بسم الله الرحمن الرحيم

Ministry of Finance
Ameenee Magu, Male', Republic of Maldives
Telephone: (960) 334 9266, Fax: (960) 332 0706

ފައިނޭންސް ވަޒާރަތް
އަމިނީ ފޮތް ، ގަދޫ، ދިވެހިރާއްޖެ

CLARIFICATION 2

2 ވަޒާހަތްދިނުން

ނަންބަރ **No:**	**TES/2023/W-034**	
ޕްރޮޖެކްޓް Project:	**Development of Cold Storage and Associated facilities in Ga. Kooddoo, M. Mulah and K. Kandu Oiy Giri**	
ތާރީޚް Issued Date:	**21st August 2023**	
ސަފްޙާ ހިސާބު No. of Pages: - 40	ބ.ކ.ލިޔުން BoQ: -00	ޑްރޯއިންގ Drawings: -00

Please include this amendment when submitting the bid ލަފާ ހުށަހަޅާއިރު ތިރީގައިވާ ބަދަލު ހިމެނުމަށް ލަފާ ދޭންވާނެ ކަމަށް ވަޒާރާ ދަންނައެވެ.

- **Answers for the Queries are attached with this Clarification.**

ނަން **Name: Fathimath Rishfa Ahmed**	ސޮއި **Signature:**

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
1	General	Furthermore, detailed spec - The products to be stored 1. The storage capacity in tons for each product? 2. The storage conditions Ex :-(-18; +4…)? 3. The layout plan of the warehouse building? If not available, the full dimensions. Do you've CAD Drawing regarding this, please feel free to send us. 4. What are the ideal items when you are going to store ? More information like fish type – Ex :– Tuna. 5. Blast freezing capacity/batch 6. Freezing time/batch, 7. Power supply(voltage/Hz/phase), etc. What is the temperature range?	1 .All lots in cold rooms, tuna is stored in steel mesh cages, which can store 1200 KG, it will be stored in 3 layers. One over another Storage conditions are. 2.Tuna arrived to store after segregation of various sizes, -8oc to -10oc. It must reach -20oc in 16 hours 3. Ideal size of cold rooms of inner dimensions are L=29 meter, W14.5-meter, H 5.5 meter 4. Item items are frozen Tuna from 1.5Kg to 6kg. Above 6kg Yellow fin 5/6.Blast freezing is 10-ton batch. Per 8 hours. 7. Voltage 400V 3 Phase 50 Hz, All cold rooms should be able to maintain -25oc.
2	K. Kandu Oiy Giri	Project duration is mentioned as 60 days for design and 140 days for construction. However Testing, commissioning and other services will take 60 days' time. Therefore, at least 240 days Overall completion period is requested. Please confirm this.	Additional 40 days for testing and commissioning is acceptable. Therefore, to provide 240days duration for complete handover of facility after testing and commissioning. This additional 40 days for testing and commissioning also applies to Kooddoo and Mulak cold storage development work as well
3	K. Kandu Oiy Giri	Receiving room temperature is mentioned as plus 22 degree in the last clarification. What is the cooling method there?	Air cooled unit. Ceiling or wall mounted air-cooled evaporator units
4	K. Kandu Oiy Giri	What is the temperature of fish receiving to the building?	Tuna received for Receiving room Expected between +10oc~+16oc.
5	K. Kandu Oiy Giri	Is the refrigeration system a common ammonia system for both cold room & blast freezer?	It can be designed that way, but we prefer 2 separate system, Usage of Ammonia on both systems is fine to us

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
6	K. Kandu Oiy Giri	Are there any stand by compressors and condensers required	Yes, we need both, as in case of trouble raises, we could keep operate plant in full capacity
7	K. Kandu Oiy Giri	What is the temperature of Blast freezer?	-25oc.
8	K. Kandu Oiy Giri	What is the purpose of 1000 mm concrete up stand wall? In general, 600 mm height raise floor is adequate for this kind of system. If this 1000 mm is required, then, floor height also same level or below level	1000mm is the requirement for concrete up stand wall
9	K. Kandu Oiy Giri	If the perimeter walls are 1000 mm height, then, door also same height? Then how forklift will access the plant?	No change floor level 800mm is from floor level
10	K. Kandu Oiy Giri	1000 mm height concrete wall area also, inside the concrete wall insulation panels are required. Please clarify this.	Yes required
11	K. Kandu Oiy Giri	Door sizes and types are not specifically mentioned in the drawing. Please specify the same.	Cold room door height is 3000mmh. 2500mm W.
12	K. Kandu Oiy Giri	Is there any preferred brand of compressor for this system?	The compressor should meet the requirement specified in the technical specification
13	K. Kandu Oiy Giri	What is the warranty period required for this project?	One year from the date of commissioning
14	K. Kandu Oiy Giri	Please clarify the payment terms of this tender?	Please refer to Part 3 Contract of the Bidding Document

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
15	K. Kandu Oiy Giri	At our site visit on 3rd Aug, we identified that, existing building structures are still not removed from the site. Pls clarify this.	Existing building structure will be removed from the site before handing over to contractor
16	K. Kandu Oiy Giri	Accommodation and food facility for both workers and staff during the construction period can be provided at site as per the site visit. Please reconfirm this.	As our sites are fully occupied, it is advisable to build temporary accommodation.
17	K. Kandu Oiy Giri	Water, sanitary and electrical supply during shall provide by the client or not?	Kooddoo we can supply electricity and water on agreed rates, other sites contractor has to find their way
18	K. Kandu Oiy Giri	Who is going to open the letter of credit and consignee name?	No LC to be opened for the project
19	K. Kandu Oiy Giri	Storage containers are refrigeration container or not. Please specify.	Storage container means Fish basket Bin which we use store frozen tuna
20	K. Kandu Oiy Giri	Detail design for the architectural, structure and service drawings are not provided with the tender. In that case, civil work cost will vary by each tenderer. Pls clarify the same.	Detail designing is under contractor's scope
21	K. Kandu Oiy Giri	Fire services drawing are not provided. What type of fire protection and deduction required to this project?	Fire alarm activated by smoke, and high-pressure seawater,
22	K. Kandu Oiy Giri	If the design stage will take 60 days as stated in the scope and client change the design, then price also obviously changed. Please clarify this.	Detail design should be according to our concept design.
23	K. Kandu Oiy Giri	How long will take for feedback period during the design stage?	Feedback to be provided within 3 days

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
24	K. Kandu Oiy Giri	If any case of ambiguities within the Employer's requirement or scope of works mentioned in anywhere in the Tender document, which will take precedence.	Unless clarified in the clarification employer's requirement will take precedence
25	K. Kandu Oiy Giri	Is there any Emergency Electrical Supply (Generator Set) required?	No
26	K. Kandu Oiy Giri	Following services are required or not for the building. A. Air-Conditioning System and proposed locations (If applicable) b. Mechanical Ventilation System and proposed locations c. Fire Safety Design d. Fire Detection and Alarm System e. Water, Drainage and plumbing proposal f. Electrical systems g. Lighting and Power System h. Emergency Lighting System i. Earthling System j. Lightning Protection System k. Emergency Electrical Supply (Generator Set) l. Communication and GPON in building network m. Building Access Control n. CCTV System o. Public Address System p. Automatic Barrier Gate System	E. Water drainage and plumbing should be provided to the fish receiving room
27	K. Kandu Oiy Giri	Following reports are mandatory or not. A. Soil Investigation/Geotechnical Study Report B. Environmental Assessment Report	Environmental Assessment Report is under contractor's scope
28	K. Kandu Oiy Giri	What are the suitable corrosive prevision methods for exposed steel used in the building?	Hot dip Galvanized or Sand blasted apply 2 coat of epoxy paint.
29	K. Kandu Oiy Giri	Is the any factory visit? If yes, how many people will visit?	Yes, suggest to limit up 6 people
30	K. Kandu Oiy Giri	Is that maintenance will take place by the contractor for one year?	No, but if any machine has gone wrong, within warranty period, contractor must send his representative, client will provide man power needs, his role is advice.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
31	K. Kandu Oiy Giri	Is this lamp sum or measure and pay tender?	Measure and pay
32	K. Kandu Oiy Giri	Are the following taxes applicable for this project, • Goods and Services Tax (GST), • Withholding Tax (WHT) • Business Profit Tax (BPT) other levies empowered by the Maldivian Government.	All taxes are applicable for this project
33	K. Kandu Oiy Giri	Is this lamp sum or measure and pay tender?	Measure and pay
34	K. Kandu Oiy Giri	What is the capacity of Jip Crane and forklift requirements?	Item Jetty Cranes Capacity at Maximum Reach 2.5 tons SWL Reach 9.6 meters from the axis Hook Lift Fork lift, 2 ton from Centre of fork
35	K. Kandu Oiy Giri	Cooling method is air or water cool?	Air cooled
36	K. Kandu Oiy Giri	Stainless steel materials are 304 or 316?	316
37	K. Kandu Oiy Giri	. In specifications, cold storage temperature is mentioned as minus 30 degree. But in bid documents and scope, it is minus 25. Which one is correct?	-25oc
38	K. Kandu Oiy Giri	38. In scope, minus 20 thermal / center temperature within 10 hrs mentioned. But in specification, minus 18 within 8 hrs mentioned. Please clarify which one is correct?	10 hours is correct

