

## Project: 33kV Substation Refurbishment Customer: NEEPCO

Site : Ranga Hydro Electric Plant, P.O. Ranga Project, Arunachal Pradesh

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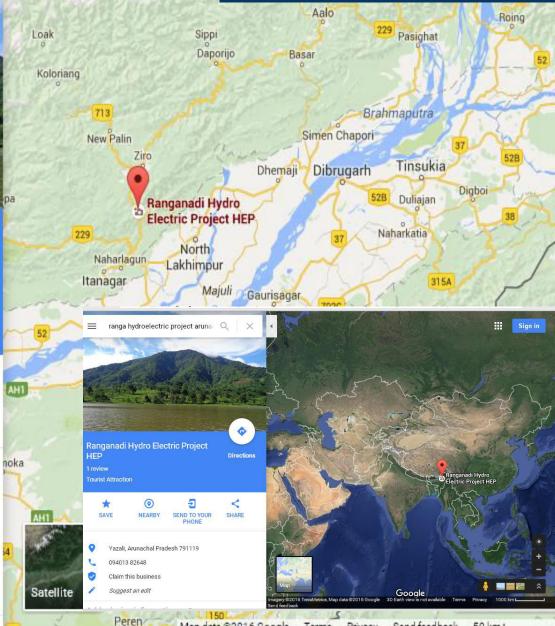
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#### **Project Scope Site Assessment & MOM**

MOM held between NEEPCO: RHEP AND Service Engineer of M/S S&S authorized Original manufacturer of 33KV Breaker & Panels, installed at DPH, 43Km, on 03.02.2016 for rectification work to be carried out at 33KV & 11 KV both switchgear panels of both Indoor & outdoor switchyard including DG Sets.

Service Engineer/representative from the above parties visited at DPH site on 03.02.2016. After physical inspection and discussion with site Engineers the following points were drawn accordingly:

During the joint inspection carried out on 03.02.2016, it is observed that Out door Circuit Breaker & also most of the protection relays, metering, indicating and annunclation system are not functioning property and need immediate attention.

- Circuit Breaker 36Kv SF6 S&S make giving problem during operation, they have suggested for procuring & installing 1 (one) new Vacuum Circuit Breaker, S&S Make for satisfaction service. In this regards, NEEPCO has ask to provide offer, suitable for the existing one & and also requested to repair the existing if possible which shall be kept standby.
- Existing isolators of 33KV Switchyard are giving problems during operation (not closing properly). As such, it is found to be needs to replace of all isolators with new one & NEEPCO requested to send offer for motarised as well as manual operation of the same.
- New Potential Transformers (PT) are required to be purchased and installed since these PT (33KV/110V) of Model 1992 got defective and kept under disconnection from the circuit last few years, which are urgently required for proper functioning.
- During the joint inspection, it is also observed to install 3(Three) nos. of New Potential transformers are required to be procured and installed in 11KV Indoor Bus of Diesel Power House for protection & metering system(1-nos for Outgoing Feeders and 2-Nos for Incomers) suitable for 11KV System.
- Control Panels of DG Sets and 11KV Feeder Panels are proposed to be replaced by new one, replacing the analogue meters with Digital. Besides, all the relays shall be replaced and inbuilt in the Control Panels. In this regards NEEPCO has requested to make arrangement for Offering of Inbuilt Control Panels with all requisite system from of M/S S&S authorized Original manufacturer of 33KV Breaker & Panels.
- NEEPCO requested to provide all 33kV system Control unit wiring and Indication inbuilt in one panel (Breaker & Isolator) & also requested to keep provision to kept inside in the building.

NEEPO have requested the representatives to submit a scheme detail along with report showing both technical and commercial details of the same.

(Mr.Moharl Lai Kumhar) Sr.Manager(E/M) US & W NEEPCO, RHEP

Engineer.(E/M), US & W

(Mr. M. Manikandakumaran)

(Mr. M. Manikandakumaran) Enigineer-Service, S&S Power Switchgear Limited, Maraimalai Nagar, Tamil Nadu

(Mc: J. Substaturajan) Senior Technician S&S Power Switchgear Limited, Maraimalai Nagar, Tamil Nadu

#### **Key Challenges**

- Remote Site
- Old Installation
- Close co-ordination among S&S, Vingiri & NEEPCO
- Technical Requirement Agreement on performance improvement targeted before detailed engineering
- Schedule of execution

(Mr. T. Tani) A.E.(E), US & W

#### **Key Contacts**

Site Contact :

#### **NEEPCO**

Mr.Mohan lal kumhar, Sr. Manager(E/M)US &W, Mob.No:09436225093/08730946725

Vingiri Powertech Pvt Ltd Mr.K.A.Singh , Mob.No:09433229494.

