

### UNPRICE SCHEDULE-LIME FEEDING/DOSING SYSTEM FOR 3x 660 MW NPGCL Nabinagar STPP (FGD)

Item Number	Item Title	Item Description	Item Quantity	Unit of Measure	Consignee ID	HSN CODE	QUOTED/NOT QUOTED
1	Main Supply as per Technical Specification	Surge Hopper	1	Nos	RAVI_NABINAGAR	84289090	
2	Main Supply as per Technical Specification	Vibrating Feeder	1	Nos	RAVI_NABINAGAR	84289090	
3	Main Supply as per Technical Specification	Continuous Discharge Twin Feed Type Bucket Elevator with standard components like buckets, belt, drive/tail pulleys with shaft & bearing assemblies, middle/top/bottom casings, take up unit, drive base frame, drive unit- geared motor (IE3), chain for final power transmission, zero speed switch, complete along with all accessories, 2-way (motorised) Diverter Flap Gate, interconnecting flanges/chutes, hardwares & gaskets.	1	Nos	RAVI_NABINAGAR	84289090	
4	Main Supply as per Technical Specification	Lime Silos (MS with SS 304 lining on conical portion) complete with supporting steel structure, platforms, ladders, railings, level switches, air relief devices, aeration pads/ flexible vibro pads/ electro-magnetic vibrators (for conical portion of silo) along with all accessories, interconnecting flanges/chutes, hardwares & gaskets.	2	Nos	RAVI_NABINAGAR	84289090	
5	Main Supply as per Technical Specification	Self-cleaning Bag Filter System of suitable capacity along with blowers, automatic/on-load cleaning system.	2	Nos	RAVI_NABINAGAR	84289090	
6	Main Supply as per Technical Specification	Manual Knife Gates along with interconnecting flanges, hardwares & gaskets.	2	Nos	RAVI_NABINAGAR	84289090	
7	Main Supply as per Technical Specification	Motorized knife Gates along with accessories, interconnecting flanges, hardwares & gaskets.	2	Nos	RAVI_NABINAGAR	84289090	
8	Main Supply as per Technical Specification	Rotary vane feeders/ Rotary air lock feeders (MOC –Stainless Steel) along with motor(IE3), interconnecting flanges, hardwares & gaskets.	2	Nos	RAVI_NABINAGAR	84289090	
9	Main Supply as per Technical Specification	Screw Conveyors complete with screw flight with pipe, trough, end plates, inlet/outlet standard chutes, end shafts with bearings & plumber blocks, drive base frame, dust seals, drive geared motor (IE3), output coupling, zero speed switch, with interconnecting flanges, hardwares & gaskets along with all accessories.	2	Nos	RAVI_NABINAGAR	84289090	
10	Main Supply as per Technical Specification	Neutralisation Tanks (MSRL) with SS dissolving basket, drain, manholes and all necessary arrgt./nozzles.	2	Nos	RAVI_NABINAGAR	84289090	
11	Main Supply as per Technical Specification	Agitators of SS construction with motor/reduction gear and its mounting arrangement.	2	Nos	RAVI_NABINAGAR	84289090	
12	Main Supply as per Technical Specification	Lime Slurry Dosing Pumps alongwith motor (IE3)	2	Nos	RAVI_NABINAGAR	84289090	
13	Main Supply as per Technical Specification	Complete interconnected piping slurry, air and water pipes along with valves, rubber lining wherever aplicable, supports, gaskets, fasteners and accessories which is integral to Lime Feeding or Dosing system-Process water piping from TP outside building to neutralisation tanks along with overflow and drain piping of tanks, back-flushing pipeline along with valves, fittings.	1	LOT	RAVI_NABINAGAR	84289090	

