

Nepal Electricity Authority
Grid Substation Automation Project Phase 2

Clarification No: 03

OCB No and Title : Tender No: PMD/EGMP/GSAPP2-78/79-01 (Procurement of Plant for Design, Supply, Installation, Integration, Testing and Commissioning of Substation Automation System (SAS) for Existing Grid Substations of six-grid division office across Nepal.)

S.N	Volume/Section	Clause no.	Clause Description	Clarification Required	NEA Response
1	Works associated with 132/66/33/11 kV Substations under the scope of the Project	3.1.1. r	Installation of Fault Locator (preferably Travelling Wave Fault Locator) as per quantity specified in BOQ. The fault locator set shall consist of one receptor at local end and receptors at all remote end stations connected directly and a fault analyzer with associated software and user license.	As per Bidder price schedule Volumen 3 Only 1 Set is asked in Dhubahi Grid. Request you to please confirm in which station this fault locator will be installed and what are the remote ends in that station.	Shall be decided during detail engineering. However, 1 local end and maximum of 4 remote end feeders are envisaged for the connections.
2	FAULT RECORDER	DISTANCE TO FAULT LOCATOR (preferably travelling wave fault locator)	DISTANCE TO FAULT LOCATOR (preferably travelling wave fault locator)	We understand that wherever we are replacing or supplying a new panel for line bays, There inbuilt distance to fault locator is acceptable. Please confirm	DISTANCE TO FAULT LOCATOR (preferably travelling wave fault locator) is an additional line item. And it is a separate quantity from the inbuilt fault locator of the distance relay.
3	Works associated with 132/66/33/11 kV Substations under the scope of the Project	3.1.1. b	Complete Substation Automation System (SAS) for substations including hardware and software, (including protection relays for main and backup protection, master trip relays, hand reset relays, etc as and when required) and other accessories and metering and indication facilities for the substation & remote control stations along with associated equipment for 132kV / 66 kV/ 33 kV / 11 kV bays of 39 substations as specified in 1.1.2. and integration of additional newly built 15 substations	We understand that under the clause wherever there is an old busbar relay need not to be replaced and communicated to SAS if the relay is non communicable.	All the busbar relay needs to be replaced with SAS communicable relay, if the existing one is non-communicable, and then integrated to SCADA.
4	Section 8 - Special condition of contract 25. Commissioning and Operational Acceptance	45690	The Guarantee Test of the Facilities shall be successfully completed within 30 Days from the date of Completion.	We understand that the General Functional Test proposed by the contractor under Site Acceptance Test will be the Guarantee Test for the purpose of this clause. Please confirm.	Your Understanding is Correct.



5	Works associated with 132/66/33/11 kV Substations under the scope of the Project	3.1.1. b	Complete Substation Automation System (SAS) for substations including hardware and software, (including protection relays for main and backup protection, master trip relays, hand reset relays, etc as and when required) and other accessories and metering and indication facilities for the substation & remote control stations along with associated equipment for 132kV / 66 kV/ 33 kV / 11 kV bays of 39 substations as specified in 1.1.2. and integration of additional newly built 15 substations	We understand that under the clause wherever there is an old AVR relay need not to be replaced and communicated to SAS if the relay is non communicable.	Please refer to Vol-2, Chapter 7, clause no. 3.1.1.4. (Transformer tap changer control).
6	Section 1 - ITB	Clause 4.1 - Eligible Bidders & Clause 22.3 - Format and Signing of Bid	4.1 A Bidder may be a natural person, private entity, or government- owned enterprise subject to ITB 4.5 - or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a Joint Venture. In the case of a Joint Venture, (a) all partners shall be jointly and severally liable, and (b) the Joint Venture shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the Joint Venture during the bidding process and, in the event the Joint Venture is awarded the Contract, during contract execution.	Let us know if Consortium is allowed if Joint Venture is not feasible for the bidder. Further, request you to provide consortium format since the same is not shared in the tender document.	As per Bid document.
7			22.3 A Bid submitted by a Joint Venture shall be signed so as to be legally binding on all partners.		As per Bid document.
8	Section 8 - SCC	Clause 5.1 - Law and Language	The Contract shall be interpreted in accordance with the laws of: Nepal	Request you to consider England, Swiss or Singapore Law as the same is generally considered for ICB Tenders.	As per Bid document.
9	Section 8 - SCC	Clause 11.2 - Contract Price	Price escalation is not applicable; this is a firm price Contract.	In view of the quantum of work to be performed for this job, request you to make this clause applicable.	This is a firm price contract.
10	Section 8 - SCC	Clause 15 - License / Use of Technical Information	The copyright in all drawings, documents, and other materials containing data and information furnished to the Employer in due course of design of the projects by the Contractor herein shall remain vested in the Employer.	We understand that this clause is applicable only for drawings, documents & other materials and information developed specifically for NEA. However, any other information shall not come under this clause. Please clarify.	Confirmed



