| Sr.<br>No. | Document                | Clause No. | Description  | GIS Manufacturers notes/ commernts  | Client response   |
|------------|-------------------------|------------|--|---|---|
| 1          | GIS Specifications_Rev3 |            | NOTE: All the requirements specified in these specification & relevant standards (latest version)<br>to be adhered by the contractor from drawing proposal to project commissioning. If contractor<br>has missed to propose the right solution in line with the requirements specified in this<br>specification during detailed engineering stage, then same must be rectified at their risk & cost<br>during project execution & commissioning stage. | Proposed GIS is exactly in line with earlier executed project at site.<br>We request a review and acceptance on the same  | GIS with separate stand alone LCC shall be<br>considred for this project. Specification<br>requirement to be followed.          |
| 2          | GIS Specifications_Rev3 |            | e. In the GIS Layout, platform arrangement to be provided for accessing to each operation<br>area (Each MOM BOX, Switches & Density monitors) by human. Also, Gas density monitor<br>to be placed in such a way along with adapter that it can be easily visible standing at GIS<br>floor. If these are not found satisfactory after installation, necessary modification to be<br>done at site.   | GIS shall be manufacture and install based on approved drawings/ QAP<br>and ETC requirement. Modification cannot be done after installation at<br>site.   | Bidder is requested to develop the drawing<br>considering technical specification requirement<br>irespectic of standard design. |
| 3          | GIS Specifications_Rev3 |            | <ol> <li>Contractor to submit recommended mandatory spare lists with ordering code from<br/>respective OEM for respective project specific supply considering 10 Yrs. Of O&amp;M<br/>requirement, irrespective of whether we are procuring it or not under this contract.</li> </ol>   | We understood that past supplied mandatory spares are available at site. Over and above, we do not recommend any spares.  | Specification requirement to be followed.   |
| 4          | GIS Specifications_Rev3 |            | a. Reduced DC voltage test at site to be conducted. CRM test point 2 nos. in each bay to<br>avoid bus shutdown. DCRM & Travel test to be done during FAT & at site during pre-<br>commissioning test.  | Kindly share requirement of reduce voltage test.  | Test is same as Noraml DC voltage test, CB coil shall be tested at reduced voltage upto -15%.                                   |
| 5          | GIS Specifications_Rev3 |            | <ul> <li>For Outdoor GIS LCC panel OEM must provide Canopy arrangement considering heavy<br/>rainy season Operations &amp; Maintenance activities after Energization.</li> </ul>   | We understood that GIS requirement is Indoor hence this clause is not applicable. Kindly confirm  | Noted   |
| 6          | GIS Specifications_Rev3 |            | u. For Outdoor GIS it will be better to construct outdoor EOT crane for the replacement of<br>GIS equipment CB, CT, VT DE/ES & Busbar if required during shutdown. It will minimize<br>the shutdown duration and same as the Restoration.  | Excluded from bidder scope  | Noted   |
| 7          | GIS Specifications_Rev3 |            | One (1) set portable ladder with adjustable height and one (1) set suitable portable<br>scissor lift shall be provided for access of distant portion of GIS installation shall be<br>supplied to access the GIS equipment for O&M purpose, if the GIS proposal is without<br>platform.   | 1 number of Mobile platform type ladders shall be provided however<br>portable scissor lift is excluded from bidder scope of supply   | Specification requirement to be followed.   |
| 8          | GIS Specifications_Rev3 |            | d. LCC local operation interlock with CB, ISO & DS to be provided. Local / Remote /<br>Maintenance mode selector switch need to be implemented. Respective interlocking for<br>all CB / DS / ES / FES need to be implemented.  | Local remote selector switch shall be provided. However maintenance switch cannot be provided since it is alredy taken care through interlocking type design.   | Noted   |
| 9          | GIS Specifications_Rev3 |            | f. At no point of time AC & DC cable should be mixed up. Upon installation at the site if it's<br>not found meeting the criteria then the contractor needs to lay additional pipe with all<br>the relevant re-work. Also, suitable size of tray to be used for all the cabling in GIS set up<br>& up to LCC area.  | In case of CB/ DS/ ES drives, AC cable for heater is combined with other DC signal which are not required to change as this design is type tested . Rest circuit AC & DC will be separate. Request your kind acceptance | Specification requirement to be followed.   |
| 10         | GIS Specifications_Rev3 |            | g. Auto-reclosure scheme to be implemented through relays for redundancy.  | Shall be taken care by CRP  | Noted   |

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|------------|-------------------------|------------|---|---|--|
| 11         | GIS Specifications_Rev3 |            | h. For safe operation of GIS installation, Gas zone trip ckt. must be implemented with<br>selection of Enable / Disable switch. In normal cases it must be in enable mode only. This<br>shall be reported to Station SAS as well.   | Instead of selection switches, we will provide disconnecting or link type<br>terminals for gas zone trip circuit. Through which customer can enable<br>or disable. Request your kind acceptance | specification requirement to be followed.  |
| 12         | GIS Specifications_Rev3 |            | j. For all the GIS DS & ES Mechanical Interlock using solenoid coil for the shutter lock in<br>Operating cubicle/Drive must be provided to avoid close operation of Bus Isolator (DS) &<br>Earth switch(ES) together after Post commissioning Maintenance/Shutdown work.<br>Otherwise, it may lead to Electrical accidents.   | Currently this interlock design is not available. Request you to follow previously follwed design and accept this as a devition   | Noted  |
