Item #	Document name, reference or page number	Clause or Section number	Clarification Comment, Content, or Question	Answer from Employer (Eskom & TPS)
1	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	-	Please, confirm that the warranty period for Dynamic Reactive Power Compensation for Aries Substation is limited to two years and equals to RAM period	The Defect Liability Period (DLP) is 156 weeks and the RAM is for two year period, but as noted in the respective clauses.
2	Commercial Queries	Approved suppliers	Do you have an approved supplier list? Kindly asking to share it if yes	Bidders can propose preferred suppliers, Eskom reserves the right to review and approve if all requirements are met including but not limited to commercial, technical and other specifications.
3	TECHNICAL EVALUATION OF PROPOSALS FOR THE 400KV, 500MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	4.2.1. (1) and Annex A	Please, confirm that System Designer experience requirement is related to the bidding stage of the tender or to the main project stage.	System Designer experience requirement is related to both bidding stage and main project stage
4	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	6.1.16 1a	Please, confirm that there is the outer fence, named Boundary Fence, as indicated in Aries Station Keyplan Drawings. Where the limit of audible sound shall be used or is it the security fence?	Eskom will update the substation drawing clearly indicating substation boundary fence. However, Bidders are reminded that the requirements are applicable at the DRPC boundary fence. a)DRPC area boundary wall / fence: 70 dB(A) Note that the DRPC area boundary fence is not the substation boundary fence. The Bidders are reminded of the importance of the Site visit, although not compulsory, in order to varify site conditions etc, at their own risk.
5	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	4.21	Can the storage building be a separate building or does it have to be incorporated in DRPC building?	Eskom's Preference/recommendation is to place this inside the DRPC building that will allow environmentally controlled air for sensitive components. Other outdoor and larger components can be stored in a different area as per contractor's design which will be reviewed by Eskom.

6	-	-	Could you please provide a dwg of the substation including section views?	The information is only available in pdf format. Bidders and Contractors have to convert the files/documents into the correct format when submitting them to Eskom under the contract. Bidders are again reminded of the importance of the site visit to verify the information for themselves.
7	-	-	Could you please confirm whether it is possible to use existing trench? Please, provide section/details of the existing trench.	Utilisation of existing trenches may not be possible if the existing trenches are too full. Bidders to verify this on the site visit. Any utilisation is subject to Bidders/Contractors' own risk. Subject to review and change by Eskom at the design stage, with no impact on project time, cost, or quality.
8	-	-	Could you please provide existing lightning protection drawings/reports of existing substation?	The Station Electric / layout diagram is provided. More details information may be supplied to the successful bidders. No study reports are available. The Bidders are reminded of the importance to attend the site visit to verify this.
9	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	-	Based on the requirement, bidder assumes that some studies are to be conducted during Bidding stage. We would like to bring to the attention, that in order to conduct such studies it is required to have the system data from Eskom. Moreover, normally it takes around 3 month to produce the result. It will not bring much value to Eskom to perform the above studies before all the control functions been designed, because according to the certain customer requirements, the control code might be updated and control settings might be tuned. The system studies should validate the actual control after it has been designed/tuned for the customer but not before it. Therefore, it is proposed to provide a system studies outline, which listed the planned studies which are going to be performed as well as the detailed content/study cases that to be performed in each study, during the tender as bid files and perform the actual studies during project stage. Please, confirm if this approach is acceptable.	Not accepted, Bidders to adhere to the stated requirements.