14	Main Supply as per Technical Specification	Complete interconnected piping slurry, air and water pipes along with valves, rubber lining wherever applicable, supports, gaskets, fasteners and accessories which is integral to Lime Feeding or Dosing system-Lime slurry piping from Neutralization Tanks to dosing pumps inlet & from feeding or dosing pumps outlet to Waste water tank inlet along with re-circulation line with all required valves, fittings.	1	LOT	RAVI_NABINAGAR	84289090	
15	Main Supply as per Technical Specification	Complete interconnected piping slurry, air and water pipes along with valves, rubber lining wherever applicable, supports, gaskets, fasteners and accessories which is integral to Lime Feeding or Dosing system-All Interconnecting pipe or ducts, valves and all chutes Instrument air, water line, slurry lines	1	LOT	RAVI_NABINAGAR	84289090	
16	Main Supply as per Technical Specification	Complete interconnected piping slurry, air and water pipes along with valves, rubber lining wherever applicable, supports, gaskets, fasteners and accessories which is integral to Lime Feeding or Dosing system-Instrument air piping from TP outside building upto equipment related to the system	1	LOT	RAVI_NABINAGAR	84289090	
17	Main Supply as per Technical Specification	Supporting steel structure, platforms, ladders, railings, and holdback as applicable along with all accessories and necessary hardwares for complete Lime Feeding or Dosing System.	1	LOT	RAVI_NABINAGAR	84289090	
18	Main Supply as per Technical Specification	Complete instruments associated with equipment and integral piping as defined at 13-16 for Lime Feeding or Dosing system.	1	LOT	RAVI_NABINAGAR	84289090	
19	Main Supply as per Technical Specification	Special tools & Tackles or Erection and start-up or commissioning spares	1	LOT	RAVI_NABINAGAR	84289090	
20	COST OF SUPERVISION FOR SERVICES as per Technical Specification, Except 22 and 23	Total lump sum prices for visits -should include travel expenses to/ fro site, visa/ insurance ,if applicable, intermediary stay for Supervision of assembly, erection and commissioning, trial run at site & taining to O&M staffs including technical support during implementation of logic & FAT of BHEL DCS.	4	Nos	RAVI_NABINAGAR	998732	
21	COST OF SUPERVISION FOR SERVICES as per Technical Specification, Except 22 and 23	Total lump sum prices for Supervision of assembly, erection and commissioning, trial run at site & training to O&M staffs -in days including visit charges, local transportation, boarding, lodging & other related exepenses for the total scope defined as per BHEL NIT & tender technical specification, amendment & agreements till placement of order.	60	days	RAVI_NABINAGAR	998732	
22	COST OF SUPERVISION FOR SERVICES as per Technical Specification	Total Lump sump price for successful conductance of Performance Guarantee test and handover in flawless condition of the package to the customer at site visit charges, local transportation, boarding, lodging & other related expenses.	1	LOT	RAVI_NABINAGAR	998732	
23	COST OF SUPERVISION FOR SERVICES as per Technical Specification	Total Lump sump price for training of employees of customer at manufacturers works 3 persons for 2 days including lodging and boarding	1	LOT	RAVI_NABINAGAR	998732	
24	Mandatory spares as per Technical Specification	Mechanical-Agitators for neutralisation tank-Impeller Assembly-1 lot is equal to 1 no of each type	1	LOT	RAVI_NABINAGAR	84313990	
25	Mandatory spares as per Technical Specification	Mechanical-Agitators for neutralisation tank-Bearing Assembly- 1 lot is equal to 2 nos of each type	1	LOT	RAVI_NABINAGAR	84313990	
26	Mandatory spares as per Technical Specification	Mechanical-Agitators for neutralisation tank-Motor - 1 lot is equal to 1 no of each type	1	LOT	RAVI_NABINAGAR	84313990	
27	Mandatory spares as per Technical Specification	Mechanical-Agitators for neutralisation tank-Belt and Pulley If applicable- 1 lot is equal to 2 no of each type	1	LOT	RAVI_NABINAGAR	84313990	