| 13         | GIS Specifications_Rev3 |            | <ol> <li>No Voltage condition &amp; Bus VT JB MCB ON/Healthy status need to adopt in Bus VT<br/>Isolator close &amp; open operation logic in LCC as well as BCU. When the Bus in Live<br/>condition VT Isolator Open/Close operation permissive must be in block condition.</li> </ol>  | This point shall be taken care during detail engineering with support of CRP signals  | Noted  |
| 14         | GIS Specifications_Rev3 |            | m. No Voltage condition/Deadline & Line VT MCB ON/Healthy status need to adopt in Line<br>ES Close & Open operation logic in LCC as well as BCU. When the Line in Live condition<br>Line ES Open/Close operation permissive must be in block condition.   | VT is not required in the feeder bays hence this interlock is not applicable  | Noted  |
| 15         | GIS Specifications_Rev3 |            | <ol> <li>In all LCC panel one Analog Ammeter and one Analog Voltmeter need to be fixed to<br/>confirm the status of GIS Individual bay reading after energization at field.</li> </ol>  | We already provide digital meters in LCC hence analog shall not be<br>provided  | Noted  |
| 16         | GIS Specifications_Rev3 |            | o. Spare Control Cables from GIS to LCC panel must be provided with proper Identification   | These shall be taken care during site installation  | Noted, it's bidder responsibility to take care the same during instalation.                    |
| 17         | GIS Specifications_Rev3 |            | <ul> <li>P. Removable Lock &amp; Key must be provided in LCC Local/Remote Selector switch. Locking<br/>provision must be arranged in the selector switches.</li> </ul>  | LR switch is with key lockable. Key will be removable in remote position only   | Noted  |
| 18         | GIS Specifications_Rev3 |            | r. Gas Level Alarm & Gas Level zone tripping status must be adopted in separate contactors<br>for phase wise identification from density Monitors to LCC panel. Combined/Parallel<br>circuit for 3 phases in a single aux contactor need to avoid strictly. For all the SF6 stages<br>in each compartment must to be taken individual phase wise wiring using separate<br>contactors.   | Gas refill alarm is considered. phase wise and gas zone alarm will be considered combinely  | Specification requirement to be followed.  |
| 19         | GIS Specifications_Rev3 |            | <ul> <li>For Outdoor GIS LCC panel OEM must provide Canopy arrangement considering heavy<br/>rainy season Operations &amp; Maintenance activities after Energization.</li> </ul>  | Not applicable as the GIS is Indoor type  | noted  |
| 20         | GIS Specifications_Rev3 |            | <ol> <li>In GIS Substation, Ladder/Platform must be provided by OEM to easily access the Bus VT<br/>Isolator &amp; JB Box for the Maintenance work during shutdown.</li> </ol>  | Bus VT is already available at site hence this clause is not applicable for<br>present scope  | noted  |
| 21         | GIS Specifications_Rev3 | 4.4        | Due to safety requirement for working on this pressurized equipment, whenever<br>the pressure of the adjacent gas compartment is reduced during maintenance,<br>this compartment shall be designed so that it shall remain in service to perform<br>its intended duty.  | Whenever the pressure of the compartment is reduced the same<br>cannot be kept in service as the required dielectric strength cannot be<br>achieved.  | noted  |
| 22         | GIS Specifications_Rev3 | 4.5        | The material and thickness of the enclosures shall be such as to withstand an<br>internal flash over without burn through for a period of 300 ms at rated short<br>time withstand current.  | The Value shall be in line with the requirement of IEC 62271-203.<br>Request a concurrence on the same.   | noted  |
| 23         | GIS Specifications_Rev3 | 4.19       | The GIS shall be designed, so as to take care of the VFT over voltages generated as a result of pre-strikes and re-strikes during isolator operation. Maximum VFT over voltages peak shall not be higher than rated lightning impulse withstand voltage (LIWV) of the equipment. Necessary measures shall be under taken by GIS manufacture to restrict maximum VFT over voltages lower than the LIWV. Manufacturer shall submit the study report of VFTO generated for GIS installation. | VFTO study shall be excluded from Siemens scope.  | Specification requirement to be followed.  |
| 24         | GIS Specifications_Rev3 | 4.25       | In case of GIS EXTENSION package , GIS Bays shall be equipped with Platform in<br>line with existing installation.  | The same shall be excercised during detail engineering stage based on<br>the position of platform of existing GIS.  | Noted, Kindly note that GIS bays under present<br>scope shall be placed in separate building . |
| 25         | GIS Specifications_Rev3 | 4.36       | Grounding   | Earthing details shall be provided during detailed engineering stage.   | Noted  |

| Sr.<br>No. | Document                | Clause No. | Description   | GIS Manufacturers notes/ commernts  | Client response  |
|------------|-------------------------|------------|---|---|--|
| 26         | GIS Specifications_Rev3 | 4.38       | GIS bus ducts of each circuit shall be arranged in preferably horizontal formation and the clearance (outer to outer) between nearest bus ducts of two adjacent circuits shall be minimum one (1) meter.  | Clearance as per OEM standard design shall be offered. Kindly confirm   | Should be as per existing GIS Bays   |
| 27         | GIS Specifications_Rev3 | 4.38       | The minimum outer to outer horizontal clearance between each GIS bus duct shall be 0.75 meter for 765kV & 400 kV voltage level and 0.5 meter for 220 kV & 132 kV voltage level.   | Clearance as per OEM standard design shall be offered. Kindly confirm   | Should be as per existing GIS Bays   |