11	Section 9 - Appendix 1	Appendix 1 - Terms and Procedures of Payment (A)	<p>Total 10% of the total CIP amount as advance payment against receipt of invoice and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer. The advance payment security may be reduced in proportion to the value of the plant and equipment shipped FOB or delivered to the site, as evidenced by shipping and delivery documents.</p> <p>Seventy percent (70%) of the total or pro rata CIP amount upon Incoterm "CIP" within forty-five (45) days after receipt of invoice and shipping documents. In the event that shipping is delayed upon the written instruction of the Employer for more than twenty-eight (28) days beyond the date shown in the Program of Performance provided in accordance with GCC Sub-Clause 18.2, the Contractor may make application for this part of the payment against warehouse receipts, provided always that the plant and equipment are ready for shipment on the date shown in the said Program.</p> <p>Five percent (5%) of the total or pro rata CIP or amount upon issue of the Completion Certificate within forty-five (45) days after receipt of invoice.</p> <p>Ten percent (10%) of the total or pro rata CIP or amount upon issue of the Operational Acceptance Certificate, within forty-five (45) days after receipt of invoice.</p> <p>Five percent (5%) of the total or pro rata CIP or amount upon successful completion of AMC period in equal semi-annual installment.</p>	<p>The heading of this clause is missing. We assume that these payment terms are for 'Schedule No. 1 - Plant and Mandatory Spare Parts Supplied from Abroad'. Please confirm.</p> <p>Further, we see that last 5% payment is linked with AMC. We request you to issue order for AMC separately and the 5% payment should not be linked to the same. Request you to take this into consideration.</p>	<p>For Heading, your understanding is correct.</p> <p>Other terms of Payment shall be as per Bid Document.</p>
12	Section 9 - Appendix 1	Appendix 1 - Terms and Procedures of Payment (A)	<p>(A) Terms of Payment</p> <p>In the event that the Employer fails to make any payment on its respective due date, the Employer shall pay to the Contractor interest on the amount of such delay payment at the rate of 0.25% per month for period of delay until payment has been made in full.</p>	<p>Kindly clarify if this clause is applicable to Schedule No. 1 - Plant and Mandatory Spare Parts Supplied from Abroad - Imported items</p>	<p>Your Understanding is Correct.</p> <p>Applicable to any payment.</p>
13	Section 9 - Appendix 2	Appendix 2 - Price Adjustment (NOT APPLICABLE IN THIS PROJECT)	<p>Appendix 2 - Price Adjustment (NOT APPLICABLE IN THIS PROJECT)</p>	<p>Request you to make this clause applicable for this project.</p>	<p>This is a firm price contract.</p>
14	Section 9 - Appendix 3	Appendix 3 - Insurance Requirements	<p>Insurance Requirements</p>	<p>Do you intend to prefer any specific Insurance company through which the insurance needs to be obtained. If yes, please clarify and mention the name of the Insurance Company.</p>	<p>No any specific insurance company.</p>



