

**Tender for Supply, Installation & Commissioning of SCADA & ADMS System\_Adani Electricity Mumbai Ltd (AEML)**

Sr. No.	Document name	Page no.	Clause No.	Clause description	Query	AEML Remarks
1	Tender document	7 of 34	3. Eligibility Criteria & Qualification Criteria Technical:	The bidder shall have previous experience in the design, engineering, supply, installation, testing and commissioning of similar project in Power Distribution Systems (11KV or above) in the last four years meeting the following:	We request you to also consider the projects which are completed in last seven years	OK
2	Tender document	7 of 34	3. Eligibility Criteria & Qualification Criteria Technical:	a. In each project minimum following Nos. of data points shall have been mapped i. 60000 Analog ii. 150000 Digital Input iii. 14000 Digital Output	We request you to consider overall IO points.	OEM shall submit the details of I/O parameters along with project details. AEML will review and consider the same based on relevance of project
3	Tender document	7 of 34	3. Eligibility Criteria & Qualification Criteria Technical:	b. The above project(s) must consist of successfully integrated remote locations over following protocols as minimum (mere support available in product shall not carry any weightage) ii. Stations on Modbus TCP/IP (at least 100 nos.) iii. Stations on DNP3.0 Ethernet (at least 50 nos. of devices)	Our proposed system support DNP3.0 and Modbus TCP/IP protocol and same can be demonstrated in PoC also. Hence we request you to accept the same for meeting Qualification requirement.	All the specified protocols shall be demonstrated by OEM in PoC. All the remote installations of AEML are working on IEC 104 protocol.
4	tender document	7 of 34	3. Eligibility Criteria & Qualification Criteria Technical:	d. At least in one of the above projects, the bidder should have implemented integration with SAP, AMR and OMS systems.	We request you to consider the experience of integration with MDM in place of AMR.	OK
5	SCC	6 of 9	14.0 TERMS OF PAYMENT:	B. Payment for FMS 100% Monthly payment shall be made on prorate basis in 90 days against completion of FMS service	We request you to make the payment of FMS quarterly in advance.	Tender Clause shall remain unchanged
6	tender document	110 of 163	9. Facility Management Services	9.7.5 Availability computation for SCADA-DMS System	We request you to do Availability computation in quarterly basis.	Availability computation be done on monthly basis as specified in section 9 of RFP.
7	SCC	9 of 24	19.0 GUARANTEE:	19.1 SELLER shall guarantee GOODS against any defects or failure which arise due to faulty materials, workmanship or design (except materials or design furnished by the BUYER). SELLERs guarantee shall expire Twelve(12) months after the date of successful commissioning of the system or Thirty Six (36) months from the date of completion of delivery of GOODS (last Consignment), whichever is the shorter period (the Defects Liability Period)	We request you to remove the clause of "Thirty Six (36) months from the date of completion of delivery of GOODS (last Consignment)". Please keep the guarantee period Twelve(12) months after the date of successful commissioning of the system.	Warranty terms specified in SCC1 clause 19 shall be considered.
8	GCC	82 of 147	11.3 Changes in Quantity	11.3.2 The variation in the quantities of the items set out in the BOQ shall be paid for by the Employer in the following manner: a) There shall be no variation in the rates of the items mentioned in the BOQ as a result of any increase or decrease in the quantities of such items up to twenty five percent (25%). It is clarified that the aforesaid variation limits shall apply to the Contract Value, wherever applicable, and not to individual items mentioned in the BOQ.	We request you to keep the quantity variation +/- 10% of the contract value.	Quantity variation limit changed to +/- 20% of the contract value.
9	Tender document	22	Section-IV	Completion/Execution Schedule	We request you that the warranty of each phase shall start after handover of that phase and not after the handover last phase.	Warranty terms specified in RFP
10	"Specification.pdf"	"6/163"	"1.0"	<b>Introduction and objectives:</b> The new software will be integrated with the existing application interfaces like GIS, ABT, MDAS and / or existing SCADA System.	We request AEML to provide additional data of these existing systems like file formats supported by these systems for exchange with SCADA/DMS. Further we understand the bidders scope does not include any development / software upgrade that requires to be done in these systems. If the same is required AEML will get it done from their respective OEM's. AEML may please confirm the same	1. Data exchange with AMR/MDM/ABT/OMS/SAP shall be in the over ODBC or webservice connectivity. 2. Data exchange with GIS shall be through PGDB format. 3. Details of all the software shall be provided by AEML as required. Details of all the existing software proposed to be upgraded are provided. 4. No request for upgrade of existing software in order to addapt with the OEM solution shall be accepted. 5. All deveopment required at SCADA /ADMS end in order to integrate with existing AEML applications shall be in the scope of OEM. 6. OEM shall provide the documentation for consuming the web services developed by them.
11	"Specification.pdf"	"128/163"	"12.2.3"	<b>Functional Performance Test:</b> Verification of RTU /FRTU/FPI communication Protocol IEC-60870-5-104, IEC- 60870-5-101 and MODBUS TCP/IP etc	We understand that all the data from RTU/FRTU/Third party systems is available at the Control center end (MCC & BCC) and no modification work is envisaged in these existing equipments/systems. AEML may please confirm the same	1. There is no modification envisaged at remote RTU/ FRTU locations. 2. To evaluate the functional performance AEML shall verify the capability of solution to communicate over identified protocols. 3. This verification shall be done in POC and FAT

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12	GG	71,93 of 163	14.3 Limitation of Liability 9.6 Liquidated Damages for Delay		Liquidated damages / Penalties are the sole and exclusive financial remedy for failure to meet the performance guarantee	Liquidated damages / Penalties not the sole and exclusive financial remedy for failure to meet
14	"Tender document	"8/34"	"3"	<b>Eligibility Criteria &amp; Qualification Criteria:</b> 3. The bidder shall demonstrate all the functionalities of the solution being offered to AEML. Refer the document "Demonstration Requirements" for the details of functionalities to be demonstrated. Only after the successful demonstration of the solution as per AEML requirement, the bidder shall get qualified for the next stage of project. The price bid of only those bidders shall be opened, who get qualified for the next stage after the demonstration of their SCADA/DMS solution. Those bidders who fail to demonstrate the SCADA/DMS solution as per AEML requirement shall be declared nonresponsive and their price bids shall not be opened, and they will be out of this process.	We request AEML to ask only the technically qualified and L1 bidder to perform the "Proof of concept"	the performance guarantee
15	Specification	52 of 163	5.3.2	SCADA/DMS system with ABT, AMR system & SLDC Kalwa: It shall exchange data using Open Standards like CIM/XML & IEC 61968 Series Standards for Power System, OPC, ICCP/TASE.2., ODBC with existing IT system.	Is AMR system already exists or will be implemented in future? If already exists, its of which make? What data need to be exchange between AMR and SCADA/ADMS? How exchange shall take place? Also what data need to be exchanged with SAP and how?	1. No AMR exists. However commissioning of MDM is in progress. 2. Data exchange with MDM/AMR shall be in the over ODBC or webservice connectivity. 3. The typical tags shall be instantaneous DT loading in A, kW,KVA,KVAR etc with timestamp.However, it shall be possible to integrate any of the available tags in MDM as per user requirement. 4. Data exchange with SAP - Typically the data to be exchanged with SAP shall be the alarms related to equipments based on which notifications shall be created in SAP system.However, the exact methodology, parameters and their mapping philosophy shall be discussed and finalized at the time of project engineering.
16	Specification	98 of 163	8	Specific Scope of work: At the time of bid submission, the vendor shall submit technical offer consisting of necessary documents including proposed architecture, bill of material, guaranteed technical particulars (GTP) for hardware to be supplied, non disclosure agreement (NDA), Functional Design Specifications (FDS) for the system and modules being proposed for deployment etc.	During bid submission technical description of supplied SCADA/ADMS modules shall be submitted. FDS can can be submitted only after award of project. Please amend the clause accordingly.	Noted
17	Specification	127 of 16	12.2.3	Functional Performance Test viii. Verification of Integration between GIS / SCADA/DMS System over PGDBA that enables updates within GIS to percolate over ESB / SOA to IT Systems	Please provide information on data and format of data that need to be transferred from SCADA/ADMS to GIS system.	SCADA/ADMS to GIS system integration shall be done using webservice.  Parameters which shall be exchanged shall be configurable and shall be decided during detailed engineering stage.
18	Specification	127 of 16	12.2.3	The vendor shall evaluate with justification the utilization of existing hardware in the new project. The maintenance of the existing hardware after SAT shall be in the scope of vendor. The OS for this hardware shall be considered as mentioned in above point E.	Kindly provide data sheets of all existing hardware. In case existing hardware is not compatible kindly provide separate Hardware BoQ which shall be mandatory to all. Also minimum hardware requirements should be well define in technical specification.	OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexure 1.However.OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP.If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
19	Specification	62 of 163	5.8	Historical Information (HI) Data Retrieval (c) The HI retrieval shall expose the ISR Data over SOA / Enterprise Services BUS Supplied by ITIA, over CIM/XML, ICCP or OPC ODBC Interfaces / Adapters.	Kindly provide more information about ITIA ESB in terms of Data Request format like SOAP, Web services available, APIs available and ints interfacing ability etc.	ITIA shall be read as SCADA / ADMS solution provider. The availability of ESB /SOA shall be considered from future requirement perspective.

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20	Specification	9 & 99 of 163	2.1 Existing Servers & Workstations at BCC & MCC: 8. Specific Scope of work:	F. The vendor shall evaluate with justification the utilization of existing hardware in the new project.	We request you to provide detailed configuration, Warranty details, Name of AMC provider of existing devices. It will be not be possible to maintain the existing devices till the FMS period of this project. Hence we recommend to use new hardware for complete project.	OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexuure 1.However,OEM shall evaluate the sutability of minimum configuration in order to achieve the desired performance as described in RFP.If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.