| 28         | GIS Specifications_Rev3 | 4.39       | One (1) set portable ladder with adjustable height and one (1) set<br>suitable portable scissor lift shall be provided for access of distant portion<br>of GIS installation shall be supplied to access the GIS equipment for O&M<br>purpose, if the GIS proposal is without<br>platform.   | We shall offer Mobile platform type ladder. Portable scissor lift shall be excluded from Siemens scope.   | Specification requirement to be followed.  |
| 29         | GIS Specifications_Rev3 | 6.2.12     | The disconnectors and safety grounding switches shall have a mechanical and electrical inter-locks to prevent closing of the grounding switches when isolator switches are in the closed position and to prevent closing of the disconnectors when the grounding switch is in the closed position. Integrally mounted lock when provided shall be equipped with a unique key for such three phase group. Master key is not permitted. | The disconnectors and the safety grounding switches are separate<br>modules in GIS design and shall have only electrical inter-locks between<br>them. However the required padlocking facility shall be provided for<br>the manual interlocking for additional protection.  | Should be as per existing GIS Bays   |
| 30         | GIS Specifications_Rev3 | 6.2.17     | The disconnecting switches shall be provided with rating plates and shall be<br>easily<br>accessible.   | Rating plate shall be provided for complete bay, CT, VT. We do not<br>envisage separate rating plate for DS and the same shall not be<br>provided.  | This to be complied with suitable rating plate<br>arrangement  |
| 31         | GIS Specifications_Rev3 | 10.2       | Insulation co-ordination and selection of surge arrestor:<br>The disconnecting switches shall be provided with rating plates and shall be<br>easily accessible.   | The same shall be excluded from Siemens scope of supply.  | Noted  |
| 32         | GIS Specifications_Rev3 | 26         | TESTING & MAINTENACE EQUIPMENT<br>SF6 Gas leakage detector.<br>Gas filling and evacuating plant<br>SF6 gas analyzer:<br>Portable Partial Discharge(PD) monitoring system<br>Online Partial Discharge Monitoring System  | Excluded from Siemens scope.  | Specification requirement to be followed.  |
| 33         | General                 |            |   | Obtaining Electrical Inspector's clearance and statutory fees, before<br>commissioning, is excluded from the bidder's scope.<br>Payment of all statutory fees, supervision charges and deposits payable<br>to CEIG/ Government/ Environment & Municipal bodies in connection<br>against invoice / bills of government bodies with Approvals, sanctions,<br>and execution is excluded from bidder's scope. | Noted . How ever necessary supporting dpcument shall<br>be provided by Bidder to get clearance from the<br>respective agency.            |
| 34         | General                 |            |   | Kindly confirm the the technical specifications for Control & Protection system and SAS to be referred .  | Kindly refer the Technical specification in BID<br>document.   |
| 35         | SLD                     |            |   | Metering shall be provided as per CEA & CTU guidelines.   | Noted  |
| 36         | Layout                  |            |   | Please provide the layout and other drawings like foundation, structure design of existing substation .   | Existing SLD and Layout is attached for reference .<br>Other details shall be provided during detailed<br>engineering stage.             |
| 37         | CRP /SAS                |            |   | Kindly confirm the existing make of CRP and SAS   | M/s Siemens make   |
| 38         | Technical Specification |            |   | All LI power cables shall be AI. conductor and all control cable shall<br>copper conductor.   | LI Power cable upto 6 sqmm is Copper conductor and<br>above 6sqmm is Al conductor<br>Noted However TTR shall be provided based on latest |
| 39         | TTR                     |            |   | Type test reports shall be submitted as per latest CEA guidelines.  | Standards.   |
| 40         |                         |            |   | Civil   |  |

| Sr.<br>No.  | Document | Clause No.  | Description   | GIS Manufacturers notes/ commernts                                  | <b>Client response</b>                                  |
|---|----------|---|---|---|---|
|   |          |   |   | Land Development including soil filling with borrowed earth is not  | Land Development including soil filling with borrowed   |
| 41  | General  |   |   | envisaged and shall not be part of the bidder's scope. Only Micro-  | earth is in present scope. Bidder is requested to visit |
|   |          |   |   | grading shall be in the scope of bidder. Kindly Confirm             | the site for details                                    |
| 12  | General  |   |   | Please provide Soil Investigation, ERT and Contour report.          |   |
| 72  | General  |   |   |   | Bidder is requested to visit the site for details.      |
|   |          |   |   |   | kindly refer following technical specification          |
| 43  | General  | Please co<br>drain.                                 | Please confirm the type and detailed specification for cable trench and<br>drain. | 1. Standard Specification for Civil Design & work                   |   |
|   |          |   |   | 2. Standard Specification for Switchyard Erection &                 |   |
|   |          |   |   |   | Associated Hardware                                     |
|   |          |   |   | Request you to please provide four coordinates for the proposed     |   |
| 44  |          |   |   | substation location to facilitate the immediate commencement of the | Pls find attached Electrical layout with coordinate     |
|   |          |   |   | site survey   |   |
| 45  |          |   |   | Plot survey drawing   | Pls find attached document.                             |
| 46  |          |   |   | Existing SLD and Layout   | Pls find attached document.                             |
| 47     Techincal Queiries     Existing Earthing Layout     Shall be provided duri |          | Shall be provided during detailed engineering stage |   |   |   |
