

EPC Package for Andaman & Nicobar Gas Power Project (50 MW)
Pre-Bid Clarifications

SL. NO.	ENQUIRY SPECIFICATION				SPECIFICATION REQUIREMENT	COMMENTS / CLARIFICATIONS	Owner's Reply
	SEC/PART	SUB SEC.	PAGE NO.	CLAUSE NO.			
1.	VI/B	M1	3/19	1.02.02	Note: All the piping, fittings, valves, Lube Oil Tanks and complete strainers including body and element shall be of stainless steel. Further all the parts of lube oil coolers which are coming in contact of lube oil shall be of stainless steel.	1) As per clause understanding all piping , fitting for lube oil system required SS kindly confirm MOC. 2) Valves internal parts internal parts shall be SS and valves body will be Cast steel or forged steel Kindly clarify bidder understanding is correct. 3)As per clause 1.02.02.02 Lube oil storage tanks shall be made from suitable grade of mild steel plates. Kindly clarify MOC to be considered. 4) MOC of Lube oil wet sump & Lube oil centrifugal filter as per OEM standard.	1. Specification requirement is clear. 2. Specification requirement is clear 3. Refer Amendment in this regard. 4. Integral part of engine can be as per standard practice of OEM.
2.	VI/B	M1	3/19	1.02.02.00	Oil purification system having capacity to purify 20% of total oil charge in system per hour. Purified oil shall have moisture not more than 500 PPM & max. particle size conforming to code 15/12 as per ISO 4406 or requirement of the engine manufacturer whichever is better.	As per OEM the oil purification system capacity is 10% of total oil charge as per their normal practice.	The referred Oil purification system is external purifier which shall be used for transferring of oil from one tank to another and wet oil sump. Hence, the capacity mentioned is in order. However capacity of engine integral purifier(If any) can be as per OEM standard.

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3.	VI/B	M1	4/19	1.02.02.00	(3) Purification system shall have following components: (ii) Electric oil heater to heat oil to temperature not more than 65°C with possibility to cut heater elements in steps.	SW understand requirement of heater. As per proven standard practice best separation is achieved between 85-90 degC. This is also OEM standard, Kindly clarify the same is acceptable.	The referred Oil purification system is external purifier. However design of engine integral purifier (If any) can be as per OEM standard.
4.	VI/B	M1	7/19	1.02.06	iii) Construction : Corten Steel	1) Bidder shall provide exhaust gas ducting in SS 409 with insulation. 2) shell casing material of exhaust silencer and stack shall be provided in corten steel with insulation 3) Stack structure shall be provided in IS 2062 with galvanisation. 4) Kindly clarify on MOC of SCR system for NOx reduction.	Bidder to provide corten steel. Anything of superior quality with proven record may be accepted with supporting documents. This shall be discussed and finalized during detail engineering.
5.	VI/B	M1	6/19	1.02.04	i. Intake air Filters ii. Intake air silencers— StainlessSteel. iii. Intake air ducting between Engine and Air filter	1) Bidder shall provide intake air filter housing in CS with C5M painting, which is suitable for saline atmosphere. 2) Bidder shall provide Filter frame in SS316L 3) Bidder shall provide silencer & duct in SS304	Specification requirement is clear.
6.	VI/B	M1	9/19	1.08.00	iv. All piping, level switches, level indicators, heat tracers & insulation, if required. iii. Sludge Storage Tank - 1 no. of min. 10kL	Kindly confirm MOC of Oily water & sludge pipelines, Sludge Tank.	It will be as per Bidder's standard practice.

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7.	VI/B	M1 & M2	9/19 & 3/5	4.00.00 & 1.02.06	(viii)Operator's cabin and platform & Cage ladder shall be provided for reaching the EOT crane operators cabin and walkway level.	1) Genesate Hall EOTs are operated by personnel standing on Machine hall floor. 2) Operating the crane from a cabin is not recommended. 3) EOT will be operated from suspended pendent.	Cabin Requirement is not mentioned in Chapter M1 of Vol I, Part B. Bidder's clarification noted for clause no. 1.02.06 of M2/Part-B/Volume-VI. However, Cage ladder to be provided for accessing walkway level. Bidders to refer Amendment in this regard.
8.	VI/B	M2	3/5	1.02.00	1.02.05 Inside Engine Hall EOT crane is to be provided which shall be able to travel complete length of Engine hall and passage way envisaged below the Utility Block. Capacity of the Engine Hall EOT Crane shall be as mentioned elsewhere in the specification.	Top of EOT beam approximetly 11 mtrs while the top of beam of ground floor is approx 5.3 mtrs - The EOT will bring equipments for the maintenace till the maintenace bay & the monorail will be used for movement below utility building block.	As discussed with the bidder, Specification requirements are clear. Bidders to comply with Technical Specification requirements.
9.	VI/B	M6	2/7	1.02.00	The Air compressors & Drives, instruments, control panels and ADPs shall be located indoor inside the machine hall and the air receivers shall be located inside the machine hall. The handling of equipments of compressed air system shall be done by the EOT crane provided in the main machine hall.	SWCS: Kindly note air compressor requires fresh air at ambient condition for better opretaions , Kindly note inside machine hall tempature is more than ambaient condition and create problem for air compressore operation . The compressor shall be located at an adjoining room.	Air Compressors shall be located indoor. Exact location shall be finalized during de-tailed engg.

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10.	VI/B	M6	2/7		General	SW understand Piping & valve MOC will be SS for compressed air system. Kindly clarify the same. A Piping Material Specifications (PMS) for this project is to be provided by NTPC.	Refer amendment in this regard.
11.	VI/A	Vol VI	166/238	LIST OF CODES AND STANDARDS	API:618 Reciprocating Compressor for general refinery services.	SWCS : Please note API 618 is a refinery and Hazadarours area application compressor , as per our site condition nature of opreation it is not required. We request to accept the Compressor as per OEM.	Specification requirements are clear.
12.	VI/A	Vol III	3/69	2.03.00	vii. Start up system including Start up Air compressor & Air Bottle/ Start up system including Start up Air compressor & Air Bottle(s) (Common for all engines)	Kindly share piping material specification and valves specification for all systems	This shall be as per standard practice of bidder suiting climatological conditions.
13.	VI/B	M1	13/19	4.00.00	(viii) Safe means of access shall be provided and to every place of crane where examination/maintenance of any component is involved. A platform shall extend to full length of the crane bridge on both sides of the bridge girder. The platform shall be made of checkered Steel plate. A double tire hand-rail of height 1100 mm shall be provided along the outer edge of the platform and 75mm high toe-guards shall be provided all along the platforms and wherever else required from safety consideration. The width of platform shall not be less than 800mm in width and Guard rails shall be provided on the crab side of the bridge platform.	Since Single girder EOT crane shall be provided, maintenace platform only be provided on one side of the bridge girder.	Refer Amendment. Further detail shall be finalized during detail engineering

