



CONTROL VALVE SPECIFICATION SHEET

(IN ACCORDANCE WITH I.S.A. FORM S20.51)

PROJECT: NEYVELI NEW TPP 2X500MW PROJECT
STEAM GENERATOR PACKAGE

CUST.No: 7232, 7233

GENERAL: THIS IS TO BE READ ALONG WITH TECHNICAL SPECIFICATION PC: TSP: APRDS: NEWNEYVELI

- | | | | |
|---------------------------|-------------------------------------|-----------------------|----------------------|
| 1. Valve tag No. | ASV-22 | 5. Manufacturer | : * |
| 2. Service | : High capacity combined PRDS valve | 6. Model No. | : * |
| 3. Line No./Vessel No. | : | 7. Rating | : ASME CL. 3000 Spl. |
| 4. Qty. required per unit | : ONE | 8. Total Qty Required | : 2 Nos. |

BODY:

- | | | | | | |
|--------------------------|---|---|--|--|--|
| 9. Type : | Thru ☐ | 3 Way ☐ | 16. Bonnet type : | Standard ☐ | Finned ☒ |
| | Z type ☐ | Angle ☒ | | Extended ☒ | Pr. seal ☐ |
| | ☐ | | | ☐ | |
| 10. Form : | Globe ☒ | Ball ☐ | 17. Material : | Body : ASTM A182Gr.F22/SA217WC9 | |
| | Butterfly ☐ | ☐ | | Packing: GRAFOIL | |
| 11. Size | : * | | | Bolting : * | |
| 12. Port Size | : * | | 18. Flow direction | : SIDE ENTRY-BOTTOM EXIT | |
| 13. Connecting Pipe size | Steam Inlet : OD 219.1 x 40 | | 19. Suitable matching pieces to match with pipe size specified shall be offered. | | |
| | Steam Outlet : OD 457.2 x 85 | | | | |
| | Spray inlet : OD 48.3 x 5.08 | | | | |
| 14. Body rating | : ASME CL. 3000 Spl. | | | | |

- | | | | |
|-------------------------------|----------------------------------|---|---|
| 15. Type of end connections : | Screwed ☐ | BW ☒ (Steam side) | SW ☒ (Spray side) |
| | NPI ☐ | BSPT ☐ | BS ☐ |
| | Flanged ☐ | ☐ | ☐ |
| | ANSI ☐ | DIN ☐ | |

Edge preparation as per BPS. STY 'P'; d1=143.6(steam inlet) and d1=297(steam outlet)

TRIM:

- | | | | |
|---|-------------------------------------|-------------------------|--------------------------------|
| 20. No. of ports | : * | 24. Stem material | : |
| 21. Type : Balanced ☒ | Unbalanced ☐ | 25. Plug material | : |
| 22. Plug characteristics: L/LV/EP / MODIFIED EP | | 26. Seat material | : |
| 23. Guiding : Cage ☒ | Port ☐ | 27. Disc material | : |
| | Top ☐ | 28. stem guide material | : |
| | Bottom ☐ | 29. Cage Material | : F22 Ion Nitrided (or) Better |

ACTUATOR:

- | | | | |
|---|---|---|--------|
| 30. Type : | Electric ☐ | 34. Diaphragm/Cylinder pressure at | |
| | Hydraulic ☐ | Valve full open | : * |
| | Pneumatic ☒ | Valve full close | : |
| | DA/RA(Air To Close) | 35. Force required for process & Force available at actuator. | : * |
| 31. Size | : * | 36. Actuator sizing ΔP | : * |
| 32. Supply : 5-8 Kg/cm ² | | 37. If actuator electric fill in data sheet as per annexure furnished and shall comply with annexure-I specification. | : NAPL |
| 33. Failsafe position : Stayput ☒ | | | |
| | Full Close ☐ | | |
| | Full Open ☐ | | |

00	20.04.15	FRESH ISSUE	E.KRITHIGA	C.SARAVANAN	R.PRABA	DRG. NO:	4-00-306-40691	REV	00
REV	DATE	ALTERATION	PREPARED	APPD./MECH	APPD./C&I				

DESIGN DATA:

A Steam B Spray

70. Design Pressure Kg/cm² (g) : 199.1 39 } *
71. Design Temperature °C : 545 55 } *
72. Rated/Design/Selected Cv of valve :
73. Velocity restriction : *
74. Operating lift restriction : 10 to 80 %.
- Stem travel range from min. flow to max. flow shall be around 50% of the total stem travel.
- * { MAX. CLASS RATING BETWEEN A & B SHALL BE THE CLASS RATING FOR THE TOTAL VALVE }

75. lift at various operating Conditions 1 TO 6 : *
76. Down stream limitations : *
77. Up stream limitations : *
78. Increase in signal Air : To open the Valve

TESTING/INSPECTION:

79. Hydraulic test report : Yes ☒ No ☐
80. Radiography : Critical Parts : ☒ Total ☐
- Not required : ☐ ☐
81. IBR test report : Req'd. : ☒ ☐
82. Type test : *
- Cv capacity test procedure as per ISA75.02: Required
83. Valve functional test : Yes ☒ No ☐
- * Type test to be done atleast for one no on this consignment.

84. Accessories functional : Yes ☒ No ☐
- Test : ☐
85. Seat leakage test : Yes ☒ No ☐
86. Material test report : Yes ☒ No ☐
87. Customer Inspection :
- In process : Yes ☒ No ☐
- Final : Yes ☒ No ☐
88. Third Party inspection : Yes ☐ No ☐

DOCUMENTATION: (Required)

89. With bid. (3 sets)
- Catalogues : Yes ☒ No ☐
- Dimensional drawing : Yes ☒ No ☐
- All data sheets : Yes ☒ No ☐
- Recommendation / Limitation : Yes ☒ No ☐
- Confirmatory report : Yes ☒ No ☐
- Contrary report : Yes ☒ No ☐
- Deviation report : Yes ☒ No ☐
90. Quality plan : Yes ☒ No ☐

91. With equipment :
- Dimensional drawing : 15 Sets + 1 CD
- O & M ** : 15 Sets + 1 CD
- Data Sheets : 15 Sets + 1 CD
- Test certificate : 03 Sets + 1 CD
92. Valve sizing, actuator sizing, noise level calculations required with bid(with formulae) : Yes ☒ No ☐
93. --

SPARES:

94. Commissioning spares : *
95. Mandatory spares : As per specification

96. 2/3 Years maintenance spares : *

OTHERS:

97. Bidders experience list : Required ☒ Not required ☐
98. Operational feed back of such valves supplied elsewhere : Required ☒ Not required ☐
99. Equipment guarantee : Required ☒ Not required ☐
100. System guarantee : Required ☒ Not required ☐
101. Service contract for 5 Years : - To quote separately
102. Commissioning of the valves : Required ☐ Not required ☒

NOTES:

1. * DENOTES BIDDER TO SPECIFY; 2. ** VIDEO MANUAL PREFERRED.; 3. \$ AS PER TENDER SPECIFICATION
4. # AFTER INSPECTION, SMART POSITIONER TO BE PACKED SEPARATELY ALONG WITH THE CONTROL VALVE AND MOUNTING ACCESSORIES. THE SAME WILL BE OPENED AND INSTALLED ONLY DURING COMMISSIONING.

20.04.15	E.KRITHIGA	C.SARAVANAN	R.PRABA	DRG. NO:	4-00-306-40691	REV
DATE	PREPARED	APPD./MECH	APPD/C&I			00



CONTROL VALVE SPECIFICATION SHEET

(IN ACCORDANCE WITH I.S.A. FORM S20.51)

PROJECT: NEYVELI NEW TPP 2X500MW PROJECT
STEAM GENERATOR PACKAGE

CUST.No: 7232, 7233

GENERAL: THIS IS TO BE READ ALONG WITH TECHNICAL SPECIFICATION PC: TSP: APRDS: NEWNEYVELI

- | | |
|--|--------------------------------|
| 1. Valve tag No. : ASV-26 | 5. Manufacturer : * |
| 2. Service : Low capacity Pressure Control valve | 6. Model No. : * |
| 3. Line No./Vessel No. : | 7. Rating : ASME CL. 600 |
| 4. Qty. required per unit : 1 No. | 8. Total Qty Required : 2 Nos. |

BODY:

- | | |
|---|--|
| 9. Type : Thru ☒ 3 Way ☐
Z type ☐ Angle ☐
☐ | 16. Bonnet type : Standard ☐ Finned ☒
Extended ☒ Pr. seal ☐
☐ |
| 10. Form : Globe ☒ Ball ☐
Butterfly ☐ ☐ | 17. Material : Body : ASTM A217GrWC6/F11 CL2
Packing: GRAFOIL
Bolting : * |
| 11. Size : * | 18. Flow direction : HORIZONTAL |
| 12. Port Size : * | 19. Suitable matching pieces to match with pipe/bold size specified shall be offered. |
| 13. Connecting pipe size : Inlet : OD 168.3X7.11
Outlet : OD 273X9.27 | |
| 14. Body rating : ASME CL. 600 | |

- | |
|---|
| 15. Type of end connections : Screwed ☐ BW ☒ SW ☐
NPI ☐ BSPT ☐ BS ☐
Flanged ☐ ☐ ☐
ANSI ☐ DIN ☐ |
|---|

Edge preparation as per BPS. STY 'D'; d1=155.6(inlet) and d1=254.5(outlet)

TRIM:

- | | | |
|--|---------------------------|--------------------------------|
| 20. No. of ports : * | 24. Stem material : | } 17.4 PH SST
OR EQUIVALENT |
| 21. Type : Balanced ☒ Unbalanced ☐ | 25. Plug material : | |
| 22. Plug characteristics: L/LV/EP / MODIFIED EP | 26. Seat material : | |
| 23. Guiding : Cage ☒ Port ☐ Top ☐
Bottom ☐ | 27. Disc material : | |
| | 28. stem guide material : | |
| | 29. -- | |

ACTUATOR:

- | | |
|---|---|
| 30. Type : Electric
Hydraulic ☐ Pneumatic ☒ | 34. Diaphragm/Cylinder pressure at
Valve full open : *
Valve full close : |
| 31. Size : * ☐ DA/RA(Air To Close) | 35. Force required for process &
Force available at actuator. : * |
| 32. Supply : 5-8 Kg/cm ²
Shut off Pressure: 8 Kg/cm ² | 36. Actuator sizing ΔP : * |
| 33. Failsafe position : Stayput ☒
of valve. Full Close ☐ Full Open ☐ | 37. If actuator electric fill in
data sheet as per annexure : NAPL
furnished and shall comply
with annexure-I specification. |

00	20.04.15	FRESH ISSUE	E.KRITHIGA	C.SARAVANAN	R.PRABA	DRG. NO:	4-00-306-40693	REV	00
REV	DATE	ALTERATION	PREPARED	APPD/MECH	APPD/C&I				

POSITIONER:

38. Type : Pneumatic ☐ Electronic ☐

DA/RA

39. If Electronic : Type : Electro Pneumatic (SMART WITH FAIL FREEZE FACILITY) ☒#

Model : Solid plate deversing contactors

Main contactor : Solid state thyristor: ☐

Relay Switching : ☐

Also refer annexure – II

position indicator reqd. for Valve & VCB

40. If Pneumatic : Type : SMART
Model : *

Split range : Yes ☐ No ☒

Controller Input & Output Signal Value } : 4-20 mA

Air supply : 5 Kg/cm²

Input/Output Pr. guage :

Required : Yes ☒ No ☐

By pass provision : Yes ☐ No ☒

Action : Direct ☐ Reverse ☐ Both ☒

Cam : =% ☐ Linear ☐ Both ☐

ACCESSORIES:

41. Handwheel : Yes ☒ Side ☒ Top ☐

42. Air filter : Yes ☒ No ☐
Filter Size : 5 Micron ☒ 25 Micron ☐

43. Limit Switches : Yes ☒ No ☐
Qty. : 1 at full open &
: 1 at full close
Rating : 240v. 5Amp. ac
No of contacts per switch : 2No + 2NC

44. Solenoid valve to effect
Stayput : Yes ☒ No ☐
Type : 3 Way universal: Yes ☒ No ☐
Rating : 24V DC 2 wire
Class H coil : Yes ☒ No ☐

