

## CLARIFICATIONS TO PRE-BID QUERIES

**Design, Engineering, Supply, Erection and Commissioning of Alumina Unloading and Transportation System (AUT),  
Tender Ref. No: NALCO/CORP/P&T/CONT/2025/052 Dated: 23.10.2025 at Smelter Plant of NALCO Angul.**

Sl. No.	Clause No.	Page No.	Description as per NIT Document	Queries/ Suggestions	NALCO / DCPL's Clarifications / Reply
1	Clause-2.01.01	11 OF 1127	Self-contained automatic electronic air cleaning unit to be provided	Kindly share us details specification	Floor mounted Room Air Purifier with Fine & HEPA filter of adequate capacity
2	Clause-2.01.01	11 OF 1127	docking system at tail and head side	Docking system at tail end is not clear to us. Please elaborate detail requirement	It refers to the mechanism consisting of a series of transition idlers and head & tail pulleys that maintains the transition between the pipe conveyers troughed and pipe form
3	Clause-2.01.01	12 OF 1127	Approach road for smooth & uninterrupted movement of traffic shall be provided from main approach road of the plant to the proposed wagon unloading area keeping in view the traffic and personal movement a road of width 7.5 m shall be considered.	<ol style="list-style-type: none"> <li>1. Length of road or else approach road indicated in plot plan drawing.</li> <li>2. Also please furnish the constructional detail of the road to be considered</li> </ol>	<ol style="list-style-type: none"> <li>1. Bidder to assess length from site visit data.</li> <li>2. Road to be designed for movement of Technological vehicle running inside plant with Loaded vehicle weight of 60 Tons. Axle load of 20 Tons.</li> </ol>

4	Clause-2.01.01	12 OF 1127	Placement of rails with clamps on concrete pavement at wagon unloading area.	<p>1. Please indicate the length of railway track to be laid by bidder.</p> <p>2. Since laying of rail is special type of job and only RDSO approved vendors are allowed to do such type of installation work. We request to exclude the same from bidder's scope</p>	<p>1. Bidder to assess length from site visit data</p> <p>2. NIT condition shall prevail</p>
5	Clause-2.01.01	12 OF 1127	Design, supply and construction of outdoor paving and roads of the proposed installation	Kindly specify the area to be paved.	15 meters from the outer perimeter of equipment installation area each side.
6	Clause-2.01.01	13 OF 1127	<p>Proposed unloading area of alumina from railway wagon and pipe conveyor routes, transfer points location and pipe conveyor supports are tentative only.</p> <p>LSTK Vendor has to finalize exact location of wagon unloading area after joint survey with railway contractor. Pipe conveyor routes, transfer points location and pipe conveyor supports shall be fixed after field survey by the LSTK Vendor.</p> <p>Any change in the proposed system design, drawings and documents on account of above shall be at the cost of the LSTK Vendor and not to the cost of owner.</p>	<p>We understood the tentative location of alumina unloading area, i.e material receipt point and discharge point of the material will remain fix. In between if there is any change in location of intermediate TP or pipe conv trestle the same will be taken care by the bidder.</p> <p>However if there is any change in material receipt point and discharge point for which total conveyor length get increase abruptly such conditions not covered under LSTK scope and the same will be executed with additional commercial implications</p>	<p>Bidder shall comply with terms of tender without any commercial implication.</p> <p>Starting area and destination points are fixed.</p>