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1	SCC Supply.pdf & SCC.pdf	7 of 24 & 6 of 29	15.0 & 14.0	Terms of Payment having credit period of 90 days for Supply & Services	We request AEML to release payment within 30 days as per standard practise	Tender clause shall remain unchanged
2	Tender document.pdf	8 of 34	3	<b>Eligibility Criteria &amp; Qualification Criteria:</b> 3. The bidder shall demonstrate all the functionalities of the solution being offered to AEML. Refer the document "Demonstration Requirements" for the details of functionalities to be demonstrated. Only after the successful demonstration of the solution as per AEML requirement, the bidder shall get qualified for the next stage of project. The price bid of only those bidders shall be opened, who get qualified for the next stage after the demonstration of their SCADA/DMS solution. Those bidders who fail to demonstrate the SCADA/DMS solution as per AEML requirement shall be declared nonresponsive and their price bids shall not be opened, and they will be out of this process.	The primary objective of PoC is to verify overall capability of vendor and its HW/SW system's various features. Since present expectation of PoC is to cover all functionalities, it will also involve activities related to development tasks e.g. GIS adapter (which is always unique to every network). Owing to huge efforts in such activities related to development it is requested to either get the PoC done from L1 bidder or to get the PoC done without involvement of activities/features related to development.	This shall not be acceptable.
4	Tender document.pdf	22 of 34	Section - IV	Completion/ Execution Schedule	We request AEML to specify the total project execution period starting from Award of Contract	The complete project execution period post award of contract shall be 18 to 24 months.
5	SCC	9 of 24	19.0 GUARANTEE:	19.1 SELLER shall guarantee GOODS against any defects or failure which arise due to faulty materials, workmanship or design (except materials or design furnished by the BUYER). SELLERS guarantee shall expire Twelve(12) months after the date of successful commissioning of the system or Thirty Six (36) months from the date of completion of delivery of GOODS (last Consignment), whichever is the shorter period (the Defects Liability Period)	As per standard industry practice we request AEML to amend the warranty clause as per below. 18 months from the date of completion of delivery of Goods or 12 months from the date of successful commissioning of the system whichever happens earlier	Warranty terms specified in SCC clause 19 shall be considered.
6	Specification	127 of 163	12.2.3	The vendor shall evaluate with justification the utilization of existing hardware in the new project. The maintenance of the existing hardware after SAT shall be in the scope of vendor. The OS for this hardware shall be considered as mentioned in above point E.	We request AEML to consider the use of new hardware for this contract instead of utilizing the existing hardware. This is for following reasons - 1) It will be easy for AEML to compare all bidders on a common platform as all the bidders will quote with a new hardware. 2) AEML will get a fresh Warranty/AMC which will be uniform for all the hardware stack (currently the existing hardware is covered under different warranties/AMC concluding at different periods) 3) Since all the bidders may not utilize the existing hardware (as configuration requirements are different) this may give undue advantage to the bidder who has supplied the existing hardware We also request AEML to specify the minimum hardware configuration and quantities of the hardware required at MCC/BCC	Tender clause shall remain unchanged
7	Specification	52 of 163	5.3.2	SCADA/DMS system integration with ABT, AMR system & SLDC Kalwa: It shall exchange data using Open Standards like CIM/XML & IEC 61968 Series Standards for Power System, OPC, ICCP/TASE.2., ODBC with existing IT system.	It is recommended to exchange the data between SCADA/ADMS and ABT,MDM,OMS,SAP, GIS (data transfer from SCADA/DMS to GIS) using ODBC connectivity to have real time or near real time exchange. Hence please confirm whether these systems can exchange data over ODBC.	Data exchange with AMR/MDM/ABT/OMS/SAP shall be in the over ODBC or webservice connectivity.
8	Specification	38 of 163	4.5.5	Data Access through intranet However, if required it shall be possible to extend control access to external users based on system requirement.	Control access to external users is never recommended and hence this clause must be removed.	We shall remove the requirement for control access for external users.
9	Specification	63 of 163	5.9	Data Analytics tool	Please provide appropriate use cases for valuable insights and customization so that exact requirement can be understood. The explanation provided in the specification is too generic and can lead to multiple interpretations hence requesting AEML to provide exact requirement. It is recommended to include this as a line item in BoQ/Price schedule	In addition to the requirements mentioned in RFP section 5.9 data analytics Tool shall enable user following: 1.Data cleansing 2.Equipment Modelling along with machine learning algorithms.Selection of suitable algorithms shall be done by user as per requirement. 3.Data forecasting - Situational analysis 4. Model shall support external data interface like temperature,Rainfall,humidity etc. 5. Predictive analysis for equipment maintenace 6. Exception analysis for equipments 7. Training of creation of models and utilization of analytics tool shall be part of training.

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10	Specification	115 of 163	10.2	TABLE-2 DESIGN PARAMETERS FOR ISR FUNCTIONS	Please clarify what is meant by Measurand Value Type 1, Type 2, Type 3	These are table names which shall be decided during detailed engineering having retention period and criteria for storage defined as per table 2 clause 10.2.
11	Specification	26 of 163	3.3.2.15.4	Alarm Summary Displays: There shall be power system, control system, maintenance system, test system, SOE and DMS Application Alarm list for ease of operation.	We understand that control system is nothing but SCADA IT hardware and software system use for overall operation and control of Adani network. Please confirm the same. Is maintenance and test system are under scope of supply? If yes please mentioned it in BoQ.	Please find the details regarding the subsystems: 1. Control System : Alarms and events of RTUs,FRTUs,Servers,PCUs,firewalls,switches and other SCADA/DMS hardware 2. Power System : Alarms and events of Power system 3. Maintenance system - Alarms and events related to SCADA/DMS softwares like software errors, picture linking logs etc. 4. Test System : Alarms and event generated when any individual parameter, group of parameters are put in Test Mode of Operation (refer section 3.3.3)
12	Specification	27 of 163	3.3.2.15.11	Tabular Trending Summary Displays The summary display shall list all items being recorded for tabular trends. The list shall include the item name and the file name.	Kindly clarify what mean by file name and how it is associated with trend?	Apart from instant trend if there are any predefined trends available in system then summary shall include 1. Trend name 2. Parameters available in that trend
13	SCC	8 of 19	16.0 COMMISSIONING & ACCEPTANCE TEST	On satisfactory completion of trial run/operation in the presence of Engineer in charge, the system shall be deemed to have energized and placed in commercial operation. The CUSTOMER's representative shall issue an acceptance certificate	Acceptance should also be deemed to occur if M/s Adani prevents or fails to participate in the acceptance testing within the specified time. SCC Supply : Silent on Deemed Acceptance. GCC : Tender is silent on Deemed acceptance	This is not acceptable
14	GCC	69 of 147	9.3.2 : Failure or delay by the Employer's	9.3.2 : Failure or delay by the Employer's Representative to provide necessary drawings, designs or instructions or clarifications or to supply any material, plant or machinery, which under the Contract, is the responsibility of the Employer, shall in no way affect or vitiate the Contract or alter the character thereof; or entitle the Contractor to damages or compensation thereof but in any such case, the Employer's Representative shall extend the time period or periods for the completion of those parts of the Works required to meet any Milestone Schedules as in its opinion is / are reasonable.	We request , such delay shall entitle the Contractor to damages or compensation, thereof additionally the Employer Representative shall extend the time period or periods for the completion of those parts of the Works required to meet any Milestone Schedules	Only time extension will be considered
15	SCC	15 of 29	30. Force Majeure	SCC Section 30 (for Service) : If this order or any portion thereof is terminated under Force Majeure conditions, the Contractor shall be liable to the CUSTOMER for any damages, losses or liabilities as result thereof.	We request to remove this clause	Tender clause shall remain unchanged
16	GCC	53 of 147	6. Intellectual Property Rights and Royalties		Customer notice of infringement should be included in clause, additionally not make any admission prejudicial in favor of contractor. Customer shall be entitled to defend only if Contractor fails to act within a reasonable time on Notice.	Query not clear. May refer to CI No. 6.6.2
17	GCC	43 of 147	Liability of Contractors	Subject to the due discharge of its obligations under the Contract and except in case of gross negligence or willful misconduct on the part of the Contractor or on the part of any person acting on behalf of the Contractor, with respect to any loss or damage caused by the Contractor to the Employer's property or the Site, the Contractors shall not be liable to the Employer for the following:	There are two limitation of liability clauses in the GCC , it is suggested that GCC 4.29.1 to be deleted in its entirety and in GCC Section 14 we suggest below changes except for willful misconduct , neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of interest, loss or replaced power, loss or data, loss of any contract or any other indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract. The total liability of the Contractor to the Employer under the Contract shall not exceed the Contract Value. Except that this Clause shall not limit the liability of the Contractor: (b) In cases of fraud, willful misconduct or illegal or unlawful acts, or (c) In cases of acts of costs incurred by the Contractor to rectify or replace any defective equipment supplied under this contract.	Tender clause shall remain unchanged

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18	SCC Supply Section	9 of 24	19.2 Re warranty	If during the Defects Liability Period any GOODS are found to be defective, they shall be promptly replaced or rectified by SELLER at its own cost (including the cost of dismantling and (re)installation) on the instructions of BUYER and if removed from SITE for such purpose, shall be removed and re-delivered to SITE by SELLER at its own cost	Re warranty in SCC should be in line with GCC 10.4	This shall be acceptable.
19	Tender document	22 of 24	24 Section - IV :Completion /Execution Schedule	Completion of FAT for Phase-2 DMS modules – June 2021	The FAT for entire hardware as well as all SCADA/ADMS modules (mentioned in phase-1 & Phase-2) will be carried out in Phase-1. Also entire material will despatched at site thereafter. In that case the FAT for phase-2 will not required. Only SAT for the remaining DMS modules will be conducted.	This shall be acceptable.

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1	RPF	2.5 (i)	11	Event Processing Blocked--> When the event processing is blocked for an object, the object symbol is shown with Violet colour.	Please clarify the meaning of "Event Processing Blocked".Is it that, the SCADA app exclude the Point from scanning when selected for not to scan?	Event processing blocked - The alarm in alarm list and audible alarms for the object is blocked.However, the data acquisition of the object is still in process.And hence the events related to the object shall still be available in event list.
2	RPF	3.3.1	16	Each log-on and log-off shall be reported as an event. Unsuccessful attempts to log-on shall also be reported as events.	Please clarify whether unsuccessful attempts to log on will be reported as SCADA Events?	Yes unsuccessful events shall also be reported as events.
3	RPF	3.3.3.13	25	It shall be possible to present any item in the database on any display.	Please elaborate this with some examples	It shall be possible to add any parameter defined in the SCADA/DMS system in any display.
4	RPF	5.2.2. (f)	52	"Delete From Scan"	SCADA application will not scan the point with this flag attributed. Is this understanding correct?	Yes understanding is correct."Delete From Scan" means data acquisition is blocked for this object.
5	RPF	5.9	64	Data Analytics tool	What is the expectation and understanding of user regarding Data Analytics Tool?	In addition to the requirements mentioned in RFP section 5.9 data analytics Tool shall enable user following: 1.Data cleansing 2.Equipment Modelling along with machine learning algorithms.Selection of suitable algorithms shall be done by user as per requirement. 3.Data forecasting - Situational analysis 4. Model shall support external data interface like temperature,Rainfall,humidity etc. 5. Predictive analysis for equipment maintenance 6. Exception analysis for equipments 7. Training of creation of models and utilization of analytics tool shall be part of training.
6	RPF	2	7	When MCC application fails, then BCC application servers and historian servers are started manually and RTU will start reporting to the BCC. The same functionality is proposed under this up gradation proposal.	Does Backup Control Centre will have independent set of front end? If so, the after failure of Main control centre FEP server, is it require to automatically connect the Backup CC FEP set with SCADA Master (can be at Main OR Backup CC)? If so, will the RTUs be made Dual Reporting i.e. simultaneously reporting to 2 Masters)? It is also understood that Failover of Historian server from Main to Backup CC is Manual activity. Please confirm.	1. Backup control centres shall have independent set of front ends.RTUs shall report independently to front ends at MCC and BCC. 2. Each front end at BCC or MCC shall be polling the RTUs based on the status of SCADA servers at that location.The front ends at MCC shall not report to servers at BCC and vice versa. 3. Failover of SCADA servers and historians from MCC to BCC shall be manual activity.However, all servers at BCC shall always be synchronised with servers at MCC on realtime basis.
7	RPF	12.5	134	x. Cyber Security Plan & Mitigation document for the system if Public Networks are used.	Any Cyber Security standard envisaged? Please clarify about "Cyber Security Plan & Mitigation document for the system if Public Networks are used.". Is there any requirement of designing the system as per Cyber Security standards like NCIIPC/CERT.IN/NERC-CIP etc. Please Clarify.	The system shall be designed as per the Cyber Security standard NCIIPC.
8	RPF	2.6	14	Existing Naming Conventions shall be retained as it is	Are the existing names from the GIS? If not, then still possible if we extract the GIS data for DMS database and create the SCADA database as per existing names and map the SCADA data with DMS database.	Existing naming convensions are not as per GIS. All the equipments shall be imported from GIS to SCADA/DMS system through integration.After this SCADA and DMS common equipment IDs shall be created automatically by the system based on specified naming conventions. The SCADA and/or DMS telemetered parameters (analog and indications) shall be common to both SCADA and DMS systems and shall be created manually based on some templates using specified naming conventions.
9	RPF	2.6	14	The External Identity is a text that is unique for each element in the system. This text is used within the system to refer objects in pictures, calculation etc. The External Identity shall have <b>minimum length of 50 characters.</b>	The External Identity is as per the 4-level structure and the 4-level structure all together may not reach 50 character then why minimum 50 characters requirement?	The 4 level structure reaches 50 characters in system.Hence, 50 characters are required.
10	RPF	2.6	14	The Identification Text is used for presentation to operators in event lists, alarm lists, status lists, etc. This text shall be <b>minimum 60 characters</b> long and therefore more explanatory	The Identification Text is as per the 4-level structure and the 4-level structure all together may not reach 60 character then why minimum 60 characters requirement?	The 4 level structure reaches 60 characters in system.Hence, 60 characters are required.
11	RPF	4.5.5	39	(d) However, if required it shall be possible to extend control access to external users based on system requirement	Does it require to extend Control Access to external users? Please clarify the what Control access means? It is related to giving control access to Devices at Substation Level?	We shall remove the requirement for control access for external users.
12	RPF	4.7.1.5	45	Initial Database Generation ->The data extracted should include network device information, connectivity, topology, nominal status and non-electrical data such as cable ducts, <b>land base data</b> etc. Further Land base data can be sourced from GIS in Shape files or DXF	Adapter provides network device information, connectivity, topology, nominal status and non-electrical data but not the Landbase data. Landbase data are expected from GIS team in Shape/DXF which is mentioned in the line of the specification. Please clarify	Landbase files shall be made available in Shape file format from GIS system.
13	RPF	5.3.2	53	SCADA/DMS system with ABT, AMR system ->It shall exchange data using Open Standards like CIM/XML & IEC 61968 Series Standards for Power System, OPC and ODBC with existing IT	What are the exact data tags to be exchanged with AMR and in which format?	1. Data exchange with AMR shall be in the over ODBC or webservice connectivity. 2. The typical tags shall be instantaneous DT loading in A, kW,KVA,KVAR etc with timestamp.However, it shall be possible to integrate any of the available tags in MDM as per user requirement.
14	RPF	6.1	66	DMS functions General Requirements	What is Phase-1 and Phase-2 labeled for DMS applications?	We have divided the implementation schedule of DMS applications in Phase 1 and Phase 2.Scope of Phase 1 and Phase 2 of project is specified in RFP.