10	A. Commercial Queries:- C1.2a ECC3 Data by employer Clause 5: Payment Page no. 4 of 18	Payment Terms	This is to inform you that payment terms are not defined in the clause. Request to clarify on the point and share detailed payment terms like advance, Supply & Installation etc. We propose the following payment terms for the project: 1. 10% of total contract value as mobilisation advance after signing of the contract, against submission of equivalent advance bank security. 2. 80% of supply value against submission of shipping documents; 8 3. 7.5% of contract value as retention money, which will be paid against commissioning of the project (50% of retention money shall be released against submission of bank guarantee of equivalent value, valid till end of DLP) 4. 2.5% against SDL&I and will be released against submission of bank guarantee at the beginning of the project.	Potential Tenderers/Bidders should submit a tender/bid that is compliant with the original tender requirements and specifications.All proposed Deviation from original tender requirements should be captured in the deviation schedule of the NEC ECC Data by the Contractor.
11	A. Commercial Queries:- C1.2a ECC3 Data by employer Clause 5: Payment Page no. 4 of 18	Payment Terms	We request you to provide the payment of supply materials through Letter of credit instead of direct payment	Potential Tenderers/Bidders should submit a tender/bid that is compliant with the original tender requirements and specifications.All proposed Deviation from original tender requirements should be captured in the deviation schedule of the NEC ECC Data by the Contractor.
12	A. Commercial Queries:- C1.2a ECC3 Contract Data, Data by Employer, Clause No X16.1 Page no. 7 of 18	Retention	As per the referred clause, the retention percentage is 7.5% total of the Prices at Contract date. In this regard, we would request ESKOM to reduce this retention percentage to 3.75% of the Contract total Price. This will enable the Contractor to have continuous cashflow for the project and support for completion on time.	Potential Tenderers/Bidders should submit a tender/bid that is compliant with the original tender requirements and specifications.All proposed Deviation from original tender requirements should be captured in the deviation schedule of the NEC ECC Data by the Contractor.
13	A. Commercial Queries:- C1.2a ECC3 Contract Data, Data by Employer, Clause No X16.1 Page no. 7 of 18	Retention	As per the referred clause, 50% of retention payable when the works is taken over on Completion and the balance 50% of retention is paid on the expiration of the defects period which is 156 weeks after the works has been taken over. In this regard, we would request ESKOM to accept to release the remaining 50% of final retention against submission of Bank Guarantee of equivalent amount valid till the end of defects period.	Potential Tenderers/Bidders should submit a tender/bid that is compliant with the original tender requirements and specifications.All proposed Deviation from original tender requirements should be captured in the deviation schedule of the NEC ECC Data by the Contractor.
14	A. Commercial Queries:- Invitation to tender_ MWP1341TX Page no. 2 of 69	Source of Funds	It is mentioned that the project will be co-financed by Kreditanstalt fur Wierderaufbau (KFW), Germany. Request to confirm if project will be 100% financed by KFW, if not, kindly share the bifurcation details between the funding agencies.	That is a confidential agreement between the Employer and the funder.

15	A. Commercial Queries:- Invitation to tender_ MWP1341TX Page no. 14 of 69	CIDB Requirements	As per Tender Data, It is required that tenderers must have a valid Construction Industry Development Board (CIDB) contractor grading of 9EP. Please confirm incase the bidder is participating in JV or consortium, any one member of JV shall have 9EP certificate and bid for the project.	If one of the Parties to the JV has 9EP CIDB registration then the JV is compliant.
16	A. Commercial Queries:- Invitation to tender_ MWP1341TX Clause 1.3 Tender returnables Page no. 16 of 69	Bidder qualification – Criteria	Please be informed that we didn't find any technical and financial qualification criteria for bidders in the tender documents. In this regard, we request you to please confirm and provide the qualification requirement. Also, please clarify whether any mandatory requirement that bidder shall participate with Consortium / JV arrangements with major equipment manufacturer. Kindly confirm.	ST_240-112465930 Rev 5.1_TPS1 The Technical qualification requirements are as per Annex A – Basic Mandatory Requirements, and Table A.1: Basic Mandatory Requirements This document contains the technical qualification criteria
17	A. Commercial Queries:- C1.2a ECC3 Contract Data, Data by Employer, Clause No 42.2 Page no. 3 of 18	DLP	As per the referred clause, the Defect liability period is Hundred and Fifty Six (156) weeks after Completion of the whole of the works. In above context, we request ESKOM to reduce the defect liability period to 78 weeks (i.e 18 Months) as this is the normal DLP provided by vendors.	Potential Tenderers/Bidders should submit a tender/bid that is compliant with the original tender requirements and specifications.All proposed Deviation from original tender requirements should be captured in the deviation schedule of the NEC ECC Data by the Contractor.
18	A. Commercial Queries:- C1.2a ECC3 Contract Data, Data by Employer, Clause No 51.1 Page no. 4 of 18	Bid currency	We would request ESKOM to allow the bidder to propose foreign currency for imported items and accept the payment will be made on the same proposed foreign currency during execution instead of RAND (ZAR) converting using exchange rate prevailing on the date of payment.	Refer to payment methods in the enquiry documents page 40-43
19	A. Commercial Queries:- PART C1: Agreement and contract data- clause -X1 Price adjustment for inflation	Price adjustment	We request you to please consider the base date as 28 days before the bid submission date. As various major item are to be imported from foreign manufacturers are requesting CPA prices adjustment from the bid submission date instead of one-year after contract.	Base date is a month prior to enquiry closing date
20	A. Commercial Queries:- General	Approved Manufacturers	Request you to provide approved Manufacturers for all the items. And also confirm whether bidder is free to propose the Manufactures who are meeting the technical requirement.	Bidders can propose preferred suppliers, Eskom reserves the right to review and approve if all requirements are met including but not limited to commercial, technical and other specifications.
21	A. Commercial Queries:- C1.2a ECC3 Contract Data, Data by Employer, Clause No X18.5 Page no. 9 of 18	Latent Defects	As per the referred clause, the latent defects is 7 years from the end date of defect liability Period. In this regard, we would request ESKOM to reduce the period of latent defects to Three (3) years as our manufacturers/OEMs are not providing and confirming the latent defects such a longer duration (i.e. 7 Years) after DLP peroiod.	Potential Tenderers/Bidders should submit a tender/bid that is compliant with the original tender requirements and specifications.All proposed Deviation from original tender requirements should be captured in the deviation schedule of the NEC ECC Data by the Contractor.