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
39	K. Kandu Oiy Giri	9. What is the room temperature of blast freezer and cold room? Because in specification, it is mentioned as minus 30 degree and 40 degree Celsius	Both Blast freezer and cold store maintain -25oc
40	K. Kandu Oiy Giri	The evaporator in the quick-freezing room and refrigeration room is made of suspended ceiling aluminum tube aluminum sheet air cooler, which adopts stainless steel shell. Please clarify this.	Evaporators are made of hot dip galvanized frames and fins Tubes hot dip Galvanized ASME A-333 grade pipes are ok.
41	K. Kandu Oiy Giri	Specifications said that, the evaporative condenser is located on the roof of the chiller house. But in the drawing separate provision is given. Please clarify	We prefer either air cool type fixed separate structure with shade and access ladder and working platform, or you may suggest Shell& Tube horizontal mounted Titanium condensers with pumps with one stand by pump with sea water supply and discharge system
42	K. Kandu Oiy Giri	Rack system shown inside the cold room is not accessible to forklift. Please refer the drawings that 06 racks are continuously placed. Please clarify this.	All lots in cold rooms to GI mesh container use electric fork lift to stack up 3 layers
43	General	Should submit the price for all three Lots or can submit for an individual package / lot ?.	Bidder can submit to Lot or more.
44	General	Are these tender participants limited to Maldives and Saudi Arabia ? Or Bidders from other countries submit the tender to this tender?	There are no country restrictions please refer to Clarification 1 and Revised Document shared via Addendum 2
45	General	There are other alternative new designs that maybe cost effective for the client such as Ammonia/CO2 cascade systems and using freon systems in high temperature standalone areas. Can we deviate from the specified technical design if it is a more operationally efficient and cost-effective? These options may also reduce the ammonia charges by 70-90% in some cases if this is of any value to site.	Ammonia Cascade system is accepted. Can we deviate from the specified technical design if it is a more operationally efficient and cost-effective? (Pls do) You may suggest best and most cost-effective system.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		If only the single stage ammonia (-35/+35) pumped liquid designs are preferred, we can design accordingly no problem as well.	
46	General	Clarify whether the design and build contractor need stick to the same layout provided or we are having opportunity to improved layout	You may suggest improvement to the design as long as it is workable and meet our requirements.
47	General	Please kindly specify the area of roads and paving required to construct under the scope of work in Bill no 06 Of different projects, similarly clarify the extent of the scope involve with firefighting and fire detection, building access control, CCTV and public address system with related to the above project.	Not required
48	General	Please kindly clarify paint specification for the structural steel sections.	2 coat epoxy system, (sigma) or equivalent.
49	General	Can we design the plant with 1x compressor package, 1x liquid pump and 1x condenser always in standby (100% redundancy)? This is a more cost-effective design while still maintaining the requirement for 100% redundancy for critical equipment.	Since we are far from Suppliers it requires time to supply spares and parts So, the system should be Compressor, running with a stand by units, Condenser also with a standby unit Liquid pumps also with a stand by unit
50	Ga.Kooddoo	During the site visit we noticed that Generator building and Compressor rooms under construction. Please clarify whether the scope of the compressor room under the above scope of work	Compressor room in not in contractors' scope
51	Ga.Kooddoo	Please clarify whether the removal of external wall of the existing cold room of the side which new cold room to be built under contractor's scope.	Yes

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
52	Ga.Kooddoo	Entry location from brain tank side not indicated in the drawing, please advise location you expect that door to be place.	This will be confirmed at the designing phase
53	Ga.Kooddoo	One existing quality control room is there in Brain Tank side to be demolish as per new layout. Please clarify demolition under contractor's scope or employer do that prior to contractor mobilize.	Yes
54	Ga.Kooddoo	Please kindly share as built drawings of existing plant as we need to merge new building to existing building.	A layout is provided
55	Ga.Kooddoo	There is scaling location indicated in the drawings, which is different from the existing scaling location. Please kindly clarify whether We need to build new scaling unit or Shift existing facility or That will not come under new scope of work	New scale to be installed by the contractor
56	Ga.Kooddoo	Please clarify whether you required temperature chart recorder or digital data logger, if it is digital logger how many points you required in single cold room	Data logger is ok, incorporated single unit, feed can view &digitally be recorded by Desktop is fine
57	Ga.Kooddoo	Please clarify demolition/removal of external paving prior to construction commence.	Site clearance is under contractor's scope
58	Ga.Kooddoo	Please clarify whether employer will provide water for the construction, if so please advise the rate for the consumption of water.	For Kooddoo and Kanduoiygiri MIFCO facility can provide water at MWSC commercial rate for Male' region (101.26mvr/cbm) . Any cost involved in connecting to a specific location should be borne by the contractor

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
59	Ga.Kooddoo	Please clarify whether employer will provide electricity for the construction, if so, please advise the rate for the consumption of water.	Yes, this can be provided for Kooddoo and Kanduoiygiri site at STELCO commercial rate for Male' region. This should be connected from MIFCO Kooddoo power house to the contractor's distribution systems, and all cables required for this needed to supplied by the contractor
60	Ga.Kooddoo	Please clarify whether employer will be able to provide accommodation facilities for the staff.	Employer cannot provide accommodation facility. We suggest to install temporary accommodation at working site
61	Kan'duoigiri	Please kindly advise the completion of construction of jetty which will facilitate smooth logistics for the construction activities.	80% of the Jetty work is already completed and we believe there will be no logistic issue faced by ongoing jetty work.
62	Kan'duoigiri	Please clarify expected temperature to be maintain at receiving room	+12~16oc
63	Kan'duoigiri	Please verify whether hand washing area, basket washing area and foot dip area to be provided in the receiving area or within a different location.	Within receiving area.
64	Kan'duoigiri	Can you advice location for battery forklift charging area	No required
65	Kan'duoigiri	Please clarify whether employer will provide water for the construction, if so please advise the rate for the consumption of water.	Water will be provided at MWSC commercial rate for Male' region (101.26mvr/cbm)
66	Kan'duoigiri	Please clarify whether employer will provide electricity for the construction, if so, please advise the rate for the consumption of water.	Electricity will be provided at STELCO commercial rate for Male' region.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
67	Kan'duoigiri	Please clarify whether employer will be able to provide accommodation facilities for the staff.	We would suggest to install temporary accommodation at working site
68	M. Mulah	There is no access from battery charging area to rest of the areas for the forklift	Contractor must add up Two Charging points in the area shown in the concept drawing
69	M. Mulah	Whether the design and build contractor need stick to the same layout provided or we are having opportunity to improved layout (can we redesign brain tank area	You may suggest improvement to the design as long as it is workable and meet our requirements.
70	M. Mulah	Please clarify Nr of handwash facilities and basket washing facilities required in brain tank areas	Hand wash and foot dip area is located in the changing room.
71	M. Mulah	There is no area for handwashing area or foot dip area for the person enter from brain tank area, please clarify.	Hand wash and foot dip area is located in the changing room.
72	M. Mulah	Please kindly clarify whether we need to provide desalination plant.	Not required
73	M. Mulah	Please clarify whether employer will provide water for the construction, if so please advise the rate for the consumption of water.	Employer to make own arrangements
74	M. Mulah	Please clarify whether employer will provide electricity for the construction, if so, please advise the rate for the consumption of water.	Employer to make own arrangements
75	M. Mulah	Please clarify whether employer will be able to provide accommodation facilities for the staff.	We suggest to install temporary accommodation at working site