7	Clause-2.01.02.09	Page-18 of 1127	Instrument grade compressed air requirement for various control equipment & other places as required for the entire plant will be supplied from the compressor with all accessories including moisture trap, air receivers, oil filters and dryers etc. by the LSTK vendor	Shall we have to consider supply of instrument air for the entire plant or else for control of equipment within battery limit. If so please quantify the requirement of instrument air. In case of distribution of compressed air beyond battery limit please indicate the same	The requirement within this Project's Battery Limit is to be considered. Bidder has to estimate Instrument air quantity based on instruments and also pulse jet air for bag filters. Refer the P&ID diagram
8	Clause - 5.00.00	Page-41 of 1127	In order to feed alumina for the future expansion of smelter plant, provision to be kept in the transfer house TP-1 of Alumina Unloading and Transportation System. The scheme will be worked out in detailed engineering and only one more diverter shall be considered to be in the scope of supply at TP-1.	As per flow scheme drawing no 14L08-DWG-PR-PFD-001(Sheet 2 of 2) no future provision is showing at discharge end of PC-100. As per referred clause we understood that one no additional pneumatic diverter gate to be considered. Also please indicate the receiving floor level of future conveyor to be considered for smelter plant	Consider one no. additional diverter Gate/valve. Consider receiving level of conveyer same as of now.
9	Clause - 5.00.00	Page-43 of 1127	Fire Detection System will be given for entire buildings. Fire detection system will not be provided throughout the conveyor gallery	1. Referred to the clause we are considering FDA system for electrical room and all TP's. Shall we need to consider FDA for any other buildings. 2. Generally, for pipe conveyor (after formation of pipe) there is no requirement to consider FDA and fire fighting system. We provide FDA and Fire fighting system up to transition zone at both. Kindly clarify your requirement.	1. Consider Central Control Room and Electrical Room. Also consider in the location where there is Fire tender. 2. Consider along the entire length of conveyer. LHS cable for fire detection and MVWS to be provided for fire fighting. 3. Alarm and annunciation system shall be provided in the control room

10	Clause - 5.00.00	Page-43 of 1127	Relocation of DOL starter, electrical panel and cable tray routing and also modification of supporting structure and side sheeting for interfacing with existing system (at silo 5 & 1).	<ol style="list-style-type: none"> <li>1. As per profile drawing of Un-loading and Conveying System (Dwg no-14L08-DWG-M-PL-002) we understood that air slide AS-401 and AS-501 will discharge material to existing conveyor HC-BL-002. Shall we need to consider the necessary modification work at two numbers loading zone of existing conveyor HC-BL-002.</li> <li>2. For installation of air slide AS-401 and AS-501 necessary support may be required to be taken at discharge end from existing TP i.e. TR-01. We presume that the same will be allowed.</li> <li>3. As per proposed system air slide AS-500 and AS-400 is discharging material to SI-2 and SL-6. However, no canopy or covered shed shown in the drawing. Shall we need to consider any canopy or shed.</li> </ol>	<ol style="list-style-type: none"> <li>1. To be considered</li> <li>2. Yes . confirmed</li> <li>3. To be provided as required .</li> </ol> <p>Site visit will provide clarity on these above points</p>
11	Clause - 5.00.00	Page-43 of 1127	All mobile equipment and special handling equipment, such as fork lift truck etc. for normal operation of the plan shall be arranged by the successful bidder. The Owner shall provide the equipment, if available on chargeable basis as per the rate of NALCO.	Both the clauses are contradictory. We understood that mobile equipment and special handling equipment, for construction of plant not for operation of plant.	It refers to the construction phase

12	2.02.00 CIVIL & STRUCTURAL SCOPE	Page-347 of 1127	All mobile equipment and special handling equipment, such as fork lift truck etc. for normal operation of the plan shall be arranged by the successful bidder. The Owner shall provide the equipment, if available on chargeable basis as per the rate of NALCO.	Both the clauses are contradictory. We understood that mobile equipment and special handling equipment, for construction of plant not for operation of plant.	It refers to the construction phase
13	Clause No.- 7.00, Sl. no.- 5	Page-45 of 1127	Goods cum passenger lift (Rack and Pinion type) near transfer point (TP-2) of silo 5 &6	Kindly clarify the quantity of elevator required for the package and location.	One number
14	Clause No.- 7.00, Sl. no.- 27	Page-45 of 1127	Elevator (rack & Pinion Type)		
15	Clause 8.01.01	Page-47 of 1127	Clear walkway on one side of 1200 mm and other side of 600 mm minimum width shall be provided along the length of pipe conveyor gallery	As per IS-11592 clause no 8.15.5 (b) minimum width of walk way should be 800mm. Instead of 600mm walkway we propose for 800mm walkway. We request you to relook into the matter.	Please consider 1200 in one side & 800 mm in other side as per IS code.
16	Clause no. - 8.01.02, Conveyor Parameter	Page-48 of 1127	Material Property: Moisture content of the material. Belt speed of pipe conveyor-3.2mtr	<ol style="list-style-type: none"> <li>Please indicate the moisture content of alumina to be considered for conveying through pipe conveyor.</li> <li>Since alumina will be in dust form, belt speed of 3.2 mtr/sec may spillage of alumina from belt. Kindly share us the belt speed of existing belt conveyor conveying alumina.</li> </ol>	<ol style="list-style-type: none"> <li>Moisture Content:1% Max</li> <li>At the feed end hood with dedusting chute to be provided to avoid spillage.</li> </ol> <p>Existing system is of Flat conveyor type. Hence, it's speed may not be relevant for the proposed system of Pipe conveyor design</p>
17	Clause-8.10	Page-59 of 1127	All the alumina unloading area shall be under shed to protect Sun & Rain	Refer to the clause please confirm the following points:	.

