भारत सरकार
केंद्रीय विद्युत प्राधिकरण
दक्षिण क्षेत्रीय विद्युत समिति
29 रेस कोर्स क्रास रो
बेंगलुरू-560009
ISO:9001:2008

सत्यमेव जयते

Government of India
Central Electricity Authority
Southern Regional Power Committee
No 29, Race Course Cross Road
BENGALURU- 560 009
ISO:9001:2008

Phone : 080-22282516
FAX : 080-22259343, 22352616
Email:mssrpc@yahoo.com

सं./No: **SRPC/SE-III/ PMS/ 2017/**

दिनांक / Date: **21.04.2017**

विषय/Sub: Reply to Pre-Bid Queries

A Pre-bid conference on bid document, "***Procurement of Web-based Management Software and Protection Setting Calculation Tool for Southern Region***" for the prospective bidders was held on 18.04.2017 at SRPC Secretariat, Bengaluru. The list participants is given at **Annexure-I**. The reply to the queries raised in the conference and received by email is attached at **Annexure-II** for kind reference.

(असित सिंह/ Asit Singh)
अधीक्षण अभियंता

Superintending Engineer

Annexure - I

SRPC, Bengaluru(18.04.2017)

List of participants

SL. NO	Name In Capital letters	Designation	Organization	Email ID	Mobile Number	Signature
1.	BHANU TEJA	Sr. Business Develop	L DS Infotech	bhanu.t@ldsinfotech.com	7829953953	
2.	ARUN. M.S.	Manager-B.D.	PRDC.	arun.mis@prdcinfotech.com	9845115944.	
3	H.R. VENKATESH	G.M	PRDC	venkatesh@prdcinfotech.com	9845009162	
4.	MAHEEDHAR P	PRINCIPAL CONSULTANT	ABB	Patnala.maheedhar@abb.com	8550005288	
5	RAGHAVENDRA. G	TECHNICAL CONSULTANT	ABB	raghavendra.g@in.abb.com	9538850460	
6	Dhananjay Kumar	Senior Engineer	ABB	dhananjay.kumar@in.abb.com	7259027787	
7	S A Bhat	MS	SRPC			
8	ANIL	EE	SRPC	anil.thomas@gov.in	9C14960641	
9	ASIT SINGH	SE	SRPC	asitsingh@rediffmail.com	9449071107	
10	Dinesh Pawar	Sr. Manager	Siemens	dinesh.pawar@siemens.com	9819969188	
11	Sangram Patil	Manager	—	sangram.patil@siemens.com	9167385842	
12.	R. Sivaram	Manager	Siemens.	Sivaram.ramasamy@siemens.com	7259499666	
13.	ASHISH RANJAN	HoS	DNV GL	Ashish.Ranjan@dnvgl.com	9972426393	
14	ALOK KUMAR MISHRA	EE	DNV. GL	ALOK.KUMAR.MISHRA@DNVGL.COM	9008403185	
15	Kumara. Gangadhar	B.D.H	Yashtechnology	Kumara.gangadhare@gmail.com	9900265753	
16	RAJESH. G	Manager	Schneider Electric	rajesh.gopala@Schneider-Electric.com	9741312002	
17	Anil Kadam	G.M	Schneider Electric	anil.kadam@schneider-electric.com		
18.	N.R.L.K. PRASAD	E.E.	SRPC	srpc.protection@gmail.com	08762949786.	

Sl. No.	Organization	Reference in Tender Document	Query	Reply by SRPC
1	DNV GL	Section E.3/ Page 17	Please explain us the workflow of SRPC to coordinate Distance protection/Overcurrent Protection/Earth Fault Protection and the protections of the Transformers / Generators. The idea is to know if there is coordination with the network and the generation / substations and to know how they proceed.	The general philosophy of coordination for various protections, viz., Distance protection, Over current protection and Earth-fault protection is based on CEA Standards, CBIP Guidelines and Ramakrishna Committee Guidelines, which can be referred to by the prospective bidders. Specific details on the same for the purpose of executing the Project will be provided to the successful bidder.
2	DNV GL	General	Please explain the standard or the methodology that is used to set the Transformer and the Generator protections	These are based on the following: 1. CEA (Technical Standards for Consturction of Electrical Plants and Electric Lines) Regulations, 2010, and amemdments thereof. 2. CEA General Guidelines for 765/ 400/ 220/ 132kV Substation & Switchyard of Thermal/ HydroPower Projects. 3. CBIP Manual on Protection of Generators, Generator Transformers and 220 kV and 400 kV Networks (Pub. No: 274). 4. CBIP Manual on Reliable Fault Clearanceand Backup protection of EHV and UHV Transmission Networks (Pub. No: 296). 5. Ramakrishna Committee Guidelines
3	DNV GL	General	It is not totally clear if Load Flow and the Dynamic Calculations will be used to set the relays or those modules will be used only to calculate disturbances and behaviour of the network	Load Flow and Dynamic studies are to be carried out for ascertaining the behaviour of the network under various scenarios. Network configuration changes including modification of relay settings can be used to generate different scenarios
4	DNV GL	Annexure - A (II): Item. No. 139/ Page 49	"Output of network reduction includes equivalent generator's inertia, power, voltage and impedance". Please clarify w.r.t. the objectives and purpose of this point? And what type of calculations (Dynamic, Short Circuit, Load flow, Relay setting)?	The Item 139 should be read along with other features mentioned from Item 133 to 140 in Network Modification Module. Since network reduction essentially constructs an electrical equivalent of a subsystem of the network contained in the working case, the Item 139 states how the generators in the original network should be treated in obtaining reduced network. Applications of reduced networks are many - Islanding Studies, Capacitor studies, etc. In this regard, it is also clarified that various studies such as load flow, short circuit, dynamic, which can be conducted on the original network can also be conducted on the reduced network.
5	DNV GL	Annexure - A (II): Item. No. 150/ Page 50	"Relay Data life cycle management or Relay Template life cycle management". Please clarify w.r.t. the objective and purpose of this feature.	A Relay Template encapsulates all the parameters specific to that relay, and its life cycle management involves its creation, verification and usage. A Relay Data life cycle management means calculation of settings specific to the relay, their validation, and usage -which process can be repeated depending on the configuration of the network in which it is used.
6	DNV GL	Annexure - B: Technical Bid Format: Sl. No. 1/ Page 53	How essential it is to demonstrate experience involving 765kV substation as this is rarely been used outside India except few countries?	Demonstration of bidder's experience in having executed a Project with the protection modeling, database building, simulations and protection setting calculation to a large transmission utility with more-than 100 sub-stations with the voltage level of 400kV to 110 kV in the last seven years ending 31.03.2016 is also permitted.