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
76	M. Mulah	There are other alternative new designs that maybe cost effective for the client such as Ammonia/CO2 cascade systems and using freon systems in high temperature standalone areas. Can we deviate from the specified technical design if it is a more operationally efficient and cost-effective? These options may also reduce the ammonia charges by 70-90% in some cases if this is of any value to site. If only the single stage ammonia (-35/+35) pumped liquid designs are preferred, we can design accordingly no problem as well.	Ammonia Cascade system is accepted. But should meet the requirements. You may suggest best and most cost-effective system design. Ammonia pumps also must have 1 Stand by pump it is a mandatory requirement to have a stand by unit. To avoid under performance or break down'
77	M. Mulah	Clarify whether the design and build contractor need stick to the same layout provided or we are having opportunity to improved layout	You may suggest improvement to the design as long as it is workable and meet our requirements.
78	M. Mulah	Please kindly specify the area of roads and paving required to construct under the scope of work in Bill no 06 Of different projects, similarly clarify the extent of the scope involve with firefighting and fire detection, building access control, CCTV and public address system with related to the above project.	Not required
79	M. Mulah	Please kindly clarify paint specification for the structural steel sections.	Two coat of epoxy paint is acceptable We prefer Sigma
80	M. Mulah	Can we design the plant with 1x compressor package, 1x liquid pump and 1x condenser always in standby (100% redundancy)? This is a more cost-effective design while still maintaining the requirement for 100% redundancy for critical equipment.	Since we are far from Suppliers it requires time to supply spares and parts So, the system should be Compressor, running with a stand by units, Condenser also with a standby unit Liquid pumps also with a stand by unit

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
81		Please advise if consortium agreement between two contractors can be accepted by client instead of JV partnership.	Please refer to ITT Clause 4 of the Tender Document
82		Based on site visits, we found in all lots that many trees and vegetation need to be removed or replaced, please advise if these trees will be removed by client, if not, please advise if we need to remove and relocate and if there are any special requirements.	The trees and buildings inside the site should be removed and cleared by the contractor.
83		Tenderer is requesting client to provide general layout showing the required pavement and external work, we found BOQ item for external work, but without any quantities, therefore we need the client to provide layout showing the concept design for roads and external work, so all tenderers can quote for same items for fair comparison.	Roads and payment work not included in the scope of the project. So, no need to quote for this item.
84		Reference to the document "03. Bidding Document-TES2023W034," the Contractor would like to express their understanding that the "Technical Proposal" referred to in item (g) (Technical Proposal) as per ITT 16 and item 29.3 in the "Determination of Responsiveness" is not applicable in this particular tender. Please confirm.	Technical proposal is required to determine the responsiveness
85	Ga. Kooddoo	As per project specs the Single room device negative Lotus =150 kw ,hence as per our understanding each system(serving 4 stores) have total mechanical cooling load capacity(=600 kw /system ,but there are a contradiction in the project specs as mentioned in other clause (Cold room design load) "* Total cooling load of the cold room shall be around 150KW based on daily 50 tons to be loaded between-10oc-12oc and should reach -20 within 24 hours	The specs are following, we expected each cold store must be able to brings 50 Tons of frozen Tuna from Brien tanks, shall be able to bring down temperature from (Core Temp) -10oc, to -20oc, within 18 hrs. Our rough calculation is each cold may need 130/150KW to meet this requirement. You may install 3 compressor units (2 duty/one stand by) for 4 cold stores or combine all 8(Eight Cold stores) in one complete system, install 4 compressor units and One Stand by Units)The main point here to be noted is, if in case a One compressor Units down, we must be able to Maintain products.

<table>
<tr><th>#</th><th>Reference</th><th>Clarifications / Question</th><th>Responses / Confirmation / Addendum</th></tr>
<tr><td></td><td></td><td>* Total cooling required for all four cold rooms shall be around 800KW. Required to have Installed 2/3 compressors for each set of 4 cold room"
Hence please confirm our understanding to use system capacity (4 cold stores) 600 kw hence the two systems will be typically 600 kw , Also regarding to the compressors capacity and Qty. ,it was noticed that however the two systems (system consist of 4 stores)are typical but each system has different compressor capacities &Qty. Of compressors ,as per below snap
(1)Cooling host:
3. Frozen matter refrigeration room 5~8 System: 134kw
<table><tr><th>Model</th><th>Working conditions (Te/Tc) °C</th><th>Cooling capacity kw</th><th>Shaft power kw</th><th>Motor power rate</th><th>Number of units</th></tr><tr><td>MYCOM/SABROE/ GRASSO or EQUIVALENT</td><td>-35°C/+35</td><td>600</td><td>86.97</td><td>110</td><td>3</td></tr></table>3. Frozen cold room 9~12 System: 134kw
<table><tr><th>Model</th><th>Working conditions (Te/Tc) °C</th><th>Cooling capacity kw</th><th>Shaft power kw</th><th>Motor power rate</th><th>Number of units</th></tr><tr><td>MYCOM/SABROE/GRASSO</td><td>-35°C/+35</td><td>140.44</td><td>86.97</td><td>110</td><td>2</td></tr></table>As we have no clear information about the diversity required by the client nor plan for loading and unloading ,hence we consider the Max. Load per system 600 kw (based on 150 kw /Room) (two systems are typical 600 kw) ,please confirm our understanding or advise another</td><td></td></tr>
<tr><td>86</td><td>Ga. Kooddoo</td><td>Regarding to the ante room ,as per project specs it was requested to maintain temp at 0C ,but not mentioned in the system description inside the project specs ,hence had been combines with same system serving stores via direct expansion system ,please confirm our understanding or advise another</td><td>Should be maintained between +12°C to +16°C</td></tr>
</table>

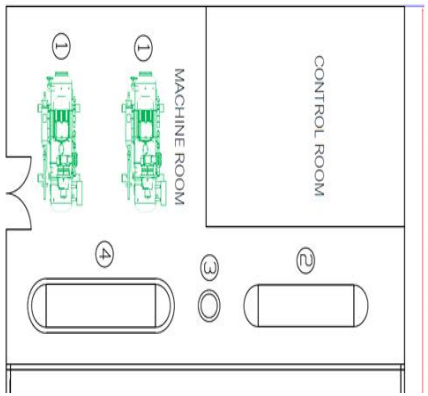
#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
87	Ga. Kooddoo	For product process ,we found a contradiction as in refrigeration system design scheme clause 7 it was mentioned that "* Total cooling load of the cold room shall be around 150KW based on daily 50 tons to be loaded between-10oc-12oc and should reach -20 within 24 hours" however at same specs clause schedule III ,it was mentioned that "Each store shall be able to bring down 50 tons of Tuna from -12oc to _20oc in 16 hours and maintain 500Tons of Tuna on -20oc~-25oc." hence the time 24 hour had been considered especially this matching with the table (Cold room technical requirements and parameter table) ,please confirm our understanding or advise another .	Each store shall be able to bring down 50 tons of Tuna from -12oc to _20oc in 16 hours and maintain 500Tons of Tuna on -20oc~-25oc.
88	Ga. Kooddoo	Regarding to the end heat exchanger (evaporator) with conjunction and based on assumption mentioned in this clarification sheet clause 1.A &1.C ,the indoor unit considered with capacity 153 kw ,consist of 3 fans every fan with capacity 51 kw ,as we noticed a contradiction between load required per room (153 kw) and schedule III clause 6 ,as the indoor unit capacity is 100 kw ,hence we considered as 153 kw /indoor unit ,please confirm our understanding or advise another .	Size of evaporators and number of Evaporators shall be decided by contractor, we prefer all evaporators shall be fixed one end of Cold stores to save space, for storage
89	Ga. Kooddoo	As understood a standby end heat exchanger (evaporator) is requested to be installed inside the cold stores hence consider 1duty +1 standby evaporator) ,please confirm our understanding or advise another . And as per previous clause everyone is 153 kw ,please confirm our understanding or advise another	This Clause is addressing Condensers. If system to be divided to 2 system(4 cold stores in one set) than system must be built such way that one Stand by condenser , one stand by compressor, number of Compressors and condensers to be fixed depends on contractor, we prefer 2 running /1 stand by method. If system to be built on combine, such as all 8(Eight) cold stores are to be run by one system, then it must have One stand by compressor and Condenser to make sure all Eight cold rooms are to be available when demand is there.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
90	Ga. Kooddoo	As per project specs ,"1 0 evaporative condenser with a total heat discharge of 750KW has to be selected to meet the system requirements. A total of two evaporative coolers shall be used independently of the two systems. Due to the high temperature in the Maldives all year round, it is recommended to enlarge 1.2 times the selection, of the evaporative condenser." as per our understanding and based on previous clarifications as the system load is 600 kw hence the 750 kw already considered the extra 20% safety which mentioned in the clause ,then for every system required 1duty condenser 750 kw +1 standby condenser 750 kw ,please confirm our understanding or advise another .	The idea is whatever method or system to be implemented, or decided, one stand by condenser shall be added to able to put operation when one the condenser is down for maintenance or break down. To make sure all eight cold stores are to be available when demand raised.
91	Ga. Kooddoo	Yard (including roads)storm drainage water network is not required (only to dissipate in soil thru roads/yards),please confirm our understanding or advise another	Confirmed
92	Ga. Kooddoo	For water Fire Fighting system , regarding to the received BOQ Bill-07 for item7.1.10 Hydrants & Hoses ,kindly be noted that only provided fire hose cabinet class 3 use (not pillar hydrant) ,fire hose cabinet unit complete with Ø25 x 30 meter hose with automatic recess swinging type hose reel, Ø65 landing valve Ø65 x 30 meter hose and ABC powder fire extinguished, please confirm our understanding or advise another .Number of fire hose reel(hydrant) are 2 shall be fixed on ante room, and 1 unit at the front, Two behind the building (main stock room side) one in behind the building, facing Cricket ground, two facing water tanks sides.	The existing fire line(100 mm dia) is on the road under .5-meter ground level, which are going be under building, we like have fire hydrant connected to hose of hose box shall be fixed which have automatic recess swinging, also near each box shall be 3 units of ABC powder,
93	Ga. Kooddoo	For water Fire Fighting , regarding to the received boq Bill-07 for item7.1.9 Cartwheel Hose ,please be noted that this item to be omitted ,as our proposal to replace pillar hydrant with FHC	Cart wheel. Mobile hose reel Unit. With ready connect to Hydrants