| 48  |          |   |   | Earth Resistivity Test Repot if an                                  | Shall be provided during detailed engineering stage     |
| 49  |          |   |   | Existing GIS layout with complete Building details                  | Layout is attached for reference.                       |
| 50  |          |   |   | Existing CR Panel and SAS drawing:                                  | It shall be provided during detailed engineering stage  |



|   | 3-001 1:350 20F3 F                      | NER-VPI-11-03  | - WRY  | 2   |   | ے<br>د   |   |                |                              |
|---|---|--|--|---|---|--|---|----------------|------------------------------|
| ` | TOTAL SH. SH.NO. REV                    | 70-AC135-L16   | SIEMENS DRAWING No.<br>(0)-G7177<br>STERLITE DRAWING No. | SIEMENS ENERGY<br>SE GP T SO<br>PLOT-6A, SECTOR-18<br>GURCAON (INDIA)       | PC CONTRACTOR   | AO   |   | CTATILO        | 27.01.21                     |
| ת | -                                       | GIS SYSTEM   | OF 400/220kV 0   |   |   | -  | APPROVAL  | FOR            | RAVI                         |
|   | TARANCES                                | ) GIS SUBSTATION<br>CTION WITH CLE   | 400/220kV VAPI-II (NEW)                                  | OUTDOOR   | JBSTATION:  | NAME OF SU   | APPROVAL  | FOR            | 18.02.21<br>RAVI             |
|   | SS-XIX)                                 | 220kV GIS SUBSTATI<br>SCHEME– XIX (WR  | ON OF 2x500MVA, 400/2<br>REGION STRENGTHENING            | CONSTRUCTI<br>WESTERN   | NSULTANT:   | OWNER'S CC   | APPORVAL<br>APPROVAL                            | FOR FOR        | 22.03.21<br>22.03.21<br>RAVI |
| Q | -                                       | Otd. 29.12.2020  | RNER/SS/LOA/01, [  | 5   |   | LOA No:  | APPROVAL  | FOR            | 25.04.21                     |
|   | N LIMITED (SPTL                         | SMISSIO  | OWER TRAN  | TERLITE PC  | ite Power S   | WSterl   | APPROVAL  | FOR            | 26.04.22                     |
|   |   |  | Ť  | TWIN ACSK MOOS  |   |  | APPROVAL  | FOR            | RAVI<br>12.05.22             |
| Ρ | 5.9 Mtr.                                |  | E/TWIN ACSR MOOSE  | 3" IPS AL TUBE,   | CONNECTION  | EQUIPMENTS   | 20KV TRAFO.                                     | d) 40<br>e) 22 |                              |
|   | 08 Mtr.                                 |  | E/QUAD ACSR MOOSE<br>E/TWIN ACSR MOOSE                   | 4.5" IPS AL TUB   | & JUMPERS<br>S CONNECTION   | R EQUIPMENT  | DOKV LINE BA                                    | b) 40<br>c) 40 |                              |
|   | FROM PLINTH<br>32.5/21.6 Mtr.           | HEIGHT   | TOR TYPE   | CONDUC  |   | DUCTOR<br>7/3.66MM)  | CONI  | a) SH          |                              |
| Z |   |  | BIL-75kVp)   | 11/0.415кV, Зф, 50Нz, (E<br>SFORMER   | LT TRAN   |  | TRAFO.  | 4              |                              |
|   |   | 3 0 NOS.   |  | ST INSULATOR (PI)<br>RN GAP FUSE  | ■ 1¢ PO   | S  | HG FU   | - CA KJ        |                              |
|   | REMARKS                                 | QTY. AS<br>PER DWG.<br>3 NOS.  |  | DESCRIPTIC  | MBOL 1¢ SU  | TENT SY  | LA EQUIPM                                       | - S.No         |                              |
| ¥ |   |  | POTTEDMENTS  | MER<br>DOO OF 11kV I  |   |  | TRAFO.  | σ              | *                            |
| 3 |   | 1 2 NO.  | :. CENTER BREAK<br>250kVp) LT                            | 00A, 3φ, 50Hz, 25kA/1Sec<br>W/O E.SW.<br>3/0.415kV, 3φ, 50Hz, (Bl           | 1     72.5kV, 4       ISOLATOR     ISOLATOR       ISOLATOR     630kVA, 3  |  |   | » س            |                              |
|   |   | 3 NOS.   | 0.11/ <b>V</b> 3 kV, 1¢, 50Hz,                           | MER WITH 120% EXTENDED<br>ASS, 33/V3 / 0.11/V3 /<br>3 POTENTIAL TRANSFORMER | C     C     TRANSFOR     T2.5kV Cl     Z-WINDIN   | @ (  | PT  | 4              |                              |
|   |   | 3 NOS.   | ec. SF6 CIRCUIT BREAKER<br>\$, 25ka/1Sec. CURRENT        | 250A, 3¢, 50Hz, 25kA/15<br>T INSULATOR (PI)<br>0-15/1-1-1-1A, 50Hz, 1       | Φ         Φ         72.5kV, 1           Φ         1φ         POS           Λ         72.5kV, 5  | )-<br>   | CT BP CB  | ω N -          |                              |
|   | REMARKS                                 | QTY. AS<br>PER DWG.  | EQUIPMENTS   | BOQ OF 66kV I<br>Descriptic   | MBOL  | IENT SY  | EQUIPN  | S.No           |                              |
|   | S PER APPROVED GIS                      | -<br>-<br>-<br>-<br>-  |  | DUCT  | BUS   |  | BUS D   | 7              |                              |
|   |   | 12 NOS.<br>15 NOS.<br>24 NOS.  | SULATOR<br>DR  | / HIGH BUS POST INS<br>/ BUS POST INSULATO                                  | <ul> <li>220k</li> <li>220k</li> <li>220k</li> <li>SF6 /</li> </ul>   | б<br>  | BUSHIN<br>BUSHIN                                | 4 TU CO        |                              |
| X |   | 18 NOS.  |  | DF, 220KV CVT<br>N. 0.5mH, WAVE TRAP  | Image: Way with the second s |  | WT CVT  |                |                              |
|   | REMARKS                                 | QTY. AS<br>PER DWG.<br>24 NOS.   |  | DESCRIPTIC  | MBOL 216K   | IENT SY  | EQUIPN  | - S. No        |                              |
|   | S PER APPROVED GIS                      |  | FOIITPMENTS  | OUCT  | BUS   |  | BUS D   | 00             |                              |
| د |   | 01 NOS.  |  | REACTOR 125MVAR   | BUS   | у<br>  | REACTO  | 7              |                              |
|   |   | 21 NOS.<br>02 NOS.   | A  | TRANSFORMER 500MV   | SF6 /   | б<br>Н   | BUSHIN<br>TRAFO.                                | ത ഗ            |                              |
|   |   | 10 NOS.  | R  | , 0.5mH, WAVE TRAP<br>BUS POST INSULATC                                     | <ul><li></li></ul>  |  | BPI WT  | ω 4            |                              |