7	DNV GL	Annexure - B: Technical Bid Format:Sl. No. 5/ Page 54	"Bidder must be able to assign minimum 20 number of power system & protection engineer on his role full timewith Electrical Engineering degree for the works involved in the project " Does this requirement extends till the 5 year support period after delivery of the project or till 18 months DoA.	As stated in Section F-4 (iii) on Page 21, the proposed team shall be available and deployed as dedicated resource for this project during its execution. Similarly, Section E-6 on Page 20 read with Section F-4 (ii) makes it clear that the bidder (i) shall maintain protection expert team and support team at their disposal to provide technical support for the project during 5-year support period, and (ii) shall deploy two qualified protection engineers at SRPC premises for providing technical support during the support period. The engineers shall be available for the technical support during official working hours.
8	DNV GL	Section D-1 (e)/ Page 15	"Training for 5 Days at SRPC and 5 days at each constituent premises". Please provide the number and location of constituents	Section C-5 defines the Constituents for this tender as the electricity utilities of the states of Andhra Pradesh, Telangana, Karnataka, Kerala, Tamil Nadu and Union Territory of Puducherry and PGCIL and NTPCL, NPCIL, NLCIL and Independent Power Producers (IPP's) of Southern Regional Power System and SRLDC and SRPC. These are: APGENCO, APTRANSCO, TSGENCO, TSTRANSCO, KPCL, KPTCL, KSEB, TANGEDCO, TANTRANSCO, Puducherry Elec. Deptt, PGCIL (SRTS-I), PGCIL (SRTS-II), NTPCL, NPCIL, NLCIL, IPP's, SRLDC and SRPC. Excepting for IPP's, SRLDC and SRPC for whom the training can be given at SRPC Secretariat Bnegaluru, training for the other Constituents has to be given at their respective Head Quarters. The No of locations would be 6.
9	DNV GL	Section F- 4 (vii)/ Page 22	Annexure - B for key protection simulation functionality is not available. To demonstrate the software key protection functionalities to Customer post submission of technical proposal by 11 May 2017, Demo could be done with over current and distance protection, COMTRADE only with RMS values. SRPC to share the list of Key functionalities mandatory required during demonstration	Key Protection Simulation Functionality at Annexure-B shall mean to be taken as **Technical Specification of the Software given at Annexure - A (II)**. As mentioned in Technical Evaluation Checklist given at **Annexure - A (I)**, the above shall be complied and confirmation documents shall be submitted along with the bid. The same shall be demonstrated for the Technical Evaluation Committee (TEC) of SRPC. In case of any deviation, a statement to that effect with proper explanation and duly signed by the autorized representative of the bidder shall aslo be submitted along with the bid for the kind consideration of the Technical Evaluation Committee (TEC). The decision of TEC w.r.t. acceptability of the furnished deviations shall be final and binding. Note: Since all features included under Technical Specification at **Annexure - A (II)** are very much required, deviations, if any, should be kept to bear minimum and justified with proper explanation.
10	DNV GL	Section C - 8 (a)/ Page 10	Delivery of required hardware and software base license is to be kept same as 2 months.	Agreed.