22	A. Commercial Queries:- C1.2a ECC3 Contract Data, Data by Employer, Clause No X17.1 Page no. 8 of 18	Low performance Damages	There are various sections for which certain amont is defined for low performance damages but total cap can't be tracked. Request you to confirm for the same.	Response to this clarification will be given in due course.
23	B. Technical Queries:- Drawings	Auto cad files	Request to share auto cad files of the drawings for clear understanding.	No Autocad files are available. Only pdf. The Bidders are reminded of the importance of the recommended site visit i to also verify the information.
24	B. Technical Queries:- Drawings	-	Request to share elevation drawing of the existing yard.	No Autocad files are available, only pdf. The Bidders are reminded of the importance of the recommended site visit i to also verify the information. No claim will be accepted for this information not been provided and Bidders/Contractor shall allow for this in their bids.
25	B. Technical Queries:- Environment data, System parameters	-	Please share complete Normative/informative references again. Very limited documents available with tender attachment. Files like environment data, system parameters missing.	Please specify what is missing so that Eskom does not have to send what is already available. Nominative references from IEC, IEEE, and other international standards were not sent to bidders, only Eskom and other internal company documents were published with Tender inquiry.
26	B. Technical Queries:- Drawings	-	Bus Bar Protection Panel Drawings for augmentation of Bus. We understand existing control room has provision to accommodate new Bus-Par Protection panel if required. Please confirm.	Information can be confirmed during site visit. The existing control room will be able to accommodate the new Busbar protection panel.
27	B. Technical Queries:- Scope of works	-	Please clarify on "extend the terrace to provide space for DPRC system."	Some geotech work shall be required by the Contractor to extend the existing substation yard for the DRPC. This shall be included as part of the Contract Scope of Works Bidders are reminded of the importance of the Site visit.
28	B. Technical Queries:- Scope of works	-	Please clarify on "Dismantle the existing wood-pole bypass. "	There is an existing wood-pole bypass circuit that needs to be dismantled to make space for the DRPC. Bidders are reminded of the importance of the Site visit. During a site visit, this will be shown.
29	B. Technical Queries:- Aries Station Key Plan Drawing	-	In tender layout (key plan), additional scope for repositioning of OLM and transf. area. Kindly confirm.	Bidders are reminded of the importance of the Site visit. During a site visit, this will be shown to all.
30	B. Technical Queries:- Drawings	-	Earthing layout of existing yard is required to check positioning of Reactor required for DRPC for magnetic clearance. Kindly share the same.	Eskom Substation design to provide before tender close
31	B. Technical Queries:- Soil Investigation Report	-	Kindly furnish the soil investigation report for existing Aries Substation.	A geotechnical investigation report and Memo to be sent to all bidders, to be published on the tender bulletin.