|   |   | 12 NOS.  |  | ' SURGE ARRESTER<br>DF, 400kV CVT   | Image: Second state         390k/           Image: Second state         4400  |  | CVT FA  | N -            |                              |
| Т | REMARKS                                 | QTY. AS  | EQUIPMENTS   | BOQ - 400kV<br>DESCRIPTIC   | MBOL  | IENT SY  | EQUIPN  | S. Zo          |                              |
|   | 4000mm                                  | 5900mm   | 8000mm   | PLINTH)   | EIGHT (FROM   | NT BUS H   | EQUIPME   |                |                              |
|   | 31mm/kV                                 | 31mm/kV  | 31mm/kV  |   | E DISTANCE  | CREEPAG  | MINIMUM   | 10             |                              |
|   | 66kV<br>UN-EARTHED                      | EFFECT.<br>EARTHED   | EFFECT.<br>EARTHED                                       |   | EARTHING  | NEUTRAL  | SYSTEM  | 9              |                              |
| G | -<br>25kA/1sec.                         | 1000<br>nicro volts<br>50kA/1sec.  | 1000<br>micro volts n<br>50kA/1sec.                      | AGE LEVEL<br>[ (rms).<br>RT CIRCUIT   | METRICAL SHO  | DIO INTER  | MAX. RA<br>AT CORC<br>RATED 3                   | 8 7            |                              |
|   | 1                                       | 208kV  | 320kV  | > ) (0<br>) (0<br>  | IN VOLTAGE  |  | (rms)<br>CORONA                                 | ٥ ۱            |                              |
| П |   | 460kV<br>-   | 630kV<br>-   | AGF Y   | OWER FREQUE<br>VOLTAGE<br>OWER FREQUE   | MINUTE P<br>MITHSTAND<br>MINUTE P  | III) ONE<br>DRY V<br>(rms)<br>III) ONE          |                |                              |
|   | ±325kVp<br>-                            | ±1050kVp<br>_  | ±1550kVp<br>±1050kV                                      | ND  | HTNING IMPULS<br>50microsec.)<br>ULSE WITHSTAI<br>'2500microsec   | WAVE LIGI<br>GE (1.2/5<br>CHING IMP<br>CHING (250/<br>AGE (250/<br>& WET | i) FULL<br>VOLTA<br>II) SWITC<br>VOLTA<br>DRY 2 |                |                              |
|   | 3                                       | 3  | 3  |   | LEVELS  | PHASES   | RATED IN  | 4 U            |                              |
| П | 66kV<br>72.5kV<br>50Hz                  | 220kV<br>245kV<br>50Hz   | 400kV<br>420kV<br>50Hz                                   | ň   | S VOLTAGE<br>/OLTAGE OF TH  | OPERATING V<br>ERATING V<br>(rms)<br>REQUENCY                            | SYSTEM<br>MAX. OP<br>SYSTEM<br>RATED F          | 3 2 -          |                              |
|   | ICT TERTIARY<br>SYSTEM                  | 220kV<br>SYSTEM  | 400kV<br>SYSTEM  |   | PARAMETER   | ARAMET   | TEM P/  | SYS            |                              |
| L |   |  | 3000   | 500 5000  | RENCE   | NAL CLEAF  | SECTION   | ъ              |                              |
|   | ER 3500(W)×2500(B)<br>1 1500(W)×1200(B) | 220kV TOWI<br>220kV BEAN   | 630 4  | 5400 2100   | ND<br>STRUCTURE   | TO GROUM   | PHASE<br>CONDUC                                 | N              |                              |
|   | ER 3500(W)x4500(B)<br>4 2000(W)x1500(B) | 400kV TOWI<br>400kV BEAN   | 630 1  | 2100  | CONDUCTOR   | TO PHASE   | PHASE<br>CONDUC                                 | <b>_</b>       |                              |
|   | N IN mm                                 | / & 220kV<br>DESCRIPTIO  | 36<br>400kv<br>66kv<br>SYSTEM SL.No.                     | PER IEC 619<br>00kV 220kV<br>'STEM SYSTEM                                   | ON ANCE - AS  | DESCRIPTIO   | . MUM AIF                                       | SL.No          |                              |
| 0 |   |  | KEY PL   |   |   | )<br>-<br>1<br>-   |   |                |                              |
|   |   |  | ×  |   |   |  |   |                | /                            |
|   |   | Image         Image <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<> |  |   |   |  |   |                |                              |
| ω |   |  |  |   | Î.  |  |   |                |                              |
|   |   |  |  |   |   |  |   |                | Ť                            |
| > | FI<br>I                                 | - I  |  |   |   |  |   |                |                              |
| > |   |  | ,  |   |   |  |   |                |                              |
|   | .24                                     | 23   |  | 22  |   | -  |   |                | 27                           |



 $\square$ 

|           | 16  |  |   | 15                                 |                                     |  |  | 14   |  |                         |  |  |                                   |
|-----------|---|--|---|------------------------------------|-------------------------------------|--|--|--|--|-------------------------|--|--|-----------------------------------|
| 3         | TOTAL SH. SH.NO. REV.   | s151-001   | D-AC135-9                                   | AWING No.<br>-G7177C               | IEMENS DR<br>(1)<br>TERLITE DF      |  | MENS ENERG<br>E GP T SO<br>6A, SECTOR-<br>RGAON (INDIA | SIEN<br>SUPLOT-                                  | ACTOR  |                         | 1 EPC  |  | ROVAL                             |
|           |   | AM IION  | GIS SUBSTAT                                 | I-II (NEW)<br>SINGLE L<br>220KV GI | 20KV VAP                            | 400/2<br>400k                                  |  |  |  | TATION:                 | E OF SUBS  | TITLE NAM                              | ROVAL                             |
|           |   | ISTATION VAPI<br>(WRSS-XIX)  | SCHEME- XIX                                 | A, 400/22<br>3THENING S            | 2x500MV<br>N STRENC                 | CTION OF<br>RN REGIO                           | CONSTRU  |  |  |                         | JECT:  | PRO                                    | ROVAL                             |
|           |   | 2020   | td. 29.12.2                                 | A/01, D                            | /SS/LO                              | WRNER  |  |  |  |                         | No:  | LOA                                    |                                   |