11	DNV GL	Section C - 8 (c)/ Page 10	Completion of Training program on the protection calculation software - 4 Months from DoA Please explain the level of training that is required to be covered at this time. Some functionalities (EMT simulation with Comtrade) could take slightly longer time	The idea behind the training program proposed to be given after 4 months from the Date of Award to all Constituent Utilities is to make them get acquainted with various features of protection setting calculation software, and enable them to master various intricacies involved so that they will be in a better position to use the software for carrying out various system studies when called upon to do so at a later stage.
12	DNV GL	Annexure - A (II): Sl.No. 18/ Page 41	Merging of two existing COMTRADE files received from disturbance recorder and removing unwwanted channels and storing as new COMTRADE file for further processing What list of parameters SRPC want to see in COMTRADE?	This depends on the nature of the fault and the type of the protection operated. Since the Signals/ Channels required to be monitored and analysed vary from one type of protection to another, it is expected that the bidder has thorough knowledge of protections required to be provided to various generation/ transmission elements, and is capable of deciding on the set of signals/ channels required to be monitored for analysing the operation of various protections. However, suitable help, in this regard, will be provided to the successful bidder, if required.
13	DNV GL	General	The data during field visit will be provided in digital format to the bidder?	The data will be provided by Constituents/ Utilities in soft-form in the format specified by the the successful bidder.
14	DNV GL	Section B.3 - 5/ Page 9	To model the Network up to 220/230 kV & above system based on the data collected from the field with generation and load at 220/230kV & above to be used in Protection Setting Calculation Tool with the exception where the generator is connected to the lower voltage network, it will also be considered so that coordination between power plant and transmission system protections may be tested / verified.	It is clarified that Network modeling and data collection will be limited up to 220/230 kV & above voltage level. The network will be truncated at 220/ 230 kV voltage level, and network at lower voltage level will be represented by equivalent load/ generation at the truncated nodes/ buses on the periphery of the network at 220/ 230 kV voltage level.
15	DNV GL	Section C - 47/ Page 14 & Section D1/ Page 15	The IT Infrastructure proposed should be compatible with infrastructure at SRPC and constituents. Please provide 1) Any preference for TOMCAT in web server 2) Operating System versions 3) Archival Strategy 4) Data Retention Strategy (PURGE) 5) Any Preference for SRDF/ASRDF as backup?	Subject to qualifying the minimum Hardware specifications given at Section D.2, any other additional features may be suitably decided by the bidder. In this regard, the following is clarified: 1 & 4 & 5) Bidder's discretion 2) Latest version 3) Data archival should be for a minimum period of 5 years.
16	DNV GL	Section E.1 - 4.4/ Page 16	A user friendly interface for browsing and editing the contents of the database. How many users?	35 Users
17	DNV GL	Section E.2 - 4/ Page 16	Data collected from respective substations to be validated before populating the same in the database. How the validation will proceed?	It is the bidder's responsibility to devise appropriate methodology to validate data collected. It may include things like valid ranges of parameters of various equipment, acceptable configurations of relays, etc.
18	DNV GL	Section E.2 - 7/ Page 17	GUI based interface for users to develop and maintain network below 220 KV systems in PMS.How many users?	35 Users

19	DNV GL	Section C - 4/ Page 10	Bidder has to demonstrate the web based system for protection relay setting database and Protection Setting Calculation Tool to the Technical evaluation committee on a date informed by SRPC.	The exact Dates for Demonstration to Technical Evaluation Committee (TEC) would be made known on 12.05.2017. However, it is clarified that they will be held within 2 weeks from the date of opening of technical bids.
20	ABB	Section C - 4/ Page 10	"Bidder has to demonstrate the web based system for protection relay setting database and Protection Setting Calculation Tool to the Technical evaluation committee on a date informed by SRPC". Demo will be given with the existing modules available in PSCT & architecture for web based PDMS software. High level design document for implementation of web based protection management system will be submitted to SRPC within two months from date of award of contract.	It is clarified that the bidder has to demonstrate both web based system for protection relay setting database and Protection Setting Calculation Tool. Further as mentioned at Sl. No. 9 of this document, all features included in Technical Specification of the software [**Annexure - A (II)**], shall be complied with and confirmation documents shall be submitted along with the bid. The same shall be demonstrated to the Technical Evaluation Committee (TEC) of SRPC. In case of any deviation, a statement to that effect with proper explanation and duly signed by the autorized representative of the bidder shall aslo be submitted along with the bid for kind consideration of the Technical Evaluation Committee (TEC). The decision of TEC w.r.t. acceptability of the furnished deviations shall be final and binding. It may also be noted that since all features included under Technical Specification given at **Annexure - A (II)** are very much required, deviations, if any, should be kept to bear minimum and justified with proper explanation.
21	ABB	Section C - 2/ Page 10	Last date & time for receipt of proposal - 11.05.2017. Request to extend the bid submisssion date by at least 3 weeks	The various Dates mentioned at Section C - 2 remain unchanged.
22	ABB	Section C - 2/ Page 10	Can Earnest Money Deposit (EMD) be submitted in the form of Bank Gaurntee(BG).	Yes. Earnest Money Deposit for Rs. 50, 00, 000 /- can be submitted in either Demand Draft (DD)/ Bank Guarantee (BG).
23	ABB	Section E.4 - 23 (f)/ Page 20	Drawing of Relay characteristics curve can be drawn from the setting data. Kindly elaborate.	This option should generate a report for the selected relay showing its characteristic curve drawn from its settings data. For Example report showing the IDMT curve of a selected over-current relay using its PSM and TMS values.
24	ABB	Section E.4 - 23 (g)/ Page 20	Provision to attach documents to relay template and relay data can be made available Option to accept setting data as per the audit and verify/compare the field setting with protection database setting and generate error report. Kindly correct our understanding 1. Audit feature is required in PDMS software. 2. The existig data in PDMS will be checked with user attached relay settings for audit. 3. report will be generated based on comparision.	Yes. Even though the proposed PDMS is expected to contain correct and updated data of various substations, since protection audit of substations is a routine affair and involves collecting field data, to validate this newly collected field data with the existing data in the PDMS, this provision has been included.