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15			Taxes & Duties and other Levies	<p>Kindly clarify the following:</p> <p>a. Is there any specific tax exemption available to the Contractor with respect to Company Income Tax or any other Taxes from the Government for the said Project. Please clarify ?</p> <p>b. Please confirm whether TDS will be deducted by NEA</p> <p>c. Request you to consider the following: Customs Clearance fees/ expenses shall be borne by the Contractor. However the entire amount shall be re-imbursed by NEA to the Contractor.</p> <p>d. Any tax exemptions are available for the execution of the contract</p>	<p>a.NO any tax exemptions are available.</p> <p>b. TDS shall be deducted by NEA as per prevailing government rules.</p> <p>c. all custom duties are re-imbursible</p> <p>d. no tax exemptions.</p>
16			Embargo	Kindly confirm if there is embargo on any of the materials.	no any embargo on BOQ materials till date.
17			Split Order	<p>In the event of award of contract, request you to issue 2 separate Purchase Orders under the Signed Contract Agreement for the activities under defined Scope of Work i.e. 1st order for Supply, Installation, Testing & Commissioning & Civil Works, if any (will price breakup as per Price Schedule) and</p> <p>2nd order for AMC.</p>	It is a single contract project.
18			Export Reservation Clause	<p>We propose the following clause:</p> <p>Contractor's obligation to fulfill this agreement is subject to the provision that the fulfillment is not prevented by any impediments arising out of national and international foreign trade and customs requirements or any embargos [or other sanctions]."</p>	As per prevailing law of Nepal
19	1648731229_Volume 2.pdf	Chapter 10 – General Technical Requirement, Substation Automation System	C VPS spares wherever applicable	<p>Here requirement for spares mentioned in two different columns, we understand that quantity requirement is only for 1st column and quantity of 2nd column is not required. We request customer to clarify .</p>	<p>Only one column shall be taken. The other one is type-mistake(repeated).</p> <p>The specified quantities shall be supplied separately for each MCC.</p>
20	1648731229_Volume 3.pdf 1648731229_Volume 2.pdf		Annual Operation --- Years 3 f) Four year AMC (after the one year Warranty period)	<p>As per Schedule No. 4 : "Installation and Other Services : Annual Operation and Maintenance services of the facilities after operational acceptance" is required for 3 years and as per Chapter 12 clause no. 2.6 Bill of Quantity f) Four year AMC (after the one year Warranty period) required for VPS . We request customer to clarify the requirement.</p>	AMC period shall be considered as per quantity mentioned in price schedule 4.
21	1648731229_Volume 2.pdf	General		<p>In specification there is mentioned of below applications for which there is no detailed specification added. Also considering network size and configuration of each SCADA systems these applications are not relevant and hence we request to remove the same.</p> <ol style="list-style-type: none"> 1. VVC (Volt Var Control) 2. SE (State Estimator) 3. CA (Contingency Analysis) 4. AGC (Automatic Generation Control) 5. AVC (Automatic Var Control) 6. DSA (Dynamic Stability Analysis) 7. DTS (Dispatcher Training Simulator) 8. SCC (Short Circuit Analysis) 9. Load Shedding & Restoration 10. Network Islanding 	<p>Generation related softwares/applications are optional. SCADA for control and monitoring of grid substations' bays, panels and accessories are only envisaged in this project.</p>