|           | MITED (SPTL)  |  | SMISS                                       | RANS                               | R T                                 | OWE  | ITE P  | ĒRL  | ver ST   | ePov                    | ER:<br>Sterlit   | OWN                                    |                                   |
| ,         |   |  |   |                                    |                                     |  |  |  | Ø.2  | 10                      | $\frac{33}{\sqrt{3}} / \frac{0.11}{\sqrt{3}}$                | 1 2                                    | P                                 |
| 入         |   |  |   |                                    |                                     | INDING   | REMARKS<br>OPEN DELTA W                                | NO O   | A) 0.5 / 3   | RATED OI<br>(in V<br>10 | RATIO (kV/kV)<br>$\frac{33}{\sqrt{3}}/\frac{0.11}{3}$        | ICE CORE                               | IO. DEV                           |
|           |   |  |   |                                    |                                     | METERING                                       |  |  | • 0.25<br>• A  | 10<br>10<br>RMER DAT    | 15/1<br>15/1<br>GE TRANSFOF                                  | VOLTA                                  |                                   |
|           |   |  |   |                                    |                                     | REMARKS<br>0/C & E/F<br>METERING               | o  | SS Vk-Rc   | A)<br>PROTECTIC<br>(LA)<br>0.5                         | RATED OU<br>(in V<br>10 | RATIO (A/A)<br>50/1<br>50/1                                  | ICE CORE                               | IO. DEV                           |
| <u> </u>  |   |  | د<br>40                                     | Nieteiniñ                          |                                     | C  | 1.5 / 30 se  |  | RY BAY)  | A (TERTIA               | SYSTEM DAT   | T2.5KV S                               |                                   |
|           | TAILS         Output         Accuracy           ')         (VA)         Class           3         50         0.5 & 3P           3         50         0.5 & 3P           3         50         0.5 & 3P | INE CVT DE:           mary         Second           MWY         (N           V/3         110/2           V/3         110/2 | 400KV L<br>Core Pri<br>1 400<br>2 400       | Application<br>Protection          |                                     | Applicati<br>Protectic<br>Protectin<br>Meterin | Burden<br>(VA)<br>50<br>50                             | Class as<br>61869<br>- 3P<br>- 3P<br>- 22<br>- 2 | Accuracy<br>per IEC:<br>0.5 &<br>0.5 &<br>0.5 &        | DETAILs                 | Voltage<br>Voltage<br>400kV/v3 :<br>400kV/v3 :<br>400kV/v3 : | Vinding<br>No.<br>1<br>2<br>2<br>3     | VOL1<br>VT<br>-T25<br>R           |
| T         | g current Im at VK/4 (mA)<br>(<=)<br>40mA   | Magnetizin   | Rct in Ohm<br>(<=)<br>1                     | =)                                 | se point v<br>Vk (V) (><br>300      |  |  | Bur  | Class as per<br>IEC 61869<br>PX / PS                   | tio                     | Current Ra<br>300 /1   |  | REF                               |
|           |   |  |   |                                    | 300<br>REACTOR                      | R, BUS F                                       |  |  | PX / PS<br>RAL CURRI                                   |                         | 3000-2000-5<br>300 /1  | ential<br>lential                      | e Diπen/<br>ction/ S<br>or Diffen |
|           |   |  | 12-8-2<br>12-8-2                            |                                    | 3000                                |  |  |  | PX / PS  | 500 /1A                 | 3000-2000-5  | Main-I)/<br>ential<br>pare<br>Main-I)/ | e Diffen<br>ction/ S              |
|           | ig current Im at Vk (mA)<br>(<=)  | Magnetizir   | Rct in Ohm<br>(<=)                          | =)<br>WTI                          | y Vendor                            | B Kne  | den IS   | TI Bura  | Accuracy<br>Class as per<br>IEC 61869<br>uitable for W | NDOR S                  | Current Ra<br>AS PER VE                                      |  | lication<br>NTI                   |
|           |   |  |   | REACTO                             | 300<br>300<br>F BUS                 |  |  |  | PX / PS<br>PX / PS<br>PX / PS                          |                         | 300 /1<br>300 /1<br>CURRE                                    | h Fault                                | ed Earti<br>/ Spare               |
|           |   |  | <u>ــــــــــــــــــــــــــــــــــــ</u> |                                    | 300                                 |  | 5  |  | 1.0  |                         | 300 /1   | tection                                | tering                            |
| Т         | ig current Im at Vk (mA)<br>(<=)  | Magnetizir   | Rct in Ohm<br>(<=)                          | EACTOR<br>oltage<br>=)             | )F BUS R<br>e point v<br>Vk (V) (>  |  | A ISP  | ER DETA  | ANSFORME<br>Accuracy<br>Class as per<br>IEC 61869      | tio                     | CURF<br>Current Ra   |  | lication                          |
|           | /// 25  | Magnetizing  | t in Ohm<br>(<=)                            | Rc                                 | point volta<br>( (V) (>=)<br>1600   | Knee   | <u> </u>   | VA<br>Burder                                     | Accuracy<br>ass as per<br>EC 61869<br>PS               | tio<br>E C A            | Current Ra<br>1600 /1  | 1 (64R)                                | otection                          |
|           | - 25  |  | 4 '   | SFORMER                            | 1600<br>-<br>VT TRANS               |  | <5 <5  | 30<br>AILS OF                                    | PS<br>0.2<br>ORMER DET                                 | RANSFO                  | 1600 /1<br>1600 /1<br>CURRENT T                              | 1 (64R)                                | otection                          |