25	ABB	Section E.4 - 23 (j)/ Page 20	Facility to store and retrieve setting guidelines as per various Committees. Kindly elaborate.	This provision is basically to maintain a repository of the reports/ guidelines given by various Committees on Protection related issues that are in public domain.
26	ABB	Section E.4 - 23 (k)/ Page 20	Automatic Reconciliation Tool (AMT) should be available which will generate automatic reconciliation requests for relay settings in the database.	When relay settings are entered for the first time or modified subsequently in PDMS with the data provided by a Utility/ Constituent, it may so happen that some invalid data may be present, which may not fit properly into PDMS. AMT notifies instances of all such incorrect data in the form of a suitable alarm so that the concerned Utility/ Constituent is alerted to take appropriate action.
27	ABB	Section E.4 - 23 (l)/ Page 20	Up-to-date application guides and user manuals of all relays is a part of the relay library. Whether option to attach application guide & user manuals of all the relays is required. Kindly eloborate.	Yes. Since the project is essentially a regional-level protection management system of all power utilities of southern region, to benefit them in terms of enhancing application knowledge of various relays, it is necessary to provide this provision for uploading and maintaining/ hosting of application guide & user manuals of all relays used in PDMS.
28	ABB	Section E.4 - 23 (m)/ Page 20	Web-based Checklist for protection audit should be made available for Constituents to self-auditing. Kindly elaborate.	Since protection audit of substations is a routine affair being followed by various power utilities, this provision has been provided to host the said check-list/ audit formats in PMS so that Constituents may make use of them for self-auditing.
29	ABB	Section B.3 - 6 & 7 & 8/ Page 9	6. To create an interface with Protection Setting Calculation Tool and protection database thus compute the various relay settings for each relay modeled. 7. Perform analysis of the faults/disturbances simulated in the network of Protection Setting Calculation Tool based on the protection database relay settings. 8. Establishing the web based system for protection relay setting database which can be imported to the Network in the Protection Setting Calculation Tool. ---------- 1. Whether interface required between PDMS and PSCT? 2. Whether the relay setting database to be imported to PSCT?	Yes. Interface is required between Protection Settings Database and Protection Setting Caculation Tool. Since the Users will be at different places, proposed protection settings database should be web-based so that instances of it may be imported into the network in their respective protection setting calculation tool, which will enable them to carry out various studies.

30	ABB	Section C - 8/ Page 10	**Original Schedule:** Milestones for the project shall be as under (all from date of award): a. Delivery of 35 No base license of protection calculation engine: 1 month b. Delivery of required hardware: 2 months c. Completion of Training program on the protection setting calculation software : 4 Months d. Site Acceptance Test(SAT) with one pilot state system: 6 months e. Building the entire southern region network data for load flow and fault calculation, Protection database and substation SLD preparation:16 months f. Delivery of web based database management system: last 2 months g. Go live with all SRPC constituents data: last 1 month h. Continuation of technical support services up to 5 years from Go Live. ---------- **Proposed Schedule:** 1. Submission of High level design document for implementation of web based protection management system to SRPC:2 months 2. Delivery of 35 No base license of protection calculation engine:4 months 3. Delivery of required hardware:4 months 4. Completion of Training program on the protection setting calculation software :6 months 5. Site Acceptance Test(SAT) with one pilot state system:8 months 6. Building the entire southern region network data for load flow and fault calculation, :12 months 7. Protection database and substation SLD preparation:16months 8. Delivery of web based database management system:Last 2 months 9. Go live with all SRPC constituents data:Last one month 10. Continuation of technical support services up to 5 years from Go Live.:5 years	The schedule given by ABB cannot be agreed to for it is presumed that all bidders submitting their bids possess mandatory qualifications given at Section F - 4. In this regard, Clarifications given at Sl. No: 10 & 20 may also please be referred to. If the additional features proposed to be submitted in the form of a design document at a later date fall in the purview of deviation statement, the same shall be considered appropriately by the Technical Evaluation Committee (TEC) of SRPC, whose decision in this matter shall be final and binding.
31	ABB	Section E.2/ Page 16	Database Building Activities - Network modelling with Indian national grid transmission network model. Whether data for the Indian national grid transmission network shall be provided by SRPC? If provided in what format?	Yes. The data for the Indian national grid transmission network will be provided by SRPC in RAW format. In this regard, it is intimated that the bidder has to take care of harmonising certain information like bus numbers, areas, zones, etc. of the rest of India network with the SR-network built by the bidder.
32	ABB	Section E.2/ Page 16	Database Building Activities - Data collected from respective substations to be validated before populating the same in the database. What is the meaning of validation of the collected data?	Kindly refer to the Clarification given at Sl. No. 17 of this document.