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22	1648731229_Volume 2.pdf	3. Basic SCADA Functions	14) Supervising of unchanged data Permanent data of the system are supervised. If continuous period of unchanged data equals to or exceeds corresponding threshold, a permanent data event is acknowledged, and an alarm signal will be issued. In case of large quantity of permanent data, fault of some equipment is judged, e.g. fault in acquisition device.	We understand that this requirement is related to telemetry failure quality flag. In case of communication failure or device failure if data is not getting refreshed at control center telemetered failure flag will be attached to it.	This function is related to all the device under consideration. If the device data is not refreshed or updated for a preset value/time for a preset duration of time or frequency, then the application shall judge that equipment as a failure.
23	1648731229_Volume 2.pdf	3. Basic SCADA Functions	19) Automatic calculation for busbar balance and balance between both ends of a line. This can be combined with processing of multi-source data, to preliminarily judge measurement data quality flag. (Calculated in automation information assessment).	Please elaborate the requirement. This seems to be part of applications and hence requested to remove.	As per bid document.
24	1648731229_Volume 2.pdf	3. Basic SCADA Functions	4) Multi-source data processing for electrical energy	We understand that accumulator data will be communicated to control center over IEC 104. Generally accumulator do not have any redundant source and hence redundant source requirement is not applicable for Accumulator	System design by bidder.
25	1648731229_Volume 2.pdf	3. Basic SCADA Functions	During PDR playback, it is possible to pause at any moment (pause time can be manually inputted) and start PAS software to perform various network analysis functions performed at the time.	As we understand PAS is separate application which will be executed on non SCADA workstation separately. Integration of PAS system with SCADA Playback is not expected over here. Please confirm.	Refer to Clarification s.n. 21
26	1648731229_Volume 2.pdf	3. Basic SCADA Functions	3) PDR data editing	Purpose of PDR is to record system disturbances and replay them in future for further analysis. Editing PDR data is not relevant over here and hence this functionality not expected. Please confirm.	Editing refers to labeling the scenes, cutting some sections or adding the sections or making notes on the recorded scenes, etc
27	1648731229_Volume 2.pdf	3. Basic SCADA Functions	3) Prior display of alarm information of "current duration": The "current duration" can be defined by the user at random according to the actual conditions. There are 2 definition modes: (1) The duration threshold The configured duration will be applied as the time range. (2) Time difference threshold When the difference in occurring time of any 2 adjacent faults exceeds a certain range, the faults will be regarded as that they belong to the different fault duration. The user can define the current duration by setting these two values.	Please elaborate the requirement in detail with some use cases.	This is the prior alarm signalling requirement in case of continuous transient fault currents flow. 1.The system shall allow the user to set the duration threshold of current under consideration. If the current duration is above this value, alarm should appear signalling some abnormal fault that may occur. 2.The system shall allow the user to set the time difference threshold for two adjacent fault occurrence. In case, the second fault occurs after this threshold, the alarm signal shall pop up indicating, both faults occurred at different times.
28	Clarification No: 02			In general layout drawing UPS room details are not available, kindly share the same.	Refer to Clarification no.2- General layout drawing of PEB (includes the battery room)
29	Volume II, Chapter-9		The CCS will connect to several substations via IEC 101/IEC 104, and as work as a master control center for these substations, so the connected substations can be unattended substations.	Please confirm the breakup of IEC 101 and IEC 104 substations	All the substations shall have both the IEC 101 and 104 communication protocol provision.
30	Volume II, Chapter-9		Figure 2.1 CCS system structure schemes	We understand that CCS system structure scheme is shown in the following figure 2.1 is only suggestive not firm as it can be different for different vendor. Kindly confirm our understanding	Confirmed. However, minimum hardware lists has been provided already.



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31	Volume II, Chapter-9		Figure 2.2 theStructure of SCADA CCS System	Is Substation Mini SCADA is same as MCC or CCS ? In place of RTUs there should be SAS Gateways on IEC 101/104? Kindly clarify	Confirmed.
32			1.1.4 SCADA CCS Structure	HIS server with storage, NMS system and Office PC with Web Server are not mentioned in Architecture or BOQ, pls confirm the BOQ and scope.	Minimum hardware lists has been provided already.
33	Volume II, Chapter-9		CI 1.3.1 Data Quality	We understand that NEA is only looking for SCADA system and SCADA system will not have the state estimated value. Kindly update the List of Quality flag of Analog values	State Estimation is optional. Quality flags are Based on system design by Bidder.
34	Volume II, Chapter-9		General Observation	Kindly share the SLDs and IO list of Substations	Link for slds has been provided in Bid document, Vol-2, Chapter-1, Annex -1 For IO list refer chapter-7, Vol-2
35	Volume II, Chapter-9		General Observation	In Various clauses, there is reference to EMS ,PAS,DTS,CA,DSA etc , We understand that it is only SCADA applicatins is envisaged and other mentioned applications are not envisaged Kindl ammend the requirements	SCADA and functions for Grid substations control and operations are mandatory. Applications relating to Generations are optional.
36	Volume II, Chapter-9		General Observation	Many a places some terms/words seems to be propoterity , require further clarifications on exact requirement (For example : Clause 2.2.2 dbiol/dbiop,2.2.3 dbserach , 2.6 PDR function ,4.7 Xmanager etc) Kindly Clarify	the objective is to include all the tools required for database management, operation and maintenance in an easy and convenient way.
37	Volume II, Chapter-9		CI 2.5: Historical Fundtions	RDBMS database is referred as ORACLE at many places , we understand we can propose other RDMBS such as SQL or PostgreSQL as long as requirement is met Kindly confirm our understanding	Confirmed.
38	Volume II, Chapter-9		Table 7.3: EMS model capacity in CCS	1. We understand that EMS is not envisaged. It is only SCADA application is envisaged. Kindly confirm our understanding 2. Kindly specify the difference between <i>Analog Input</i> , <i>Analog Value</i> , <i>Analog</i> 3. Kindly specify the difference between <i>Status Input</i> , <i>Status Value</i> , <i>Status</i>	1. Your understanding is correct. 2. Same 3. Same
39	Volume II, Chapter-9		General Observation	We understand that UPS and Battery backup for respective MCC shall be in scope of NEA. Kindly confirm our understanding If not, kindly share the specifications, Battery Backup hours and BOQ for same	AS Published in Clarification -02.