			<p>Platforms (full length of the shed for both tracks) shall be constructed for two side access to roof of BTAP wagons inside the shed for alumina unloading.</p>	<ol style="list-style-type: none"> <li>1. Please clarify bidder's scope regarding construction of shed over railway track-1&amp;2 and wagon un-loading area for the proposed system. If the shed over track will be in bidder's scope please furnish us details/drawing showing overall dimension of shed.</li> <li>2. Please confirm that construction of platform will be in bidder's scope or else by others</li> <li>3. As per profile drawing of conveyor a receiving underground pit is showing below rail track for intermediate storage and installation of 2 nos sire slide. Please clarify bidder's scope regarding construction of under-ground pit and rail track support arrangement.</li> </ol>	<ol style="list-style-type: none"> <li>1. Will be in bidders scope. The detail drawings will be prepared by the vendor. Coordination with Railway authority for approval of the same will also be in the scope of the vendor as per NIT Terms &amp; conditions.</li> <li>2. Construction of platform in bidder's scope. NIT condition will prevail.</li> <li>3. Construction of platform in bidder's scope. NIT condition will prevail.</li> </ol>
18	<p>Clause-2.04.00, SECTION – III/2 :ELECTRICAL</p>	<p>Page-63 of 1127</p>	<p>Hazardous areas / location in the plant shall be clearly defined and marked on the layout drawings by the Bidder. Where fire hazard is present increased safety, non-sparking, flame-proof or explosion proof type equipment shall be used in line with relevant standards. All such equipment supplied shall be certified, by a recognized authority, as fit for use in that particular location.</p>	<p>Material handled is alumina which is non-combustible. Accordingly advise us the Hazardous areas to be considered.</p>	<p>Equipment selection should be for non-hazardous area</p>

19			Plot plan drawing (Dwg No-14L08- DWG-M-PL-001)	Please share us the plot plan drawing in AutoCad format for measuring the radius of pipe conveyor.	Pdf copy is available in NIT. Auto Cad copy can be shared post order as per requirement.
20	1.000.000	129/1348	Similar to the existing system, alumina will arrive at the plant in specially designed BTAP wagons	Please indicate if wagons will be of LP or HP type	LP Type, Existing Operating Pr :1.8 Kg cm2
21	5.00.0 Process Description	135/1348	The dust emission level from the de-dusting units shall be limited to 50 mg/Nm3.	Which is to be followed	50 mg/Nm3.
22	1.05.04 Environment al Control System	787/1348	Stack emission shall be limited to 10 mg/Nm3		
23	8.01.02 Design Parameters	142/1348	Pipe Conveyor Design Data	Can we follow the industry standards for filling factor, Belt Width and belt Speed,( e,g 75% filling factor)	70 % fill, 1.8 m belt width , 3.2 m/s speed to be complied with as per Design Basis
24	8.01.02 Design Parameters	142/1348	Bulk density is indicated as 0.85 t/m3	Please indicate which is to be followed.	0.85 t/m3
25	XXIII : Mechanical Datasheets Pipe Conveyor Datasheet	875/1348	Bulk density is indicated as 1.1 t/m3		
26	8.09 Rope Winch System	153/1348	Rope winch system for wagon hauling shall be as per vendor's standards.	Preferred list of indian vendors no longer supply Rope-Winch Systems. Can alternate method be adopted.	Ref Sec-V:List of Preferred Vendor List of Equipment , Note:b) : Any material/ make/brand required to complete the project but not included in the preferred vendor list to be procured after taking prior approval from the Nalco on submission of proven