33	ABB	Section E.2/ Page 17	Modeling of 132 and 110 KV of SR based on the data made available to the Vendor by the Utility. Whether modeling of 132/110kV substation are also required to be considered in PDMS?	As stated in the adverted Point, only modeling of the protection database with relevant system parameters needs to be carried out by Vendor based on the input received from SR Utilities. This means PDMS should be capable of accepting and storing data at 132/ 110 kV presented to it by various Constituents. However, Vendor need not perform things like SLD generation, relay settings calculation, etc. at 132/ 110 kV level, which can be left to concerned Constituents to perform by themselves.
34	ABB	Section E.2/ Page 17	Capacity building and training at SRPC Office and each state. What is the meaning of capacity building and training at SRPC Office and each state? There is no mention of number of engineers to be trained or duration of the training.	Capacity Buiding & Training at SRPC Office and each state means giving training to all SR-Constituents as clarified at Sl. No: 8 of this document on using various features in Protection Data Management Software and Protection Settings Calculation Tool. In this regard, the following may be noted: (i) The training proposed to be given to all SR-Constituents after 4 months from the Date of Award of project is for a period of 5 days for each Constituent [Reference: Section D.1 (e) on Page 15]. No .of people from each Constituent may be limited to **30**. (ii) The training proposed to be given to all SR-Constituents during 5-year support period at quarterly intervals is for a duration of one or two days [Reference: Section E.6 on Page 15]. No. of people from each Constituent may be limited to **20**.
35	ABB	Section E.4 - 21/ Page 19	Availability of historical fault data for predicting nature of fault. What is the meaning of “availability of historical fault data for predicting nature of the fault”?	Here the term "prediction" may mean to be taken as "trending". Based on the historical trending of fault data, the PDMS should suggest appropriate remedial action for a fault under consideration.
36	ABB	Section E.4 - 22/ Page 19	Kindly elaborate on Database sizing.	As mentioned in the adverted Point, the PMS should be capable of analyzing, storing, and handling all fault records (Event Logger file, COMTRADE files of corresponding Disturbance Recorder, etc.) for a minimum period of 5 years; And the updated Expert-database to be used for fault analysis should be permanently available. For this, the average no. of trippings in southern region in a month may be taken to be varying from 100 to 200.
37	ABB	Section E.6/ Page 20	“Technical support for the protection setting computational tool and training programs on every quarterly basis”. What is the duration, number of participants, location of the training?	Kindly refer to the Clarification given at Sl. No. 34 of this document.
38	ABB	Section E.6/ Page 20	“Performing the grid disturbance simulation for the events occurring in the system on daily basis. Deployment of two qualified protection engineers for the support period. The engineers shall be available for the technical support during official working hours”. Whether support required on need basis or continuous?	Yes, the support is required on a continuous basis. The two dedicated protection engineers are required to be deployed at SRPC premises, and shall be available for technical support during official working hours.

39	ABB	Annexure - A (II)/ Pages 42 - 51	Technical Specification of the Software. What can be done regarding the deviations if any related to technical specifications of the software?	Kindly refer to the Clarification given at Sl. No: 9 & 20 of this document.
40	ABB	Section E.1 - 6/ Page 16	Real Time and interactive HW and SW at selected 400 kV substations and central locations as a pilot study for collecting the Disturbance Recorders (DR's) and Event Loggers (EL's) for each tripping for fault analysis report in respect of Circuit Breaker (CB) operation and relay operations. Kindly elaborate.	By this, it is proposed to verify the real-time fault analysis capability of the PMS by capturing relevant fault records on-line from the concerned field substation/ switchyard. To facilitate this, the Vendor might require to install necessary communication systems involving all hardware and softwares to transfer the relevant fault record (Event Logger file and COMTRADE files of corresponding Disturbance Recorder) from the concerned relay to a centralised server located in the substation, if not already available. The Vendor shall also supply and install necessary Remote access System and Automated Fault analysis software to carry out comprehensive tripping analysis of the fault record received from the centralsied server automatically without any human intervention and generate detailed tripping report in PDMS. It is envisaged that the proposed application will continuously pool the centralised server for specific fault record (Event Logger & COMTRADE files), does proper tripping analysis when found, and generates a detailed tripping report for the fault under consideration.
41	ABB	Section D.2 - Points: 6 to 9/ Page 15	6 Database Oracle / MySQL / Postgresql/ MS Sql 7 Firewall Layer 7 Standard firewall design 8 Switches/Routers Layer 2 / Layer 3 Standard 9 Backup Tape/ disk based backup Has the design been frozen or bidder has the flexibility to design?	The hardware specifications given at Section D.2 are the minimum requirements to be fulfilled by the bidder. If the bidder wants to offer a better design superior to the one stated, the same will be considered favorably by the Technical Evaluation Committee (TEC) of SRPC.