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15	RPF	6.4	67	Network Model ->(a) The DMS applications shall have a common model for the project area comprising of primary substation feeders, distribution network and devices with minimum 10 possible islands.	Unlike EMS model (a common model for project), DMS models are station based. Each station will have a separate model Distribution Power flow runs for each station independently hence there is no concept of island in DMS or in other words each station operates in island provided a distribution substation (say 66/22 KV)feeding another distribution station (say 22/11 or 22/6.6 KV). Any other understanding/assumptions on this might be clarified.	Accepted
16	RPF	6.4.1	69	<b>GIS Data Import and Network Model Creation</b> ->The system shall utilize an IEC 61970 and IEC 61968 compliant interface. The system shall enable import of all data via a CIM-XML interface as per IEC 61970-452 and IEC 61970-552-4 and shall utilize modeling from IEC 61968-11 as appropriate.	Does the existing GIS data model are inline with all standards of CIM XML like IEC 61970-452, IEC 61970-552-4, IEC 61968-11 etc.? Messaging IEC 61970-40X Model dependent IEC 61968-3 Metering IEC 61968-9 IEC 61968-1	NO the GIS data model are not in line with CIM standards. However, the poposed SCADA/DMS system shall have capability to import/export data based on CIM XML standards for future requirements. Data integration from GIS to ADMS shall be through PGDB format. Same shall be demonstrated by OEM during POC.
17	RPF	6.5.2	73	Temporary Modifications: ->The function is performed by the NCA and is implemented locally within the client software and <b>has no effect on the operations model or other clients viewing the network.</b>	From the safety/security point, the requirement of the whole point of temporary modifications in the control center is to capture the current state of the electric network, make them available to the software and all the users of the system. With Shift changes, other operator might come and take control from any other console. Hence operator can see the entire system state from any console for pursuing his control. Please check the if the requirement suits for temporary modifications reflecting in the system for all users.  However local implementation of temporary modifications to a specific client can be full filled by study mode of DMS.	Accepted
18	RPF	6.9.2	86	Detection and Localization of fault -Upon receipt of Auto trip, FMSR shall check FPI status and wait for detection of fault current up to <b>one minute</b> on the respective feeder and present the fault location accordingly.	The FMSR to wait for detection of fault current up to one minute and then present the result but the Design parameter table ask for solving FISR in 30 sec. Hence, we hope the performance time should be shifted accordingly.	The calculation time for FMSR shall be within 30 sec. after receipt of fault current
19	RPF	10.3	117	TABLE-3 DESIGN PARAMETERS FOR DMS FUNCTIONS -FAULT MANAGEMENT & SYSTEM RESTORATION (FMSR) in 30 Sec		
20	RPF	6.9.3	87	System isolation & restoration -FMSR shall have option of selecting type of operations before presentation of operation set *Make before break (Parallel load transfer operations) *Break before make (Load transfer with interruption)	Once faulty section is identified, the FMSR function shall generate switching plan to isolate faulty section and restore non-faulty sections. While fault is persisted, <b>make before break</b> option here means making the fault circuit from an available alternate/healthy source will trip the alternate/healthy circuit. Any other understanding/assumptions on this might be clarified.	1. After isolating the fault, the healthy isolated circuit is already dead which needs to be restored. Hence make before break is not applicable to this part. 2. However in view of restoring the healthy section, if any load rearrangement is required that shall follow make before break option.
21	RPF	8	99	Specific Scope of work: Integration with external systems (a) Integration with Existing Geographical Information System (GIS) from Miner & Miner USA. The GIS System shall exchange data with SCADA System in PGDBA format. Refer section 6.4.1 for details on integration of SCADA/DMS with GIS	If the GIS System will exchange data with SCADA System in PGDBA format then the adapter must be offline and to be placed at SCADA system. Also will be the PGDBA format of GIS data model are in line with all standards of CIM XML?	Data integration from GIS to ADMS shall be through PGDB format.Offline adaptor shall be placed at SCADA/DMS system. Same shall be demonstrated by OEM during POC.  No the GIS data model are not in line with CIM standards. However, the poposed SCADA/DMS system shall have capability to import/export data based on CIM XML standards for future requirements.
22	RPF	8	101	H. (c) Integration with Existing ABT system for real-time instantaneous power data exchange with ABT server (Real time data to be exchanged with external oracle database both <b>to and fro</b> along with quality flags.)	Available SCADA/DMS data can be transferred to ABT system. What are the data the ABT system to take from SCADA?	ABT system takes the data of KW of all incommers and transformer breakers from SCADA system along with all quality flags. Data exchange with ABT shall be over Web service/ ODBC. Also, provision of updation of data from ABT to SCADA is required as per the RFP along with all quality flags. This integration shall also have provision to integrate any of the SCADA parameters as and when required.
23	RPF	8	101	H. (d) Integration with existing OMS for exchange of outage & load transfer operation events	The switching status change could be exchanged. The switching operation could be planned outage or unplanned outage that to be decided by the destination OMS system. Moreover outage is a terminology decided by OMS system not for the SCADA/DMS system. Hence please clarify what exact data to be exchanged for outage and Load transfer operation.	With refence to load transfer operation,we signify any operation on automated and non automated switching devices with time stamp. However there shall not be any limitation on no of parameters that can be exchange with OMS. User shall configure the parameters to be exchanged as per the requirement. Data exchange with OMS shall be through webservice.
24	RPF	B	151	Description of Service ->Integration with GIS, OMS, SAP, ABT, SLDC and AMR	The exact data exchange with all these modules are not mentioned but the integration with these modules are Kept in one service lot. Each integration could be of a separate lot.	These integrations shall be a single lot as mentioned in RFP.



**Tender for Supply, Installation & Commissioning of SCADA & ADMS System\_Adani Electricity Mumbai Ltd (AEML)**

SR. NO.	DOCUMENT NAME	CLAUSE NO.	PAGE NO.	CLAUSE DESCRIPTION	QUERIES	AEML Remarks
25	RFP	1	6	The Main Objective of this RFP is to upgrade the existing SCADA/DMS software and necessary hardware (List of existing Hardware mentioned in Sec-2)	Please describe in brief about the compatibility of Hardwares with the newly updated system to be delivered? In case of compatibility issue with OLD hardwares of any updated Operating Systems and Softwares, will there be procurement for new Hardwares from AEML side? Please also clarify that any component of the existing ABB system needs to be integrated or not?	OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
26	RFP	1	5 of 163	ABB has implemented the SCADA DMS system for electricity distribution network under Adani Electricity Mumbai Ltd (AEML). The SCADA system at AEML consists of Network Manager Rel 5.5 based SCADA solution including computer. Currently, AEML is running its SCADA operations from the MCC at Aarey and BCC at Devidas Lane Borivali.	SCADA is working then DMS application is only require? Yes or no. If Bidder will give DMS then how existing SCADA will give data to new DMS application.	Scope of RFP is for supply and implementation of both SCADA and DMS systems.
27	RFP	1	5 of 163	The main objective of this RFP is to upgrade the existing SCADA/DMS software and necessary hardware (List of existing hardware mentioned in Sec-2).	In case Bidder will use existing hardware to reduce cost then during warranty and AMC how devices will be maintained.	OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
28	RFP	3.3.1	14 of 163	Function and Data Access Security	In Case of Single sign on then separate server will be require. In BOQ there should be minimum nos. of Servers and WS should define for at least new functions.	Requirement of additional hardware (with reference to the architecture provided) to fulfill the requirement as per the RFP shall be considered by the OEM as a part of solution.  OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
29	RFP	3.3.2	16 of 163	Display interactions- Both SCADA DMS should common interface application software	It means SCADA and DMS should be same make with integrated application.	SCADA and DMS shall be same application with provision to switch between SCADA and DMS/GIS view/mode with single sign ON.
30	RFP	6	65 of 163	DMS application- Phase-1 & 2	Why this phases defined and there is no reference in specification.	We have divided the implementation schedule of DMS applications in Phase 1 and Phase 2.
31	RFP	1	5 of 163	ABB has implemented the SCADA DMS system for electricity distribution network under Adani Electricity Mumbai Ltd (AEML). The SCADA system at AEML consists of Network Manager Rel 5.5 based SCADA solution including computer. Currently, AEML is running its SCADA operations from the MCC at Aarey and BCC at Devidas Lane Borivali.	1. Please inform date/year of commissioning of existing SCADA/DMS system. 2. Please clarify & confirm whether only SCADA system was commissioned by ABB or DMS was also commissioned by ABB as there is a no information/confirmation of DMS commissioning in the tender documents. 2. Please clarify the need of replacement of existing SCADA/DMS system especially if the existing system is not more than five year old.	Present SCADA system was commissioned in 2012 and has reached its end of Life now. Hence, the project is being planned.
32	RFP	1	5 of 163	The main objective of this RFP is to upgrade the existing SCADA/DMS software and necessary hardware (List of existing hardware mentioned in Sec-2).	We request you to clarify the following. 1. Please clarify whether the existing hardware is required to be upgraded or replaced. 2. Upgradation/replacement of the existing hardware items are requested to be quantified along with required specifications as the same is mandatory for keeping all the participating bidders at par from evaluation point of view.	OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
33	RFP	1	5 of 163	The new software will be integrated with the existing application interfaces like GIS, ABT, MDAS and / or existing SCADA System.	Please clarify whether present ABB system has been integrated these existing applications or not. If yes then at what interface.	Present ABB system is integrated with ABT system through API.
34	RFP	1	6 of 163	The entire power system can be controlled and supervised from MCC and BCC as the RTU's are reporting to the respective control centers	Request you to provide the breakup of RTU direct reporting to MCC or BCC as the same is required for preparing our offer accordingly.	Each RTU and FRTU shall report independently to Front ends at BCC and MCC.
35	RFP	2.3	10 of 163	Communication protocols used: 1. IEC-60870-5-104 protocol for communication of ABB AC-800/ABB RTU560/ Microsol Xcell RTU/Siemens RTU with BCC. Existing No. of Stations -102 2. IEC-60870-5-104 protocol for communication of ABB FRTU 211/ Chemtrols Calisto Nx / Chemtrols Calisto IES with BCC. Existing No. of Stations -2500 3. Data exchange with SLDC Kalwa on IEC TASE.2 protocol (I/O count approx. 1000)	Our understanding is as follows. 1. No. of RTU locations of different makes reporting on IEC 104 Protocol : 102 nos. 2. No. of FRTU locations of different makes reporting on IEC 104 Protocol : 2500 nos.  We understand that some of the RTUs are reporting to BCC directly as well. Request you to provide the breakup of RTU/FRTUs direct reporting to MCC / BCC as the same is required for preparing our offer accordingly.	Each RTU and FRTU shall report independently to Front ends at BCC and MCC.  The system shall be designed for ultimate capacity specified in RFP.