28	Mandatory spares as per Technical Specification	Mechanical-Agitators for neutralisation tank- Gear Box Assembly If Applicable 1 lot is equal to 1 no of each type	1	LOT	RAVI_NABINAGAR	84313990	
29	Mandatory spares as per Technical Specification	Mechanical-Agitators for neutralisation tank- Agitators shaft assembly-1 lot is equal to 2 no. of each type and size	1	LOT	RAVI_NABINAGAR	84313990	
30	Mandatory spares as per Technical Specification	Mechanical-Agitators for neutralisation tank- Complete Agitator Assembly- 1 lot is equal to 1 no of each type and size	1	LOT	RAVI_NABINAGAR	84313990	
31	Mandatory spares as per Technical Specification	Mechanical-Slurry Pumps for Dosing pump- Impeller Assembly- 1 lot is equal to 6 no of each type and size	1	LOT	RAVI_NABINAGAR	84313990	
32	Mandatory spares as per Technical Specification	Mechanical-Slurry Pumps for dosing pump-Casing Liners* (where replaceable liners are provided)-1 lot is equal to 2 Set	1	LOT	RAVI_NABINAGAR	84313990	
33	Mandatory spares as per Technical Specification	Mechanical-Slurry Pumps for dosing pump-Seals-1 lot is equal to 6 set of each type	1	LOT	RAVI_NABINAGAR	84313990	
34	Mandatory spares as per Technical Specification	Mechanical-Slurry Pumps for dosing pump-Bearings-1 lot is equal to 4 nos of each type	1	LOT	RAVI_NABINAGAR	84313990	
35	Mandatory spares as per Technical Specification	Mechanical-Slurry Pumps for dosing pump-Motor- 1 lot is equal to 1 no of each type	1	LOT	RAVI_NABINAGAR	84313990	
36	Mandatory spares as per Technical Specification	Mechanical-Slurry Pumps for dosing pump-GEAR BOX- 1 lot is equal to 1 No. for each type and size of pump	1	LOT	RAVI_NABINAGAR	84313990	
37	Mandatory spares as per Technical Specification	Mechanical-Slurry Pumps for dosing pump-Motor-Pump Coupling 1 lot is equal to 1 no of each type	1	LOT	RAVI_NABINAGAR	84313990	
38	Mandatory spares as per Technical Specification	Mechanical-For Integral Piping As Defined In Specification-Slurry Valves- 1 lot is equal to 6 no of each type & size	1	LOT	RAVI_NABINAGAR	84313990	
39	Mandatory spares as per Technical Specification	Mechanical-For Integral Piping As Defined In Specification - Slurry Line Bends 1 lot is equal to 6 no of each type & size	1	LOT	RAVI_NABINAGAR	84313990	
40	Mandatory spares as per Technical Specification	Measuring Instruments-Transmitters of all types and model no. for measurement of pressure, differential pressure, flow,level, temp, etc.). This shall include magnetic/electromagnetic flow meter, mass flow meter also. 1 lot is equal to 10 percent or 1 no of each type and model, which ever is more	1	LOT	RAVI_NABINAGAR	84313990	
41	Mandatory spares as per Technical Specification	Measuring Instruments-Process Actuated Switches (Pressure, Differential pressure, flow, level, temp) -1 lot is equal to 10% or 2 no. of each type and model, whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
42	Mandatory spares as per Technical Specification	Measuring Instruments-Limit switches (for pneumatic and manual valves) -1 lot is equal to 10% or 2 no. of each type and model, whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
43	Mandatory spares as per Technical Specification	Measuring Instruments-Local Gauges for Pressure, Differential pressure, flow, level, temp) -1 lot is equal to 5% or 1 no. of each type and model, whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
44	Mandatory spares as per Technical Specification	OTHER RELATED CONTROL AND INSTRUMENTATION SYSTEMS-Set of gaskets/O-rings/seals-200% of each type, model, rating and size	1	LOT	RAVI_NABINAGAR	84313990	
45	Mandatory spares as per Technical Specification	OTHER RELATED CONTROL AND INSTRUMENTATION SYSTEMS-Filters, light source, sensor, detector, etc.-100% of each type, model and rating	1	LOT	RAVI_NABINAGAR	84313990	