42	PRDC	Section E.1 - 6/ Page 16	Real Time and interactive HW and SW at selected 400 kV substations and central locations as a pilot study for collecting the DR's and EL's for each tripping for fault analysis report in respect of CB operation and relay operations. --- In order to meet this Tender Requirement we propose the following : 1.Supply and installation of required communication systems involving all hardware and softwares to transfer the Disturbance recorder files in COMTRADE format within 5 minutes of occurrence of any fault/disturbance to a server located in a substation or a central location. 2. Supply and installation of Remote access system and Automated Fault analysis software to carryout comprehensive tripping analysis of the COMTRADE file received from the relay automatically without any human intervention and also sends SMS and reports through email within 10 mins of occurrence of any fault. Proposed solution will continuously pool the comtrade files and carry out the tripping analysis. The following major analysis will be done using the same. Fault Detection Fault Classification Fault Location Fault Severity Relay Operation Digital Analysis Sequence of Event etc... Kindly confirm our understanding.	The actual implemntation details of fulfilling this requirement are left to Vendor's discretion. Kindly refer to the Clarification given at Sl. No: 40 of this document.
43	PRDC	Section E.2/ Page 16	Complete modeling of SR transmission network for 220 kV/ 230 kV& above including HVDC systems connected with SR, with relevant system parameters collecting from the field like transmission lines, generators, transformers, reactors, substation layouts, and associated protective relays in the substations. The model should include CT, PT, Isolator, Breaker and other bay equipment's ratings along with rating of the BUS and the type of conductor used for the BUS. The modeling should be done as per bus-breaker philosophy instead of node oriented model. --- All data required for this project shall be collected by the bidder by visiting all 660 numbers of 220/230 kV & above individual substations. The required CT, PT, Relay and all the equipments details to be collected. Around 1500 No's of 132/110 kV substation's data will be provided by SRPC/Constituent and only modeling needs to be carried out by bidder. Please confirm our understanding	Yes. Kindly also refer to the Clarification given at Sl. No: 33 of this document.

44	PRDC	Section E.2/ Page 16	One time power system network model building for the Load-flow, Short circuit and dynamic simulations of entire Southern region with Indian national grid transmission network model. The protection calculation Tool, apart from having the functionality of Load-Flow, Short circuit and dynamic simulations, should also have the capability of importing network from RAW file for the rest of National Grid. ---------- Based on the network data collected, the bidder needs to Prepare network model of SRPC and should be ready for base case load flow analysis and needs to be verified with field engineers of SR constituents. Both MW and MVAR flow should be computed and Voltage Level at different Buses should be ascertained along with suggestive conditions to reduce or enhance Bus voltage. With prepared network model by bidder, we should be able to run short circuit analysis, Voltage instability, transient stability analysis, EMTP, disturbance/ tripping analysis. Single data/model file should be capable of carrying out all the above analysis using only One software? Please elaborate and clarify.	Yes. Kindly also refer to the Clarification given at Sl. No: 33 of this document. After preparing the complete model of SR-network and embedding it in the rest of India network (with due harmonization), there will be one network file which should be used for carrying out various studies in Protection Setting Calculation Tool to be supplied by the bidder.
45	PRDC	Section F - 4/ Page 21	The minimum human resources required to be deployed by the bidder for execution of the project. The proposed team shall be available and deployed as dedicated resource for this project. Please confirm our understanding	Yes. Kindly also refer to the Clarification given at Sl. No: 7 of this document.
46	PRDC	Tender Schedule/ Page 3	Rs. 50,00,000/- (Rupees 50 Lakhs) payable as A/c payee Demand draft on any scheduled commercial Indian bank in favour of “In favour of Assistant Secretary SRPC”. As per this tender document it is required to submit the EMD of Rs 50 Lakhs in the form of DD only. However for the Utility/Transco/CEA tenders of more than 10 lakhs EMD, the Bank Guarantee is allowed and hence we request SRPC to consider the BG for the EMD for Rs 50 lakhs.	Agreed. Kindly also refer to the Clarification given at Sl. No: 22 of this document.
47	PRDC	Annexure- A(II) - Item No.23/ Page 42.	Life time free software upgrade. We are supplying the software with perpetual licence(life time) free upgrades will be provided as and when available during the warranty and support period.	Agreed.

48	SIEMENS	Section C - 18/ Page 11	The EMD will be refunded subject to: i. To the successful bidder, only after furnishing an unconditional and irrevocable Performance Security Deposit for10% of the contract price. Where as : Section G: GCC, Clause 23: PBG of 5% of contract value is asked. Please clarify correct rate for PBG	It is clarified that Para 1.48 Clause-23 of GCC is modified as follows: 1.48 The Supplier shall, within **seven (7)** days of the issue of Letter of Intent, provide a Performance Security for the due performance of the Contract in the amounts and currencies specified below: The successful bidder will have to furnish a Performance Security Guarantee Deposit @ **10%** of the bid value/contract price in form of an irrevocable bank guarantee as per format at **Annexure-H** from a scheduled commercial bank within **seven (7)** days after the issue of letter of intent (LoI). The performance guarantee shall remain valid for a period of 60 days beyond the support period of five years from the date of project 'go live' and shall be renewed for a further period, if required so. Performance Security Guarantee in form of bank guarantee will be discharged and returned to the successful bidder after satisfactory performance of all the terms and conditions of contract. This guarantee will be for faithful performance of the contract in accordance with the terms and conditions and technical specification specified in the contract bid documents.
49	SIEMENS	Section C - 20/ Page 11	This guarantee will be for faithful performance of the contract in accordance with the terms and conditions and technical specification specified in the contract bid documents. The purchaser shall be at liberty to deduct appropriately from the Performance Security Deposit such sums as are due and payable to the agency by purchaser as may be determined in terms of the contract.	Though due consideration will be given to effect deduction through Liquidated Damages (LD) on account of bidder's defaulting , prevailing CVC guidelines will be followed in this matter.
50	SIEMENS	General	We request you for consideration of EMD inform of Bank Guarantee (BG). BG format shall be provided to us for submission of EMD BG.	Agreed. Kindly also refer to the Clarification given at Sl. No: 22 of this document.
51	SIEMENS	Annexure - A(I) - 6/ Page 41	Possible to reduce Regional/ Bigger Transmission Network to equivalent network and to perform EMTP Simulation. Please confirm that EMTP is not a software and means Electromagnetic Transient Phenomena simulation. Please confirm that the purpose of - Reducing network to equivalent, and - EMTP analysis is to simulate a disturbance and generate COMTRADE file for comparison with filed relay COMTRADE record?	Yes. It is confirmed that EMTP is not a separate software, but Electromagentic Transient Phenomena simulation. It is also confirmed that the purpose of reducing network is to simulate a disturbance and generate COMTRADE file for comparison with filed relay COMTRADE record. Kindly also refer to the Clarification given at Sl. No: 4 of this document.