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		cabinets Class 3 including the hose ,please confirm our understanding or advise another .	
94	Ga. Kooddoo	For water Fire Fighting system , regarding to the received boq Bill-07 for item7.1.1 &2 &3 ,please be noted that no specifications for the pump hence considered UL listed & FM approved end suction Electrical fire Pump &Diesel pump 500 GPM, H=8.5 bar ,and construct the tank as Reinforced concrete (RC) tank (sufficient for one hour operation capacity 120 m3) above ground (sufficient for one hour operation)and the pump room(steel structure &sandwich panel) also to be above the ground, please confirm our understanding or advise another .	There is exiting fire pump house, but no pumps, both pumps could be fixed there and connect to existing pipe, both pumps suction line to be extended 5 meters to proper depth of Harbour which will have enough depth such sea water even low tides.
95	Ga. Kooddoo	For water Fire Fighting system ,as per our understanding that this tank will be filled with sea water by portable water tanker ,please confirm our understanding or advise another .	There is exiting fire pump house, but no pumps, both pumps could be fixed there and connect to existing pipe, both pumps suction line to be extended 5 meters to proper depth of Harbour which will have enough depth such sea water even low tides.
96	Ga. Kooddoo	As per site visit ,found that the existed building includes Rain Drain water goes thru 20 " pipe at high level ,and go to rain receiving tanks ,hence please confirm if is requested at current project for 4000 ton ,and to be only connected to the nearest pipe found at roof level of the existed building which already serving the existed building (2000 Tons)	All rain water connects should not be connected existing building, it should be connected , exiting 500 Ton tank, we suggested you may submit proposal to supply 500 tons FRP tanks to collect and store rain water, connection shall be made in between your supplied tanks and exiting 500 tons tanks.
97	Ga. Kooddoo	As per site visit ,found that the existed building wall include a single skin corrugated sheet cladding the Wall panel from outside direction (adjacent to the insulated panel ,please confirm if this is required for Lot-01 and other lots or not required ,as it is not mention in the received drawings	Yes required.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
98		As per project specs the Single room device negative Lotus =280 kw for quick freezing and 31.6 kw for refrigerator, with total capacity 250 kw ,same had been followed ,please confirm our understanding or advise another .	The requirements are 200 tons of cold storage at maintain@ -25°C daily arrival rate for cold store expect 20 Tons and arrival temp expected be -15oc. Cold must be able to maintain or bring arrival Tuna of at -15oc, and bring down to -25oc in 18 hrs time. For Blast Freezer shall be able to freezer 20 tons/10 hours of blast freezer (center temperature -20°C) Tuna arrive to Blast freezer assume to be taken +16oc.Size of Tuna varies between 2KG to 6kg. Our Rough Calculation are we need Cooling capacity of Blast Freezer @Ct35oC/Et -37oc Should have not less than 280KW. Cold store minimum requirement is @Ct35oC/Et -37oc 35KW. You may decide what is actual size of Unit will be based on your Calculations
99		Regarding to the ante room ,as per project specs it was requested to maintain temp at 0C ,but not mentioned in the system description inside the project specs ,hence had been combines with same system serving stores via direct expansion system ,please confirm our understanding or advise another	We prefer ante room will run totally separate unit, which able to maintain temp +12oc~18oc.
100		As per project specs ""Due to the high temperature in the Maldives all year round, it is recommended to enlarge 1.2 times the selection, MYCOM/SABROE/GRASSO or equivalent evaporative condenser, heat exchange 1200KW, "" please be noted that the total cooling load system is 250 kw as per project specs clause no.07 (7.	Cold Room Design Load) ,however the same (1200 kw) had been considered in the design with conjunction to 1200 kw condenser as a standby as per received replies previous clarifications -01 ,,please confirm our understanding or advise another .
101		Also, as per our understanding that 1200 kw already considered the 20 % spare capacity ,,please confirm our understanding or advise another ."	Condenser shall be decided with corresponding capacity of Cooling load needed to system. 25% additional load to be added min.
102		As per our understanding a standby end heat exchanger (evaporator) is requested to be installed inside Blast Freezing room, as one standby evaporator freezing room + refrigerator system hence consider 1 standby evaporator with same capacity of one of the duty units) ,please confirm our understanding or advise another . Hence 1stand by with capacity 15 kw installed in cold storage ,and one stand by unit with capacity 70 kw in quick freezing ,please confirm our understanding or advise another	The Idea and plan are that have spare condenser, like 2 running one stand by. That's all, that will ensure system will be able to maintain stores and freezer even one taken out of maintenance.

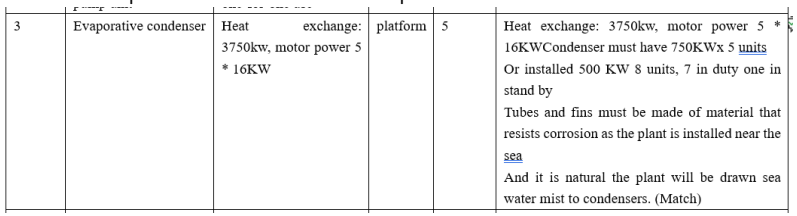
<table>
<tr><th>#</th><th>Reference</th><th>Clarifications / Question</th><th>Responses / Confirmation / Addendum</th></tr>
<tr><td>103</td><td></td><td>At this lot specially ,as per Tender BOQ ,kindly be noted that no water fire protection is required ,,please confirm our understanding or advise another .</td><td>Not required</td></tr>
<tr><td>104</td><td></td><td>Yard (including roads)storm drainage water network is not required (only to dissipate in soil thru roads/yards),please confirm our understanding or advise another</td><td>Confirmed</td></tr>
<tr><td>105</td><td></td><td>The technical specification specifies 2 compressors of 142 kw each
(1)Quick freezing room + refrigeration room system: 250kw
<table><tr><th>Comp Model</th><th>Working conditions (Te/Tc) °C</th><th>Cooling capacity kw</th><th>Shaft power kw</th><th>Motor power kw</th><th>Number of units</th></tr><tr><td>MYCOM /SABRO E/GRASS O or Equiavlen t</td><td>-40°C/+35</td><td>142.43</td><td>119.65</td><td>132</td><td>2</td></tr></table>However, a standby compressor was required on Addendum 3. As the space is the machine room is limited, adding a third compressor will require extending the machine room</td><td>We prefer this 142KW, 2 units and 1 compound unit , which will help to maintain cold stores when low landing time, or could store system shall be totally separate from Freezing system.</td></tr>
</table>

<table>
<tr><th>#</th><th>Reference</th><th>Clarifications / Question</th><th>Responses / Confirmation / Addendum</th></tr>
<tr><td></td><td></td><td> 

Therefore, we would like confirmation that a standby compressor is really required for this project, as the blast freezer will still be able to operate at 6 tons of fish in 10 hours with only 1 compressor running, as per our calculations.</td><td></td></tr>
<tr><td>106</td><td>M. Mulah</td><td>"as per project specs ,it is noticed contradiction between compressor capacity ,please refer to below shots

(1)Cooling host:
(1)500 tons of cold storage + 50T brine freezer system: 1200kw
<table>
<tr><th>Model</th><th>Working conditions (Te/Tc) °C</th><th>Cooling capacity kW</th><th>Shaft power kW</th><th>Motor power kW</th><th>Number of units</th></tr>
<tr><td>MYCOM/SABROE/GRASSO or Equivalent</td><td>-25°C/+35</td><td>653.84</td><td>266.78</td><td>280</td><td>3</td></tr>
</table></td><td>Two + Two (Two for brine freezing and Two for Cold store maintenance, among One must be compound system).</td></tr>
</table>