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SR. NO.	DOCUMENT NAME	CLAUSE NO.	PAGE NO.	CLAUSE DESCRIPTION	QUERIES	AEML Remarks
36	RFP	2.4	10 of 163	RTU's/ FRTU's are time synchronized from the central system every 15th minute over IEC-60870-5-104 protocol	We understand that RTUs are reporting at IEC 104 Protocol. We understand that at present there is no GPS at RTU end which are reporting at IEC 104 Protocol. We request you to confirm whether GPS at RTU end is required to be supplied or not.	GPS at RTU end is not in scope of this project.  Each RTU is synchronized with local GPS as well as NTP through Front ends as backup. Existing GPS at MCC and BCC shall be integrated with the system.
37	RFP	4.5.5	37 of 163	Data Access through intranet : (b) External intranet clients/users shall be connected to the web servers through secure authentication access	We could not find any existing internal & external firewall in MCC/BCC in the shown system architecture or in Bill of quantity of existing hardwares. The same is required from security point of view. Request to provide the quantity of existing firewalls if any. Please quantify the same if required by AEML.	BOQ of network devices is attached as per Annexure 1. However, the configuration of network devices are specified in terms of only no of ports required. OEM shall consider the network devices specifications considering data throughput required, network segmentation and cyber security requirements as per RFP.
38	RFP	6.4.1	68 of 163	GIS Data Import and Network Model Creation : SCADA/DMS system shall interface with the GIS system using CIM/XML adapters to fetch network topology details for creating and updating the distribution network topology within the SCADA/DMS system. SCADA/DMS shall have model aware CIM/XML adapters to read from GIS network model repository and update its own models	1. We understand that there is an existing GIS system of Miner USA and the same is in working condition . Please confirm our understanding . Also please inform when this was commissioned and whether incremental data updation from commissioning date has been incorporated in the existing GIS or not and who is maintaining the existing GIS system. 2. We request you to provide the size of existing GIS system i.e. area coverage and total no. of points covered etc. 3. we understand that present GIS system is already integrated with the rest of IT systems like Consumer/Billing Information System, AutoCAD Map ERP system SAP but it is not integrated yet with ABB SCADA/DMS System. Request to confirm our understanding.	1. GIS system is already functional in AEML and all the incremental network changes are getting incorporated through a change management process. AEML GIS team is maintaining GIS system. 2. Area of coverage of GIS system is 400 Sq KM. The details of sizing of entire EHV and HV network are specified in RFP as per section 2.2 IO Sizing Parameters.  2. Present GIS system is integrated with systems mentioned except SCADA system
39	RFP	8.d	98 of 163	All the required miscellaneous software/ hardware which is not mentioned in BOM however required for smooth functioning and desired performance of system will be in the scope of vendor and shall be provided by the vendor.	For a fair evaluation of the bid it is important that employer keeps all the Participating bidders at par w.r.t. quantity of materials . During project execution, employer/successful bidder may decide solution with increased/decreased quantities and adjust price accordingly. We therefore request you to freeze the quantity of the items required before bid submission for a fair evaluation of the bid.	OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
40	RFP	8.f	98 of 163	The maintenance of the existing hardware after SAT shall be in the scope of vendor.	1. We understand that 10% spares being purchased by AEML may be used for maintenance purpose. Please confirm our understanding . 2. We suggest AEML to purchase 20% spares for maintenance as unilateral withdrawal of after sales service by OEMs especially for computer hardware cannot be ruled out. OEM under model obsolescence case just informs buyer to buy spares in advance as a support from their side.	OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
41	RFP	8.h.a	99 of 163	Integration with Existing Geographical Information System (GIS) from Miner & Miner USA. The GIS System shall exchange data with SCADA System in PGDBA format.	Please provide a sample of PGDBA format.	The sample PGDBA files shall be provided by Adani for POC.
42	RFP	8.h.d	99 of 163	Integration with existing OMS for exchange of outage & load transfer operation events.	Please provide the name of OMS make and the year of commissioning.	OMS make: ArcFM Responder Explorer. Currently we are using version 10.2 from Oct'2016 which shall be updated to 10.6 Inception of ArcFM Responder Explorer is from 2010.
43	RFP	8.h.d	100 of 163	ICCP integration with MSETCL Kalwa State Load Dispatch Centre and its backup control center at Ambazhari (MSETCL system-Siemens Sun Solaris 5.6)	Please confirm whether integration is with Main Control only or wit back up control center also.	ICCP Integration communication shall be enabled from all the application servers at MCC and BCC based of the online status of the server.

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SR. NO.	DOCUMENT NAME	CLAUSE NO.	PAGE NO.	CLAUSE DESCRIPTION	QUERIES	AEML Remarks
44	RFP	Annexure-VI	150 of 163	Annexure-VI : Bill of quantity sheet	Broad guidelines has been provided under bill of quantity but actual item details under each of these guidelines are found missing. Request to provide the same.	The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
45	RFP	Annexure-VIII	157 of 163	Annexure VIII – PoC / Demonstration Requirements : The SCADA/DMS functionality requirements mentioned in this document are just the minimum requirements that are to be demonstrated to enable the bidder to get qualify for the next process of project	Please reconfirm whether these demonstrations shall remain prior to price bid opening or after price bid opening .	POC shall be conducted prior to price bid opening. Price bid shall be opened only for those bidders for which POC is successful.
46	RFP	2.1	8 of 163	Existing Servers & Workstations at BCC & MCC:	We request Adani to provide details about AMC (Years) of current hardware and third party software alongwith name of agencies providing these AMC.	OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
47				Blacklisted or be Barred in Utility/ PSUs/ Funding Agency	We understand firm using their parent company credential should not be blacklisted or be barred by any international utility and funding agencies i.e. Asian Development bank, Japan International Cooperation Agency World Bank etc.	Bidder to declare such details of black-listing in the bid. Final decision to be taken by the Buyer.
48	GCC	2.2.2	16 of 147	The Contractor acknowledges and agrees that it shall not be entitled to any monetary claim under any circumstances whatsoever due to any delay in handing over of the Site by the Employer	The purchaser shall pay supplier interest @12% p.a. on the amount associated with supply of material associated to site due to non readiness of site to execute work.	No change accepted in this clause
49	GCC	6.2.4	51 of 147	Each of the Contractor's Documents shall, when considered ready for use, be submitted to the Employer's Representative for his review. Unless otherwise stated in the Employer's Requirements or elsewhere in the Contract, each review by the Employer's Representative shall not exceed thirty five (35) days.....or any additional costs for the delay in approving any of the Contractor's Documents as aforesaid.	We request Adani to complete the document approval process within 10 days from submission in order to complete the project within the stipulated timeline	No change accepted in this clause
50	GCC	21.1 Payment	104 of 147		In case of payments are delayed beyond 30 days from the date of invoice, an interest @ 12% p.a. shall be levied on the pending invoices value.	No change accepted in this clause
51	GCC	9.4 Extension Of Time	69 of 147, 70 of 147, 71 of 147		Bidder should be entitled for EOT & all associated cost for all the reasons attributable to Customer, Force Majeure, Suspension by Customer etc.	No change accepted in this clause
52	GCC	9.9 Employer's Taking Over	76 of 147, 77 of 147		The Customer shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Customer has issued a Taking-Over Certificate for this part. However, if the Customer does use any part of the Works before the Taking-Over Certificate is issued: (a) the part which is used shall be deemed to have been taken over as from the date on which it is used, (b) the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Customer , and (c) if requested by the Contractor, the Customer shall issue a Taking-Over Certificate for this part.	To evaluate the performance of system, the system need to be kept continuously operational after it is commissioned. This shall be done as per the testing requirements mentioned in RFP. Taking-Over Certificate shall only be issued after completion of System Availability Test (360 hours) as per section 12.4 of RFP after completion of SAT.
53	GCC	CONTRACTOR CODE OF CONDUCT	116 of 147 to 119 of 147	Product Content Restrictions - Contractors are to adhere to applicable laws and regulations regarding prohibition or restriction of specific substances including labeling	a) Customer should inform successful bidder before starting their work related to any type of prohibited material in work premises. B) Customer should be responsible for managing and disposing of any existing prohibited material.	Agreed
54	GCC	Intellectual Property Rights and Royalties	54 of 147	Intellectual Property Rights in respect of any Plant, Materials, Drawings and Designs, plans, calculations, drawings, documents, know-how and information relating to the Works which are proprietary to the Contractor and/ or its third party licensors.....	Bidder to keep exclusive ownership and do not transfer ownership to Customer of the IP rights that Bidder had prior to the Contract and all new IP Rights created under the contract	No change accepted in this clause
55	Missing Clause				In case of any delays not attributable to Contractor, the Contractor shall be 1. Paid the amount payable to them in case the work would have been completed. 2. Any or all additional cost incurred by Contractor. 3. Suitable Time Extension without levying LD should be made available to Contractor.	1. Idle charges may be pre-defined/ mutually agreed 2. Not acceptable 3. OK PI check termination clause
56	Missing Clause				Transfer of title shall be from the date of delivery.	OK subject to receipt and acceptance