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14.	VI/B	M1	2/19	1.02.02.02	Shop test for each Genset shall be carried out at manufacturer's work for demonstration of following: 1. Net Power output at Base/Full Load. 2. Net Heat Rate at LHV basis at 100% of Genset base load. Above tests shall necessarily be carried out with the "Alternator" that will be supplied for this package. Bidder shall also submit the procedure for above shop tests along with their bid.	Since Engine and Alternators shall be imported from different locations, the demonstration of Shop tests with Alternators shall not be possible. However as per the OEM standard practice of FAT, serial engine test beds are equipped with water-brakes (Hydraulic Dynamometer) for engine loading. The engine torque is measured with a torque flange which is installed in the power train between engine and water brake. The engine power is calculated in the Engine Diagnostic System (EDS) with the engine torque and speed, measured by the engine speed sensor.	Bidder has not referred correct clause. Refer Amendment in this regard.
15.	VI/A	Vol II	4/10	Section IV Part A Volumen II Annexure 1A (Note)	Typical composition has been given only as a reference condition for Performance Guarantee (refer clause 3.01.00, Volume – IV). Actual composition of the gas generally may be anything within the range indicated. However, the engine shall also be designed to run on gas fuel with methane no. corresponding to at least (-)10% of the methane number calculated on the minimum composition mentioned here above.	The performance Guarantee (Clause 3.01.00) shall not apply to Gas fuel with Methane No corresponding to at least (1)10% of the methane number calculated on the minimum composition mentioned. However the Genset shall be desinged to run on such Gas fuel.	Specification requirement is clear.

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16.	VI/A	Vol III	22/69	21.06 (ii)	comprehensive training program consisting of class-room and plant visit of similar running plant for Employer's personnel for safe and efficient operation of the plant addressing the erection, commissioning, operation and maintenance aspects of the plant	Class room & hands on training can be organised at site during trial run and initial operation period. However, visit to similar running plant will not be possible. As the similar running plant may located at other place and logistically not possible. Also customer of that plant may object on entry for training purpose.	Bidder to comply specification requirement.
17.	VI/A	Vol III	25/69	23.03(a)	In addition to the spare parts mentioned above, the contractor shall also provide a list of recommended spares for 03 years of normal operation of the plant and indicate the list and total prices in relevant schedule of the Bid Form and Price Schedules. This list shall take into consideration the mandatory spares specified in this Part-A and should be independent of the list of the mandatory spares. The Employer reserves the right to buy any or all of the recommended spares.	The Recommended spares shall be those which shall be required post completion on O&M Contract.	Bidder understanding is correct.
18.	VI/A	Vol III	68/69	Annexure 2 B (6)	Oil Tanker, wheel mounted, 5 KL capacity.	The Oil tanker shall be without prime mover. Please clarify the application	Specification requirement is clear, only oil tanker with given specification to be provided.

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19.	VI/A	Vol III	18/69	17.14.00	Supply, erection, testing and commissioning of overhead lines ring mains, single pole /double pole/ four pole structures with switches, fuse, lightening arrestors, LT transformers, 415V switchboards, power and control cables, DC Systems etc. as required for meeting the construction power requirements, shall be in the bidder's scope. All necessary statutory requirements for charging construction power bidder's network shall be in the bidder's scope. The bidder shall also provide power for meeting the Employer's office/miscellaneous power requirements. Construction power supply network, within the plant, is a temporary arrangement which shall be used during the project construction phase. To meet this requirement, the equipments may be arranged by Bidder either by shifting their existing equipments at other installation or by fresh procurement, which may be taken back after commissioning of the project.	Bidder will use standard electrical power supply equipments & power network apparatus to meet the construction power requirement.	Bidder to comply with specification requirement.
20.	VI/A	Vol IV	5/28	4.01.00	4.01.01 Each Genset shall be designed to operate as a Base/Full load and Part load generating unit. Genset shall also be suitable for frequent start and stop mode of operation. However, capability to meet the requirements and withstand stresses of cyclic load variations and partial/ full load rejections shall be built in the plant. Specific design features to permit the above operational flexibility shall be provided.	Bidder needs plant load profile details to check whether the genset withstand.	Specification requirement is clear. Bidder to comply.
21.	VI/A	Vol IV	20/28	15.00.00	15.00.00 PROVENNESS OF EQUIPMENTS/SYSTEMS The bidder/its sub-vendor(s) is required to meet the provenness criteria and/or qualification requirement for the items/ services listed below as per the stipulated criteria indicated in the respective clauses.	Bidder will submit the Sub-vendor details & documentation for NTPC approval to meet the provenness criteria and/or qualification requirement for the items/ services listed.	Bidders understanding is correct. Specification requirement are clear in this regard.

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22.	VI/B	Vol II E1	4/9	2.00.00 2.01.00 2.01.01	Adequate number of auxiliary transformers shall be provided to meet the demand on 11kV, 3.3KV and 415V (as applicable) systems under most onerous conditions, with the criteria that each 11kV / 3.3KV / 415 V (as applicable) switchgear / MCC / DB shall be fed by 2x100% or 3 X 50 %, transformers / feeders, and these shall be rated to carry the maximum load expected to be imposed.	Bidder proposes according to Plant SLD provided in tender document the auxiliary transformers shall be provided with 33/0.415kV AC voltage with 2x100% capacity.	33kv and 0.415 kv are switchgear voltage ratings, transformer secondary ratings have been taken as 0.433 and 34.5 kV considering no load voltage correction factor.
23.	VI/B	Vol II E1	4/9	2.03.00	All PCC/MCCs shall be fully draw out type.	Bidder proposes all PCC panels with fixed type design modules with draw out type ACBs above 630A rating & fixed type modules with 250A & above MCCB/SFU. Also bidder supplied MCC panels shall be drawout type & other OEM supplied panels will as per OEM standard.	Technical specifications to be complied with.
24.	VI/B	Vol II E1	6/9	2.10.00	The Generator Transformers shall have on load tap changer with the minimum range of +/- 10% with each step of 1.25%. The rating of the Generator Transformers (GT) shall be suitable for continuous stable operation of units at the rated nominal output at all power factors between 0.85 lagging and 0.95 leading.	Bidder needs generator power transformer impedance value to be considered.	Transformer impedance to be as per detailed system study during detailed engineering.
25.	VI/B	Vol II E1	8/9	6.00.00	6.04.00 Diesel generator shall also be kept ungrounded (earthing through PT).	1) As the Black start diesel genset is low voltage 415V hence bidder proposes solidly grounded earthing for genset neutral point. 2) If the same not acceptable then kindly furnish the schematic for earthing through PT.	Bidder to comply with specification requirements.
26.	VI/B	Vol II E1	8/9	7.00.00	ii) 11 kV/3.3 KV busduct - 1 second	Bidder needs fault level withstanding capacity for 33kV Busduct.	No 33kV busduct is envisaged in the system.