52	SIEMENS	Annexure - A (II) - 15/ Page 42	Reports in Standard and IEEE Formats. Please specify in detail.	Choice is left to bidder's discrtetion. For example, bidder may decide to use IEEE 802.11 file format or better file format.
53	SIEMENS	Section B.1/ Page 8 & Section E.1 - 6/ Page 16	Real Time and interactive HW and SW at selected 400 kV substations and central locations as a pilot study for collecting the Disturbance Recorders (DR's) and Event Loggers (EL's) for each tripping for fault analysis report in respect of Circuit Breaker (CB) operation and relay operations. Please specify no of substation, location and central location.	The no. of substations/ central location for the puropose of meeting this requirement shall be one or two in number, whose details will be made available to the successful bidder. Kindly refer to the Clarification given at Sl. No: 40 of this document.
54	SIEMENS	Section E.1 - 1/ Page 16	Protection system data collection from site and Database building activities. Giving necessary approval, permission for our engineer to visit these substations, collect data and down load files from relays would be in SRPC scope	Protection System Data collection by visiting various substations is the responsibility of the bidder. Administrative approvals required for this purpose will be ensured by SRPC. The responsibility of data extraction by downloading configuration files from various relays also lies with the bidder. However, SRPC will facilitate the bidder in performing this job by ensuring RT people of the concerned Utility are present at the time of execution of this job and render suitable help to the bidder.
55	SIEMENS	Section E.2/ Page 17	Modeling of 132 and 110 KV of SR based on the data made available to the Vendor by the Utility. There would be around 1500 Nos. 132/110 KV substations in SR. Only modeling of the protection database with relevant system parameters need to be carried out by Vendor based on the input received by SR Utilities. --- In which format SRPC utilities will deliver their network data? In PSS	1. Data format to be used in collecting data from SR-Constituents/ Utilities is to be fixed by the bidder. 2. The following Utilities operate at 132/ 110 kV voltage level in SR: APGENCO, APTRANSCO, TSGENCO, TSTRANSCO, KPCL, KPTCL, KSEB, TANGEDCO, TANTRANSCO, Puducherry Elec. Deptt, NLCIL and certain IPP's.
56	SIEMENS	Section E.2/ Page 17	Following are estimated details of the existing sub-station in the SRPC region and same should be modeled in the software with all details. However, actual number may vary within close limits and has to be considered by the bidder in his proposal. Please provide information on: (i) Number of lines at 765kV, 400kV, 220kV, and 230kV (ii) Number of generating station switchyards (iii) Number of Generators	1). No. of 765 kV lines = 11 No. of 400 kV lines = 300 No. of 230/ 220 kV lines = 1050 2 & 3). No. Of Generating Station Switchyards at the level of 220 kV & above = 150. The figures given are indicative in nature.
57	SIEMENS	Section E.2/ Page 17	Short circuit, transient stability/ dynamic studies and contingency analysis have to be simulated and the results have to be demonstrated to the SR constituents for approval. There should be features to study low frequency oscillations, 3 rd zone tripping, PSS tuning support and Voltage collapse prediction feature.	Yes. Low frequency oscillations, PSS tuning support, and Voltage collapse prediction shall be part of the software package. The software should include these features to carry out related studies as and when required.
58	SIEMENS	Section E.3/ Page 18	Transparent Fault calculation results.	The word Transparent should be read as "Transient".

