etc. not to be done. They shall be laid through rigid conduits.

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- The LSTK Contractor shall co-ordinate and provides all the assistance required to other Contractor wherever the interfaces between the two packages are present.
- The Control system for the above unit is in the scope of Control system Vendor. LSTK contractor will terminate cables up to marshalling rack.
- Any matters of dispute between the 'LSTK Contractor' and Other LSTK Contractor shall be brought to the notice of Owner / Consultant . Decision on the same given by Owner / Consultant shall be binding on all the concerned parties.

Overview of Battery Limit & Interfaces – Instrumentation