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27.	VI/B	Vol II E1	8/9	7.00.00	vi) 11KV & 3.3KV cable screen - 2 seconds for the adopted ground fault current	Bidder needs 33KV cable screen fault withstanding time in seconds for the adopted ground fault current.	33KV cable screen fault withstanding time in seconds for the adopted ground fault current 1 sec.
28.	VI/B	Vol II E3	2/7	5.00.00	5.01.00 Bus Ducts - MV bus ducts shall be provided for Interconnection between Generators, transformers and switch-gears.	W.r.to NTPC proposed overall plant SLD bidder has considered 33kV HV busduct between Generator to transformer & 415V LV Busduct between auxiliary transformer to LV panels. From 33kV switchgear to 33kV transformer 33kV HT cable will be considered.	Bidder to comply with specification requirements.
29.	VI/B	Vol II E8	3/12	3.00.00	e) Governor(Electronic Type) A1 type as per BS:5514	Bidder proposes the DIESEL GENERATOR Governor conforming to specification ISO8528-5 Class G2 Type- Electronic.	The Technical specification is clear. Bidder to comply technical specification.

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30.	VI/B	Vol II E11	2/10	1.00.00	1. For Ni-Cd Type Battery 2. For Lead Acid Plante type Battery	Bidder proposes Ni-Cd Type Battery for all 220V DC, 110V DC, 24V DC System instead of lead Acid Plante type Battery	Referred chapter is for 110V/220V battery. For these, Ni-Cd battery is in line with the technical specification and acceptable. As per specification clause 6.01.00, Volume III, Chapter III-C UPS system is envisaged for C&I Systems. Accordingly, Bidder to comply the specification requirement.
31.	VI/B	Vol II E13	2/26	1.00.00	1.01.00 TYPE & RATINGS (for continuous duty) -Auxiliary Transformers (including LT Outdoor) Voltage Ratio (KV)- 11/0.433 kV	W.r.to NTPC proposed overall plant SLD bidder has considered 34.5kV / 0.415kV auxiliary transformers.	Bidder to comply with specification requirements.
32.	VI/B	Vol II E13	3/26	1.00.00	KVA RATING / HV RATING (kV) 35000 / 34.5	Bidder proposes generator transformer rating as per gas generator rating with 5% margine as stated in NTPC technical specifications.	In the referred clause the GT rating is indicative only. However, bidder to comply with specification clause no. 2.10.00 VOLUME-II CHAPTER-II-E1 GENERAL ELECTRIC SPECIFICATION for GT rating.

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33.	VI/B	Vol II E16	2/10	1.00.01	CONTAINERISED SUBSTATION (ELECTRICAL HOUSE)	Bidder may consider civil building for Electrical switchgear and control panel room.	Bidder has a choice to select either civil constructed RCC or E-house installation. Bidder to clarify on control panel room.
34.	VI/B	Vol III	4/52	2.02.05 (j)	<u>Switching capacity :</u> Output modules shall be rated to switch on/off coupling relays of 3VA at 24V DC and solenoid valves at 110 V AC.	The output Interposing relay coil voltage shall be 24 VDC . The relay O/P contact voltage for: 1. Solenoid coil shall be 110 V AC . 2. MCC shall be as per control voltage .	Bidder's understanding is correct.
35.	VI/B	Vol III	5/52	2.02.05 (t)	<u>Feedback / field interrogation :</u> By 24V DC. Status feedback from MCC/field shall be in the form of one changeover contact. Discrepancy shall be alarmed. All analog signals shall be routed through analog cards.	Confirmation required whether Interrogation relay is required for DI signals . If so , confirm the Interrogation relay coil voltage for DI signals .	Bidder's understanding is not correct. Interrogation relay is not required for DI signals. Accordingly, Bidder to comply the specification requirement.

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36.	VI/B	Vol III	4/52	2.02.05 (I)	<u>Provision for Third Party Connectivity:</u> The PLC system shall be OPC compliant and shall be provided with necessary hardware and software for successfully establishing dual redundant fiber optic/ wireless connectivity using bidirectional OPC communication through OPC DA / UA protocol. Suitable OPC server and client software and sufficient no. of licenses shall be procured by the contractor for fully meeting the intent as stated above.	One no Licensed OPC server shall be considered by contractor suitable to FO/Wireless bi-directional connectivity to meet the requirement as per tender. FO converters ,LIU JB's ,FO cables shall not be considered by contractor.	Bidder's understanding is not correct. All necessary hardware and software for successfully establishing dual redundant fiber optic/ wireless connectivity using bidirectional OPC communication is in contractor's scope. Accordingly, Bidder to comply the specification requirement.
37.	VI/B	Vol III	11/52	4.01.00 (12)	Type of Technology Mercury (Hg) :- Hot extractive type	Since it is only natural gas operation , so there will no concentration of mercury in engine exhaust gas,Request please review from your end and confirm whether mercury analyzer is required?	Bidder's understanding is correct. Please refer Sl. No. (i), clause no. 4.00.00, Volume-III, Chapter-IIIC, Section-VI, PART-B of Technical Specifications as per which mercury analyzer is not applicable.
38.	VI/B	Vol III	17/52	4.05.00	Measurement Range for Particulate Emission (Dust density Stack Opacity) 0 to 999mg/m2, (Programmable)	Range of Opacity metre seems to be too high(0-999 mg/m3) , this may effect the resolution of reading. Instead please confirm whether 0-200 can be selected .	Bidder's clarification is noted.

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39.	VI/B	Vol III	11/52	4.00.00	CEMS comprising of analysers and associated items for measurement of SO _x , NO _x , CO, CO ₂ , NMHC (Non Methane Hydrocarbon), Particulate Matter (dust density) monitor, O ₂ measurement for compensation shall be provided for each Gas Engine by the Contractor for stack emission monitoring.	Please clarify whether Non Methane HC measurement is required. We didn't find any technical requirement in chapter III-C	Bidder to note that CEMS for NMHC (Non Methane Hydrocarbon) measurement is applicable as per Sl. No. (i), clause no. 4.00.00, Volume-III, Chapter-IIIC, Section-VI, PART-B of Technical Specifications
40.	VI/B	Vol III	11/52	4.00.00 (ii)	Direct measurement of NO and NO ₂ shall be done. Total NO _x values shall be: reported as NO ₂ i.e. NO _x = NO + NO ₂ = NO X 1.53 + NO ₂ = NO _x as NO ₂ .	NO shall be by direct measurement, Where as, NO ₂ shall be calculated by formulae from DAS.	Bidder to refer amendment.
41.	VI/B	Vol III	9/52	3.05.03	Transmitter shall be HART compatible, have EMC compatibility as per EN 61326, weather proof IP-67 metallic housing with durable corrosion resistant coating, plug and socket type electrical connection, integral digital display with self-indicating diagnostics, operating ambient temperature of 85 deg C without display & 70 deg C with display, suitable for 2 inch pipe mounting in enclosure/rack.	Please clarify whether display is required for TT? Does this mean that TT having max design amb temp 85 deg C shall be without display and the TT having max design amb temp 70deg C shall be with display? Please confirm whether my understanding is correct.	As per referred clause, Temperature transmitters (TT) shall be provided with integral digital display with self-indicating diagnostics. Accordingly, TTs with operating ambient temperature of 70 Deg C with display shall be provided.
42.	VI/B	Vol III	13/52	4.02.00	Specific requirements for Hot-extractive sampling type SO ₂ , NO _x , CO ₂ & CO analysers - Principle of Measurement of SO ₂ Analyser and Nox Analyser cum monitor shall be by Radiation absorption.	Can NDIR principle be used for Sox & Nox measurement as an option.	Bidder understanding is correct. It is in line with specification requirement.