45. Vol. booster : Yes ☐ No ☒

46. Travel time : < 10 sec

47. Installation : Indoor ☐ Outdoor ☒

48. All accessories enclosure : IP65^{\$}

49. Isolated Position transmitter : Yes ☐ No ☒

Type : Pneumatic : ☐ Electronic Non contact type ☐

Rating : 2 wire 24V DC: ☐ ☐

Output : 4–20 ma : ☐ 3–15 paig ☐

50. Torque Switches : Yes ☐ No ☒

Qty. : ☐

Rating : ☐

51. Air lock : Yes ☒ No ☐

Function : TO EFFECT STAYPUT

Type * : 3 Way single acting ☐

: 3 Way double acting ☐

52. Ambience : Dusty corrosive ☒

Toxic hazardous : ☐ ☐

53.1. Local position Indicator: Required.

53.2. Integral JB : 36 Way JB required

53.3. All electrical terminating : plug & socket type

MISCELLANEOUS:

54. Seat leakage : FCI 70.2 class ☒ CLASS IV
I.S.A : ☐ ☐

55. Approx. weight (total) : *

56. Space requirements for : *
online servicing

57. Valve sizing as per
ISA 75.01 : Yes ☒ No ☐

58. Noise Level : Less than 85 DBA at 1m
from Valve & Piping System.

59. Intertubing Diagram : As per Enclosed.

60. Performance Data
Linearity : $\pm 1\%$ Hysteresis : $\pm 0.5\%$
Sensitivity : $\pm 0.5\%$ Accuracy (overall) : $\pm 2\%$

VALVE SIZING DATA:

61.	Medium :	SH Steam	☒	Sat. Steam	☐
		Water	☐		
62.	Flow rate in			T/Hr	
63.	Operating inlet pressure in			Kg/cm ² (a)	
64.	Operating inlet temperature in			°C	
65.	Outlet pressure in			Kg/cm ² (a)	
66.	Viscosity		:	--	
67.	Operating (required)	Cv			
68.	Operating noise level at	1.0 metre from valve			
69.	Outlet velocity			surface	

CONDITION				
1	2	3	4	5
REFER DRAWING No. 4-00-306-40689 FOR VALVE SIZING DATA				
REFER STANDARD TABLE				
<85	dba	(for all conditions)		

20.04.15	E.KRITHIGA	C.SARAVANAN	R.PRABA
DATE	PREPARED	APPD/MECH	APPD/C&I

DRG. NO:	4-00-306-40693	REV	00
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DESIGN DATA:

70. Design Pressure Kg/cm²(g) : 58.1 Kg/Cm² (g)
71. Design Temperature °C : 360 °C
72. Rated/Design/Selected Cv of valve : *
73. Velocity restriction : *
74. Operating lift restriction : 10 to 80 %.

Stem travel range from min. flow to max.flow shall be around 50% of the total stem travel.

75. lift at various operating Conditions 1 TO 6 : *
76. Down stream limitations : *
77. Up stream limitations : *
78. Increase in signal Air : To open the Valve

TESTING/INSPECTION:

79. Hydraulic test report : Yes ☒ No ☐
80. Radiography : Critical Parts : ☒ Total ☐
Not required : ☐ ☐
81. IBR test report : Req'd. : ☒ ☐
82. Type test : *

Cv capacity test procedure as per ISA75.02:Required

83. Valve functional test : Yes ☒ No ☐

* Type test to be done atleast for one no on this consignment.

84. Accessories functional : Yes ☒ No ☐
Test :
85. Seat leakage test : Yes ☒ No ☐
86. Material test report : Yes ☒ No ☐
87. Customer Inspection :
In process : Yes ☒ No ☐
Final : Yes ☒ No ☐
88. Third Party inspection : Yes ☐ No ☐

DOCUMENTATION: (Required)

89. With bid. (3 sets)
- Catalogues : Yes ☒ No ☐
- Dimensional drawing : Yes ☒ No ☐
- All data sheets : Yes ☒ No ☐
- Recommendation / Limitation : Yes ☒ No ☐
- Confirmatory report : Yes ☒ No ☐
- Contrary report : Yes ☒ No ☐
- Deviation report : Yes ☒ No ☐
90. Quality plan : Yes ☒ No ☐