46	Mandatory spares as per Technical Specification	OTHER RELATED CONTROL AND INSTRUMENTATION SYSTEMS-Complete Probe with shield assembly (Not applicable for In situ-path)-1 no. of each type and model	1	LOT	RAVI_NABINAGAR	84313990	
47	Mandatory spares as per Technical Specification	OTHER RELATED CONTROL AND INSTRUMENTATION SYSTEMS-Electronic card assembly/PCBs, moisture/condensate monitor, power supply modules-10% of each type, model and rating	1	LOT	RAVI_NABINAGAR	84313990	
48	Mandatory spares as per Technical Specification	PROCESS CONNECTION PIPING (For Impulse Piping /Tubing and Air Supply Piping as Applicable)- Valves of all types and models-10% or 1 no. of each type,class, size and model whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
49	Mandatory spares as per Technical Specification	PROCESS CONNECTION PIPING (For Impulse Piping /Tubing and Air Supply Piping as Applicable)-2 way, 3way, 5way valve manifolds-10% or 1 no. of each type, class, size and model whichever is more	1	LOT	RAVI_NABINAGAR	84313990	
50	Mandatory spares as per Technical Specification	PROCESS CONNECTION PIPING (For Impulse Piping /Tubing and Air Supply Piping as Applicable)-Fittings-10% or 1 packet of each type, class, size and model whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
51	Mandatory spares as per Technical Specification	PROCESS CONNECTION PIPING (For Impulse Piping /Tubing and Air Supply Piping as Applicable)-Purge meters-5% of each model or 1 no.whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
52	Mandatory spares as per Technical Specification	PROCESS CONNECTION PIPING (For Impulse Piping /Tubing and Air Supply Piping as Applicable)-Filter regulators-20% of each model or 2 nos. whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
53	Mandatory spares as per Technical Specification	CONTROL VALVES, ACTUATORS & ACCESSORIES (for all modulating control valves)-Pneumatic and electro-hydraulic actuator assembly-10% or 1 no. of each type, model and rating, whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
54	Mandatory spares as per Technical Specification	CONTROL VALVES, ACTUATORS & ACCESSORIES (for all modulating control valves)-Valve trim (including cage, plug, stem, seat rings, guide bushings etc.)-1 Set of each type of control valve.	1	LOT	RAVI_NABINAGAR	84313990	
55	Mandatory spares as per Technical Specification	CONTROL VALVES, ACTUATORS & ACCESSORIES (for all modulating control valves)-Diaphragms, O' rings, seals etc. of all types make etc.-1 Set of each type and rating.	1	LOT	RAVI_NABINAGAR	84313990	
56	Mandatory spares as per Technical Specification	CONTROL VALVES, ACTUATORS & ACCESSORIES (for all modulating control valves)-Pressure Gauges of all types, make, rating etc.-10% or 2 nos. of each type whichever is more	1	LOT	RAVI_NABINAGAR	84313990	
57	Mandatory spares as per Technical Specification	CONTROL VALVES, ACTUATORS & ACCESSORIES (for all modulating control valves)-Solenoid valves (if applicable)-10% or 2 nos. of each type whichever is more	1	LOT	RAVI_NABINAGAR	84313990	
58	Mandatory spares as per Technical Specification	CONTROL VALVES, ACTUATORS & ACCESSORIES (for all modulating control valves)-Positioner units (complete unit)& accessories (link assembly)-10% or 1 no. of each type whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
59	Mandatory spares as per Technical Specification	CONTROL VALVES, ACTUATORS & ACCESSORIES (for all modulating control valves)-Pneumatic air-filter/Regulator of each type, make rating etc.-10% or 2 Nos., whichever is more	1	LOT	RAVI_NABINAGAR	84313990	
60	Mandatory spares as per Technical Specification	CONTROL VALVES, ACTUATORS & ACCESSORIES (for all modulating control valves)-Air lock relays-10% or 2 nos. of each type whichever is more	1	LOT	RAVI_NABINAGAR	84313990	
61	Mandatory spares as per Technical Specification	PNEUMATICS ISOLATION / BLOCK VALVES, ACTUATORS & ACCESSORIES (For all ON/OFF valves)-Pneumatic actuator assembly-10% or 1 no. of each type, model and rating, whichever is more.	1	LOT	RAVI_NABINAGAR	84313990	
62	Mandatory spares as per Technical Specification	PNEUMATICS ISOLATION / BLOCK VALVES, ACTUATORS & ACCESSORIES (For all ON/OFF valves)-Diaphragms, O' rings, seals etc. of all types make etc.-1 Set of each type and rating.	1	LOT	RAVI_NABINAGAR	84313990	