#### S&S Power Switchgear Ltd

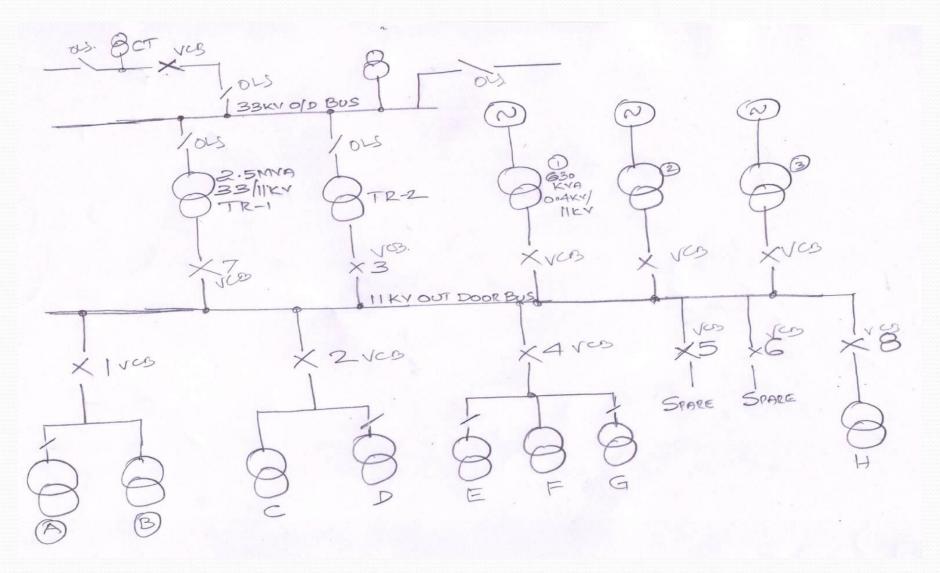
Mr.Manikanda kumaran. Mob.No.08608330332



## Project: Engineering, Manufacturing & Supply Portion Proposal Value

Engineering Charge	: Field Visit and Scoping	0.5L
	: Detailed Engineering	1.0L
	: As Build Drawing Charge	0.5 L
	: Site Supervision of Testing	1.0 L
	: Project Management	0.5L
Supply		32.7 L
Total proposal		36.2 L

### **NEEPCO HYDRO POWERSTATION – SLD**



## **OPPORTUNITY SIZE (Qty)**

SI.No	DESCRIPTION	Qty
1	33kV, 1250A, 25kA/3SEC PCVCB with Local Control Panels & PT, CT'S	1
2	33 kV, 1250A DISCONNECTOR (MGB Type )	5
3	<b>Remote Control panels for Breaker and Isolator (with single panels)</b>	1
4	Suitable control unit panels for 11kV SF6 (24V DC ) with PT 'S	11

## REPLACEMENT OF EXISTING SF6 WITH NEW OFVP36

#### OLD SF6



#### S&S OFVp36



## REPLACEMENT OF EXISTING 33kV DISCONNECTOR WITH NEW 33kV DISCONNECTOR

#### **OLD DISCONNECTOR**

#### **S&S DISCONNECTOR**





# REPLACEMENT OF EXISTING INDOORCONTROL UNIT PANEL WITH NEWINDOOR CONTROL UNIT PANELSOLD INDOOR CONTROLS&S INDOOR CONTROLUNIT PANELSUNIT PANELS