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43.	VI/B	Vol III	23/52	5.02.06	AAQMS- Mercury Analyser	Since there is no concentration of Mercury in the atmosphere , please review whether Mercury Analyzer is required.	Bidder's clarification is noted. Please refer amendment.
44.	VI/B	Vol III	23/52	5.02.07	AAQMS-Ozone Analyser	Ozone Analyser - Is this actually required	Bidder's clarification is noted. Please refer amendment.
45.	VI/A	Vol VI	66/71		GENERAL TECHNICAL REQUIREMENTS- Instru- ment Tubing 1. Seamless carbon steel pipe - ASTM - A 106. 2. Material of socketweld fittings - ASTM - A105. 3. Dimensions of fittings - ANSI - B - 16.11. 4. Code for pressure piping, welding, hydrostatic test- ing - ANSI B 31.1.	Due to ambient saline atmosphere, can we select SS seamless tubing for low pressure application.	In addition to the re- ferred clause of GTR, Part A, Please also refer clause no. 7.01.00, Part B Sec- tion VI for Impulse piping, Tubing, fit- tings, valve and valve manifolds.

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46.	VI/A	Vol III	54/69	Annexure-IA	<u>LIST OF MANDATORY SPARES FOR GENERATOR & AUXILIARIES:</u> Generator & Auxiliaries 1 Complete Generator bearings 1 set 2 Exciter bearings (if applicable) 1 Set 3 Brush- holder assembly with housing for exciter forrotor winding E/F sensing (if applicable) 1 Set 4 Brush Gear assembly complete with brushes for slip ring (if applicable) 1 Set 5 Gaskets of all types for Generator 1 Set 6 Brush- holder assembly for shaft earthing (ifapplicable) 1 set 7 Complete Generator phase and neutral bushings with terminal connectors for one machine 1 set B. Excitation system a Relays 2 Nos. of each type b Electronic modules 1 Nos. of each type c Rectifier element with heat sinks, RC network and fuses 1x100% of one bridge d AC/DC field breaker 1 No e Over voltage suppressor 1 Sets f Control transformers of each type/rating 1 Set g Excitation Transformer 1 No h Field flashing breaker 1 No Over voltage suppressor 1 Set j Initial excitation diode 2 Sets k Compatible HMI / Laptops for excitation system 1 no. of each type l Software & Programmes / programmed EPROMs with necessary hardware/software keys for multiple use. 1 set of each type for one unit m Network switches / ethernet switches with connectors, cables and all accessories complete for one unit. 1 no. of each type D. Motors 1no of each type and rating	for Items 2,3,4,6,7, B.a-B.h, B.k-B.m, C, & D, these items are not applicable for the kind of alternator normally used for gas engine, the alterantor is built and integrated with exciter which is not standalone. most of spares are for high power class generator and not applicable to small rating alternator used for gas engine.	Bidder to comply with specification requirements. Bidder to note that Item C and D are separate line items and not part of Generator and auxiliaries.
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47.	VI/A	Vol III	55/69	Annexure-IA		S.no I.1 and I.2 are not in the MAN ES' scope.	Bidder to comply with Specification requirements.
48.	VI/A	Vol IV	5/28	4.01.01	Genset units shall be designed to withstand rapid load changes within the frequency band of 47.5 – 51.5 Hz without any restriction	customer need confirm whether the frequency band of 47.5 – 51.5 Hz is for steady state of Genset continuous operation, otherwise, please define how fast the load changes is, and load profile is needed.	Frequency band of 47.5-51.5 Hz is for continuous operation. Specification requirement is clear.
49.	VI/A	Vol VI	8/71	8.03.01	xix) Type test reports, insulation co-ordination study report and power system stability study report.	Power system stability study is not in MAN ES's scope.	This Document pertains to study of auxiliary power distribution system of plant.
50.	VI/B	II-E1	2/9	1.01.00	For the purpose of design of equipment/systems, an ambient temperature of 50 deg. Centigrade and relative humidity of 95% shall be considered. The equipment shall operate in a highly polluted environment. However, for equipment in air conditioned areas, design ambient temperature shall be 35 deg.C, if 2x100% air conditioning system is provided.	Alternatoll will be IC0A1 with protection degree IP23	Bidder query is not clear.
51.	VI/B	II-E2	4/5	5.01.00	A complete generator excitation and voltage regulating system shall be provided with the generator. The Generator excitation system shall be standalone system. All panels of excitation system shall be in single suite.	there is no standalone excitation system and panel in single suite, MAN ES standard GCP panel which AVR is also mounted inside is the only one catering for entire GENSET control.	Bidder to comply with specification requirements
52.	VI/B	II-E2	4/5	5.07.00	In addition, one (1) 15 inches or more laptop shall also be supplied per unit to facilitate programming of DAVR and downloading of records locally. Suitable communication port, cables, interfacing software etc shall be provided. The configuration of the laptop shall be finalized during detailed engineering. The requisite license/ dongles shall be provided.	one 15 in laptop with software and license will be offered.	Bidder to comply with specification requirements

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53.	VI/B	II-E2	5/5	6.01.02	Excitation system (a) Exciter (If applicable) Temperature rise test at peak rating of excitation system. Ceiling duty condition shall also be demonstrated (b) Converter Assembly Temperature rise test at peak rating of excitation system. Ceiling duty condition shall also be demonstrated. (c) Input and output surge withstand capability test: The Oscillatory SWC tests shall be conducted as per ANSI / IEEE C37.90.1-2002 and/or The Fast transient SWC tests shall be conducted as per ANSI / IEEE C37.90.1-2002 / IEC 60255-22-04-2008.	Excitation system (a) Exciter (If applicable) Since the exciter is built inside offered alternator, it will be tested together with alternator, not separately. Temperature rise test is not applicable for such exciter integrated with alternator which is used for gas engine. (b) Converter Assembly the power is supplied from VT to exciter inside alternator, there is no converter existing. (c) Input and output surge withstand capability test: IEC 60255-22-04-2008 is replaced by 2013 version, please clarify whether the SWC test is related to AVR.	(a) For exciter built in alternator temperature rise test at peak rating shall be along with alternator. Ceiling duty condition shall also be demonstrated (b) Bidder query is not clear. (c) Input and output surge withstand capability test: Oscillatory SWC and Fast transient are applicable for AVR/excitation system.
54.	VI/B	II-E3	2/7	5.01.00	MV bus ducts shall be provided for Interconnection between Generators, transformers and switchgears.	MAN ES standard solution is generator with MV cable connection, not busduct connection. This is popular way for such small generator in the market.	Bidder to comply with specification requirements.