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		<table><tr><td>serial number</td><td>Device name</td><td>Specifications and models</td><td>unit</td><td>quantity</td><td>remark</td></tr><tr><td>1</td><td>Screw compressors</td><td>Cooling capacity: 980.76KW Motor power: 420KW</td><td>platform</td><td>3</td><td>Cooling capacity: 980.76KW Motor power: 420KW Smaller compound screw compressor shall be added to maintain the plant in low landing time to reduce energy consumption Compressors shall be well-known brands such as MYCOM/SABROE/GRASSO.</td></tr></table> Please be noted that compressor capacity 653.84 kw had been followed (2 duty +1 standby) please confirm our understanding or advise another"	
107	M. Mulah	Regarding to the ante room ,as per project specs it was requested to maintain temp at 0C ,but not mentioned in the system description inside the project specs ,hence had been combines with same system serving stores via direct expansion system ,please confirm our understanding or advise another	Maintain Temp ante room between +12oc~ +18oc is ok accepted
108	M. Mulah	Regarding to the end heat exchanger (evaporator) with conjunction and based on assumption mentioned in this clarification sheet clause 1.A &1.b ,the indoor unit considered with capacity 50 kw x 2 units /room ,every unit consist of 2fans every fan with capacity 50 kw ,as we noticed a contradiction between load required per room (130) and schedule III clause 6 ,as the indoor unit capacity is 50 kw/room ,hence we considered 2 units duty each one with capacity 50 kw +1 standby with capacity 50 kw ,please confirm our understanding or advise another .	You may install Three units, number of fans depends on manufacture. For evaporator no Spare unit needed.
109	M. Mulah	As per our understanding a standby end heat exchanger (evaporator) is requested to be installed inside the cold stores hence consider 1duty +1 standby evaporator) ,please confirm our understanding or advise another . And as per previous clause	Here refer to condensers, one spare(stand by condenser to be added to maintain plant in 100% operational capacity, while one taken out for maintenance.

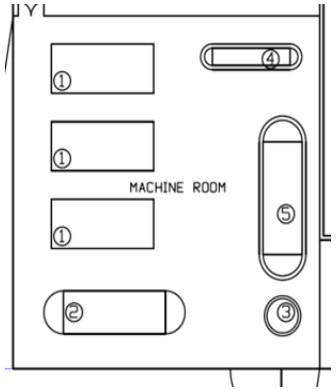
#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		everyone is 153 kw ,please confirm our understanding or advise another	
110	M. Mulah	As per project specs "The condensation temperature is +35°C, and the average outdoor temperature of 50 hours per year is not guaranteed: +28.1°C, and the heat dissipation coefficient is 0.71. 500T+ brine freezer refrigeration system selects 3 sets of evaporative condensers produced independently, with a total heat discharge of 3000KW,to Meet system requirements. The temperature in the Maldives is high all year round, it is recommended to enlarge it by about 1.2 times to choose, it is recommended to use 3 sets of evaporation cooling, evaporation cooling 2 sets. , " hence as understood the system will have 3 condensers each one with capacity 1200 kw (including 20 % at each one as requested by the specs) ,but at the schedule III ,there are another capacities mentioned as per below shot  3 | Evaporative condenser | Heat exchange: 3750kw, motor power 5 * 16KW | platform | 5 | Heat exchange: 3750kw, motor power 5 * 16KWCondenser must have 750KWx 5 units Or installed 500 KW 8 units, 7 in duty one in stand by Tubes and fins must be made of material that resists corrosion as the plant is installed near the sea And it is natural the plant will be drawn sea water mist to condensers. (Match) Please be noted that the total cooling load system is 1200 kw as per project specs clause no.07 (7.Cold Room Design Load) , Hence please advise which condenser capacity and Qty. Of condensers to be followed hence finally as understood the system will have 3 condensers each one with capacity 1200 kw (including 20 % at each one as requested by the specs) ,and allowed to use condensers with lower capacity but shall include 1 standby and the total duty +spare capacity min. 3600 KW ,please confirm our understanding or advise another.	The plant shall be designed to followings way, Plant shall design to Able to freeze 50 Tons of Tuna in Five Brine Tanks, per 8 eight-hour, Brine shall be maintained -16 oc, while Tuna arrival temperature to the Plant shall be +16oc & Final Temperature Leaving from Brine tank shall be -10oc (core temperature). Cold store shall be designed to received 75 Tons a day from arrival temperature to cold room shall be -8oc, and should be able to bring down -20oc within 18 hours The system must have one compound compressor, to maintain plant in low or no landing days. Refrigerant should be Ammonia, Condenser shall be made of resist material to the refrigerant and must have one stand by unit. You may suggest both air cooled and Shell & Tube type. Heat load calculation we leave on contractor. We prefer 2 unit for brine Freezing, 2 compound unit for cold room, in one can switch brine freezing and cold rooms

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
111	M. Mulah	Regarding to the end heat exchanger (evaporator) ,as per project specs " Evaporator capacity shall be calculated to 30% extra than requires to compensate high landing time extra loading, as it will be hard to fill each tank exactly 10 tons" and with conjunction to clause 3.c &3.d in this sheet please confirm that the selected capacities at these clauses include the 30 % extra which required in the specs or advise another by the new capacities required which include the 30 % And also, for brine evaporator 10 groups X150 KW already include the requested extra 30 % ,please confirm our understanding or advise another .	Refer to Response #110
112	M. Mulah	For Brine tank material ,please be noted that two options are available Option -01 :- floor a wall to be made of reinforced concrete and perform the needed water and heat insulations Option -02 :- floor and wall insulated carbon steel Please advise also, please advise regarding to the need for insulated roof panel (tank cover)for these tanks ,as the roof insulated panel not shown in the received tender drawings	Brine Tank shall be made of either SUS 316 L or Carbon Steel A 106 thickness shall be 8/9 mm
113	M. Mulah	For crane capacity in Brine cooling room Crane capacity had been calculated based on carte load =1 ton ,with including the cart steel load (estimated 300 kg) =1.3-ton x(25 % FOS) ,hence crane capacity =1.625 Ton ,then the selected crane capacity is 2 Ton ,please confirm our understanding or advise another also, please be noted that the crane girder length ,will be increased as the runway which located above the sorting conveyor ,because no columns at this location hence the rail will be located at the room side ,then the crane girder length to be increased from	Crane must have lifting capacity 2 tons and railing and crane girder should meet this requirement. Girder had to be extended to reach pass over sorting conveyor.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		13.5 meter to 22.5 meter ,please confirm our understanding or advise another	
114	M. Mulah	Yard (including roads)storm drainage water network is not required (only to dissipate in soil thru roads/yards),please confirm our understanding or advise another	You have to build rain water harvesting system Including 200 Ton FW Storage tank, pumping with filtration system and 4000 Liters overhead tanks at height of 10 meter.
115	M. Mulah	For water Fire Fighting system , regarding to the received boq Bill-07 for item7.1.10 Hydrants & Hoses ,kindly be noted that only provided fire hose cabinet class 3 use (not pillar hydrant) ,fire hose cabinet unit complete with Ø25 x 30-meter hose with automatic recess swinging type hose reel, Ø65 landing valve Ø65 x 30-meter hose and ABC powder fire extinguished, please confirm our understanding or advise another .	We prefer pillar hydrant, which will connect hose reel box of Di1 65x30 meter with adjustable nozzle. Total for to be installed one at jetty side, and other each side of the building
116	M. Mulah	For water Fire Fighting , regarding to the received boq Bill-07 for item 7.1.9 Cartwheel Hose ,please be noted that this item to be omitted ,as our proposal to replace pillar hydrant with FHC cabinets Class 3 including the hose, please confirm our understanding or advise another .	Idea of this one is Mobile system. In case of hose with fire hydrant need extra line.
117	M. Mulah	For water Fire Fighting system , regarding to the received boq Bill-07 for item7.1.1 &2 &3 ,please be noted that no specifications for the pump hence considered UL listed & FM approved end suction Electrical fire Pump &Diesel pump 500 GPM, H=8.5 bar ,and construct the tank as Reinforced concrete (RC) tank above ground (sufficient for one hour operation capacity 120 m3)and the pump room(steel structure &sandwich panel) also to be above the ground, please confirm our understanding or advise another .	You May built fire house somewhere in Jetty and fixed pumps there and lay piping underground and connected fire hydrant, pump suction to be connected to Harbour
118	M. Mulah	For water Fire Fighting system ,as per our understanding that this tank will be filled with sea water by portable water tanker ,please confirm our understanding or advise another .	Look above for the answer