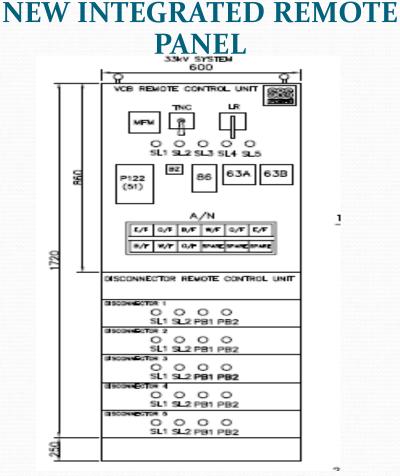




## **INTEGRATED REMOTE CONTROL CUBILE FOR 33kV VCB DISCONNECTOR**

#### **OLD REMOTE PANEL**



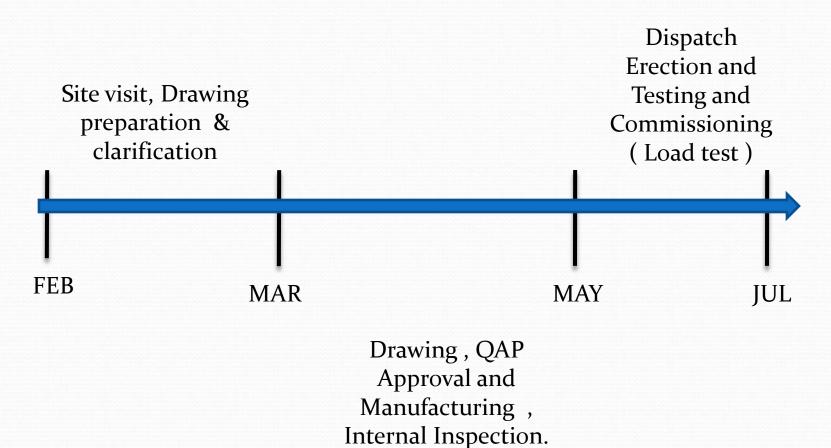


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## **NEEPCO BOM**

#### **PLEASE REFER- SECTION - I**

#### PLANNING SCHEDULE (NEEPCO)



Customer Inspection

## **DIVISION OF RESPONSIBILITY**

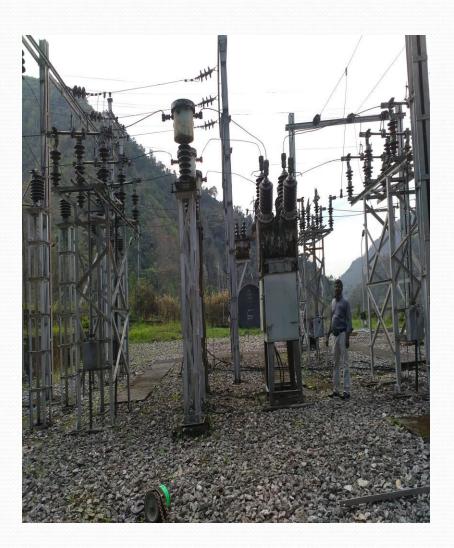
Sl.No	Tasks	S&S	VINGIRI
	Site Visit for assessment of Existing Site		
1	location	✓ 🗌	✓ []
2	Preparation of site visit report	✓ []	✓ []
3	Discussion on needed with NEEPCO	✓ □	✓ □
	Revision of proposal the in line with		
4	discussion	✓ 🗌	✓ []
5	Firming up technical requirement	✓ []	X
6	Preparing a commercial offer	✓ []	Х
	Sign off by NEEPCO for successful completion and issue of completion		✓ □
7	certification.	✓ 🗆	
	Offer part –A supply of equipment /	_	
8	Switchgear.	✓ 🗌	Χ
9	Offer part-B field work and consumable.	✓ []	✓ []
10	Final commercial officer.	✓ []	✓ []

Sl.No	Tasks	S&S	VINGIRI
11	Negotiation	✓ □	X
12	Finalization of contract between vingiri and NEEPCO.	X	✓ []
13	Scope of supply in line with Offer & PO to S&S.	✓ []	✓ []
14	S&S contract review and kick off meeting.	✓ []	✓ []
15	Customer engineering	✓ []	X
16	Drawing submission though vingiri.	✓ []	✓ []
17	Drg Approval.	✓ 🗌	✓ []
18	Collection of advance	✓ []	✓ []
19	Release of BOQ	✓ []	X
20	Ordering input	✓ []	X

Sl.No	Tasks	S&S	VINGIRI
21	Starting of materials finalization	✓ []	х
22	Design confirmation check.	✓ []	X
23	Manufacturing Quality check.	✓ []	х
24	Customer Inspection	х	✓ []
25	Internal Acceptance	✓ 🗌	✓ []
26	Customer FAT & Training.	✓ []	х
27	Obtaining dispatch clearance	✓ []	✓ []
28	Obtaining payment.	✓ []	✓ []
29	Effective date of shipment	✓ []	✓ []
30	Receipt of goods at site	✓ []	✓ []

Sl.No	Tasks	S&S	VINGIRI
31	Safe storage	✓ □	✓ □
	8		
32	Packing	✓ □	✓ □
		X	
33	Erection and commissioning.		✓ □
34	<b>Refurbishment / Replacement of items.</b>	X	✓ []
35	Completion.	✓ []	✓ []
36	Site Acceptance	✓ 🗌	✓ []