|           | surrent Im at Vk (mA)<br>(<=)   | Magnetizing  | t in Ohm I<br>(<=)                          | age Rc                             | TRANSF(<br>point volta<br>(V) (>=)  | HING OF  | OF IV BUSH   | ETAILS<br>VA<br>Burder                           | SFORMER D<br>Accuracy<br>ass as per<br>EC 61869        | f TRANS                 | CURREN<br>Current Ra   |  | lication                          |
|           | - 25  |  | 4 '   |                                    | 1600                                |  | 6.   | 30   | 0.2  |                         | 1600 /1  | ı (64R)                                | otection                          |
|           | urrent Im at Vk (mA)  | Magnetizing  | t in Ohm                                    | ORMER                              | TRANSF<br>point volta<br>( (V) (>=) | HING OF  |  | ETAILS (<br>VA<br>Burder                         | FORMER D   | TRANS                   | CURRENT<br>Current Ra  |  | lication                          |
|           | on 3000/1, 30 on<br>10/1, 120 on 500/1<br>1 A, 200 % at 500/1 A   | /10/2.5 20<br>30 % at 2000/  | 00/500 15,<br>3000/1 A, 18                  | 3000/20<br>120 % at                | urrent :                            | primary c                                      | PX<br>Extended (                                       | - 500 /1   | 3000 - 2000  |                         | rotection  | σ                                      |                                   |
| $\square$ | on 3000/1, 30 on<br>10/1, 120 on 500/1  | /10/2.5 200  | 00/500 15                                   | 3000/20                            | თ თ                                 | 20   | PX 0.28  | - <u>500</u> /1<br>- 500/1                       | 3000 - 2000<br>3000 - 2000<br>3000 - 2000              |                         | Vetering   |  |                                   |
|           | on 3000/1, 30 on<br>10/1, 120 on 500/1<br>on 3000/1, 30 on<br>10/1, 120 on 500/1  | /10/2.5 200<br>/10/2.5 200<br>/10/2.5 200  | 00/500 15.<br>00/500 15.                    | 3000/20                            |                                     |  | PX PX  | - 500 /1   | 3000 - 2000<br>3000 - 2000                             |                         | rotection  |  |                                   |
|           | gnetizing current<br>Im at VK (mA)<br>(<=)  | in Ohm Ma<br>(<=)  | point Rct<br>ge<br>(>=)                     | Knee p<br>volta<br>Vk (V)          | ISF                                 | DETAILS<br>VA<br>Burde                         | FORMER D<br>Accuracy<br>Class as<br>per IEC<br>61869   | - TRANS<br>Ratio                                 | CURRENT<br>Current F                                   |                         | oplication   | Ą                                      |                                   |
| $\cap$    |   | VA TRAF(   | 630k<br>11/0.43                             | P<br>P<br>P<br>P<br>P              | LIGHTNING<br>ANSFORME<br>BIL 170kV  | 1-PH. L<br>LT TR/<br>ONAN,                     | -  |  | _  |                         | (CSD)  | DEVICE                                 | n (V                              |
|           | 3 NOS.  | A ISO<br>HGF   | K 400                                       | ,<br>JBLE BREA<br>FUSE             | HORN GAP                            | 11<br>3-PH.  <br>HORIZ(<br>1-PH. F             |  | * - 21   |  | N BARRIEF<br>TH<br>ING  | BUSHING<br>HT PARTITION<br>BREAKER WIT<br>LLED SWITCH        | GAS TIG<br>CIRCUIT<br>CONTRO           | sec.                              |
| ₽         |   | VA TRAFC   | 630k)<br>33/0.43                            | P<br>P                             | ANSFORME<br>BIL 250kV               | LT TR/<br>ONAN,                                |  | 5, -T25  | -1   | MER                     | E TRANSFOR   | VOLTAG                                 |                                   |
|           | → → □ · · · · · · · · · · · · · · · · ·   | PT CT C  | MER 1230                                    | _ TRASFOR                          | URRENT 1                            | 1-РН. (<br>1-РН. F                             | ←<br>III-<br>I<br>I<br>I<br>I                          | 181,-Q82<br>, -T2                                | -11 -0   | G SWITCH<br>MER         | EED EARTHIN  | HIGH SP                                |                                   |
|           | 3 SYMBOL ΩTY.<br>1 NO.  | A ISO  | RATIN                                       | MENT<br>JBLE BREA                  | SKV EQUIP                           | 72.<br>3-PH. I<br>HORIZ(                       |  | 052,-053,<br>-082,-015,<br>-053,-054<br>025,-082 | )) -051,-<br>-054,-<br>-025<br>-025<br>-015,-          | ISULATED                | NG SWITCH (IN<br>NG SWITCH (N                                | EARTHIN                                | ס                                 |
|           | 21 NOS.<br>↓ ↓ ↓ 21 NOS.  | 20kA F1<br>.5mH L1<br>, 71   | 336kV,<br>3150A,0                           | ARRESTER<br>AP                     | AVE TRA                             | 1-PH. L<br>1-PH. V                             |  | 2,-09,-06<br>2,-09,-06<br>062,-091               | -01,-0<br>-061,-                                       | NG                      | ICSD)<br>ICSD)<br>IECTOR                                     | CONTRO<br>DEVISE (<br>DISCONN          |                                   |
|           | SYMBOL QTY.   | LEGENI   | UIPMENTS<br>RATING                          | R AIS EQ                           | ND FOF                              | LEGE   | , L  | GEND   | MENTS  | EQUIPT                  | ) FOR GIS<br>QUIPMENT<br>RRFAKER WIT                         |  | ARY                               |

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|                  |  | $\frac{20289A}{20227}$ $\frac{20289A}{20227}$ $\frac{20227}{202291}$ $\frac{20227}{202291}$ $\frac{20227}{202291}$ $\frac{1}{2022}$ $\frac{1}{2022}$ $\frac{1}{2022}$ $\frac{1}{202}$ $$ | DD2<br>DD2<br>DD2  |
| ω                |  | ANSFORMER DETAILS<br>ANSFORMER DETAILS<br>Accuracy<br>PX<br>PX<br>PX<br>Accuracy<br>PX<br>PX<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H<br>H  |  |