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
119	M. Mulah	For the jib crane shown in the mullah outside area (at key plan drawing)near sea, please confirm our understanding that these cranes required for loading and un loading from ships are out of our scope.	The purpose of JOB crane is taking load& Unload from Boats and good to be loaded and Unloaded
120	M. Mulah	As per tender BOQ ,Bill no. 09 ,Item 9.2.1 it is requested to provide small (sewerage treatment plant)STP , however as per site visit ,the municipality drainage system is existed ,only may require a lifting station due to network level may be lower than the existed network ,hence please confirming our understanding that STP is not required, and if STP still required Please confirm our understanding regarding to the served buildings by this STP will be only office building &mess building or please advise the required plant cubic meter per day ,also please mention the water properties for effluent water (effluent to be discharged to the sea) ,all effluent parameters to be mentioned as BOD, COD,….etc. Also if there are any other special specs to be followed in this STP or we can propose .	The island is having STP. We will be connecting to the island STP.
121	M. Mulah	With conjunction to the above point , if the STP serve only two buildings (office building &mess building) ,hence please confirm the proposal for floor drainage other buildings will be directedly thru the sea or to be soaked to the soil	Not required
122	M. Mulah	With conjunction to the above point ,please confirm discharging effluent to the nearest point in the sea shore	Not required
123	M. Mulah	According to the technical specification, the room temperature for the cold storage is -25C	The system Evaporation temperature(Te) for Cold stores, shall be -36oc in this we will be achieve -25oc, Evaporation Temp for Brine freezing system shall be -22oc

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		<table><tr><th>serial number</th><th>Room name</th><th>Room temperature °C</th><th>Number of rooms</th><th>Single room device negative Lotus (kw).</th><th>Total mechanical load （KW）</th><th>Evaporation temperature °C</th></tr><tr><td>1</td><td>Brine freezer</td><td>-20</td><td>5</td><td>1380</td><td rowspan="2">1200</td><td rowspan="2">R717/-40</td></tr><tr><td>5</td><td>refrigerator</td><td>-25</td><td>1</td><td>82</td></tr></table> However, the compressor selection specifies ET -25C, which makes it impossible to achieve the room temperature <table><tr><th>Model</th><th>Working conditions (Te/Tc) °C</th><th>Cooling capacity kW</th><th>Shaft power kW</th><th>Motor power kW</th><th>Number of units</th></tr><tr><td>MYCOM/SABROE/GRASSO or Equivalent</td><td>-25°C/+35</td><td>653.84</td><td>266.78</td><td>280</td><td>3</td></tr></table> We would like to suggest that 1 of the compressors operate at ET-35C in order to achieve room temperature -25C in the cold storage In the event of maintenance on 1 of the compressors, there would be only 1 compressor running for brine tanks, which would allow only 3 tanks to operate at full capacity simultaneously (instead of 5 tanks). Is this acceptable? Another way would be to run the compressor for cold storage at ET-25C during the period of maintenance, in order to run both low low-pressure systems at the same temperature. This would affect the cold storage temperature that would increase to approximately -18C during that period. Is this alternative acceptable? This would avoid adding a standby compressor (a forth compressor), as the space in the machine room is limited and a forth compressor would require an extension of the building.	Is this acceptable? We prefer 2+1, Two unit for brine freezing, and One for Cold rooms. But One brine Freezing compressor should be compound compressor, as in case cold room compressor down we can switch one for cold room, maintain the goods in store, or 2+2 is best option.

<table>
<tr><th>#</th><th>Reference</th><th>Clarifications / Question</th><th>Responses / Confirmation / Addendum</th></tr>
<tr><td></td><td></td><td> 
</td><td></td></tr>
<tr><td>124</td><td>M. Mulah</td><td>The information given on the technical specifications regarding the quantity of low-pressure vessels is unclear

(2) Low-pressure circulating liquid storage tank and ammonia pump:
<table>
<tr><th rowspan="2">name</th><th colspan="2">Low-pressure circulation barrel</th><th colspan="3">Ammonia pump</th></tr>
<tr><th>Quantity × model</th><th>Single parameter</th><th>quantity</th><th>Single parameter</th><th>remark</th></tr>
<tr><td>Brine freezer</td><td>1×2</td><td>Volume 10m³</td><td>3 units</td><td>Flow rate 11.2m³/h, head 32m</td><td>Dual-use, one-piece</td></tr>
<tr><td>500T cold storage</td><td>Or 2×</td><td>Volume 10m³</td><td>3 units</td><td>Flow rate 6m³/h, head 32m</td><td>One with one</td></tr>
</table>
We therefore suggest 1 x -25C vessels for Brine freezers and 1 x -35C vessel for cold storage. Is this acceptable"</td><td>Yes</td></tr>
<tr><td>125</td><td>M. Mulah</td><td>The number of ammonia pumps required for the cold storage is also unclear, i.e. “3 units”, but “one with one”
Since the load is only 82 kw for the cold storages, we recommend 1 duty pump + 1 standby pump for this vessel.</td><td>One + One</td></tr>
</table>

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
126	M. Mulah	We would like to clarify the responsibility for supplying the sodium chloride for the brine tanks. Since this is a consumable material (salt must be added regularly to maintain the concentration), we assume that it will be in the scope of the end-user to supply the sodium chloride for operating the tanks. Is this correct?	Contractor should supply
127	General Mechanical	Regarding to the insulated panels for ceiling and walls ,please be noted that less information available in project specs regarding to the insulation panels as only specs mentioned in the project specification is *"The value of the heat flow per unit of the enclosure structure: 10W/m2, which is required to meet this value for the owner building and the insulation structure."* hence please provide more details about the panels such as panel insulation density ,heat transfer resistance (R) ,face material type and thickness /information about the internal and external finish materials for the double side	The contractor should design and proposed this based on the requirement and capacity of storage
128	General Mechanical	As per our understanding only Ammonia substance and Brine Qty required for starting up the system in the 3 lots are located in contractor scope and no additional Qty. Is required ,please confirm our understanding or advise another .	Mentioning ammonia in there means the plant must use Ammonia As refrigerant.
129	General Mechanical	**For jib cranes** at *Lot 3 - Building a 500 tons capacity cold storage and a brine freezing facility in M. Mulah &Lot 2_ Building a 200 tons capacity cold storage and blast freezing facility in Kan'duoigiri.* Had been mentioned I the BOQ but not shown in the	Jib crane means Stiff boom type Crane. Max reach 9.6-meter , max lifting capacity 2.5 Ton on all angles, and it must be able to maintain Two action at a time. (means while it rotates it must be capable to lowering or lifting cargo)

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		drawings ,hence no available information about the installation location &purpose &jib crane specs ,hence please provide more information about the Jib crane	
130	General Mechanical	For MOBILE EQUIPMENTS (electrical and diesel fork lifts) ,please be noted that forklift capacity had been calculated based on carte load =1 ton ,with including the cart steel load (estimated 300 kg) =1.3-ton x(25 % FOS) ,hence crane capacity =1.625 Ton ,then the selected crane capacity is 2.5 Ton ,please confirm our understanding or advise another .	All forklift must be able to lifting 1.5 tons on center of fork, and crane shall be lifting 2.5 tons in all angles
131	General Mechanical	As the BATTERY FORKLIFT CHARGING AREA is existed in Lot 3 - Building a 500 tons capacity cold storage and a brine freezing facility in M. Mulah ,hence please confirm our understanding that no more charging stations required at other lots ,hence this charging area will serving charging services to other two lots ,please confirm our understanding or advise another . Also this area will be used for installation the forklift chargers (battery will not be removed from forklift while charging) ,hence only charger which supplied with forklift will be used and no external battery chargers(battery charging rack) are required ,please confirm our understanding or advise another .	Location will be decided later, but you need supply One additional Battery
132	General Mechanical	For compressor rooms /equipment rooms ,please confirm no overhead cranes required ,and only forklifts to be used at installation &maintenance	Compressor room must be fixed rail above of with roller & 2-ton chain block with reach 5 meter on HT and LT compressors. Power house no need does such
133	General Mechanical	For Lot-03, BOQ no.04 item no. 5.2.1 , it is mentioned to use two overhead cranes for Over Head Crane (Brine,RSW) ,but as per drawing only one overhead crane shown ,hence please confirm to	Two Cranes are needed, one for loading and one for Unloading

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		use one overhead crane or clarify the location and capacity of the second overhead crane	
134	General Mechanical	At Lot-02 &03 ,BOQ no.04 item no. 5.2.2 , it is mentioned to use two Jib cranes ,but as per drawing no jib cranes shown ,hence please confirm no need for Jib cranes or clarify the location and capacity of the second overhead crane which mentioned in the BOQ	All over crane must have lifting capacity 2 tons and grinder, rain all have capacity to carry on 4 tons as two cranes working simultaneously
135	General Mechanical	Kindly be noted that for water used in cleaning /washing floors water will be potable (if availably by the public Municipality network) /or sea water without treatment if sea water pumps used ,please confirm our understanding or advise another .	We used sea water pass with sand filter and UV , required capacity for wash down and other are 35m3/hr.
136	General Mechanical	As per project specifications ,it is mentioned that "melting method: hand command automatic water flushing" ,kindly be noted that the hot gas defrosting is more advanced hence to be used ,please confirm	We want hot gas defrosting methods
137		For evaporator condenser ,the coil had been provided with bare tubes, no fins this is more efficient for operation ,please confirm	Please don't Misunderstand, (bare tube means evaporators in the brine tanks) The cold room evaporators must have fins, that's a must
138	General Mechanical	Some specifications are hardly to be complied in the evaporator unit such as air flow rate and heat exchange area ,as the modern equipment units available enhanced these parameters to provide the cooling capacity required by parameters less than mentioned in specs ,but finally the required refrigeration loads are ensured, please confirm .	Please don't Misunderstand, (bare tube means evaporators in the brine tanks) The cold room evaporators must have fins, that's a must