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55.	VI/B	II-E14	4/20	1.01.00	vii.10 Generator Under Frequency Protection (81G) with df/dt elements under group I, but 81G is under group II in the drawing of " generator relay panel protection SLD".	please confirm which group 81G belongs to.	81G-Under frequency protection belongs to Group-I. This has already been mentioned clearly in point no 10. Page-3 of 16, Volume-II, Chapter-II-E14 Protection and metering system.
56.	VI/B	II-E14	5/20	1.02.02	a) ABT meter for generator circuit and each LV incomer of Unit Service Transformer b) Meter shall be as per the requirements outlined in clause 2.00.00. These meters will be located in Generator Relay Panel	Metering display for the generator feeders are considered with Multi-functional Monitoring Unit (MMU Janitza UMG96RM-P). MMU shall display: - voltage L1-L2 / L2-L3 / L3-L1 - current L1 / L2 / L3 - cos phi - frequency - active power - reactive power - apparent power - active energy (not for tariff metering) - reactive energy (not for tariff metering) - apparent energy (not for tariff metering) -- Energy: Class 0.5 - Current: 0.2 % -- Voltage 0.2% MAN ES standard Metering and Measuring instruments are offered.	Bidder to comply to Technical specification requirement.

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57.	VI/B	II-E14	14/20	5.00.00	panel	MAN ES's standard panel will be offered	Bidder to comply to Technical specification requirement
58.	VI/B	Vol III	6/52	2.02.05	x). Contractor shall provide all system / application soft wares with locks and passwords for PLC operation meeting the intent, functional and parametric requirements of the specification. Complete set of documents for modifications / editing / additions/ deletions of features in software shall be provided. Comprehensive list of all application/ system software shall be provided.	During the warranty period, MAN do not provide any software keys, source code or password to allow the configuration/modification. Because of product liability and safety, it is also in discussion after warranty period.	Bidder to comply the specification requirements.
59.	VI/B	Vol III	7/53	2.02.05	d1) The PLC system shall comply with IEC-62443 standards for Industrial Automation and Control System security. The system may preferably be Achilles level 2 / ISA Secure EDSA / Equivalent certified.	Siemens S7 400H redundant PLC is considered in generator control panels. IEC 62443 standard on that PLC is not complied yet .	Bidder to comply the specification requirements.
60.	VI/A	Vol II	4/10	Annexure-IA	However, the engine shall also be designed to run on gas fuel with methane no. corresponding to at least (-)10% of the methane number calculated on the minimum composition mentioned here above	MAN ES's understanding is the engine can run continuously without any problem like knocking or misfiring if natural gas with -10% of methane number. Please confirm whether the understanding is correct.	Bidders understanding is correct.
61.	VI/A	Vol VI	2/71	5.0	CODES & STANDARDS	As an ISO certified European company, MAN can supply materials and equipment that comply to ISO, IEC and EN standards. Compliance of equipment and material with local codes and standards is not possible.	Bidder to follow specification requirement.
62.	VI/A	Vol VI	23/71	16.00.00	RATING PLATES, NAME PLATES & LABELS	Rating plates as per supplier standards.	Noted.

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63.	VI/A	Vol VI	25/71	18.00.00	All equipment/ piping/ pipe services are to be painted by the Contractor in accordance with Employer's standard colour coding scheme, which will be furnished to the Contractor during detailed engineering stage.	Equipment colour as per supplier standards.	Employer's standard colour coding scheme shall be furnished to the Contractor during detailed engineering stage for all the equipment/ pipe/systems. However, OEM standards for gensets and the associated modules shall be reviewed and finalized during detailed engineering stage.
64.	VI/A	Vol III	13/69	16.01.00 c)	All instruments/ equipments etc. shall be suitable for highly corrosive environment prevalent in the coastal area. For coastal areas, all instruments/equipments shall be provided with durable epoxy/ polyurethane coating for housings and all exposed surfaces of all instruments/ equipments.	Genset Control Panel shall be installed inside control room, standard Rittal panel without coating shall be offered.	Bidder to comply specification requirements.
65.	VI/B					motors included in the equipment modules will be supplied by per OEM standards.	Bidder to comply specification requirements.
66.	VI/A	Vol V	3/9	1.02.03	Guarantees attracting LD	Please delete the rejection criteria in subclause (b) and (d).	Bidder to comply specification requirements.

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67.	VI/A	Vol V	4/9	1.02.04(b)	Availability Guarantee of Plant	Please cap the LD to 10% of the O&M Contract Price. Please delete the following requirement. " In case the availability falls below 85% in a year, then Employer may have right to terminate the O&M contract after recovering all the losses incurred by the Employer on account of shortfall in availability."	Bidder to comply specification requirements.
68.	VI/A	Vol V	5/9	1.04.02	Demonstration Guarantee	Please delete this clause, since the performance and the statutory guarantees are already in place.	Bidder to comply specification requirements.
69.	VI/A	Vol V	5/9	1.04.02	Demonstration Guarantee	Please delete the rejection criteria in (a) as these would be captured in the performance guarantees,. Please replace the in clause (b) - "as determined by the Owner/client" with " as mutually discussed".	Bidder to comply specification requirements.
70.	VI/A	Vol V	9/9	3.02.00	Liquidated Damages for Shortfall in Guaranteed Parameters	Please replace the maximum Contractor's aggregate liability to pay liquidated damages for failure to attain the functional guarantee of "twenty five percent (25%) of the Total Contract Price. i.e. sum of all the three contract price" with " 10% of the Individaul Contract Price " . The LD for functional guarantees shall include net heat rate of the engine and net output of genset shall be recovered from the Contract 1 and 2. The LDs for the availability of the plant shall be restricted to the O& M contract.	Referred clause No. is incorrect. However, Specification requirement are clear. Bidder to comply.

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SL. NO.	ENQUIRY SPECIFICATION				SPECIFICATION REQUIREMENT	COMMENTS / CLARIFICATIONS	NTPC Reply
	SEC/ PART	SUB SEC.	PAGE NO.	CLAUSE NO.			
1.	VI/A	Vol IV	6/28	4.02.01	The plant shall be designed for a minimum operating life of 25 years for the operating capabilities and duty specified in these specifications. Bidder shall confirm in his offer that all plant components are designed adequately for this lifetime. If there are any items of the plant on which this lifetime cannot be confirmed, the life of such items and the reasons for the same shall be stated in the offer.	We understand that the bidder needs to confirm operating life span for Genset & major balance of plant items only.	Specification requirements are clear.
2.	VI/A	Vol VI	16/71	8.03.05	e-Learning Package: e-learning packages shall be supplied for the equipment / system for the following Engine- Generator/Alternator set & auxiliaries along with associated electrical and C&I system. These packages shall be installed on the Learning Management Server (LMS) of NVVN/Power Management Institute (PMI), NTPC located at Noida. The Engineer- In-Charge (EIC) for the e-learning modules shall be from PMI.	This project consist of many major & minor equipments which are tailor made as per the tender specs & site requirement. It is not possible to have individual App / e-learning system prepared for the project. Although possible to provide the soft copy (in the form of PDF) of the training documents and manuals. We understand NVVN understanding is to have e- learning material available for the team and not to develop any specific App for the project.	Bidder to comply specification requirements.