32	B. Technical Queries:- Storage Building	-	Suitable storage of all equipment to be used in the scope of supply and construction of storage facility with suitable chemical storeroom. Please specify location. Separate or control room Building part.	It is recommended to be a part of the DRPC building.
33	B. Technical Queries:- Perimeter and Internal DRPC Fence and Gates	-	We understand that in the said clause, dismantled fence shall not be reused and stacked at client specified designated area. Kindly confirm.	Contractors shall not reuse existing or dismantled fence.
34	B. Technical Queries:- DRPC Yard	-	Kindly furnish the existing surface drainage network layout, connection points, invert levels etc.	Bidder to include any works to supply a complete system as part of the works, including any changes to the civil, drainage. Bidders are reminded of the importance of the Site visit. During a site visit, this will be shown to all.
35	B. Technical Queries:- General Civil Works Requirements	-	Kindly furnish the existing sewerage network layout and details	Bidder to include any works to supply a complete system as part of the works, including any changes to the sewerage system. Bidders are reminded of the importance of the Site visit. During a site visit, this will be shown to all.
36	B. Technical Queries:- SCADA Interface	-	Substation Automation system – Kindly share make & Software details	D20/D400, to be confirmed during site visit.
37	B. Technical Queries:- Fire Protection System	-	Existing Fire-Fighting System to be used with equipment supply for extended area or need of pump house ? Please confirm. Fast depressurisation system in case of transformer failure. Scope only include equipment ? Please confirm.	Additional equipment will be required to extend to the DRPC, bidder's design will influence the need for a new pump house if optimal. This will be included in the Scope of Works. Bidders are reminded of the importance of the Site visit.
38	B. Technical Queries:- General – Aries Substation drawings	-	Please share exiting station drawings -SLD and Drawings of existing 400V ACDB, DCDB -Cable trench drawing of existing yard -CRP drawings of existing 100 MVAr reactor	Eskom will provide information it has available. Any missing information, it will be for the Bidders/Contractor to collect the information. This is all part of the Scope of Works.
39	STATCOM Technical Schedule	PSD-1240-SC-0001-R0C Site and Power System Information	Please kindly confirm the maximum and minimum short-circuit level for harmonic studies and STATCOM design - Maximum : 10300MVA or 7620MVA? - Mininum : 2040MVA or 4300MVA? Additionally, please kindly confirm X/R ratios or short-circuit impedances corresponding to the maximum and minimum short-circuit levels.	Note that the data referred to is not to be used for harmonic studies The short-circuit levels to be used are as follows: - Maximum : 10300MVA; X/R : 8.65 - Mininum : 2040MVA; X/R : 8.65

40	STATCOM Technical Schedule	PSD-1240-SC-0001-R0C Site and Power System Information	Please kindly confirm the maximum and minimum short-circuit level for harmonic studies and STATCOM design - Maximum 1 sec symmetric : 31.5kA or 40kA? - Abnormal minimum : 1750MVA or 2000MVA? Additionally, please kindly confirm X/R ratios or short-circuit impedances corresponding to the short-circuit levels for the minimum 1 sec sym and the abnormal minimum conditions.	Note that the data referred to is not to be used for harmonic studies The short-circuit levels to be used are as follows: - Maximum 1 sec symmetric : 31.5kA - Abnormal minimum : 1750MVA; X/R : 8.65
41	STATCOM Specification ST_240-103797616 Rev 3	6.1.16 Audible Noise Page 77~78	The Contractor shall design and construct the DRPC so as to limit the audible noise interior and exterior of the facilities. Audible noise limits outside the DRPC building are applied at the DRPC fence line while inside the building they apply at a specified distance (3m) from the emitting source and include the following: a) DRPC area boundary wall / fence: 70 dB(A) b) DRPC Main Power Transformer at a distance of 2m: 80 dB(A) c) Air Core Reactors at a distance of 2m: 80 dB(A) d) Maintenance workshop: 65 dB(A) e) Control and relay rooms: 65 dB(A) f) Other accessible rooms: 65 dB(A) g) Thyristor valve (TCR/TSC/VSC) rooms, including pumps: 85 dB(A) The noise specifications of the air cooler of the cooling system are not specified. Please confirm if you can comply with 85dB@3m (Specification (g))	Audible noise limit for heat exchangers (outside the DRPC building) shall be: 80dB(A) at a distance of 2m
42	STATCOM Specification ST_240-103797616 Rev 3	6.17.1 20) Page 134	The Contractor shall provide the tank, booster pump, and associated transfer facilities for a reserve coolant supply of capacity equal to one complete refill for each cooling system. The cooling system has its own refill tank considering the amount of coolant. Complete refill is not possible, but please confirm that it is replaced with the cooling system's own refill tank.	Question is not understood as the prospective bidder indicates that he will supply a refill tank. Bidder to re-phrase. Refill tank capacity may be less than full capacity but then the Contractor must supply holders/containers that has the full capacity to transport the full capacity for at least one complete refill.
43	STATCOM Specification ST_240-103797616 Rev 3	6.17.4 9) Page 135	Pumps shall be self-priming. The pumps shall be arranged with a view to facilitating inspection and repair and providing space for the easy removal of the cover and impeller of any pump while the other pumps are operating. Self-priming pumps are not suitable pumps as they will not provide adequate flow to the STATCOM cooling system. This is not applicable. Please confirm.	Eskom will reply to this at a later stage.
44	STATCOM Specification ST_240-103797616 Rev 3	6.17.10 9) Page 136	Leak detectors shall be provided. A sensor for leak detection within the cooling system replaces this. Please confirm.	Not accepted. To be reviewed at design stage, at discretion of Eskom (Employer) and if needed, both leak detectors within the cooling system be provided plus compliant detectors.