					<p>track record documents.</p> <p>In case, the vendor want to supply a different material/ make/brand other than the Preferred vendor list of NIT, they have to submit the following documents to DCPL/NALCO for consideration and approval post order before procurement and supply :</p> <p>a) List of clients to whom the material had been supplied during last 5 years with supporting documents like PO/WO copy issued by the client.</p> <p>b) Successful Performance certificate for a minimum period of one year since commissioning/put to use from the client.</p> <p>c) All the documents should be submitted after Notarization.</p>
27	2.02.00	442 of 1348	Point# AH , Sub-point#3, Taking Permission from the railway Authority for necessary construction of underground structures below railway line	Bidder understanding is, obtaining approval of the designs from Railway Authority is not in scope of Bidder	<p>NIT Condition shall prevail</p> <p>Ref Point :AH), Pg:342 of 842 (348) Ref Point :VI), Pg:371 of 842 (377)</p>
28	2.02.00	442 of 1348	Point# AH , Sub-point#4, Taking Permission from the railway Authority for necessary construction of underground structures below railway line	Bidder understanding is, obtaining approval of the designs from Railway Authority is not in scope of Bidder	<p>Nalco will apply for statutory clearance and pay the statutory fee. However, bidder will submit necessary documents/drawings and co-ordinate with statutory authority for necessary approval for construction.</p>
29	2.02.00	443 of 1348	Point# AH , Sub-point#7, #8 & #9 , Railway track laying, checking of Railway track, coordination with railway Authority for smooth execution of project.	Bidder understand is, checking of adequacy of existing facilities below railway lines is not in scope of Bidder	<p>The rails, to be removed within the</p>



					<p>battery limit of the project, shall be jointly inspected within two months of placement of PO by the vendor and NALCO/DCPL before removal. Decision of requirement of replacement of defective rails will be taken after that and the required rails shall be provided by NALCO.</p> <p>The vendor will coordinate with Indian Railways Authority for clearance for movement of Trains on the newly built railway lines and obtaining track fit certificate from Indian Railways for movement of rakes.</p>
30	1.01.00	287 of 842	A completed PLC based Control system along with CCTV is envisaged for monitoring and control of the entire Plant	Bidder understands CCTV has to cover only Alumina Unloading System	Ref Cl. No.# 3.01.00 under CCTV system. Entire Alumina Unloading & Conveying System shall be covered by CCTV
31	1.05.01	288 of 842	Additional IO Card of Siemens S7 300 in the existing Control Room	Bidder needs number of Silo 1 and Silo 2 Area tentative IO (DI, DO, AI, AO) to consider IO Cards	Bidder may please refer to the Process Flow Diagrams, P&IDs, Electrical SLD, Control Schematics, Drive Logic Diagrams and Electrical Interface Details as provided in the NIT document to calculate the same. Spare philosophy needs to be considered as per NIT.
32	1.05.01	288 of 842	Additional IO Card Of Rockwell Flex IO in the existing GTC-8 Room	Bidder needs number of Silo 5 and Silo 6 Area tentative IO (DI, DO, AI, AO) to consider IO Cards	Bidder may please refer to the Process Flow Diagrams, P&IDs, Electrical SLD, Control Schematics, Drive Logic Diagrams and Electrical Interface Details as provided in the NIT document to calculate the same.