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Page Ref	Clause Reference	Clause Details	Queries/Comments	AEML Remarks
<b>Tender Documents SITC SCADADMS</b>				
16 of 34	D. EVALUATION OF BID 4. E-BIDDING AND REVERSE AUCTION	4.1 Purchaser reserves the right to use the reverse auction as a part of the tendering process. All the bidders which are techno-commercially qualified on the basis of tender requirements shall participate in reverse auction. ...	We request removal of this clause. Kindly consider the same.	No change accepted in this clause
<b>SCC_Supply</b>				
3 of 24	4.0 DELIVERY DATE:	The delivery for the GOODS covered under this PURCHASE ORDER shall be completed as per the Milestone given in the Bid Document, Supply Completion by July 2020 Delivery shall mean delivery at Adani Electricity Mumbai Ltd- Mumbai Stores/Site basis.	The delivery of system at site has to be linked with the release of clear PO or Acceptance of PO. Based on experience, typical delivery for similar system will be delivered in 11 to 12 months from the date of acceptance of PO.	Completion/ Execution Schedule shall be in line with Section - IV of tender document. However, we request the contractor to submit the Completion/ Execution Schedule of their solution for evaluation along with the technical bid document.
9 of 24	19.0 GUARANTEE:	19.1 SELLER shall guarantee GOODS against any defects or failure which arise due to faulty materials, workmanship or design (except materials or design furnished by the BUYER). SELLERS guarantee shall expire Twelve(12) months after the date of successful commissioning of the system or Thirty Six (36) months from the date of completion of delivery of GOODS (last Consignment), whichever is the shorter period (the Defects Liability Period).	We request Adani to consider warranty of 12 MONTHS from the date of successful commissioning on the Phase - I system as all the system Hardware and Networking will be delivered in Phase - I and must not be linked with Phase - II completion and also delivery of Goods (Last Consignment).	Warranty terms specified in RFP shall be considered.
12 of 24	25.0 POWER TO WITHHOLD PAYMENT BY PURCHASER	Purchaser shall have power to withhold payment in full or in parts for the reason of non-compliance of major Contract terms and conditions such as	The maximum amount to be withheld for payment should not be more than 10%. Kindly consider the same.	Tender clause shall remain unchanged
<b>SCC_Service</b>				
6 of 29	14.0 TERMS OF PAYMENT:	Payment shall be made to you as under: A. Payment against the service of Installation & Commissioning of the Software : 100% payment shall be made in 90 days against commissioning of system	100% payment shall be made in 30 days against commissioning of system on Pro-rata basis.	Tender clause shall remain unchanged
<b>RFP SCADA DMS AEML 2019 01</b>				
<b>SCADA</b>				
35 of 163	Section 4.1: Network Software	The network software for SCADA/DMS system shall include software for network communication, security and services	Network management software should be added in BoQ	Network management software added in Project BOQ Annexure 2.  Minimum specifications of NMS shall be as per Corrigendum 2 Annexure 4
98 of 163	Section 8: Specific scope of work	All the required miscellaneous software/ hardware which is not mentioned in BOM. However required for smooth functioning and desired performance of system will be in the scope of vendor and shall be provided by the vendor	Minimum hardware requirements with BoQ should be defined.	OEM shall consider procurement of new hardware. The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
100 of 163	Section 8: Specific scope of work	Integration with existing OMS for exchange of outage & load transfer operation events.	Please provide the make and model of OMS software	OMS make: ArcFM Responder Explorer. Currently we are using version 10.2 from Oct'2016 which shall be updated to 10.6 Inception of ArcFM Responder Explorer is from 2010.
150 of 163	Annexure VI- Bill of Quantity sheet		Please provide backup for Hardware at MCC & BCC.	The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
150 of 163	Annexure VI- Bill of Quantity sheet		Networking hardware like switch and firewall requirement should be included in the BoQ separately.	BOQ of network devices is attached as per Annexure 1. However, the configuration of network devices are specified in terms of only no. of ports required. OEM shall consider the network devices specifications considering data throughput required, network segmentation and cyber security requirements as per RFP.
150 of 163	Annexure VI- Bill of Quantity sheet		Server, Workstation, switch, firewall, Hardware minimum specification should be included.	The minimum configuration of hardware shall be as specified in Annexure 1. However, OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
150 of 163	Annexure VI- Bill of Quantity sheet		Backup device (NAS or Tape) requirement should be added as a separate BoQ line item.	AEML already has backup servers with Linux OS in place for backup of systems. OEM shall consider this server as backup location for backup of the system.

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Page Ref	Clause Reference	Clause Details	Queries/Comments	AEML Remarks
150 of 163	Annexure VI- Bill of Quantity sheet		Software for historian, ICCP, Network software, log management software, Backup software, antivirus software and other required software should be included as separate line item in BoQ.	Bidders shall submit the itemized BOQ along with price containing unit prices and taxes & duties for individual servers, storage, licenses (OS, OEM & 3rd party application, databases and others if any), software applications and any other hardware considered under this project. All these individual prices shall be aggregated to major project BOQ line items in Form 6.
<b>DMS Sections</b>				
69 of 163	6.4.1 GIS Data Import and Network Model Creation	-SCADA/DMS system shall interface with the GIS system using CIM/XML adapters to fetch network topology details for creating and updating the distribution network topology within the SCADA/DMS system. SCADA/DMS shall have model aware CIM/XML adapters to read from GIS network model repository and update its own models. - The system shall utilize an IEC 61970 and IEC 61968 compliant interface. The system shall enable import of all data via a CIM-XML interface as per IEC 61970-452 and IEC 61970-552-4 and shall utilize modeling from IEC 61968-11 as appropriate.	Please confirm whether GIS data of AEML Distribution network modelled in ESRI ArcGIS 9.3.1 is as per CIM/XML IEC 61968 standards?	NO the GIS data model are not in line with CIM standards.  However, the proposed SCADA/DMS system shall have capability to import/export data based on CIM XML standards for future requirements. Same shall be demonstrated by OEM during POC.
86 of 163	6.9.2 Detection and Localization of fault	iii. Remote controllable circuit breaker with no capability to interrupt fault currents iv. Non-remote controllable circuit breaker with no capability to interrupt fault currents	Kindly confirm whether circuit breakers are available in Distribution Network Remote-Controlled/ Non Remote Controlled which do not trip in case of Fault events?	All circuit breakers at R/s(33/22/11 kV) are remotely controllable with tripping mechanism.  At Sub stations(11kV/400 V) we have following type of devices : i. Remote controllable load break switch(Isolator)/CB with no capability to interrupt fault currents ii. Non-remote controllable load break switch(Isolator)/CB with no capability to interrupt fault currents iii.Remote controllable CBs for DTs with capability to interrupt fault currents.
100 of 163	8. Specific Scope of work:	H. Integration with external systems (a) Integration with Existing Geographical Information System (GIS) from Miner & Miner USA. The GIS System shall exchange data with SCADA System in PGDDBA format. Refer section 6.4.1 for details on integration of SCADA/DMS with GIS (b) Integration with other systems for to-and-fro exchange of real-time data over CIM/XML interface.	As the GIS data is modelled in ESRI ArcGIS 9.3.1, Please confirm that GIS data can be exported to .GDB and .MDB format and made available. Also please confirm that the topology and electrical attributes information are captured as a part of GIS database?	Arc GIS present version is 10.2 which shall be upgraded to 10.6 by Oct2019.  GIS data shall be made available in PDGB file format.Data will not be available in .MDB format from GIS.  This shall be demonstrated by OEM during POC. Topology and Electrical attributes are modelled in GIS database.

Tender for Supply, Installation & Commissioning of SCADA & ADMS System Adani Electricity Mumbai Ltd (AEML)		
Clause Number and Index	Queries	AEML Remarks
<b>6.1 DMS Functions</b>		
<p>Distribution management System Software shall include the following applications.</p> <ol style="list-style-type: none"> <li>1. Network Connectivity Analysis (NCA) - Phase - 1</li> <li>2. State Estimation (SE) - Phase - 1</li> <li>3. Load Flow Application (LFA) - Phase - 1</li> <li>4. Voltage VAR control (VVC) - Phase - 2</li> <li>5. Fault Management &amp; System Restoration (FMSR) Application - Phase - 2</li> <li>6. Loss Minimization via Feeder Reconfiguration (LMFR) - Phase - 2</li> <li>7. Load Balancing via Feeder Reconfiguration (LBFR) - Phase - 2</li> <li>8. Operation Monitor (OM) /Equipment Statistics (EQS) - Phase - 2</li> <li>9. Dispatcher Training Simulator (DTS) - Phase - 2</li> </ol>	<p>1) Regarding Phase-1 and Phase-2 for the DMS implementation What is this Phase -1 and 2 ? and how is it linked to project closure. Also what are the payment terms for the phases?</p>	<p>We have divided the implementaion schedule of DMS applications in Phase 1 and Phase 2.Scope of Phase 1 and Phase 2 of project is specified in RFP.</p>
<b>6.4 Network Model</b>		
<p>The following devices shall be represented in the model as a minimum:</p> <ol style="list-style-type: none"> <li>a. Power Injection points (Source)</li> <li>b. Transformers (Support for vector group- DZN10, DY11, YNZN11, YD11 with NGT, DYN11)</li> <li>c. Feeders (underground cables overhead lines)</li> <li>d. Load (balanced as well as unbalanced,constant power and constant impedance)</li> <li>e. Circuit Breakers</li> <li>f. Sectionalizers</li> <li>g. Isolators</li> </ol>	<p>1) With reference to 6.4(b) the Transformer vector group DY11 is normally used for 33/11 KV transformers. Hence the remaining shall be removed.</p> <p>2) As there are no 11 KV overhead feeders in Adani distribution network, and there are no sectionalizers in the network, this requirement in 6.4(f) shall be removed.</p>	<p>The equipumts which are present in System shall be modelled as per the requirement.However, the system shall be capable to model all the standard electrical equipments.</p> <p>Our system consist of DZN10 power transformers.</p>
<ol style="list-style-type: none"> <li>h. Fuses</li> <li>i. Capacitor banks</li> <li>j. Reactors</li> <li>k. Generators</li> <li>l. Bus bars</li> <li>m. Temporary Jumper, Cut and Ground</li> <li>n. Meshed &amp; radial network configuration</li> <li>o. Line segments, which can be single phase, two-phase or three-phase and make up a distribution circuit.</li> <li>p. Conductors</li> <li>q. Grounding devices</li> <li>r. Fault detectors / FPI</li> <li>s. IEDs</li> <li>t. Motor</li> </ol>	<p>3) Reactors, IED's, Motors are not part of distribution network and hence shall be removed.</p>	<p>The equipumts which are present in system shall be modelled as per the requirement.However the system shall be capable to model all the standard electrical equipments.</p>
<b>6.4.1 GIS Data Import and Network Model Creation</b>		
<p>SCADA/DMS system shall interface with the GIS system using CIM/XML adapters to fetch network topology details for creating and updating the distribution network topology within the SCADA/DMS system. SCADA/DMS shall have model aware CIM/XML adapters to read from GIS network model repository and update its own models.</p> <p>The system shall utilize an IEC 61970 and IEC 61968 compliant interface. The system shall enable import of all data via a CIM-XML interface as per IEC 61970-452 and IEC 61970-552-4 and shall utilize modeling from IEC 61968-11 as appropriate.</p> <p>Data exchange shall be over model neutral messaging services and CIM/XML data exchange for real-time and RDBMS data parameters.</p>	<p>The data import shall be based on the existing adaptor from Adani as available. Please confirm the same.</p>	<p>There is no adaptor available with Adani for SCADA GIS integration.Scope of development of adaptor for SCADA-GIS integration shall be as per the RFP document.</p>