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
139	General Mechanical	As per system design by system manufacturing ,some quantity of equipment ay be increased in Qty or capacity for example ammonia pumps ,or decreased in sizes or capacity for example the liquid separators (pump vessel) size /Qty. ,hence this as per perfect operation design prepared by approved programs available with system suppliers and manufactures ,hence please confirm our understanding to follow the optimized and efficient design even some deviations(up or down) regarding to the required equipment size mentioned in the project ,as even for some high sizes mentioned in specs will not be the perfect operation .	Each vessel should provide 1 duty and 1 stand by pump. This ensure smooth operations in case of One Pump Down,
140	General Mechanical	Floor drainage required at ante room and near the sorting conveyor and salt storage and mechanical equipment only, please confirm our understanding or advise another .	Yes, floor drainage needed Salt store, around brine tanks, sorting conveyor and ante room
141	General Mechanical	Please confirm the availability and sufficiency of treated water to operate the evaporative condensers ,at all Lots	You may suggest Titanium Horizontal mounted shell& Tube and air cool condenser, air cool condensers shall be fixed under shade or must have roof, we can choose later
142	General Mechanical	For all lots ,please confirm if the condenser will be installed on the building roof or standalone steel structure at same roof level or installed on ground ,so to be considered at civil works ,also for liquid receiver installation level	We prefer install separate steel structure with shade, and level of condenser and recover, since the oil cooling of refrigeration compressors are to be thermosyphon gas cooling type, that must be taken in to considerations
143	General Mechanical	For all lots ,safety shower at each ammonia station is required (one /plant) ,please confirm	One in Machine room and one just entrance of machine room
144	General Mechanical	For all lots (as applicable ,for cleaning /washing water will be sea water without treatment ,please confirm	We used sea water pass with sand filter and UV , required capacity for wash down and other are 35m3/hr.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
145	General Mechanical	Please confirm if any specific type of firefighting is required for generator rooms such as Foam system or no FF system required.	In side power house, 5x3 nos 5 KG ABC and 1 unit 9 kg foam mobile cylinder is fine
146	General Mechanical	For all lots (as applicable) please mentioned which water /fuel tanks (shall be provided with beaching inlet installed inside chamber near the sea . For filling from vessels ,(not flexible connection hose is excluded) ,please confirm	This is not in contractors scope
147	General Mechanical	For all lots (as applicable) please provide drawing for the requested locations for fire pump room &water tank	CAD file attached (Refer to Addendum 3)
148	General Mechanical	For all lots ,Provide the existed facilities drawings in the area (water /sewerage/fire hydrant /Elec, Etc.).	CAD file attached (Refer to Addendum 3)
149	General Mechanical	Please confirm that all roof rain drainage will be free discharge on side walk ways and no need for connecting with the drainage network. For lot -01 special case as clarification had been raised in this regard for connecting rain to tanks ,as found at site	Connection has to be made to water tanks in the site
150	General Mechanical	Please confirm using Mini split units (high wall) for areas subjected for air conditioning (such as office building).	Confirm.
151	General Mechanical	Please confirm if any water wells required at any lot	No
152	General Mechanical	Please confirm our understanding that no standby evaporator unit is required inside any of cold store/blast freezing	No emergency/Standby gen set needed
153	General Mechanical	In mechanical BOQ mentioned item related sea water pumps ,please mention the function of these sea water pumps to consider other relevant MEP works ,we believe this related to the shell and	This has nothing to do with Shell Condensers, this related Seawater supply to plant, for brine make, Ice making and wash down hoses.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		tube condenser cooling ,however the specified condenser type is evaporative condenser and evaporative condenser is recommended to work based on fresh water (not sea water),please advise	
154	General Mechanical	As per project specs, calls for using the evaporative condenser ,however as per site visits for project locations we noticed that almost of used condensers is shell and tube condensers which maybe more applicable also for this projects in three lots due to high relative humidity which affecting the evaporative condenser performance ,also the fresh water is rarely to be found and may need water treatment plant at all lots due to shortage of existed municipality water treatment or no existing central water treatment plant ,also the treatment plant running cost will be high and need a periodical maintenance ,as the estimated total fresh water required for all lots (3 lots) about 18 m3/ hr. (which mean 432 m3/day) , in addition to storage tanks cost ,so we recommend to use sea water directedly thru titanium shell and tube condenser ,please advise	The are 2 Option. 1. Offer shell& tube Horizontal mounted Titanium condenser, with pumps, pumps shall be vertical mount, Two in duty/1 Standby. Option 2, Supply air cooled condenser Install under shade.
155	General Mechanical	For all mechanical -electrical -civil works (whole project scope) Please mentioned any additional required spare parts -spare accessories need (if any) ,please submit us a table with item description and Qty. Need for each lot to be considered in the price	We need one 4 repair set of spares for each pump station, 2 Sets compressor Oil filter set, Gen set filters for 3 months, details of such will be discussed later
156	General Mechanical	As mentioned in boq system include High stage compressors and low stage compressors ,please be noted that as per system design performed by the specialized in system design ,both stages are not be used at one system as per our storage design requirements.	You may submit what your engineers see best option.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		Hence, only the required stage will be included in the offer ,please confirm our understanding or advise another .	
157	General Mechanical	Regarding to tender BOQ ,please provide use more information /specs regarding Cold store Vestibule Floor Heating if needed	No need.
158	General Mechanical	Regarding to tender BOQ ,for Automatic roller doors & controls, mentioned in the BOQ ,kindly be noted that manual doors are common used with less problems ,so we assume that may be omitted and keep all doors manual ,please advise and if still required ,please provide specifications for the electrical doors .	For Machine rooms, manually operated electrical doors are ok, for cold store manually operated doors are accepted
159	General Mechanical	Regarding to tender BOQ ,kindly provide us with some extra information about the below items which mentioned in the BOQ ,as found not needed technically to the system 01-Nurse Tank 02-Pump out compressor	Nurse Tank means Tanks or Vessel to be used evacuate all refrigerants in the system to be pull out in case of major break down such as valve break up or large leak in the system. Pump out compressor means unit may use to pump out all refrigerant, which may not be necessary
160	General Mechanical	Please confirm NO SCADA required ,only the Control & Mimic Panel and chart recorder	SCADA SYSTEM needed, to control and monitor gen sets and refrigeration system, all cold brine Tank's Temperature should be able to read on working platform, and all can be combined in one unit, (so called Data Logger or Digital Chart recorder can be installed vicinity of sorting weight stations.
161	General Mechanical	As per clarification replies -01 doc no. TES/2023/W-034 clause 7 *"The refrigeration system must be designed in such a way that standby capacities must be incorporated in all areas. A spare compressor and Spare condenser must be installed"* also for &clause 8 &clause 9 ,**please confirm our understanding that the spare equipment (condenser /compressors) will be installed in the plant (as standby**	These should be incorporated to system. The Idea is if one of the compressor out of spare compressor can run and utilize without reducing plant capacity, so does condenser.