## **OLD SF6 VS NEW VACUUM BREAKER**





#### **MINUTES OF MEETING – AT MMF**

#### 200

S&S POWER SWITCHGEAR LIMITED

#### MINUTES OF MEETING

#### Between NEEPCO (NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED) AND S&S POWER SWITCHGEAR LIMITED

#### On 05-01-2017, Thursday at SSPSL's MMF Facility at MM Nagar, Chennai

NEEPCO Represented by Mr. M.L.Kumhar, Sr.Manager, E/M,

And S&S Power Switchgear represented by

Mr.S.Ramesh, Manager Production & Supply Chain

Mr.B.Rajamanikandan - Sr.Engineer - Technical,

Mr.M. Manikandakumaran - Service Engineer

- M/s NEEPCO has placed order thru'Vingiri for processing one set of 36kV Vacuum Circuit Breaker on S&S vide their Purchase Order No. RHEP/Sr.M(E/M)/US&W/T-10(Vol-IV)/2016-17/518 dated 02/07/2016 as per the schedule of items mentioned in the order.
- S&S has invited M/s NEEPCO for witness of inspection and testing i.e Routine test as per relevant IEC standards as per clause 8 of supply Order under Terms & Conditions.

3. During the visit, M/s NEEPCO representative has conveyed apprehension about the

M/s NEEPCO has witnessed the following routine tests and the values are obserzed to be as per the IEC standards shown.

- One minute power frequency voltage withstand dry test on main circuit.
- Voltage withstand test on control and auxiliary circuits
- Measurement of resistance.
- d. Mechanical operating test as per M-2 class
- e. Design and visual checks
- Time Test Ereaker Opening and closing time.
- g. Megger Test (SkV) Before IIV test and ofter IIV test
- 8 Necessary Routine Test Report and corresponding standards to be sent along with supply (Routine test report enclosed as Annexure).
- 9 Erection, Commissioning, Operation & Instruction manual and related setting procedures also to be sent along with supply of material.
- 30. All the Technical Staff and Team of \$63, extended great support during the Inspection by \$65 in the presence of M/s. MH-P/17 representative.

M.L.KUMHAR

Sr.Manager (E/M) US&W, RHEP NEEPCO Ltd

#### MINUTES OF MEETING – AT NEEPCO

1. NILU NAYAK

#### (NEEPCO LTD.)

#### VINGIRI POWERTECH PVT. LTD. S&S POWER SWITCHGEAR LTD.

 SHRI M.L.KUMHAR, Sr. M. (E/M) US&W
SHRI S. BORTHAKUR, Engineer (E/M) US&W
SHRI T. TANI, A.E. (E/M) US&W

1) R. CHANDRAMOULI 2) J. SUNDARARAJAN In response of our order vide NO.RHEP/SR.M(E/M)/US&W/T-10(Vol.-IV)/2016-17/516; Dtd 02/07/2016, M/S Vingiri Powertech Private Ltd. Kolkata, deputed one Service Engineer Sri N. Nayak along with two Service Engineers from the OEM i.e. M/s S&S Power PVT. LTD. Chennai, Mr. R. Chandramouli and Mr. J. Sundararajan who arrived RHEP site on 06<sup>th</sup> April'17 for Installation and Commissioning of 36 KV VCB, 33KV CTs and 33 KV PT (Outdoor) at DPH (Switchyard) RHEP 43KM site. Service Engineers started their work on the same day and attended the work of Installation and Commissioning of 36 KV VCB, S&S make, CTs & PT of M/s Kalpa Electrical make, at DPH, 43 KM, Yazali and found that:

- The Service Engineer have tested the 36 KV Vacuum Circuit Breaker & found OK and operating in both Local and Remote mode (Close/Trip) after charging of 33KV line.
- CTs are found in operational and also showing both the cores, which are for protection and measuring purpose, are in OK (as per readings) and checked in full load.
- PT is found OK (as per readings) and operating in full load.

Now the 33KV line is charged and functioning of all the above instruments in operation with full satisfaction.

Sri N. Nayak along with Mr. R. Chandramouli and Mr. J. Sundararajan, Service Engineers, left 43 KM site on 12<sup>th</sup> April'17 Form NEEPCO Ltd.

(NEEPCO LTD.)

VINGIRI POWERTECH PVT. LTD. S&S POWER

SWITCHGEAR LTD

P. Chall

THANK YOU