45	STATCOM Specification ST_240-103797616 Rev 3	6.17.10 10) Page 136	Liquid cooling shall be verified against leaks etc. Helium sniffers etc shall be used to detect leaks etc. A sensor for leak detection within the cooling system replaces this. Please confirm.	Not accepted.
46	STATCOM	-	Cooling system painting Paint specifications use the general standard color RAL 7035. Please confirm	Eskom notes the standard Cooling system painting color RAL 7035, acceptable.
47	General	-	Bidders submitting a tender using different OEM suppliers.	For the main tender the Bidders must elect the OEM for all the parts of the DRPC project. Different OEMs are now allowed in a single bid and the same rules apply for Alternative bid – single OEM per device (or component / system / subsystem). The rules for Eskom to evaluate the alternative bid requires a compliant Main Bid. Eskom reserves the right to review the OEMs and Eskom MAY elect to accept an alternative OEM whose equipment are compliant to the specifications.
48	PSD-1240-SC-0014-R0C DRC Power Transformers	35.1 & 35.2	Please confirm the - Top oil Temp rise and Winding oil Temp rise	Transformer specification is on 240-68973110: SPECIFICATION FOR POWER TRANSFORMERS RATED FOR 1.25MVA AND ABOVE AND WITH HIGHEST VOLTAGE OF 2.2KV OR ABOVE. The specification covers the Temperature rise limits. The Tenderer's Value expected on the schedule (PSD-1240-SC-0014-R0C DRC Power Transformers)
49	A. Commercial Queries:- General	Tender submission and contracting	On EPC, can bidders change sub-contractors or suppliers after contract award?	Sub contracting to be in line with the NEC3 ECC principles.

<table>
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<td>50</td>
<td>SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION</td>
<td>-</td>
<td>Environmental Data: The Bidder noticed some discrepancy in the Environmental Data shared by Eskom, after comparing the below documents:
•PSD-1240-SC-0001-R0C Site and Power System Information (excel file under Technical Schedules)
•PSD-1240-SC-0014-R0C DRC xxx (excel file under Technical Schedules where xxx is related to the specific equipment)
•Equipment documents related to specific number and equipment under Nominative References

One such instance is detailed below, considering the case of Power Transformer:

<table>
<tr><th>Parameter</th><th>PSD-1240-SC-0001-R0C Site and Power System Information</th><th>PSD-1240-SC-0014-R0C DRC Power Transformers</th><th>[228] 240-68973110 Specification for Power Transformers</th></tr>
<tr><td>Max. Ambient Temperature (°C)</td><td>50</td><td>50</td><td>40</td></tr>
<tr><td>Site Elevation (m.a.s.l.)</td><td>< 1000</td><td>< 1000</td><td>~ 1800</td></tr>
</table>

Similar discrepancy was noticed for other equipment as well like Air Core Reactor, Disconnectors & earthing Switches, Cooling System, etc. – this could create issues in the design process. Accordingly, the Bidder requests Eskom to specify the precedence of the documents that should be followed in case of similar discrepancy.</td>
<td>The maximum value shall be selected, namely 50C</td>
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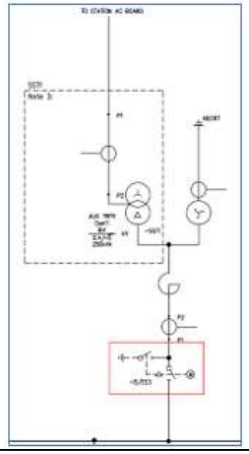
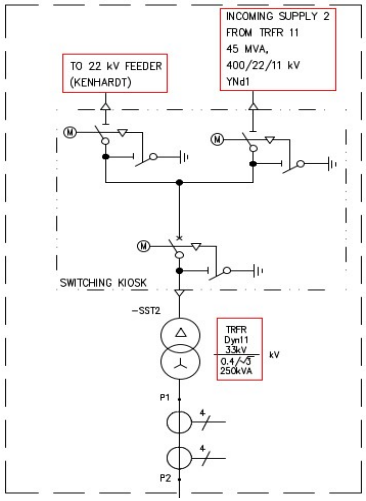
51	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION/Drawing PSD-1240-E-0005-R0D	5.2.11 / 7) f)	For auxiliary transformer faults, the relevant MV breaker shall be tripped, where after disconnectors are opened, without opening the EHV breaker. However, in the drawing PSD-1240-E-0005-R0D there is no MV Breaker in Auxiliary Transformer branch, instead there is a Disconnector – refer the red rectangle. Could you please clarify whether the Bidder should consider MV Breaker or Disconnector in the Auxiliary Transformer branch. 	For the method of locating the auxiliary transformer on the DRPC tertiary, then the circuit breaker shall be located as close as possible to the transformer tertiary, connected via single core cables (insulated) and the switchgear that be enclosed.
52	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	Clause 6.1.18 / 7)	In the specifies clause table 11.1 is mentioned, however, there is no table 11.1 inside the document NRS 048-2:2003. Instead, there is *Table A.1 — Recommended planning levels for harmonic voltage*, which seems to be the required data indicated in the specification under Clause 6.1.18 / 7). Kindly confirm if the same could be used for calculations.	Clause 6.1.18 (7) NRS048-2 Table A.1, and for Clause Clause 6.1.18 (8) IEEE Std 519-1992 Table 11.1
53	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	0.209768519	Please clarify if the POD needs to be tuned or only needs implementation of the function.	5.2.4 (POD). Tuned and implemented
54	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	5.2.7 / 3	Please clarify what is implied by “dynamic conditions for up to 4sec”.	During the 4 seconds following a disturbance on the network or fault on the DRPC equipment
55	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	5.2.8. / 7)	The Bidder requests more details to understand this function and have the following queries: •What is susceptance limiter? •Please advise till what value the DRPC controller change reset? •Please clarify under what condition(s), the reference voltage will be reset?	Activation and deactivation of Q-control mode (susceptance regulator control). Refer to 5.2.2(11) & 5.2.8(7) for DRPC controller reset. Refer to 5.2.8 (8) & 5.2.2(8) for Vref reset.