40	Volume II, Chapter-9		General Observation	Hardware and Software BOQ is not mentioned in the documents, pls confirm the BOQ for EachCC.	AS Published in Clarification -02.
41	Volume II, Chapter-10		General Observation	Maintenance & Support is asking for many application or subsystems (e.g. EMS, DSA, etc) which are not even part of delivery / not envisaged Kindly clarify/ ammend the requirements	Confirmed. Maintenance and support are envisaged for delivered items and services only.
42	Volume II, Chapter 10		section 1.2.5 Video Projection System	VPS Spares: There are Two columns specifying the same qty of Spares. Kindly clarify - The purpose of two columns. Heading of Both Columns to be clarified - Are the specified quantities is common for all 6 MCCs OR do we need to maintain these spares seperately for all 6 MCCs?	Only one column shall be taken. The other one is type-mistake(repeated). The specified quantities shall be supplied separately for each MCC.
43	Volume II, Chapter 10		Section 1.9 Annual Training during AMC Period	We understand that Trainees from all Grid office will join this training at single place and asked 5 days Duration is Common for all Grid Office. Kindly confirm our understanding	Confirmed.
44	Volume II, Chapter 12		1.3 b) Integration of Video Projection System with existing system	Kindly give details about existing system to be integrated	Video projection System shall be integrated to MCC only.
45	Volume II, Chapter 12		2.2.1 VPS consumables	VPS spares has also been asked in Chapter 10 Section 1.2.5. Kindly clarify following: 1. Are these consumables over & above VPS spares as asked in Chapter 10? 2. Are these VPS consumables are to be seperately separate for each MCC?	1. The consumables/spares mentioned in chapter 10-AMC, is inclusive of spares mentioned in chapter 12. 2. Yes VPS consumables are to separately supplied for each MCC.
46	Volume II, Chapter 12		2.6 f) Four year AMC (after the one year Warranty period)	Please note that the asked AMC for VPS is "Four year AMC (after the one year Warranty period)" whereas Chapter 10 Routine Maintenance & Support Clause 1.1 states that "The period of routine maintenance support shall be three years period commencing from Operational Acceptance." Both the above requirements w.r.t AMC is not uniform. Kindly clarify	The duration of AMC shall be as specified in price schedule 4(d) of Volume 3
47	Volume II, Chapter 12		VPS Specifcatons	In current specifications, Lamp Based VPS has been asked which is old technology and not available with OEMs. It is proposed to change the product to LASER BASED VPS system. Attached is the Proposed Specification for LASER BASED VPS. Request you to please Ammend the specifications as proposed	The latest prevailing resolution/technology shall be accepted.
48			General Observation	Kindly confirm if Backup LDC (Hetadua) is also a SIEMENS's system?	Confirmed
49			General Observation	We understand , hardware & software of each MCC is to be considered for 25 stations however to design the system kindly provide IOs per station to be considered ?	Refer to chapter 7, Vol-2