EPC Package for Andaman & Nicobar Gas Power Project (50 MW)
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3.	VI/A	Vol VI	22/71	11.00.00	A cast iron or welded steel base plate shall be provided for all rotating equipment which is to be installed on a concrete base, unless otherwise specifically agreed to by the Employer. Each base plate shall support the unit and its drive assembly, shall be of a neat design with pads for anchoring the units, shall have a raised lip all around, and shall have threaded drain connections.	As per OEM standard, engine will be installed with help of spring isolators and the generator will be bolted rigidly to the foundation. Please confirm your acceptance.	Specification requirement is clear.
4.	VI/A	Vol VI	25/71	18.00.00	All equipment/ piping/ pipe services are to be painted by the Contractor in accordance with Employer's standard colour coding scheme, which will be furnished to the Contractor during detailed engineering stage.	The gensets and the associated modules will be painted as per OEM standard only.	Employer's standard colour coding scheme shall be furnished to the Contractor during detailed engineering stage for all the equipment/ pipe/systems. However, OEM standards for gensets and the associated modules shall be reviewed and finalized during detailed engineering stage.
5.	VI/A	Vol IV	5/28	4.01.03	All equipment, including Engine and Generators/Alternators shall be designed to withstand frequency variation in 47.5 – 51.5 Hz frequency range. Bidder shall indicate the period of operation of Gensets permitted during the life of the plant for operation beyond the frequency range of 47.5 - 51.5 Hz.	It is technically impossible to indicate the period of operation beyond this frequency range of 47.5 - 51.5 Hz.	Bidder to comply specification requirement.

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6.	VI/A	Vol III	23/69	21.06.00	Total duration of the training shall be of 5 (five) man months. The break-up of the training period shall be as following i.1 (One) Man month – At Engine manufacturers works/factory ii. 4 (four) Man months - Comprehensive training program consisting of classroom and plant visit of similar running plant for Employer's personnel for safe and efficient operation of the plant addressing the erection, commissioning, operation and maintenance aspects of the plant. Accommodation with lodging and boarding and local conveyance at the place of training shall be provided to the Employer's personnel free of cost. Cost of journey to and from the place of training shall be borne by the Employer. Details of the training shall be finalized during detail engineering of the project. Note : For training purposes, one (1) man month implies 30 working days (excluding all intervening holidays) per person	No of person need to define for training as note specifying "For training purposes, one (1) man month implies 30 working days (excluding all intervening holidays) per person". It means 150 days to be considered for one person which extrapolate 600 days if 4 persons are consider. Hence unclarity .	Bidder's understanding is not correct. 5 Man months correspond to 150 working days for 1 person. Specification requirement are clear in this regard. Bidder to comply.
7.	VI/A	Vol III	24/69	22.00.00	CONSTRUCTION FACILITIES	Request to confirm whether Construction power is in bidder's scope or NVVN Scope.	Bidder to refer Clause No. 17.14.00 of Part A , Vol III. Construction power is in bidder's scope.
8.	VI/A	Vol VI	33/71	26.00.00	PRE-COMMISSIONING AND COMMISSIONING FACILITIES	For commissioning of Gensets required load will be provided by NVVN. Please confirm	Intent of Bidder's Query is not clear.
9.	VI/B	M1	3/19	1.02.02.00	Purification System: Provide permanently connected, Continuous Oil Purification system having major equipment / features.	For Gas Engine Oil Purification System is not required. Request NVVN to delete this from the scope.	Bidder to comply specification requirement.

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10.	VI/B	M1	2/19	1.02.00	ENGINE SYSTEM The offered engines	Gas Genset mounted Instrumentation, Controls & PLC for Engine/Genset Management system shall be as per OEM standard specifications. Request NVVN to confirm	For Control, Instrumentation & Automation system for gas Engine, Contractor's Standard and Proven practice shall be acceptable on submission of documentary evidence for Standard Practice.
11.	VI/B	M1	6/19	1.02.04	e. Exhaust gas Silencers: Corten steel	Corten steel plates are available in market only from 5 mm to 16 mm thick. Hence, the plates of above 16 mm thick used for the manufacture of Silencer like Flanges, supports, Ribs etc. shall be steel conforming to IS:2063. NVVN is requested to accept this.	Bidder to provide corten steel. Anything of superior quality with proven record shall be accepted with supporting documents. This shall be discussed and finalized during detail engineering.
12.	VI/B	M1	7/19	1.02.06	Exhaust Stack The Exhaust of each Genset shall be led through separate exhaust air ducting. The ducting shall comprise of necessary fittings, expansion joints, Reactive Industrial type Silencer, Rain Hoods etc.	Exhaust Silencer design shall be as per OEM standard only. However exhaust of each genset shall be led through separate exhaust air ducting to the respective stack.	Specification requirement is clear.
13.	VI/B	M1	7/19	1.02.06 (iva)	Insulation shall be 75 thick Un-bonded rock wool mattress as per IS:3690 type-2 at an application density of 64 kg/m ³ . Cladding shall be aluminium sheet of 20 SWG	Bidder intend to use Light Resin Bonded (LRB) Mattress as per IS:8183 in place of "Un-bonded rock wool mattress as per IS:3690 type-2". LRB vis a vis Un-bonded rock wool mattress ensure to maintain max surface temperature of 60 Deg C. Please accept.	Bidder to comply with specification requirements.
14.	VI/A	Vol IV	20/28	15.00.00	PROVENNESS OF EQUIPMENTS/SYSTEMS The bidder/its sub-vendor(s) is required to meet the provenness criteria and/or qualification requirement for the items/services listed below as per the stipulated criteria indicated in the respective clauses.	We understand equivalent quantum of work in terms of volume & similar value in engineering & heavy Industry application is acceptable and not necessary restricted on offered Gas Genset Similar application. NVVN to confirm.	Specification is clear in this regard.