63	Mandatory spares as per Technical Specification	PNEUMATICS ISOLATION / BLOCK VALVES, ACTUATORS & ACCESSORIES (For all ON/OFF valves)-Limit switches (complete unit) & accessories (link assembly)-10% or 2 Nos., whichever is more	1	LOT	RAVI_NABINAGAR	84313990	
64	Mandatory spares as per Technical Specification	PNEUMATICS ISOLATION / BLOCK VALVES, ACTUATORS & ACCESSORIES (For all ON/OFF valves)-Pneumatic air-filter/Regulator of each type, make rating etc.-10% or 2 Nos., whichever is more	1	LOT	RAVI_NABINAGAR	84313990	
65	Mandatory spares as per Technical Specification	PNEUMATICS ISOLATION / BLOCK VALVES, ACTUATORS & ACCESSORIES (For all ON/OFF valves)-Solenoid valves-10% or 2 Nos. of each type, whichever is more	1	LOT	RAVI_NABINAGAR	84313990	
66	Mandatory spares as per Technical Specification	ELECTRICAL ACTUATORS-Actuators-1 no of each type and rating	1	LOT	RAVI_NABINAGAR	84313990	
67	Mandatory spares as per Technical Specification	ELECTRICAL ACTUATORS-Electronic PCB of all types-10% of each type & model	1	LOT	RAVI_NABINAGAR	84313990	
68	Mandatory spares as per Technical Specification	ELECTRICAL ACTUATORS-Absolute Encoder (replaceable part)-5% of each type & model	1	LOT	RAVI_NABINAGAR	84313990	
69	Mandatory spares as per Technical Specification	ELECTRICAL ACTUATORS-Electronic Torque sensor-5% of each type & model	1	LOT	RAVI_NABINAGAR	84313990	

**NOTES:-**

**For Main Supply incl. Supervision of E&C & PG Test-**

- i. Bidder to note that above BOQ for this tender has to be read in conjunction with tender specification. Any item, if not mentioned in above BOQ but indicated in tender specification and required for completion of the system shall deemed to be included in above price.
- ii. No. of days at site defined at Sl. no. 21 of price format shall be calculated on the basis of presence at site (travel time is excluded).
- iii. No. of Visits and days as mentioned at 20 & 21 in price format may vary, depending upon site requirement. Any variation in no. of visits & no. of days shall be exercised based on unit rate arrived from Sl.No.-20 & 21 respectively.

**For Mandatory Spares-**

- i. Wherever set is mentioned, one set of the spares of that item shall be for complete replacement of that particular item for one equipment.
- ii. Any fraction of an item shall mean the next higher.
- iii. Wherever quantity has been specified as percentage (%), the quantity of mandatory spares to be provided by contractor shall be the specified percentage (%) of the total population of the plant. In case, the quantity so calculated happens to be fraction, the same shall be rounded off to next higher whole number.
- iv. Wherever the quantities have been indicated for each type, size, thickness, material, radius, range, etc., these shall cover all the items supplied and installed and the breakup for these shall be furnished in the bid.
- v. In case, spares indicated in the list are not applicable to the particular design offered by the bidder, the bidder should offer spares applicable to offered design with quantities generally in line with the approach followed in the above list.
- vi. Any item which is quoted as “not applicable” in the above list (in price schedule) and is found to be “applicable” at a later date shall be supplied by the Bidder without any commercial implications. The Bidder shall note that if there in any change/ variation in equipment/ system during detail engineering which causes any change/ variation in the essential spares quantity, the same shall be supplied without any commercial implications. The price indicated for the mandatory spares shall be considered for the purpose of evaluation.
- vii. (\*) Unless otherwise stated, a set shall mean complete replacement for one equipment.
- viii. Bidder is also required to refer to notes mentioned at Annexure-II, Sub Section-E, Section-I in technical specification. Bidder declares compliance to same without any deviation.