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		operation) not to be supplied as a lose equipment for client for future installations .	
162	General Electrical	Please Provide Electrical and Extra Low Voltage Specifications.	System is 400V 3Phase 50Hz, 4 wire system, and Single Phase 230V system, extra low voltage shall be decided on based on standard ratings
163	General Electrical	Please clarify the location for Firefighting room on layout in all Lots since the same is not clear.	Details to provide in late stage.
164	General Electrical	Please provide Existing Facility (As-built) electrical Drawings for All Lots for existed control -power generation units. Please provide existing panels Single line diagrams, CB data & Cable data and locations on layout to coordinate with new Panels.	Refer to Addendum 3
165	General Electrical	Please provide the location of all powerhouse bud lings on layout for all Lot 1&02	CAD file attached (Refer to Addendum3)
166	General Electrical	Please provide Type, rating and number of existing generators for all Lots	Lot 1: 1250kva x 2sets, 500kva x 5sets Lot 2: 500kva x 2sets, 250kva x 1set
167	General Electrical	Please provide data for synchronization panel of existing generators.	Not available
168	General Electrical	Please provide Lighting Fixtures types (Normal & Emergency), small power types to be used from supplier. Ref. Suppliers	Contractor to proposed and client will approve
169	General Electrical	Is there existing system to connect the new installed Extra Low Voltage system (CCTV, Fire Alarm, Access Control, GPON, Public Address, etc.) With?	Exist in Kooddoo and Kanduoiygiri Giri only not in Mulak

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
170	General Electrical	**Lot-03-** Please clarify if Generators are required in Lot-3 in our scope ,as not mentioned in the employer requirements. And please highlight the generator capacity & kindly confirm if the generators (if provided) will not be interfaced with the municipality electricity network and generators serving our project ,as per site visit to Mulah found that the available municipality electrical supply will not sufficient ,hence the generators will be the main power supply source ,if shall connected to electrical municipality network ,hence please provide us with existing electrical drawings for the network &power generation plant for deciding the tie point and cable length and synchronizing with existing pant.	Generator sets should be supplied by the contractor
171	General Electrical	In Scope of work, it is mentioned to provide drawing for Car Park Barrier Gate System (If Applicable). However, we observe no parking in any drawing for the 3 lots. Please confirm no Car Park Barrier Gate System is needed.	Car park barrier gate system is not required
172	General Electrical	**All lots 1&3 (as applicable), for generators** , please confirm only one daily tank for operation 8 hours (single wall) is required per each generator ,	MIFCO to provide clarification:
173	General Electrical	**All lots 1&3 (as applicable), for generators**), regarding to the fuel Bulk storage or tanks are needed for fuel storage, kindly confirm if required or not and confirm how many days to be designed or directedly provide the required size by (m3) ,also as per our understanding that the bulk storage will be installed above ground and provided by retention RC Wall ,please confirm if	The Day tanks, 10000 KL 2 units, should be supplied 3 feet above ground, and must have concrete wall to prevent oil spillage in case of leak, the RC wall mist have capacity of the total volume hold on 2 tanks

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
174	General Electrical	All lots 1&3 (as applicable),for Fuel bulk storage tank /Daily fuel tanks (serving generators),also please advise regarding to the tank Fire Fighting system (if needed) ,please announce	Yes, main tank needed
175	General Electrical	Please confirm if any type of sun sheds is required for daily /bulk fuel tanks (if fuel tanks are required)	Yes, sun shade needed
176	General Electrical	**Lot-02** -kindly confirm the sufficiency of the available electrical power(to operate the project) at the existed power generation	500kva one set should be supplied
178	General Electrical	**Lot-02 -** kindly be noted that and for avoiding any disturbance for existed facilities please confirm our understanding ,that bidder will supply the power cables (length about 170 m) from the project till the distribution panel in the power generation plan and supply also the circuit breaker ,and the client will do all works related to cable laying and install the circuit breaker and terminations inside the existing facility /main board ,client to highlight if the breaker is available with his side and define the rating hence to be omitted from bidder scope	It is in contractor's scope to provide power cables and laying and installation
179	General Electrical	Lot-01- as per our understanding that the two generators supplied 2Gen. X1Mw will not connected directedly to the lot-01 project ,these generators shall be connected to an electrical board in the existed control room ,to combine with existed electrical capacity existed for mauver at rush hours , ,please confirm our understanding or advise another . If our understanding is correct hence please provide the SLD of the existed switch Board and confirm the rating of existed circuit breaker (if existed) and full data about existed plant, these data need for synchronization ,	Not available

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
180	General Electrical	**Lot-01-** kindly be noted that and for avoiding any disturbance for existed facilities please confirm our understanding ,that bidder will supply the power cables (length about 50 m) from the project till the distribution panel in the power generation plan and supply also the circuit breaker ,and the client will do all works related to cable laying and install the circuit breaker and terminations inside the existing facility /main board ,,client to highlight if the breaker is available with his side and define the rating hence to be omitted from bidder scope	It is in contractor's scope to provide power cables and laying and installation
181	General Electrical	All lots (as applicable), for generators fuel needed for testing /commissioning /operation ,please confirm our understanding that no fuel will be supplied by the bidder and all fuel need for generators to be supplied by the client ,if not and bidder shall supply fuel ,hence please mention the fuel capacity (at m3) need for every Lot ,	Fuel will be supplied by client
182	General Structural	In technical specs for cold storage and quick freezer of KOG the net height of Blast freezer room is 5m however in the drawing is 4.333m, please clarify which one shall be considered.	Cold store height is 5 meter; hence freezer room shall be 2-meter, freezer length and width increase to compensate loss of height
183	General Structural	Please provide Geotechnical report.	Not available
184	General Structural	Please Provide Civil Specifications for Buildings, Paving and infrastructure., also please provide drawings for the paving roads &Paving works of dirt roads, drawings to specify each road for calculating the area /cost .	Road construction and paving is not in contractor's scope
185	General Structural	Please provide location of power generator Building and general arrangement for the building.	CAD file attached (Refer to Addendum3)

<table>
<tr><th>#</th><th>Reference</th><th>Clarifications / Question</th><th>Responses / Confirmation / Addendum</th></tr>
<tr><td>186</td><td>General Structural</td><td>Please Provide Architectural Specifications for Buildings and Landscape.</td><td>CAD file attached (Refer to Addendum3)</td></tr>
<tr><td>187</td><td>General Structural</td><td>Clarify the location of insulation details (detail-9, detail-10, detail-11 & detail-12) in the plan of cold store building in the attached CAD drawings as mentioned in addendum-03.
Please clarify where is the pink area and blue area in the plan which is mentioned in details 9 & 10.</td><td>Pink is high density polyurethane form for floor, Blue is insulation panel</td></tr>
<tr><td>188</td><td>General Structural</td><td>Please clarify Wall type and finishing for (compressor room, receiving room, exhaust chimney, passage for radiator, power house, control room, machine room, hand wash, changing room, brine freezing area</td><td>All walls finishing types are specified in the drawings</td></tr>
<tr><td>189</td><td>General Structural</td><td>Please confirm the following list of applicable codes:
<table><tr><th colspan="3">B) Applicable Codes</th></tr><tr><td colspan="3">B.1) Design Code</td></tr><tr><td>1</td><td>BUS & HRS</td><td>American Institute of Steel Construction, Inc. (AISC) - Manual of Steel Construction - Edition: 2016</td></tr><tr><td>2</td><td>Cold Formed Sections</td><td>American Iron and Steel Institute (AISI) - Cold-Formed Steel Design Manual - Edition: 2016</td></tr><tr><td>3</td><td>Welding</td><td>American Welding Society (AWS). AWS D.1.1/D.1.1M: 2015</td></tr><tr><td colspan="3">B.2) Loading & Serviceability Code</td></tr><tr><td>1</td><td>Wind Loads</td><td>Metal Building Manufacturers Association, Inc. (MBMA). Edition: 2018- Which follow ASCE 7-16</td></tr><tr><td>2</td><td>Load Combination</td><td>Metal Building Manufacturers Association, Inc. (MBMA). Edition: 2018- Which follow ASCE 7-16</td></tr><tr><td>3</td><td>Serviceability Limit</td><td>Metal Building Manufacturers Association, Inc. (MBMA). Edition: 2018</td></tr></table></td><td>Confirm.</td></tr>
<tr><td>190</td><td>General Structural</td><td>1- Live loads on roof will be considered 0.58 Km/m2. Please confirm
Please provide the following loads that shall be considered in our design.</td><td>Loads are specified in our Specification sheet</td></tr>
</table>

#	Reference	Clarifications / Question	Responses / Confirmation / Addendum
		2- Collateral loads on roof. 3- MEP loads, MEP plans, Evaporators loads that shall be considered on roof if any. 4- Wind speed and exposure category (B, C or D). 5- Seismic factors / loads and soil type. 6- Snow or dust loads. 7- Rainfall intensity. 8- Any other additional loads.	
191	General Structural	Please provide cladding type on roof and walls of the main buildings, whether sandwich panels or single skin cladding, GI or Aluminum and the required finishes for cladding PVDF coated or polyester coated.	Single skin claddings for roofs and walls (cladding thickness should not be less than 0.5mm)
192	General Structural	Please note no vacuum loads / freezing or cooling loads / suctions loads will be considered in AIC PEB steel buildings.	Yes, confirmed
193	General Structural	1-Please advise with the required painting system, number of coats, total required DFT and top coat color, or please advise if primary members will be hot-dip galvanized. 2- Please note fireproof will not be considered for primary steel members.	2 coat epoxy system, (sigma) or equivalent.
194	General Structural	Please Clarify the specs. Of covering for walls and roof.	This is specified in our specification sheet provided along with RFP
195	General Structural	Please Clarify architecture Finishing, doors and windows specification.	Contractor to design this adequately based on the specifications of cold storage systems.