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<p>The following standards as applicable will be used to achieve the above requirements: Messaging interfaces shall be based on model neutral interfaces based on the IEC 61970-40X series for access to real-time and historical data and use the IEC 61968-3 and IEC 61968-9 standards for messaging interfaces that are model dependent for network operations and metering respectively. The Graphic data import from a GIS system shall support native formats of GIS systems which shall be potentially used for data import. All Technological addresses (TAs) shall be automatically assigned within the system to the tags linking the graphic data to the attribute data in the GIS. The attribute data shall be loaded into the SCADA/DMS database and the display diagrams shall be generated.</p>	<p>The data import shall be based on the existing adaptor from Adani as available. Please confirm the same.</p>	<p>There is no adaptor available with Adani for SCADA GIS integration.Scope of development of adaptor for SCADA-GIS integration shall be as per the RFP document.</p>
<p>The Graphics exchange between GIS and SCADA should happen over IEC-61970-453 Scalar Vector Graphic based XML representation.</p> <p>The complete network model including data of electrical network e.g. line (i.e. length, type of conductor, technical particulars of conductor &amp; transformer etc.), land-base data shall be imported from the GIS system using CIM/XML model. In case the existing GIS system doesn't support CIM/XML interface for data exchange, then a suitable GIS interface adaptor shall be provided by SCADA/DMS system implementor to enable the compatibility of SCADA/DMS system with GIS system. The GIS interface adaptor compatibility shall be in terms of data format, network model decoding and building the network topology along with all the required parameters without any manual intervention. Providing such GIS adaptor doesn't substitute the requirement of CIM/XML interface. It shall still be provided so that the SCADA/DMS system shall be ready to support it for future CIM/XML based application integration.</p>	<p>The data import shall be based on the existing adaptor from Adani as available. Please confirm the same.</p>	<p>There is no adaptor available with Adani for SCADA GIS integration.Scope of development of adaptor for SCADA-GIS integration shall be as per the RFP document.</p>
<p>The Graphic data import from a GIS system shall support native formats of GIS systems which shall be potentially used for data import.</p> <p>The data for import of network shall be provided for entire network based on manual request or based on scheduled request. It shall be decided by user to keep such requests on manual mode or scheduled based. In case of schedule, it's frequency shall be configurable by user. On receipt of entire network data, SCADA/DMS system shall utilize it to create the entire network topology for the first time. However, for incremental updates, it shall be the responsibility of contractor to extract the incremental network changes out of the entire data received and apply only those incremental changes to the running system, without disturbing the current state of the running SCADA/DMS system.</p>	<p>The data import shall be based on the existing adaptor from Adani as available. Please confirm the same.</p>	<p>There is no adaptor available with Adani for SCADA GIS integration.Scope of development of adaptor for SCADA-GIS integration shall be as per the RFP document.</p>
<p>The DMS shall automatically move elements that overlap one another in congested areas so that the operator can clearly see each segment of the network in the geographic view. In addition, the system shall automatically move and scale annotation text that come from GIS so that it is visible the user's current display SCADA/DMS in the geographic view.</p> <p>The system shall include tools to edit annotations /text &amp; symbology placements in geo-referenced displays, substation and distribution network. It shall be possible to import related reference layers such as streets, buildings, poles etc. and other background information.</p>	<p>The data import shall be based on the existing adaptor from Adani as available. Please confirm the same.</p>	<p>There is no adaptor available with Adani for SCADA GIS integration.Scope of development of adaptor for SCADA-GIS integration shall be as per the RFP document.</p>

<b>Tender for Supply, Installation &amp; Commissioning of SCADA &amp; ADMS System_Adani Electricity Mumbai Ltd (AEML)</b>		
<b>Clause Number and Index</b>	<b>Queries</b>	<b>AEML Remarks</b>
<p>All Technological addresses (TAs) shall be automatically assigned within the system to the tags linking the graphic data to the attribute data in the GIS, the attribute data shall be loaded into the SCADA /DMS data base and the data /text shall be displayed on SCADA/DMS diagrams if viewed in GIS mode shall display GIS in background with zoom,pan , scaling &amp; UI navigation techniques in synch with SCADA/DMS system displays.</p> <p>The GIS Network Model shall be exposed to the IT and SCADA Systems over CIM/XML Models using GID to IEC 61968-1 Enterprise Bus.</p> <p>This model repository will be the single model authority for the entire AEML network to be used by both IT &amp; SCADA/DMS Systems.</p> <p>This repository is maintained by the GIS System, and will be used by SCADA/DMS &amp; other IT Systems for getting network information, customer and interconnection information.</p>	<p>The data import shall be based on the existing adaptor from Adani as available. Please confirm the same.</p>	<p>There is no adaptor available with Adani for SCADA GIS integration.Scope of development of adaptor for SCADA-GIS integration shall be as per the RFP document.</p>
<p><b>6.5 Network Connectivity Analysis (NCA)</b></p> <p>NCA shall run in real time on event-driven basis. In study mode the NCA shall run on operator demand. The topology shall be based on</p> <ol style="list-style-type: none"> <li>i. Tele-metered switching device statuses</li> <li>ii. Manually entered switching device statuses.</li> <li>iii. Modeled element statuses from DMS applications.</li> </ol> <p>It shall determine the network topology for the following as minimum.</p> <ol style="list-style-type: none"> <li>i. Bus connectivity (Live/ dead status)</li> <li>ii. Feeder connectivity</li> <li>iii. Network connectivity representing S/S bus as node</li> <li>iv. Energized /de-energized state of network equipment</li> <li>v. Representation of Loops (Possible alternate routes)</li> <li>vi. Representation of parallels</li> <li>vii. Abnormal/off-normal state of CB/Isolators</li> </ol>	<p>iii. Modeled element statuses from DMS applications.- need more clarity.</p>	<p>Modeled element statuses from GIS applications - Status of the element imported from GIS. Topology shall run on the same for the first time after the import.</p>



**Tender for Supply, Installation & Commissioning of SCADA & ADMS System, Adani Electricity Mumbai Ltd (AEML)**

Sr. No.	Specification No.	Clause	Page no.	Subject	Clarification	AEML Remarks
Tender Documents-SITC of SCADADMS_Rev_20190828104144						
1		Section-II: Instructions to Bidders (ITB) A: GENERAL	9 of 34		"The Purchaser has now floated this tender for Supply of Assorted sizes of FRP Meter Cabins and accessories. " Please confirm a typo error of "FRP Meter Cabins and accessories".	The tender is floated for "Supply, Installation & Commissioning of SCADA & ADMS System"
2		3. Eligibility Criteria & Qualification Criteria Technical:	7 of 34		"2. The Bidder should have its own SCADA/ADMS solution. OEM of such SCADA/DMS only shall participate. Joint venture / collaboration will not be accepted." Kindly confirm the eligibility and qualification condition are the requirement for this tender as stated above, and it prevales other statements in the instruction to bidders.	The eligibility and qualification condition shall be as per " Section- I: Information to Bidder (ITB)Clause 3 Eligibility Criteria & Qualification Criteria" of tendor Document.All the QR creteria need to be fulfilled by bidders.
3		Section 1, chapter 3, point d / Technical/ 1.g	8 of 34		"The supporting proof document must be labeled as original/true copy/translation, as the case may be, and the same shall necessarily be signed and authenticated by the Authorized Signatory of bidder." Please confirm that the scan of the original document is acceptable for the submission.	Scanned copy to be signed and authenticated by the Authorised signatory of Bidder.
4		Section 1, chapter 3, point d / Technical/ 1.g	8 of 34		Please confirm that the bidder can also list references for which experience certificates are not available.	This shall not be acceptable
5		Section 1, chapter 3, point d / Technical/ 5	8 of 34		"(Proof: Signed resume of employees authenticated & signed by bidder need to be submitted. Scanned signatures shall be accepted)" Please confirm that signature is expected from the employee in question and the authorised person signing the bid.	Signature is compulsory from the employee in question and the authorised person signing the bid. However, in absence of employee signature email confirmation of employee shall be submitted.Signature of authorised person signing the bid is compulsory.
6		Section 3, chapter 1, point 1.3	20 of 34		"Bidder /contractor to have required TNP. Detailed list to be submitted with the offer." Please clarify what does "TNP" stand for.	Tools & Plant
7		FORM 6: PRICE BID FORMAT	30 of 34		Please clarify if the bidder is allowed to add additional fields in the Form 6, in case that bidder considers some items to be missing in the form, but relevant for the price (required in the tender).	1. Bidders shall submit the itemized BOQ along with price containing unit prices and taxes & duties for individual servers, storage, licenses (OS, OEM & 3rd party application, databases and others material/services if any), software applications and any other hardware considered under this project. All these individual prices shall be aggregated to major project BOQ lineitems in Form 6.  2. Bidder is not permitted to add/delete line items in Form 6. All the material/services that bidder considers are required, shall be factored in Major line items of Form 6.
RFP_SCADA_DMS_AEML_2019_01_20190828104144						

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Sr. No.	Specification No.	Clause	Page no.	Subject	Clarification	AEML Remarks
1		1. Introduction and Objectives	5 of 163		Please provide the control rooms / buildings as built civil drawings including the complete dimensions of available area and heights, with indication of existing equipment locations.	The control rooms / buildings as built civil drawings are not available. The Server room is 20X20 feet. Presently there are 8 42U racks installed in server room. (4 IT + 4 SCADA)
2		1. Introduction and Objectives	5 of 163		Specs mentioned "document. The new software will be integrated with the existing application interfaces like GIS, ABT, MDAS and / or existing SCADA System." Please confirm scope of current tender includes replacement of existing ABB SCADA?	Scope of RFP is for supply and implementation of both SCADA and DMS systems.
3		2.2 IO Sizing Parameters:	9 of 163		"ICCP associations - 5 Nos" ICCP link is required for Data exchange with Utilities (MSETCL Kalwa State Load Dispatch Centre and its backup control center at Ambazhari). Kindly clarify the requirement of 5 Nos of ICCP associations.	We have considered 5 Nos of ICCP associations considering the future requirements.
4		2. Existing System Architecture: & 2.3 Communication protocols used	6 of 163 & 9 of 163		<p>Page 6 of 163 "The entire power system can be controlled and supervised from MCC and BCC as the RTU's are reporting to the respective control centers."</p> <p>In page 9/163 " 2.3 Communication protocols used: 1. IEC-60870-5-104 protocol for communication of ABB AC-800/ABB RTU560/ Microsol Xcell RTU/Siemens RTU with BCC. Existing No. of Stations -102 2. IEC-60870-5-104 protocol for communication of ABB FRTU 211/ Chemtrols Calisto Nx / Chemtrols Calisto IES with BCC. Existing No. of Stations -2500"</p> <p>Specs refer to communication of field equipment only to BCC.</p> <p>1. Please provide the information related to existing communication network. 2. Please confirm that the scope of this tender includes communication servers at Control centre side only without any modification, supply, reconfiguration at substation level or any other enterprise side.</p>	<p>1. Presently all the RTUs communicate with process communication units at BCC and MCC for R/s using OFC network and wireless network as backup link. All FRTUs communicate using wireless network with both MCC and BCC.</p> <p>2. The scope of tender does not include any scope wrt at s/s level network or other enterprise side.</p>