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15.	VI/B	Vol III	1-8	Chapter IIIC	CONTROL & INSTRUMENTATION	We understand that the given specification of Control & Instrumentation in this Chapter will be followed for the overall power plant Control, Instrumentation and Automation. However for GasEngine & Genset, Control Instrumentation & Automation system shall be as per Engine OEM standard only. NVVN to please confirm.	For Control, Instrumentation & Automation system for gas Engine, Contractor's Standard and Proven practice shall be acceptable on submission of documentary evidence for Standard Practice.
16.	VI/B	Vol II		Chapter II E-1	GENERAL ELECTRICAL SPECIFICATION	Gas Genset OEM supplied Control Panel for their Control instrumentation & PLC requirement shall be as per OEM standard only. Request confirmation.	Bidder's clarification is acceptable.
17.	VI/B	Vol III	11/52	4.00.00(i)	CEMS comprising of analysers and associated items for measurement of SOx, NOx, CO, CO2, NMHC (Non Methane Hydrocarbon), Particulate Matter (dust density) monitor, O2 measurement for compensation shall be provided for each Gas Engine by the Contractor for stack emission monitoring.	As per this requirement no mercury analyser is required but in technical specification mercury analyser specs is there (Mercury (Hg):- Hot extractive type). In Natural gas fuel based engine systems, mercury is not present in the exhaust gas. Hence we understand mercury analyzer is not applicable for this project.	Bidder's understanding is correct. Mercury analyzer is not applicable for this project.
18.	VI/B	Vol III	27/52	5.04.03	Data Communication System	We shall provide the data to the central DAS inside the plant room. Further connectivity & transmission of data to CPCB/SPCB office or customer DAS will be in owners scope. NVVN to confirm	Bidder's understanding is not correct. Please refer clause no. 5.04.05, Volume-III, Chapter-IIIC, Section-VI, PART-B of Technical Specifications. As per this clause: "Connectivity & transmission of data to CPCB/SPCB or customer DAS is in bidder's scope."

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19.	VI/B	Vol VI	2/37	1.01.00	Complete testing Laboratory	We Understand bidder to consider testing laboratory set-up at site for the equipments needed for day to day/ regular testing. Any equipment required for periodic testing is not part of site laboratory. Employer to confirm its acceptance. Please provide the list of lab equipment to be provided in testing lab.	Bidder Understanding is correct. Indicative Lab equipments list already provided as QA chapter Q-27 ,Annexure-III.
20.	VI/B	M1	11/19	3.02.02	(iii). Design, construction, installation and operation of the Flow Meter shall be in accordance with the relevant Recommendations/ Reports from AGA/ API.	(iii) As this is for safe area installation there is no requirement for AGA/API to be followed as they refer to Zone - 2	Bidder to comply specification requirement.
21.	VI/B	M1	10/19	3.01.04	Sensors of Gas Detection System shall be catalytic diffusion type or any other proven design with flame proof NFPA approved construction. Sensor range shall be 0 – 100 % LEL	As this is for safe area installation. Flame proof detection system is not required.	Bidder to comply specification requirement.
22.	VI/B	M1	10/19	3.01.03	Gas Detection system shall be designed to meet NEMA-7 requirement and suitable for class-1 Division-II, Group D area	NEMA-7 compliance is applicable for inside enclosure equipments. As Gas Genset have to be provided in Civil Acoustic Room hence NEMA - 7 compliance Not applicable.	Bidder to comply specification requirement.
23.	VI/B	M1	11/19	3.02.04	All Electricals and Instruments in the Fuel Gas System shall be of Flame Proof/ Explosion Proof Design. In fire hazardous areas like gas/ liquid fuel storage/ handling areas, lighting fixtures, switchgears shall be flame proof. Motors and EPB located in hazardous areas shall have flame proof enclosures	As this is for safe area installation. Flame proof equipments, fixtures etc. are not required.	Bidder to comply specification requirement.

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24.	VI/B	Vol II E-1		2.09.00	PLC & DCS	These required PLC & DCS as per tender specifications are designed , engineered and supplied by the authorized system houses of ABB, Schneider, Honeywell, Allen Bradley/ Siemens. We understand bidder can select required item from these system houses meeting the PTR requirement of tender . Please confirm your acceptance.	Refer Amendment
25.	VI/B	Vol IV	7/37	3.03.04	Design of Steel Structure shall be done by Working Stress Method	We understand Limit State Method as per IS 800:2007 is acceptable.	Bidder to comply technical specification.
26.	VI/B	Vol IV	9/37	4.01.00	The ground Reference Level as per topographical survey drg varies from RL 3.98m to 12.0m	Please advise expected Reference Level of plant.	RL (Reduce level) of plant shall be (+) 6.5M as mentioned in GLP.
27.	VI/B	Vol IV	7/37	3.03.06	Design and Construction of RCC structures shall be carried out as per IS 456. Working stress method shall be adopted for the design wherever specially mentioned.	Please advise specifically where Working stress method need to be adopted.	Working stress method shall be adopted for design of water/liquid retaining structure
28.	VI/B	Vol II E-8	3/12	3.00.00	k) Paint Shade Grey RAL9002	DG set Colour shade shall be as per OEM standard.	Technical specification requirement is clear. Bidder to comply Technical specifications.

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29.	VI/B	Vol II E-8	3/12	4.03.00	DG set including stack height, acoustics, air emission and fuel oil installation shall meet the requirement given by gazette notifications of Ministry of Environment & Forest time to time , CPCB guidelines, all statutory requirement of Govt. of India and State Pollution Board Guidelines & as updated as on date of bid opening. Necessary lightening protection shall be provided by the bidder for the stack as per statutory and safety requirements. Bidder shall furnish the detailed break-up for arriving at the capacity of the DG set and also furnish overload capacity with a variation in ambient temperature.	Stack height of the emergency diesel Generating set shall be calculated based on formula : $H + 0.2 * (KVA^{1/2})$, where H is height of the acoustic enclosure . NVVN to confirm	Technical specification requirement is clear. Bidder to comply Technical specifications.
30.	VI/B	Vol II E-16		1.00.02 (a)	All the MV Panel, LV Panel, Control panel, lighting, Exhaust Fan and other requirements shall be installed in E-House and shall be fully assembled at factory and integrated factory acceptance test shall be carried out in factory for ensuring a “plug and play” solution to be delivered at site. No Installed equipment shall be dismantled after Inspection during dispatch. E-House shall be dispatched in the same condition as inspected dismantled only as per Transport Section requirement.	We understand bidder have a choice to select either civil constructed RCC / civil room for installation of all kind of electrical panels, other electrical equipments, misc. equipments etc or E-house installation for this project. Hope our understanding is correct.	Bidder understanding is in order.