56	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	5.3.2 / 1)	Kindly clarify / elaborate under what condition(s), the measured system voltage shall have a step.	5.2.2(10) and 5.2.2(11) define the conditions where the voltage can be adjusted as specified.
57	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	8.4.1.	The Bidder feels requirements 6) and 7) above are not in line. Kindly clarify which model shall be used for control functions.	These are part of the required RTS tests. Scope of work as defined is required.
58	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	4.10.1 / 2)	Kindly clarify if Eskom has any specific PQR Meter.	Yes Eskom has a preferred PQR meter (CT Lab Vecto III instrument which is on a current contract), this is the only Eskom accepted product.
59	Drawings/layouts/key plan diagrams and report as requested by bidders. Kindly note that at this stage, pdf drawings are available and they are clear (once viewed or printed on 100% size of the document). It is crucial that bidders attend the site visit as arranged to get more details on site.			Attached:0.12-5351 Key Plan.pdf 0.12-5352 Terrace, Road and Drainage.pdf 0.12-5353 Foundations, Trench & Earthmat Layout.pdf 0.12-5354-0-Security Fence Layout (Existing).pdf 0.12-5507-0- Steelwork Marking Plan (Existing).pdf 0.12-5525-0- Station Electric Diagram (Existing).pdf 0.12-5753 Control and Carrier Room equipment layout.pdf 0.12-5874 AC Retic Block diagram.pdf 0.125530 Busbar Reactor 1 Bay.pdf 0.125531 Busbar Reactor 2 Bay.pdf INTERNAL MEMO Aries Substation & Geotechnical Investigation for the prosed Extension to HV Yard-Nov 1997.pdf
60	Drawing for the “0.12-7118-0 Aries Fire Protection and Drainage” and kindly ensure the bidders also have this for the first clarification questions.			Drawing attached
61	TECHNICAL EVALUATION OF PROPOSALS FOR THE 400KV, 500MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	Annex B – General Requirements: Point I	There is a requirement for "Detailed report on potential obsolescence of components/technology . . .". Kindly elaborate what should be included here.	The bidders are expected to provide Eskom with a reference list, if the references included are older than 2 yrs you score 4. If there are NO obscolete components/technology, you score 3. Indicate if there'll be support to Eskom, if there'll be support you score 3.
62	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	Annex C	Kindly asking to elaborate on what is required to be delivered for the document named *"Project PERT / CPM Schedule for Monitoring and Control of Activities"*	At Bid stage; complete pricing activity schedule (Schedule 2A Forcast Invoicing) and provide Eskom with your project schedule for all activities. At Base design stage; provide Eskom with your project schedule for all activities.