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Sr. No.	Specification No.	Clause	Page no.	Subject	Clarification	AEML Remarks
5		6.3 Graphical & Tabular display requirements for DMS functions	65 of 163		Network overview display should cover the complete network modeling in one display including all 11KV rings either for telemetered or non telemetered field equipment. For the ADMS network view, within a single network model/view both Telemetered, calculated values to be displayed and power flows shall be displayed with direction arrow for the complete network model for 200 Receiving SS and 10,000 Substations (RMU). Kindly confirm.	The understanding mentioned here is correct. However, it shall always be possible to extract/view telemetered/non telemetered field equipments separately or individual feeders.
6		6.4 Network Model	66 of 163		Kindly provide list of distributed generation connected to the network.	At present distributed generation is present at LT network. However, the scope of project we have considered only HT network.
7		9.7.5 Availability computation for SCADA-DMS System & 9.7.3 Severity-3 (General Technical Help)	109 of 163		The Availability formula included S3 the total non-available hours in Severity Level -3. the definition of S3 in 9.7.3 is related to General Technical help and technical configuration assistance and enhancement, these requirement should not impact the system availability and payment of FMS as it is not related to the system availability.	S3 mainly considers the support provided during FMS period. Considering that the weightage provided to S3 is kept very low as compared to S1 and S2.
8		12.3.2 Field Performance Test	130 of 163		"k. Verification of RTU /FRTU/FPI communication Protocol IEC-60870-5-104, IEC-60870-5-101 and MODBUS TCP/IP etc.". Further to clarification point number 4, please clarify equipment communicating on 101 protocol.	There shall be no 101 devices included in the project scope.
9		20. Annexure VIII – PoC / Demonstration Requirements	157 of 163		Our understand of bidding process as per the following steps: - Firm Technical and commercial offer submission on 11/11/2019 - Technical Evaluation of the submitted offer - POC and short listing of technical offer. - Commercial Evaluation and award. Kindly confirm and inform date planned to provide relevant data needed to perform the POC.	Commercial evaluation shall only be done for bidders who fulfill the QR including successful completion of POC . We shall inform regarding the POC dates.
SCC -Supply SCADA and ADMS System						

**Tender for Supply, Installation & Commissioning of SCADA & ADMS System, Adani Electricity Mumbai Ltd (AEML)**

Sr. No.	Specification No.	Clause	Page no.	Subject	Clarification	AEML Remarks
1		4.0 DELIVERY DATE:	3 of 24		<p>"Supply Completion by July 2020"</p> <p>This delivery date contradict with 15.0 SCHEDULE OF COMPLETION AND PERIOD OF MOBILISATION:</p> <ul style="list-style-type: none"> <li>- Completion of commissioning activity – August 2020</li> <li>- SAT of SCADA system and Phase-1 DMS modules – October 2020</li> <li>- Handover of SCADA system and Phase-1 DMS modules – November 2020</li> <li>- Completion of FAT for Phase-2 DMS modules – June 2021</li> <li>- Completion of commissioning activity for Phase-2 DMS modules – July 2021</li> <li>- SAT of Phase-2 DMS modules – August 2021</li> <li>- Handover of Phase-2 DMS modules – September 2021</li> <li>- Start of FMS after end of 1-year of warranty after Handover of Phase-2 DMS – September 2022</li> </ul>	Project milestones shall be as per Section - IV : Completion/ Execution Schedule of tender document.
2		15.0 PAYMENT TERMS:	7 of 24		We kindly request to add a down payment and Design approval payment milestones	Tender clause shall remain unchanged
3		16.0 ORDER OF PRECEDENCE:	8 of 24		<p>"...application of the commercial order of precedence shown below:</p> <ol style="list-style-type: none"> <li>1) Any amendments to PURCHASE ORDER</li> <li>2) PURCHASE ORDER</li> <li>3) Annexure - A : Special Conditions of Contract</li> <li>4) Annexure - B : General Terms &amp; Conditions" <p>The submitted proposal and related clarification on Submitted proposal after bid submission should precede the list of reference documents.</p> </li></ol>	Final purchase order shall be issued based on Submitted proposal,clarifications on Submitted proposal.Hence, the order of precedence as mentioned in tender document shall prevail.
SCC - Service SCADA and ADMS						
		14.0 TERMS OF PAYMENT:	6 of 29		<p>"A. Payment against the service of Installation &amp; Commissioning of the Software :</p> <p>100% payment shall be made in 90 days against commissioning of system</p> <p>The system commissioning payment is listed under SCC for Supply. Should the Services SCC include only the payment milestone for the FMS only. Please clarify</p>	Services SCC include only the payment milestone for the FMS.
		19.0 PENALTY FOR DELAY:	9 of 29		<p>"... deduct a sum equivalent to 1% of the total delayed value ( basic value excluding taxes ) for each week or part there of delay until the actual date up to a maximum deduction of 10% of total delayed value (basic value excluding taxes).</p> <p>This contradicts with RFP_SCADA_DMS_AEML_2019_01_20190828104144 page 111 of 163.</p>	Clause 18.0 PENALTY FOR DELAY of SCC refers to delay in project implementaion.However, 9.7.6 Payment of maintenance charges clause of RFP refers to payment during FMS period.

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Sr. No.	Specification No.	Page no.	Subject	Clarification	AEML Remarks
<b>RFP_SCADA_DMS_AEML_2019_01_20190828104144</b>					
1	2. Existing System Architecture and 2.1 Existing Servers & Workstations at BCC & MCC	6 of 155; 7 of 155		Please confirm that a virtualized solution should be proposed for the new SCADA/DMS system.	The solution needs to be designed on the basis of proposed SCADA-DMS Architecture and minimum configuration of hardware as specified in Annexure 1. OEM shall evaluate the suitability of minimum configuration in order to achieve the desired performance as described in RFP. If felt necessary OEM shall upgrade the configuration or consider additional hardware as per solution requirement.
2	2. Existing System Architecture and 2.1 Existing Servers & Workstations at BCC & MCC	6 of 155; 7 of 155		Please clarify if the proposed solution for the new SCADA/DMS system should include the backup site.	Yes the proposed solution shall include both MCC and BCC.
3	2. Existing System Architecture and 2.1 Existing Servers & Workstations at BCC & MCC	6 of 155; 7 of 155		In case that the answer to the point 2. is affirmative: Please confirm that the proposed solution for the new SCADA/DMS system should include critical functions deployed at the backup site (BCC).	All the functions shall be deployed at MCC and BCC as per RFP. The solution needs to be designed on the basis of proposed SCADA-DMS Architecture and minimum configuration of hardware as specified in Annexure 1. BCC shall have all the capabilities as that of MCC.
4	2. Existing System Architecture and 2.1 Existing Servers & Workstations at BCC & MCC	6 of 155; 7 of 155		In case that the answer to the point 2. is affirmative: Please confirm that hardware & software redundancy is expected at the backup site (BCC).	Minimum hardware requirements at BCC are specified in Annexure 1. At BCC site there is not local redundant server hardware proposed
5	2. Existing System Architecture and 2.1 Existing Servers & Workstations at BCC & MCC	6 of 155; 7 of 155		Please confirm that integration services of the proposed solution for the new SCADA/DMS system (for integrations with GIS and other enterprise systems) are not critical functions and they can be implemented without hardware & software redundancy.	We need to discuss MDM - Non critical GIS - Critical OMS - Critical SAP - Critical ABT - Critical ICCP - Critical All critical systems/integrations shall have hardware and software redundancy.
6	2. Existing System Architecture and 2.1 Existing Servers & Workstations at BCC & MCC	6 of 155; 7 of 155		Please confirm that a test environment should be offered within the proposed solution for the new SCADA/DMS system as an independent environment/system where application and/or system hotfixes and patches can be tested before there are applied to the production system.	No
7	2. Existing System Architecture and 2.1 Existing Servers & Workstations at BCC & MCC	6 of 155; 7 of 155		Please confirm that the proposed solution for the new SCADA/DMS system should include dedicated hardware and software for monitoring the proposed equipment (like servers, SANs, network devices), VMs and application services.	Network management hardware & software added in Annexure 1 & Project BOQ Annexure 2. Minimum specifications of NMS shall be as per Corrigendum II
8	2. Existing System Architecture and 2.1 Existing Servers & Workstations at BCC & MCC	6 of 155; 7 of 155		Please clarify if the proposed solution for the new SCADA/DMS system should include hardware and software at the Main site needed for data backup and restore operations or Adani expects to provide it themselves per bidder's recommendation.	AEML already has backup servers with Linux OS in place for backup of systems at MCC. OEM shall consider this server as backup and restore operation of the proposed system.
9	2. Existing System Architecture and 2.1 Existing Servers & Workstations at BCC & MCC	6 of 155; 7 of 155		Please clarify if the proposed solution for the new SCADA/DMS system should include hardware and software at the Backup site needed for data backup and restore operations or Adani expects to provide it themselves per bidder's recommendation.	AEML already has backup servers with Linux OS in place for backup of systems at BCC. OEM shall consider this server as backup and restore operation of the proposed system.
10	2.2 IO Sizing Parameters	8 of 155		Please confirm that the modelling of the low voltage network (LV) is not requested in the new SCADA/DMS system.	The present scope of project is limited upto HV level.
11	8. Specific Scope of work: / H/ d and 14. Annexure II - Details of Existing GIS	88 of 155; 126 of 155	(d) Integration with existing OMS for exchange of outage & load transfer operation events and TM&M suite of applications: ArcFM 9.3.1 SP1, Conduit Manager, Responder 9.3.1 (OMS)	Please clarify what system is OMS currently integrated with? Does it update the switchgear statuses (network topology) in real-time (e.g. does it import the network topology from current SCADA system)?	Present SCADA system is not integrated with OMS. OMS make: ArcFM Responder Explorer. Currently we are using version 10.2 from Oct'2016 which shall be updated to 10.6

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Sr. No.	Specification No.	Page no.	Subject	Clarification	AEML Remarks
12	8.Specific Scope of work: / H/ d and 14.Annexure II - Details of Existing GIS	88 of 155; 126 of 155	(d)Integration with existing OMS for exchange of outage & load transfer operation events and TM&M suite of applications: ArcFM 9.3.1 SP1, Conduit Manager, Responder 9.3.1 (OMS)	Please clarify does the current OMS system manage outages in the LV network?	Yes. However the present scope of project is limited upto HV level.
13	14.Annexure II - Details of Existing GIS	88 of 155; 126 of 155		Please clarify if the GIS solution has LV network modelled? If yes, is the entire LV network modelled?	Yes. However the present scope of project is limited upto HV level.
14	1.Introduction and Objectives	5 of 155	ABB has implemented the SCADA DMS system for electricity distribution network under Adani Electricity Mumbai Ltd (AEML).	Please clarify does the current SCADA solution have the MV network model? Are all MV feeders modelled?	Presently we have only modelled automated 220/33/22/11 kV network in SCADA system.
15	8.Specific Scope of work: / H/ and 18.Annexure VI - Bill of Quantity sheet	88 of 155; 141 of 155;	H.Integration with external systems and 10 Integration with GIS, OMS, SAP, ABT, SLDC and AMR	“(a)Integration with Existing Geographical Information System (GIS) from Miner & Miner USA. The GIS System shall exchange data with SCADA System in PGDBA format. Refer section 6.4.1 for details on integration of SCADA/DMS with GIS (b)Integration with other systems for to-and-fro exchange of real-time data over CIM/XML interface. (c)Integration with Existing ABT system for real-time instantaneous power data exchange with ABT server (Real time data to be exchanged with external oracle database both to and fro along with quality flags.) (d)Integration with existing OMS for exchange of outage & load transfer operation events. (e)ICCP integration with MSETCL Kalwa State Load Dispatch Centre and its backup control center at Ambazhari (MSETCL system-Siemens Sun Solaris -5.6) ” and “Integration with GIS, OMS, SAP, ABT, SLDC and AMR ” The first reference lists following systems to be integrated with the new SCADA/DMS system: GIS, ABT, OMS, MSETCL; while the second reference lists following systems to be integrated with the new SCADA/DMS system: GIS, OMS, SAP, ABT, SLDC and AMR. Please clarify which list is correct? What is the exact list of systems to be integrated with the new SCADA/DMS system?	Integrations with following System are expected in proposed solution : 1. GIS 2. MDM/AMR 3. SAP 4. ABT 5. OMS 6. ICCP integrations
16	8.Specific Scope of work: / H/	88 of 155;	H.Integration with external systems	“(b)Integration with other systems for to-and-fro exchange of real-time data over CIM/XML interface. ” Please clarify what other systems are expected to be integrated with the new SCADA/DMS system?	Integrations with following System are expected in proposed solution : 1. GIS 2. MDM/AMR 3. SAP 4. ABT 5. OMS 6. ICCP integrations