59	SIEMENS	Section E.2/ Page 16	Data collected from respective substations to be validated before populating the same in the database. Clarify validation procedure, who will validate, do we need approval before proceeding with populating it.	Kindly refer to the Clarification given at Sl. No: 17 of this document.
60	SIEMENS	Section E.2/ Page 16	One time power system network model building for the Load-flow, Short circuit and dynamic simulations of entire Southern region with Indian national grid transmission network model. SRPC would provide Indian national grid transmission network model?	Kindly refer to the Clarification given at Sl. No: 33 and 44 of this document.
61	SIEMENS	Section E.6/ Page 20	Technical support for the protection setting computational tool and training programs on every quarterly basis. How many training programs every quarter, what would be locations and duration of it?	Kindly refer to the Clarification given at Sl. No. 34 of this document.
62	SIEMENS	Section E.6/ Page 20	Updating and entering the protection and network database of the SR region during the support period on regular/daily basis which shall include changes in system configuration, addition of new substations, generators, etc. How many new substations, generators are expected to get added in next five years.	The National Electricity Plan documents brought out by Central Electricity Authority may please be referred to.
63	SIEMENS	Section G - 54/ Page 40	The supplier shall ensure that the Guaranteed Availability of the application system shall not be less than 95% (Ninety five percent) during the period of 5 years from the date of 'go live' on quarterly basis. How it will cater unavailability of application system beyond control of supplier.	Non-availability of the application system will be reckoned w.r.t. the factors attributable to the suppllier only.
64	SIEMENS	General	Estimation on following items in the scope of network study: a) Number of load flow cases to be considered? b) Number of fault cases to be simulated for dynamic study? c) Number of substations and critical power plant stations for evaluation of critical clearing time?	These are essentially need-specific, and vary from situation to situation depending on change in LGBR required to be considered. However, it will be ensured that only serious cases that have an effect on integrated grid operation will be given for carrying out various studies.
64	SIEMENS	General	Information of availability of data, data format and software version: a) Are network data for load flow study available and will be provided by SRPC? Which software and version? b) Are positive sequence, negative sequence and zero sequence data of network for short circuit study available and will be provided by SRPC? c) Are dynamic data and models of power plants (generators, AVR and excitation systems, governors and turbines), dynamic compensators, HVDC's, etc. available and will be provided by SRPC?	No. It is the responsibility of the bidder to collect all required data in suitable formats from various Utilities. However, SRPC's help can be expected in the following ways: 1. Whatever data avaialble w.r.t. Sothern region with SRPC/ SRLDC will be given in RAW format. 2. Bidder will be facilatated in obtaining required data from various Constituents.

65	SIEMENS	General	An executable PSS®E model for load flow an dynamic studies are required. .Does SRPC have its network modeled in PSS®E for load flow and dynamic simulation? If positive in which version?	As clarified at Sl. No: 64, whatever network data avaialble w.r.t. Southern region with SRPC/ SRLDC will be given in RAW format.
66	SIEMENS	General	In addition zero sequence data of network equipments are required for single-phase short-circuit calculation. Does SRPC have zero-sequence data in PSS E? Or in other format? If not, should we calculate zero-sequence data of SRPC transmission lines or it will be provided by SRPC. Transformers and generators zero-sequence data in case of no manufacturer data should be assumed. Assumed values are provided by SRPC, or suggested by Siemens and approved by SRPC?	Kindly refer to the Clarification given at Sl. No. 64 of this document. In case the bidder is not able to obtain required data from the Constituents due to lack of the same, suitable assumed values may be considered with prior approval of the same from SRPC. For this purpose, Transmission Planning Criteria of Central Electricity Authority may please be referred to.
67	SIEMENS	Section B.1/ Page 8 & Section E.1 - 6/ Page 16	Real Time and interactive HW and SW at selected 400 kV substations and central locations as a pilot study for collecting the Disturbance Recorders (DR's) and Event Loggers (EL's) for each tripping for fault analysis report in respect of Circuit Breaker (CB) operation and relay operations. ---------- 1. 1. What are the scope of the enquiry among the following list? Disturbance Records (DR) collection from numerical relays, Disturbance Records (DR) collection from stand alone event recorders, Transfer of DR files to the central location, Manual DR Analysis Application, Relays settings from central location, Any other functions? 2. How many substations are covered in the pilot project? 3. What all make and model of relays and event recorders are to be covered in the project? 4. Please provide relay port type (FO Serial, RS 485, Ethernet etc.) and protocols (IEC 61850, IEC 103, SPA, SEL etc.) of all the relays to be covered. 5. Does the substation DR collector need to be redundant? 6. Does the central server need to be redundant? 7. Does a DR analysis application needed at the central location? 8. How many clients are required at central location? 9. Is client for DR collection/settings needed at substation? 10. What is the connectivity between substation and central location?	The actual implementation details for fulfilling this requirement are left to Vendor's discretion. Kindly refer to the Clarification given at Sl. No: 40 of this document. Specific details on implementation of this feature will be provided to the successful bidder.
68	SIEMENS	Annexure-A (II): Items 108 - 120/ Pages 45 -48	Do you want these as feature of relay library as mentioned on page 18 or feature of protection analysis tool.	Since Unit protection settings are not required for cordination studies, the Items given from 108 to 120 may be provided accordingly for inclusion under relay library or as protection analysis tool features.
69	In addition to above, the following may also be kindly noted: 1. In **Annexure - G, Format-1 and Format-2**, under Attestation for the Executant provided at the end, Name, Designation and Address of the Executant shall be mentioned. 2. In the Technical Bid Format provided at **Annexure-B,** and **Section F -4,** it shall be corrected that the Bidder must have at least Rs. 20 Crores (Rupees TWENTY Crores in words) each year average turnover for the past three financial years that is from 01.04.2013 to 31.03.2016. Certificate from CA is to be submitted.			