| 4                | 1) FOR GIS<br>FACTORY A<br>2) PHASES<br>CONFIRMAT<br>3) CT/PT<br>AND GTP.  | ISFKnee point<br>voltage<br>2000R20002000 $R$ 20002000 $R$   | DO3<br>204-F1<br>2049E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-0499E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-049E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E2<br>-040E                               |
|                  | BARRIER AND GIS<br>PPROVED DRAWING.<br>FOR WAVE TRAP LO<br>ON.<br>PARAMETERS SHOW  | D04         400/220KV<br>(<=)         2059<br>400/220KV<br>(<=)         2059<br>44           15         50         50         50           15         50         50         50   |  |
|                  | EQUIPMENTS DRAWI   | A  |  |
| 5                | NG, PLEASE REFER<br>N AS PER PGCIL &<br>OVED GIS MANUFACTI   | 206997<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>20691<br>2   |  |
| 7                | SEPARATE   | CURRENT TRAN           ation           CURRENT TRAN           Current Ratio           1600-800/1           1600-800/1           1600-800/1           1600-800/1  |  |
|                  | UIPMENT IDENTIFICA   | ISFORMER DETAILS       Accurracy<br>per less as<br>per le   |  |
|                  | TION<br>TION<br>E OF M/s SEMENS<br>E OF M/s SEMENS<br>EDP. ON SAME BAY<br>NAME - E FOR EARTH SMITCH<br>EDP. ON SAME BAY<br>NAME - E FOR EARSTONNER BAY<br>NAME - E FOR CHASTONNER BAY<br>NO E FOR CHASTONNER BAY<br>BR FOR RUSATION<br>BR FOR CHASTONNE BAY<br>11 FOR CHASTON BAY<br>FI FOR CHASTON CAP FUSE<br>FI FOR HORN CAP FUSE<br>FI FOR HORN CAP FUSE<br>FI FOR HORN CAP FUSE<br>BAY NUMBER<br>BAY NUMBER<br>BAY NUMBER<br>14 FOR 400KY SYSTEM  | 2089A<br>2096CTA<br>2006CTA<br>2006CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008CTA<br>2008C   |  |
| 9                | IRMFO.<br>REV. No. DESCRIPTION   | EI<br>EI<br>EI<br>EI<br>EI<br>EI<br>EI<br>EI<br>EI<br>EI   |  |
| 10               | UENCE CORRECTED IN LINE<br>DUENCE CHANGE AS PER LAYO   | Azerosegi<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jagesger<br>Jages   |  |
|                  | 26.04.2022 HARESH<br>26.04.2022 HARESH<br>UT 08.03.2021 HARESH<br>18.01.2021 HARESH<br>06.01.2021 HARESH<br>06.01.2021 HARESH  | Bay     Ine       Bay     Refe       BBM+BE     -1       BBM+BE     -1   |  |
| 11 CHECKED       | Name       HARESH       AYA         Date       26.04.22       26.         Sign       HARESH       AYA         Date       08.03.21       08.         Sign       HARESH       AYA         Date       18.01.21       18.         Date       06.01.21       06.         Sign.       ELE.       CIVI  | Investment<br>Polytrence<br>Uninding<br>F5<br>2<br>1<br>220 V<br>F5<br>2<br>220 V<br>F5<br>1<br>220 V<br>1<br>1<br>220 V<br>1<br>1<br>1<br>20 V<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1   | DRAWING D<br>VCAT-A: AP<br>SUBMISSIOF<br>CAT-B: AP<br>SUBMISSIOF<br>CAT-C: RE<br>SUBMISSIOF<br>DATE: 19-09<br>DATE: 19-09<br>Canformity with<br>Vendor/Contracts<br>of carreetly and fulfit<br>does it limit the P   |
| 12               | N ARVINDH RAVI<br>04.22 26.04.22 26.04.22<br>04.22 26.04.22 26.04.22<br>03.21 08.03.21 08.03.21<br>03.21 08.03.21 08.03.21<br>01.21 18.01.21 08.03.21<br>01.21 18.01.21 18.01.21<br>01.21 06.01.21 06.01.21<br>01.21 06.01.21 06.01.21   | -ORMER DATA       Ratio<br>(kV/kV)     Rated Ou<br>(VA)       3/110V:√3     50       3/110V:√3     50       30sec     50   | OCUMENT RE<br>PROVED PROVED WITH<br>PROVED WITH<br>REQUIRED<br>VREQUIRED<br>VREQUIRED<br>NLY<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2022<br>S-2023<br>S-2023<br>S-2023<br>S-2023<br>S-2023<br>S-2023<br>S-2023<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-2033<br>S-20 |
| 13               | OR APPROVAL PRO.<br>AS BUILT OWNI<br>FOR APPROVAL TITLE<br>FOR APPROVAL TITLE  | Image: state of the state  | WRSS-<br>NERSS<br>NERSS<br>CORRECTION<br>CORRECTION<br>ON AND RECO<br>ON AND RECO<br>Institutes and require<br>for contract doe<br>ability in carrying of<br>this document doe<br>ability in carrying of<br>the Contract.  |
|                  | No:     Image: Construction in the second seco | Application<br>ROTECTION<br>WETERING   | A to general<br>ements. The<br>of design,<br>shot relieve<br>  |
| 14               | CONSTRUCTION O<br>WENTERN REGI<br>WESTERN REGI<br>SIEMENS ENERGY<br>SE GP T SO<br>PLOT-6A, SECTOR-18<br>GURGAON (INDIA)  | CIRCUIT BREAK         PISCONNECTOR         EARTHING SWI         CURRENT TRAT         VOLTAGE TRA         VOLTAGE TRA         VOLTAGE TRA         LEGEND FOR AIS         220kV EQUIPMENT         1-PH. CVT         1-PH. CVT         1-PH. SF6 AIR TERMIN         1-PH. SF6 AIR TERMIN         Metering       3  | SYSTEM PAR<br>SI.No. DESCRIPTIO<br>1 SYSTEM OP<br>2 MAX. OPER<br>2 SYSTEM (rr<br>3 RATED FRE<br>4 NO. OF PH<br>5 RATED FRE<br>1) FULL WA<br>VOLTAGE<br>DRY & 1<br>1) SWITCHI<br>VOLTAGE<br>DRY & 1<br>10 NNE MI<br>DRY & 1<br>0NE MI<br>DRY & 1<br>10 MINIMUM CI<br>11 EQUIPMENT   |
| WRNER-VPI-       | <pre>CV CV C</pre>  | ER       -0,1,-         TCH       -0,1,-         ITCH       -1,-         ITCH       -1,  | AMETERS:<br>N OF PARAMETER<br>ERATING VOLTAGE<br>ATING VOLTAGE OF THE<br>TATING VOLTAGE OF THE<br>TATION LEVELS<br>JLATION LEVELS<br>JLATION LEVELS<br>JLATION LEVELS<br>JLATION LEVELS<br>JLATION LEVELS<br>VE LIGHTNING IMPULSE<br>(1.2/50microsec.)<br>NG IMPULSE WITHSTAND<br>(250/2500microsec.)<br>NG IMPULSE WITHSTAND<br>VOLTAGE<br>NUTE POWER FREQUENC<br>HSTAND VOLTAGE<br>INTERFERENCE VOLTAGE<br>INTERFERENCE VOLTAGE<br>INTERFERENCE VOLTAGE<br>INTERFERENCE VOLTAGE<br>NUTE OWER FREQUENC<br>NUTE OF A COLTAGE<br>INTERFERENCE VOLTAGE<br>NUTE OWER FREQUENC<br>NUTE OF A COLTAGE<br>NUTE OWER FREQUENC<br>NUTE OF A COLTAGE<br>NUTE OF A CO   |
| -11-02-401 NTS 1 | 12.2020<br>SUBSTATION VAPI-II<br>XIX (WRSS-XIX)<br>STATION<br>GRAM<br>EM<br>5-S151-001<br>SCALE SH. S<br>SCALE   | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$   | Z20kV<br>SYSTEM       220kV       SYSTEM       SYSTEM       Z20kV       SYSTEM       SOHZ       SOND       SOND       SOND       SOND  |
|                  | HINO.<br>REV.  | χ         L         Γ  |  |

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