63	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	Annex C	Kindly asking to elaborate on what is required to be delivered for the document named "*Detailed report on potential obsolescence of components/technology used and guaranteed component support/availability duration*"	It is as stated on the Specification Annex C. Eskom needs to know if your specific design will have any components or technology that is reaching obsolescence stage, and you should provide a report with a list of those components/technology, also state the guarantee on such components, and the support you will provite to ensure availability meets the RAM requirements. See also point 61 above
64	TECHNICAL EVALUATION OF PROPOSALS FOR THE 400KV, 500MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	Annex B	Kindly asking to elaborate on what is required to be delivered for the document I *("Detailed report on potential obsolescence of components/technology used and guaranteed component support/availability duration for life of plant specified")*	The bidders are expected to provide Eskom with a reference list, if the references included are older than 2 yrs you score 4. If there are NO obscolete components/technology, you score 3. Indicate if there'll be support to Eskom, if there'll be support you score 3.
65	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	5.2.10	Referring to the AC SLD provided by customer, it is assumed that the external AC Auxiliary power in the black start section refers to both 22kV incoming feed and the feed through the 45MVA transformer marked as Incoming Supply 2. In the absence of both of these feeds, will there be a need for a diesel generator to be provided to enable this black start?	See section 5.2.10(5) & 4.18.2(1), this is for your Temporary site supply and not for black start of the DRPC, a generator is required with enough fuel to allow you to work at times when we cannot guarantee supply. Black start - the auxiliary power needs to be derived from only Incomer Supply 1 only. The Bidders shall provide whatever is needed to fulfill this requirement

66	Drwg. No. PSD-1240-E-0004-0D: Proposed AC And DC Auxiliary Systems		Ref. to the following section in the drawing, the incoming supply is 22 kV (both KENHARDT feeder and INCOMING SUPPLY 2). Accordingly, the Bidder understands the transformer SST–2 HV side should be rated for 22 kV as well, instead of 33 kV as shown here. Kindly confirm. 	Yes, it is 22kV and not 33kV. Both KENHARDT feeder and incoming supply 2 from Transformer No.11 are 22kV. Kindly note that drawings names "proposed" are proposed and may updated during base design and the 33kV on the drawing may have been a typing error.
67	Prebid Answers from ESKOM dt 13th Jan 2023 Sl. No 14: **Source of fund:** That is a confidential agreement between the Employer and the funder		With reference to the clarification issued, we request you to confirm that the share of the financing agency KfW is more than 50% for this project. The above information is essential from the perspective of assessing the financial elements of the project.	That is a confidential aggrement between the Employer and the funder.
68	General		Kindly update the status of appointment of consultant (Owner's ENGINEER) and their role in the project.	The consultant is appointed by Eskom to support Eskom engineering team
69	General		In case a Consultant (Owner's ENGINEER) will be appointed for the project, please confirm if the appointment will be done by Eskom or the Co-Financiers KfW.	A team of Eskom engineers including the consultant will serve as owners engineers on this project.

70				AutoCad/Microstation drawings requested on the first clarification questions. We had previously sent out the pdf copies of these drawings and the revision numbers are same as those previously shared. 0.12-5353-0 - Foundation, Trench Earthmat Layout 0.12-5354-0 - Security Fence Layout 0.12-5507-0 - Steelwork Marking Plan 0.12-5525-0 - Station Electric Diagram 0.12-5351-0 - Key Plan 0.12-5352-0 - Terrace Roads & drainage Zip file attached (AutoCadMicrostation drawings)
71	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	6.4.16 / 3)	Referring to the following section in the specification, the Bidder understands that the CT and relay suitability calculations are required to be furnished during the project stage with real data of CT, cable, burdens, etc. (and not during the Bid stage). Kindly confirm. 3) The Contractor shall provide preliminary relay settings, relay calculations, CT, and relay suitability calculations. The CT and relay suitability calculations shall be furnished by The Contractor along with the bid. The recommended relay settings and relay calculations shall be furnished by The Contractor six (6) months before the commissioning date of the DRPC.	Requirements states "along with bid", these are preliminary details. The more detailed settings and calculations can be delivered as part of base design for review at a later stage.
72	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION	Section 5.02.10	Referring to the AC SLD provided by customer, it is assumed that the external AC Auxiliary power in the black start section refers to both 22kV incoming feed through 45MVA transformer marked as incoming supply 2 .In the absence of both of these feeds, will there be a need for a diesel generator to be provided to enable this black start? **Follow-up question from bidder:** Referring to the black start condition, the Bidder understands that the auxiliary power needs to be derived from only Incomer Supply1 (as per earlier response from Eskom). But there could be a situation that the Incoming supply 1 may not be available during the STATCOM startup – under this condition, it will not be feasible to derive this black start condition from Incoming Supply 1. Our understanding is that the Incoming supply 1 & Diesel generator need to be connect in parallel to fulfil this black start requirement. Kindly confirm.	The black start shall be fulfilled without the external supply, using the battery/UPS and internal supply. Refer to clause 5.2.10 (5). Bidders are reminded of clause 1.2 when providing a black start capable system. The Bidders shall design the complete system utilising only SST1 for the black start. if they require to size the UPS accordingly, or make use of UMD , etc. it remains the responsibility of the Bidders/Contractor. If SST1 is out of service, then black start may not be possible unless the design uses the UPS as noted. 5) Automatic energizing of the DRPC shall be possible without any external AC Auxiliary power (DRPC AC), i.e. with only the EHV Bus live (DRPC black start) or even with no EHV voltage present.
73	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION		Please, confirm that 12 participants from ESKOM team are going to travel for In-factory training to the Bidder's factory location? Usual practice is a a maximum of 5 participants.	A maximum f 12 is our requirement, this will cover all interested parties involved in the project, experts and some Grid/fiels staff.