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Sr. No.	Specification No.	Page no.	Subject	Clarification	AEML Remarks
17	8.Specific Scope of work: / H/	88 of 155;	H.Integration with external systems	<p>" (c)Integration with Existing ABT system for real-time instantaneous power data exchange with ABT server (Real time data to be exchanged with external oracle database both to and fro along with quality flags.) "</p> <p>Please could you provide more information about the Existing ABT system - product model and version, brand as well as the exact information to be exchanged (also the direction of the exchange) with the new SCADA/DMS system.</p>	<p>1.Data exchange with ABT (To and fro) shall be over ODBC or webservice connectivity.</p> <p>2.SCADA/DMS system shall exchange data of KW of all incommers and transformer breakers from SCADA system along with all quality flags with ABT system. However, the parameters to be exchanged with ABT shall be configurable.</p> <p>3.Provision of updation of data from ABT to SCADA is also required as per the RFP along with all quality flags. The parameters to be exchanged from ABT to SCADA/DMS shall be configurable and decided during detailed engineering</p> <p>4.This integration shall also have provision to integrate any of the SCADA parameters as and when required.</p> <p>5. Present ABB system is integrated with ABT system (Oracle dabtase) through API.</p>
18	18.Annexure VI - Bill of Quantity sheet	141 of 155;	10 Integration with GIS, OMS, SAP, ABT, SLDC and AMR	<p>"Integration with GIS, OMS, SAP, ABT, SLDC and AMR "</p> <p>Please could you provide more information about the expactations for the integration with SAP system: what module of SAP is expected to be integrated with ADMS? What is the version of SAP that you are using? What information is expected to be exchanged (also the direction of the exchange) with the new SCADA/DMS system?</p>	<p>1.Integration with SAP shall be in the over ODBC or webservice connectivity</p> <p>2. Typically, the data to be exchanged with SAP shall be the alarms related to equipment based on which notifications shall be created in SAP system.</p> <p>3.The exact methodology, parameters and their mapping philosophy shall be discussed and finalized at the time of project engineering.</p>
19	18.Annexure VI - Bill of Quantity sheet	141 of 155;	10 Integration with GIS, OMS, SAP, ABT, SLDC and AMR	<p>"Integration with GIS, OMS, SAP, ABT, SLDC and AMR "</p> <p>Please could you provide more information about the expactations for the integration with AMR system: product model and version, brand, what information is expected to be exchanged (also the direction of the exchange) with the new SCADA/DMS system?</p>	<p>1.Integration shall be over ODBC or webservice connectivity.</p> <p>2.Direction of exchange shall be from AMR/MDM to SCADA/ADMS system.</p> <p>3.The typical tags shall be instantaneous DT loading in A, KW, KVA, KVAR etc with timestamp. However, it shall be possible to integrate any of the available tags in MDM/AMR as per user requirement.</p> <p>4. Presently AMR sstem does not exist in AEML. However commissioning of MDM is in progress.</p>
20	18.Annexure VI - Bill of Quantity sheet	141 of 155;	10 Integration with GIS, OMS, SAP, ABT, SLDC and AMR	<p>"Integration with GIS, OMS, SAP, ABT, SLDC and AMR "</p> <p>Please could you provide more information about the expactations for the integration with SLDC system: what is the purpose of this system; product model and version, brand, what information is expected to be exchanged (also the direction of the exchange) with the new SCADA/DMS system?</p>	<p>SCADA/ADMS system shall be integrated with SLDC for Real time bidirectional Data exchange of critical power system parameters through on ICCP TASE.2 protocol.</p>

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Sr. No.	Specification No.	Clause	Page no.	Subject	Clarification	AEML Remarks
Multiple references						
1	"Tender Documents-SITC of SCADADMS_Rev_20190828104144" and "RFP_SCADA_DMS_AEML_2019_01_20190828104144"	"Section - IV : Completion/ Execution Schedule" and "12.2Factory Acceptance Tests (FAT) "	22/34 and 127/163	"Completion of FAT for Phase-2 DMS modules" and "The SCADA/DMS system shall be tested at the Contractor's facility."	The project will have two phases, per the execution schedule. The new hardware needed for the new SCADA/DMS system will be delivered fully in Phase I. FAT and SAT testing of Phase I will be done on the new hardware and the Phase I of the project will be commissioned. As the system will be running in real-time, executing FAT for Phase II of the new SCADA/DMS system on the new hardware, at the Contractor's facility would not be feasible (the Phase I scope of new SCADA/DMS will already be live on the new hardware). Please note that the full hardware will be delivered in Phase I, and this same hardware is necessary for Phase II. Therefore, please confirm that executing the FAT on the test system (replica of the live system) at Contractor's facility is acceptable or that executing only SAT on the new hardware, at Adani's site, is enough.	FAT for entire system shall be done in Phase-1. For Phase-2 part testing and SAT shall be done at Adani's site after completion of Phase-1
RFP_SCADA_DMS_AEML_2019_01_20190828104144						
1	6.4.1. GIS Data Import and Network Model Creation		69/ 163	In case the existing GIS system doesn't support CIM/XML interface for data exchange, then a suitable GIS interface adaptor shall be provided by SCADA/DMS system implementor to enable the compatibility of SCADA/DMS system with GIS system	Please, could you provide the following information about the existing GIS system: 1.1. What is the number of existing GIS databases in which electrical distribution and transmission network data is being stored? 1.2. If there are multiple GIS databases, do they share the same data scheme? 1.3. Are there any additional data sources (catalog data, protection data, load profile data, etc.)? 1.4. Is there a feeder affiliation on the equipment level within the GIS database? 1.5. How is connectivity between the network elements established (through input/output nodes, coordinates, geometric network, etc.)? 1.6. Are custom Ids unique within the GIS database (either on the table level, or database level)? 1.7. Is the equipment container data populated within the GIS database? 1.8. Are coordinates specified for all equipment within the GIS database? 1.9. Is there any information about dirty (poor data quality) feeders within the GIS database?	1.1 - One 1.2 - NA 1.3 - MDM for load profile 1.4 - Yes. But that should not be considered while populating in ADMS. Equipment should be dynamically connected to feeder 1.5 - Geometric Network 1.6 - Yes 1.7 - NA 1.8 - Yes 1.9 - NA
2	6.4.1. GIS Data Import and Network Model Creation		69/ 163	In case the existing GIS system doesn't support CIM/XML interface for data exchange, then a suitable GIS interface adaptor shall be provided by SCADA/DMS system implementor to enable the compatibility of SCADA/DMS system with GIS system	Please clarify the scope of the export (specify the required combination of the following): MV, LV, Transmission, Substations, Load Profiles, Customers data?	Question not clear. However the GIS extract shall have part of transmission and MV substation network data. Customer data shall be provided separately mapped with DTs. Load profiles for DTs shall be fetched from MDMS.
3	14. Annexure II - Details of Existing GIS		139/163	AEML GIS Software include following: ESRI suite of Application: ArcSDE 9.3.1, ArcGIS 9.3.1 SP 2, ArcSchematics 9.3.1 TM&M suite of applications: ArcFM 9.3.1 SP1, Conduit Manager, Responder 9.3.1 (OMS) Database: RDBMS: Oracle 9.2.0.5 running on Sun Solaris 8 Web Application: ESRI Arc IMS, ARC GIS Server 9.3.1	Please confirm that the new SCADA/DMS system will integrate with the current version of the GIS software as specified (9.3.1) and that there are no ongoing or planned GIS projects that can overlap with the ADMS project (upgrade of the GIS system version).	Current GIS system is 10.2 version and it is planned for upgrade to 10.6. The final integration shall be on 10.6 version



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Sr. No.	Specification No.	Clause	Page no.	Subject	Clarification	AEML Remarks
4	6.4.1GIS Data Import and Network Model Creation and 8.Specific Scope of work:		69/163 and 99/163	"-SCADA/DMS system shall interface with the GIS system using CIM/XML adapters to fetch network topology details for creating and updating the distribution network topology within the SCADA/DMS system. -The system shall utilize an IEC 61970 and IEC 61968 compliant interface. The system shall enable import of all data via a CIM-XML interface as per IEC 61970-452 and IEC 61970-552-4 and shall utilize modeling from IEC 61968-11 as appropriate. " and "H.Integration with external systems (a)Integration with Existing Geographical Information System (GIS) from Miner & Miner USA. The GIS System shall exchange data with SCADA System in PGDBA format. Refer section 6.4.1 for details on integration of SCADA/DMS with GIS "	Please confirm that interface with GIS system using CIM/XML adapters and that data should be exchanged in CIM/XML format as specified in chapter 6.4.1. and not in PGDBA format as specified in chapter 8.	It shall be in PGDBA format. However the solution shall have interface to import/export the SCADA/DMS data in CIM/XML format for future needs.
5	2.1 Existing Servers & Workstations at BCC & MCC:		9/163	Video Wall- Barco Intel Xeon CPU E3 C V3, 3.5 GHz, 4GB RAM, 500 GB HDD, 64-bit Windows 7 OS,2 Nos NVIDIA Quadro 512 MB NVS 310 cards, 21.5" Wide screen Monitor LED backlight	Please confirm that delivery of the new video wall is not required.	Video wall not required
6	20. Annexure VIII – PoC / Demonstration Requirements		158/163	Capability of solution to integrate with various types of RTUs/ FRTUs like ABB, Siemens, Chemtrol, ZIV etc. on 104 protocol and integration with remote devices on MODBUS TCP/IP based protocol	Please confirm that the RTU used for the live demonstration of the capability of solution to integrate with RTU is supplied by bidder (the bidder should bring the physical RTU for the demonstration).	Demonstration of the solution shall be at OEM's facility. OEM shall arrange the RTU/Simulator to demonstrate the capability of the solution for integration over IEC-104 and MODBUS protocols
7	2.2 IO Sizing Parameters:		10/163	Telemetered Analog Points	Please could you also provide the number of Telemetered Analog Points currently available in Adani's network, for reference?	60000
8	2.2 IO Sizing Parameters:		10/163	Telemetered Status Points	Please could you also provide the number of Telemetered Status Points currently available in Adani's network, for reference?	120000
9	2.2 IO Sizing Parameters:		10/163	DMS stations	Please could you also provide the number of DMS stations currently available in Adani's network, for reference?	2600
10	2.2 IO Sizing Parameters:		10/163	Accumulated Objects	Please could you also provide the number of Accumulated Objects currently available in Adani's network, for reference?	Requirement Not clear