91. With equipment :
- Dimensional drawing : 15 Sets + 1 CD
- O & M : 15 Sets + 1 CD
- Data Sheets : 15 Sets + 1 CD
- Test certificate : 03 Sets + 1 CD
92. Valve sizing, actuator sizing, noise level calculations required with bid(with formulae) : Yes ☒ No ☐
93. --

SPARES:

94. Commissioning spares : *
95. Mandatory spares : As per specification

96. 2/3 Years maintenance spares : *

OTHERS:

97. Bidders experience list : Required ☒ Not required ☐
98. Operational feed back of such valves supplied elsewhere : Required ☒ Not required ☐
99. Equipment guarantee : Required ☒ Not required ☐
100. System guarantee : Required ☒ Not required ☐
101. Service contract for 5 Years : - To quote seperately
102. Commissioning of the valves : Required ☐ Not required ☒

NOTES:

1. * DENOTES BIDDER TO SPECIFY 2. \$ AS PER TENDER SPECIFICATION
3. # AFTER INSPECTION, SMART POSITIONER TO BE PACKED SEPARATELY ALONG WITH THE CONTROL VALVE AND MOUNTING ACCESSORIES. THE SAME WILL BE OPENED AND INSTALLED ONLY DURING COMMISSIONING.

20.04.15	E.KRITHIGA	C.SARAVANAN	R.PRABA	DRG. NO:	4-00-306-40693	REV
DATE	PREPARED	APPD/MECH	APPD/C&I			00



CONTROL VALVE SPECIFICATION SHEET

(IN ACCORDANCE WITH I.S.A. FORM S20.51)

PROJECT: NEYVELI NEW TPP 2X500MW PROJECT
STEAM GENERATOR PACKAGE

CUST.No: 7232, 7233

GENERAL: THIS IS TO BE READ ALONG WITH TECHNICAL SPECIFICATION PC: TSP: APRDS: NEWNEYVELI

1. Valve tag No. CDV-01
2. Service : Common
Spray Block valve
3. Line No./Vessel No. :
4. Qty. required per unit : 1 No.

5. Manufacturer : *
6. Model No. : *
7. Rating : ASME CL.300
8. Total Qty Required : 2 Nos.

BODY:

9. Type : Thru ☒ 3 Way ☐
Z type ☐ Angle ☐
☐
10. Form : Globe ☒ Ball ☐
Butterfly ☐ ☐
11. Size : *
12. Port Size : *
13. Connecting pipe size : Inlet : OD 60.3X5.54
Outlet : OD 60.3X5.54
14. Body rating : ASME CL.300

16. Bonnet type : Standard ☒ Finned ☐
Extended ☐ Pr. seal ☐
☐
17. Material : Body : SA105/SA216WCB
Packing: GRAFOIL
Bolting : *
18. Flow direction : HORIZONTAL
19. Suitable matching pieces to match with pipe size specified shall be offered.

15. Type of end connections : Screwed ☐ BW ☐ SW ☒
NPI ☐ BSPT ☐ BS ☐
Flanged ☐ ☐
ANSI ☐ DIN ☐

TRIM:

20. No. of ports : *
21. Type : Balanced ☒ Unbalanced ☐
22. Plug characteristics: QUICK OPENING
23. Guiding : Cage ☒ Port ☐ Top ☐
Bottom ☐

24. Stem material :
25. Plug material :
26. Seat material : } SS316 SST Strain Hardened
27. Disc material : } OR EQUIVALENT
28. stem guide material :
29. --

ACTUATOR:

30. Type : Electric ☐ Pneumatic ☒
Hydraulic ☐ DA/RA(Air To Close)
31. Size : *
32. Supply : 5-8 Kg/cm²
Shut off Pressure : 8 Kg/cm²
33. Failsafe position : Stayput ☒
of valve. Full Close ☐ Full Open ☐

34. Diaphragm/Cylinder pressure at
Valve full open : *
Valve full close : *
35. Force required for process &
Force available at actuator. : *
36. Actuator sizing ΔP : *
37. If actuator electric fill in
data sheet as per annexure : NAPL
furnished and shall comply
with annexure-I specification.