74	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION		In technical schedule PSD-1240-SC-0001-R0C Site and Power System Information there is no information about any seismic requirements. Could you please confirm there is no seismic requirement applicable for the site to be followed?	The seismic requirement for the Aries Substation area is **0.3g** as a minimum Refer to document 240-68973110
75	SPECIFICATION FOR THE 400 KV, 500 MVAR, DYNAMIC REACTIVE POWER COMPENSATOR FOR ARIES SUBSTATION		DC system for the DRPC	DC system must be a separate (new) system as the DRPC control room is far from the existing control room. There should be no mixing of DC with the existing DC. See 4.4 of the Technical specification if in doubt.
76	Site visit clarification	General	Protection schemes, should they be phase 5 or phase 6 on the DPRC?	Since this is a full turn-key EPC project, we do not want to inhibit the suppliers from using their specific designs in our application and the supplier is responsible for the full system design. Eskom's preference n protection schemes, is to use products from our installed base being and those currently in contracts: Phase 5 (Hitachi Energy Relion 670-series) or Phase 6 (Siemens SIPROTEC 5 or Schweitzer SEL4xx/AXION).
77	Site visit clarification	General	Building structure	DRPC Control building wall structure and roof type must be **Loadbearing clay facebrick class FBS – Corobrik with 25 deg. Concrete tiled roof**
78	Site visit clarification	General	Cable entry into the new DRPC control room	The control room/valve room design must have **Framed Raised floor according to spec (Q74-Engineered Raised Access Floor System Specs.pdf). attached. No snap stringer pedestal floor allowed.**
79	Site visit clarification	General	Water drainage in the control and valve rooms.	The cooling room and valve room to have water trenches/drains **Any water leaks from the cooling system or other means should be easily evacuated**
80	Site visit clarification	General	Topography, keep same level or a stepped HV yard for DRPC?	Topography: **To keep the DRPC yard at the same level as the existing substation.**
81	Site visit clarification	General	Geotech information	No additional Geotech information exists for the substation, bidders who visited the substatoin took note of the requirements.
82	Site visit clarification	General	CAD drawings	Editable MicroStation/CAD drawings were shared with all bidders for the 0.12-5353-0 - Foundation, Trench Earthmat Layout 0.12-5354-0 - Security Fence Layout 0.12-5507-0 - Steelwork Marking Plan 0.12-5525-0 - Station Electric Diagram 0.12-5351-0 - Key Plan 0.12-5352-0 - Terrace Roads & drainage. These drawings were requested previously.
83	Site visit clarification	General	Access and temporary fence	Access to the DRPC construction will be via the main substation gate, the access and permits system will be utilised.

84	Site visit clarification	General	Existing 400kV wood pole bypass Line in the DRPC area	The existing 400kV wooden pole bypass line must moved/relocated to allow sufficient space for the DRPC work.
85	Site visit clarification	General	Existing 22kV Line in the DRPC area	The 22kV Larfarge line is close to the proposed area where the DRPC work is to be done, the 22kV line will also be moved to the north eastern side.
86	Site visit clarification	General	Oild dam	There **is an existing Oil dam and the DRPC can tap into existing fire protection and drainage system. It is proposed to build a new Oil dam next to the DRPC.**
87	Site visit clarification	General	Blast walls for fire protection	Firewalls will be required for the DRPC, Blast walls to partition between the single phase transformers & auxiliary transformer units and in addition blast wall consist of reinforced concrete.
88	Site visit clarification	General	Details of existing SCADA system	The existing substation SCADA is via a D20 RTU and the link to the national control is using the GE D400, there are some spare IO modules on the D400.
89	Site visit clarification	General	Details of existing Bus zone	The existing Buszone at the substation is a Siemens phase 6 (6BZ2400) scheme and has spare bays that can be interfaced with the DRPC. The details of the IED relays are Central Unit (7SS5220-xx) and spare Bay Units (7SS5231X).
90	Site visit clarification	General	Cable trenches	Some cable trenches are full, but we do not expect many cables between DRPC and Substation or existing control room only some limited fibre cables, SCADA and Buszone protection interface cables.