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31.	VI/B	Vol VII	3/6	5.00.00(n)	The maintenance shall include all repair/replacement of Fuel gas & oil handling/unloading and forwarding system, cleaning / repair / rectification of valves/nozzles, repair/replacement of all cladding/lining of exhaust gas duct & chimney. Maintenance of all valves, pumps, blowers, nozzles in Fuel gas & oil system, water system, Fire detection and protection system & all other equipment etc. as per scope of package. Further, preventive, routine and annual overhauling/breakdown maintenance related to all electrical and C&I works is also included in the scope of Contractor.	We understand items brought exclusively by the bidder for the O & M of the plant shall be permitted to remove at the end of the 3 years O & M contract period.	Specification requirements are clear. Please refer Clause 31.2 of GCC in this regard.
32.	VI/A	Vol V	16/19	7.02.00	Maximum Generator Capability - at 0.85 p.f., temperature rise limited to that applicable for class-B insulation as per IEC at 100% rated load condition.	Maximum Generator Capability - at 0.85 p.f., temperature rise limited to that applicable for class-B insulation as per IEC at 100% rated load condition demonstration is possible during Factory acceptance Trial for one typical machine. Alternatively to demonstrate this test at site NVVN have to provide reactive load bank of suitable capacity.	Bidder query is not clear. Bidder to comply with technical specification requirements.

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33.	VI/A	Vol III	30/69	Annex-IA	List of Mandatory Spares - Gas Engine and Auxiliaries	The nomenclature & type of spares listed in the mandatory spares list for Gas engine and auxiliary may reflect to particular gas genset OEM. We understand bidder is allowed to quote equivalent mandatory spares applicable for the offered Gas engine & auxiliaries. In case any spares is not applicable, bidder have option to mention "not applicable".	Specification requirement are clear. Bidder to further refer clause No. 23.16.00 of Vol III, PartA. Refer amendment also.
34.	VI/A	Vol III	65/69	Annexure-II	LIST OF TOOLS & TACKLES	The nomenclature & type of tools listed in the Annexure II - List of Tools & Tackles for Gas Engine and auxiliary may vary from OEM to OEM. Bidder request to consider OEM recommended standard Tools list which help to ensure smooth operation and complete maintainability of the plant.	Shall be discussed and finalized during detail engineering stage. However, bidder shall ensure supply of all the tool & tackles for smooth operation and complete maintainability of the plant.
35.	VI/B	Vol VI Q-02	1/2	1	PIPING, VALVES, STRAINERS AND FITTINGS: Material Tests (Chemical Analysis, Mechanical Tests & other tests) as per applicable material standard of all components (plates, forgings, castings etc.)	Bidders intends to provide co-related manufacture test certificate as desired, but in the event of non-availability of manufacture's test certificate, Lab test report will be provided.	The detailed requirements shall be discussed & tied-up during MQP finalisation.

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SL. NO.	ENQUIRY SPECIFICATION				SPECIFICATION REQUIREMENT	COMMENTS / CLARIFICATIONS	OWNER'S REPLY
	SEC/P ART	SUB SEC.	PAGE NO.	CLAUSE NO.			
1	VI/ A	Vol III	24/69	22.01.00 (i)	Site Development - The bidder shall do all works related to site/forest clearance	We understand approval for Forest clearance permissions including tree felling within the premises & control blasting of rocks inside the plant area will be provided by owner.	The responsibility of site development is with the bidder, however the project site does not attract the provisions of Forest (Conservation) Act 1980.
2	BOQ	Schedule 1 & Schedule 2	13	G (i)	List of Mandatory Spares - Bidder to fill currency column, unit price...	NVVN is requested to allow lump-sum price quote of Mandatory spares as it is not possible to quote unit prices for around 1500 line items (as mentioned in the price schedule) . Break up shall be provided during detailed engineering stage or incase successful.	Noted, However the break up shall be provided before the Letter of Award and shall be agreed by the Parties.
3	VI/A	Vol II	2/10	1.03.00	Approach to site	We understand Development of any approach road required to reach site outside the power plant premises which comes under Union territory administration will be Owners /Employers responsibility.	The Approach Road to the site is available. However widening/strengtning of the approach road shall be in the scope of bidder.

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4	IV	GCC	17/76	7.3.1.13 (i) (a)	For the item of spares ordered or to be ordered by the Employer for 3 years operational requirement of the plant, which with the written approval of the Employer, are not manufactured as a continuous operation will be warranted for 7000 hrs of trouble free operation if used within a period of eighteen (18) months reckoned from the date of delivery at site. However, if such spare parts are put to use after eighteen (18) months of the delivery at Site then the guarantee of such spares will stand valid till the expiry of thirty six (36) months from the scheduled date of Commissioning of equipment/plant covered under the contract or 7000 hrs of trouble free operation after such spares are put in service, whichever is earlier	Please clarify on warranty requirement as all spares required for scheduled & unscheduled maintenance and breakdown, if any will be in O&M contractors scope	Provision of Bid Document shall prevail.
5	IV	GCC	69/76	43.1	The Contractor shall not, without the express prior written consent of the Employer, assign to any third party the Contract or any part thereof, or any right, benefit, obligation or interest therein or there under, except that the Contractor shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.	We will use services of Third Party Inspection Agency for Quality Inspection at Manufacturer work and Field quality. List of TPI : 1.TUV Sud 2.TUV Nord 3.Bureau Veritas Industries Service 4.IR Class Systems and Solutions 5.SGS 6.Lloyds Register.	Provision of Bid Document is clear and shall prevail

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6	IV	GCC	14/76	7.3.1.3	The Contractor will provide the Employer with the manufacturing drawings, catalogues, assembly drawings and any other document required by the Employer so as to enable the Employer to identify the recommended spares. Such details will be furnished to the Employer as soon as they are prepared but in any case not later than six months prior to commencement of manufacture of the corresponding main equipment.	no manufacturing drawings and assembly drawings will be provided to customer, these drawings are MAN ES's Intellectual Property.	Provision of Bid Document shall Prevail
7	IV	GCC	17/76	7.3.13 l). b	However, if such spare parts are put to use after eighteen (18) months of the delivery at Site then the guarantee of such spares will stand valid till the expiry of thirty six (36) months from the scheduled date of Commissioning of equipment"	max. 24 month warranty start from delivery can only be provided regardless use or not use of spare parts supplied by MAN ES.	Provision of Bid Document shall Prevail

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8	II	ITB	18	10.1	Unless otherwise specified in the Technical Specifications, Bidders shall quote for the entire facilities on a “single responsibility” basis such that the total bid price covers all the Contractor’s obligations mentioned in or to be reasonably inferred from the bidding documents in respect of the design, manufacture, including procurement and subcontracting (if any), delivery, construction, installation, commissioning, Completion of the facilities and conductance of Guarantee tests for the facilities including supply of mandatory spares (if any). This includes all requirements under the Contractor’s responsibilities for testing, pre-commissioning and commissioning of the facilities, conducting Guarantee tests and, where so required by the bidding documents, the acquisition of all permits, approvals and licenses, etc.; the operation, maintenance and training services and such other items and services as may be specified in the bidding documents, all in accordance with the requirements of the General Conditions of Contract and Technical Specifications.	We understand EIA, CRZ clearance , Consent to Establish (CTE) & Consent to Operate (CTO) as applicable shall be obtained by NVVN.	The bidders understanding is correct.
9	IV	GCC	111	10.2	Access to Site	Employer to confirm on providing full access of Site on signing of Contract Agreement instead of reasonable access.	Full access to the Site shall be provided on signing of contract agreement.