

Annexure -1

KUDANKULAM NUCLEAR POWER PROJECT UNIT-3 & 4

Supply, transportation, erection, testing and commissioning of 1 station Horizontal Valve Test Bench to test 4" to 24" dia valves.**Detailed Technical Specification:**

- i) Valve testing machine shall be of horizontal type for accommodating the valves of diameter range from 100NB to 600NB (Nominal bore to outer dia pipe sizes as per Russian standards).
- ii) **Testing pressure:** Testing pressure ranges from 0.2MPa to 24MPa (2-240 bars)
Up to 14" – Max pressure 24 Mpa
Beyond 14" – Max pressure 11 Mpa
- iii) **Testing medium:** Air & Water
Water - for all ranges.
Air - up to dia 89 mm with pressure of maximum 80kg/cm² only
Required capacity Air compressor, air receiver tank, water tank, water circulation and water drainage system shall be supplied along with equipment
- iv) **Valve Type:** Gate, globe, butter fly, check valve (both swing & piston type)
Type of valves to be tested is gate valves (electrically operated, manual operated, pneumatic operated), check valves, globe valves. The weight of the valve ranges from 50Kg to 5000kg. Many of the valves, inlet and outlet are offset in nature.
- v) **End Connection:** Butt welded; edge prepared.
Distance between the valve faces ranges minimum from 400 mm and maximum up to 1750mm and the valve end connections are of butt-welded type. Based on this bidder may consider bore sealing arrangement for test of the valves.
- vi) **Sealing plate:** Supply of Bore sealing plates for all the configurations and class are included in the scope. The details of Bore sealing plates shall be supplied along with equipment is enclosed. Valves bore dimension drawings will be provided by BHEL to successful bidder for manufacturing of bore sealing plates.
- vii) **Accessories:** List of accessories and safety guard supplied along with the equipment shall be submitted along with offer
- viii) **Data logging:** Digital bubble counter, computerized data logging system with custom test report generation. Machine shall be provided with computerized data logging with customized report generation.
- ix) Scope includes supply of required spares for a period of 05 (Five) years operation. List of spares with quantity supplied along with equipment shall be submitted along with offer.
- x) **Installation:** Valve testing facility shall be setup at the closed shed provided by BHEL at Kudankulam Nuclear Power Project unit 3 & 4.
Note: BHEL will provide 3 phase power supply and water inlet connection only. Any other systems are required to run the valve testing equipment are in the scope of bidder.



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Annexure -2

KUDANKULAM NUCLEAR POWER PROJECT UNIT3 & 4

Supply, transportation, erection, testing and commissioning of 4 station Valve Test Bench to test ½" to 4" dia valves.

Detailed Technical Specification:

- i) Valve testing machine shall be of horizontal type / vertical type for accommodating the valves of diameter range from 10NB to 100NB (Nominal bore to outer dia of pipe as per Russian standards) and shall be able to test at least 4 nos of valves in single operation.
- ii) **Testing pressure:** Testing pressure ranges from 0.2MPa to 24MPa (2- 240 bars)
Up to 4" – Max pressure 24 Mpa
- iii) **Testing medium:** Air & Water
Water - for all ranges.
Air - up to dia 89mm with pressure of maximum 80kg/cm² only
Required capacity Air compressor, air receiver tank, water tank, water circulation and water drainage system shall be supplied along with equipment
- iv) **Valve Type:** Type of valves to be tested is gate valves (electrical operated, manual operated, pneumatic operated), check valves, globe valves. The weight of the valve ranges from 0.5Kg to 1000kg. Many of the valves, inlet and outlet are offset in nature.
- v) **End Connection:** Butt welded; edge prepared.
Distance between the valve faces ranges minimum from 50mm and maximum up to 600mm and the valve end connections are of butt-welded type. Based on this bidder may consider bore sealing arrangement for these valves.
- i) **Sealing plate:** Supply of Bore sealing plates for all the configurations and class are included in the scope. Details of Bore sealing plates shall be supplied along with the equipment is enclosed. Valves bore dimension drawings will be provided by BHEL to successful bidder for manufacturing of bore sealing plates.
- vi) **Accessories:** List of accessories and safety guard supplied along with the equipment shall be submitted along with offer
- vii) **Data logging:** Digital bubble counter, computerized data logging system with custom test report generation. Machine shall be provided with computerized data logging with customized report generation.
- viii) Scope includes supply of required spares for a period of 05 (Five) years operation. List of spares with quantity supplied along with equipment shall be submitted along with offer.
- ix) **Installation:** Valve testing facility shall be setup at the closed shed provided by BHEL at Kudankulam Nuclear Power Project unit 3 & 4.
Note: BHEL will provide 3 phase power supply and water inlet connection only. Any other systems are required to run the valve testing equipment are in the scope of bidder.


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KUDANKULAM 2X1000 MWe PROJECT UNIT 3 & 4			
HORIZONTAL VALVE TEST BENCH TO TEST 4" TO 24" DIA VALVES			
BORE SEALING PLATE DETAILS			
S.no	Size	Class	Qty in Nos
1	4"	PN25 – PN100	2
2	4"	PN160	2
3	5"	PN25 – PN100	2
4	5"	PN160	2
5	6"	PN25 – PN100	2
6	6"	PN160	2
7	8"	PN25 – PN63	2
8	8"	PN100	2
9	8"	PN160	2
10	10"	PN25 – PN63	2
11	10"	PN100	2
12	10"	PN160	2
13	12"	PN25 – PN63	2
14	12"	PN100	2
15	12"	PN160	2
16	14"	PN25 – PN50	2
17	14"	PN63	2
18	14"	PN100	2
19	14"	PN160	2
20	16"	PN25 – PN50	2
21	16"	PN100	2
22	20"	PN25	2
23	20"	PN50	2
24	20"	PN63	2
25	20"	PN100	2
26	24"	PN25	2
27	24"	PN50	2
28	24"	PN63	2
29	24"	PN100	2
Total no of Plates			58
Total no of pairs - 29			


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KUDANKULAM 2X1000 MWe PROJECT UNIT 3 & 4			
4 STATION VALVE TEST BENCH TO TEST 1/2" TO 4" DIA VALVES			
BORE SEALING PLATE DETAILS			
S.no	Size	Class	Qty in Nos
1	1/2"	PN25 – PN160	8
2	3/4"	PN25 – PN100	8
3	3/4"	PN160	8
4	1"	PN25 – PN100	8
5	1"	PN160	8
6	1 1/2"	PN25 – PN100	8
7	1 1/2"	PN160	8
8	2"	PN25 – PN100	8
9	2"	PN160	8
10	2 1/2"	PN25 – PN100	8
11	2 1/2"	PN160	8
12	3"	PN25 – PN100	8
13	3"	PN160	8
14	4"	PN25 – PN100	8
15	4"	PN160	8
Total no of Plates			120
Total no of pairs - 60			

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SUB: Supply, installation, testing & commissioning of Valve testing bench

1. Bidders of Indian manufacturers should have executed supply, installation, testing & commissioning of minimum one number Valve testing bench of capacity to test the valve size 4"- 24" Dia and 2 -240 bar pressure range in any industry in India in the last 03 years reckoned from the last date of bid submission. The necessary purchase order and completion certificate shall be furnished along with offer
2. Vendors are to be approved by customer NPCIL Kudankulam.



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