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50			General Observation	<p>1.) Kindly confirm the OEM of SAS System of existing 15 Substations.</p> <p>2.) We understand that for existing 15 Substations integration with MCC, NEA will provide SAS data over specified protocol for integration with MCC. Kindly confirm our understanding</p> <p>3.) We also understand that for existing 15 substations, SAS system is in operation and in case if any changes are required at substation end for MCC Integration, it shall be in scope of NEA. Kindly confirm our understanding</p> <p>4.) For End to end testing/ data validation for existing 15 Substations, we understand that NEA will be responsible for deputing OEM engineer or NEA person for data verification at Substation end. Kindly confirm our understanding</p> <p>5) Similar confirmation are also required for Future 10 no. of stations</p>	<p>1. Bidder shall visit the substations for confirming the same.</p> <p>2. Confirmed.</p> <p>3. as per bid document, any hardware change in substation end shall be in scope of NEA.</p> <p>4. Confirmed.</p> <p>5. Confirmed.</p>
51			General Observation	<p>BOQ for CC and 3rd party cyber security software have not been considered, like AD, Patch MGT, Anti-Virus, NMS, Backup and firewalls how ever cyber audit is asked for AMC period. Kindly confirm the BOQ and the scope w.r.t Cyber Security compliant architecture.</p>	<p>Suitable Cyber security design is envisaged for this project for the MCC and is part of MCC supply.</p>
52			Payment of Application License	<p>Application License (e.g. SCADA/ SAS software) are propriety software being Licensed for the project. We request you to kindly:</p> <p>1) Add Seperate Line Item for Application Software in BOQ/ Price Schedule</p> <p>2.) Add payment terms for SCADA and SAS License supply as below: - 100% payment against delivery of License Usage Certificate against signature of contract agreement) Software License Agreement to be executed</p>	<p>All the price schedules of hardwares and Softwares supplies are inclusive of license fees.</p>
53	Volume-2		General Observation	<p>Hardware specification for MCC equipment is not mentioned</p>	<p>Based on system design by bidder. The bidder shall propose sufficient hardware capabilities (processor size, memory, storage, network connectivity, ports, etc) to ensure the safe and fluent operation of the mentioned SCADA and associated applications, with operation capabilities mentioned in chapter- 1 and Chaper 9, Vol-2</p>
54	Volume-3	Price Schedule	Schedule 4(a): Integration of substations to LDC and Back up LDC to simens infrastructure	<p>Can this item be removed from the price schedule to give equal chances for all the OEM to participate</p>	<p>As per Bid Document, The integration item cant be removed as NEA requires data from all substations to be centrally monitored from LDC However, being NEA infrastructure, NEA shall coordinate in integrating the SAS sytems to LDC and also provide access to its infrastructure if the bidder proves it has sufficient know how and experts to do the required works on its own.</p>



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55	Volume-3	Price Schedule	9 SUBSTATION AUTOMATION /COMMUNICATION EQUIPMENT a. Integration of all 132/33/11 kV Bays under present scope with the SCADA of SIEMENS (SINAUT Spectrum) at Load Dispatch Centre, Kathmandu and New Hetauda, Makwanpur as backup including supply of Hardware, Software, accessories etc. as per TS Section Project.	Request you to please confirm total no. of bays to be consider for integraton with SCADA of SCADA of SIEMENS (SINAUT Spectrum) at Load Dispatch CentreKathmandu and New Hetauda, Makwanpur as backup for all individual subsatations. Since, unit as mentioned in price bid as "PACKAGE" for all six grids.	Please refer to Vol-3: Schedule no. 4(a) PART A, Owner Accessed quantity, S.N 4 for each grid susbtation, for the total number of bays required for integration.
56	Volume-3	Price Schedule	For Schedule No : .4(a) Installation and Construction Charges Part-B VENDOR ACCESSED QUANTITIES	For Schedule No : .4(a) Installation and Construction Charges Part-B VENDOR ACCESSED QUANTITIES- all items quantites has been mentioned as "PACKAGE". Request you to please provide exact qty. in Nos. for quoting purpose for all six grids.	Bidder shall survey the sites to access the exact required quantities under: VENDOR ACCESSED QUANTITIES.
57	Volume-1		Format of Letter of Price Bid	Request you to please provide complete clause of point (d) as it has been overlapped with point c)	Corrected format has been uploaded.
58	Volume-1		Functional Guarantee of the Proposed Facilities	Request you to please provide detail to be filled in format of Functional Guarantee of the Proposed Facilities of Technical proposal against EQC 1.3.4 of Section 3	Not Applicable for this project.



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