					Spare philosophy needs to be considered as per NIT.
33	-	304 of 842	training	Bidder understands training persons travelling and other expenditure shall be borne by the owner	The vendor has to impart training to the NALCO personnel at Nalco's site and Vendor's site as per NIT. The cost of traveling, lodging & boarding of only Nalco's representatives shall be borne by NALCO in case of training at vendor's site. All other expenditures shall be borne by the vendor.
34	-	305 of 842	After Sales Support	Bidder need more clarification on this	<b>NIT conditions shall prevail</b>
35	5.03.08, DBR Civil		Sanitary Sewage drainage system is required for all RCC buildings. This shall comprise of local septic tank and soak pit close to the building. It must be connected to existing nearby sewerage network of plant	Please confirm the distance of existing nearby sewerage network of Plant	Connection to sewerage network is not required
36	2.8.02,DBR Civil		The wall posts shall generally terminate at 3.5m above roof level.	We request NALCO to clarify the specific requirement of wall post.	This Clause is to be ignored
37	-	Exclusions at page 38 of 842	Placement of rails with clamps on concrete pavement at wagon unloading area.	Wagon Rail <b>track</b> (except placement of rails with clamps on concrete pavement at wagon unloading area. However, civil requirement below rail track adjacent to the unloading area shall be in the bidder's scope). We request Nalco/DCPL to clarify the scope	NIT Condition shall prevail Ref Point :AH), Pg:342 of 842 (348) Ref Point :VI), Pg:371 of 842 (377) Nalco will apply for statutory clearance and pay the statutory fee. However, bidder will submit necessary documents/drawings and co-ordinate with statutory authority for necessary approval

					for construction.
38	elevator		<p>As per tender, Elevator will be R&amp;P Type and makes given are as follows:-</p> <p>ECE, Kone, Omega, OTIS, Thyssen Krupp</p>	<p>Please note that R&amp;P type Elevators are not manufactured by ECE, Kone, Omega, OTIS or Thyssen Krupp.</p> <p>Instead, R&amp;P Type Elevators are manufactured by Alikraft, Mekastar or Seva Engg. &amp; Trading.</p> <p>Please confirm what type of Elevator is to be supplied and their makes.</p>	<p>R&amp;P type to be considered.</p> <p>Ref Sec-V:List of Preferred Vendor List of Equipment , Note:b) : Any material/ make/brand required to complete the project but not included in the preferred vendor list to be procured after taking prior approval from the Nalco on submission of proven track record documents.</p> <p>In case, the vendor want to supply a different material/ make/brand other than the Preferred vendor list of NIT, they have to submit the following documents to DCPL/NALCO for consideration and approval post order before procurement and supply :</p> <p>a)List of clients to whom the material had been supplied during last 5 years with supporting documents like POWO copy issued by the client.</p> <p>b) Successful Performance certificate for a minimum period of one year since commissioning/put to use from the client.</p> <p>c) All the documents should be submitted after Notarization.</p>

39	Electrical			Please provide Cable distance from Substation 710.37 to New Electrical Room	NIT Condition will prevail Ref Point :j), Pg:61 of 842 (67)
40	Electrical			Please provide Cable distance from Substation Cellular Switchgear at SWGR-3 to New Electrical Room	NIT Condition shall prevail Ref Point :k), Pg:61 of 842 (67)
41	Electrical			Please provide Location of New Electrical Room	NIT Condition shall prevail Ref Point :l), Pg:61 of 842 (67)
42	Electrical			Please provide Cable distance between New Electrical Room to Existing 220 kv SCADA location	NIT Condition shall prevail Ref Point :m), Pg:61 of 842 (67)
43	Civil			Please provide Soil Test report for Alumina Unloading area	Bidder to collect available soil data from site visit.
44	Civil		Replacement of Rails of the existing Railway line	Whether the same rails/new rails will be used during replacement. In case of requirement of new rails, whether the same will be supplied by NALCO.	NIT Condition shall prevail (Ref Technical Specification, point AH, Pg:342 to 343 of 842). The rails/sleepers/fish plates, to be removed within the battery limit of the project, shall be jointly inspected within two months of placement of PO by the vendor and NALCO/DCPL before removal. Decision of requirement of replacement of defective rails/sleepers/fish plates will be taken after joint inspection. Only the required rails/sleepers/fish plates shall be provided by NALCO as free issue material for erection/placement of the same by the vendor. All other

					<p>materials like clamps, bolts, nuts etc. will be supplied and fitted by the vendor.</p> <p>Prior to dismantling of existing rails, prior approval may be required from Indian Railways. The vendor has to co-ordinate with Indian Railways in obtaining the required clearance/approval.</p> <p>After re-instatement of rails, the vendor will also coordinate with Indian Railways for obtaining track fit certificate &amp; other certificates (required if any) from Indian Railways in order facilitate movement of trains/rakes on the newly built railway lines.</p>
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