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REV	DATE	ALTERATION	PREPARED	APPD/MECH	APPD/C&I				

38. Type : Pneumatic ☐ Electronic ☐
DA/RA ☐ Electro Pneumatic ☐
39. If Electronic : Type :
Model : Solid plate deversing
contactors
Main contactor : Solid state thyristor: ☐
Relay Switching : ☐
Also refer annexure – II
position indicator reqd. for Valve & VCB

40. If Pneumatic : Type : *
Model : *

Split range : Yes ☐ No ☐

Controller Input & Output Signal Value : 4-20 mA

Air supply : 45 PSIG

Input/Output Pr. guage :

Required : Yes ☐ No ☐

By pass provision : Yes ☐ No ☐

Action : Direct ☐ Reverse ☐ Both ☐

Cam : =% ☐ Linear ☐ Both ☐

41. Handwheel : Yes ☒ Side ☒ Top ☐

42. Air filter : Yes ☒ No ☐
Filter Size : 5 Micron ☒ 25 Micron ☐

43. Limit Switches : Yes ☒ No ☐
Qty. : 1 at full open &
: 1 at full close
Rating : 240v. 5Amp. ac
No of contacts per switch : 2No + 2NC

44. Solenoid valve as pilot device
Stayput : Yes ☐ No ☐
Type : 4 Way Dual coil Universal: Yes ☒ No ☐
Rating : 24V DC 2 wire
Class H coil : Yes ☒ No ☐

45. Vol. booster : Yes ☐ No ☒

46. Travel time : < 10 Sec.

47. Installation : Indoor ☐ Outdoor ☒

48. All accessories enclosure : IP65\$

49.	Position transmitter	:	Yes	☐	No	☒
	Type	:	Pneumatic	☐	Electronic Non contact type	☐
	Rating	:	2 wire 24V DC:	☐		☐
	Output	:	4-20 ma	☐	3-15 paig	☐
50.	Torque Switches	:	Yes	☐	No	☒
	Qty.	:				
	Rating	:				
51.	Air lock	:	Yes	☒	No	☐
	Function	:	TO EFFECT STAYPUT			
	Type *	:	3 Way single acting	☐		
		:	3 Way double acting	☐		
52.	Ambience	:	Dusty corrosive	☒		
	Toxic hazardous	:	☐		☐	
53.1.	Local position Indicator:		Required.			
53.2.	I/P converter with A/F regulator	:	Not Required			
53.3	Integral JB	:	36 Way JB required			
53.4	All electrical terminating	:	plug & socket type			

54. Seat leakage : ASME FCI/RP 70.2 ☒ CLASS IV¹
I.S.A : ☐ ☐

55. Approx. weight (total) : *

56. Space requirements for : *
online servicing

57. Valve sizing as per
ISA 75.01 : Yes ☒ No ☐

58. Noise Level : Less than 85 DBA at 1m
from Valve & Piping System.

59. Intertubing Diagram : As per Enclosed.

60. Performance Data
Linearity : $\pm 1\%$ Hysteresis : $\pm 0.5\%$
Sensitivity : $\pm 0.5\%$ Accuracy (overall) : $\pm 2\%$

61. Medium :	SH Steam	☐	Sat. Steam	☐
	Water	☒		
62. Flow rate in			T/Hr	
63. Operating inlet pressure in			Kg/cm ² (a)	
64. Operating inlet temperature in			°C	
65. Outlet pressure in			Kg/cm ² (a)	
66. Viscosity		:	--	
67. Operating (required)	Cv			
68. Operating noise level at	1.0 metre from valve			
69. Outlet velocity	surface			

CONDITION				
1	2	3	4	5
REFER DRAWING No. 4-00-306-40690 AND 4-00-306-40692 FOR VALVE SIZING DATA				

REFER STANDARD TABLE

<85	dba	(for all conditions)		

20.04.15	E.KRITHIGA	C.SARAVANAN	R.PRABA
DATE	PREPARED	APPD/MECH	APPD/C&I

4-00-306-40694

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CONTROL VALVE SPECIFICATION SHEET

(IN ACCORDANCE WITH I.S.A. FORM S20.51)

PROJECT: NEYVELI NEW TPP 2X500MW PROJECT
STEAM GENERATOR PACKAGE

CUST.No: 7232, 7233

GENERAL: THIS IS TO BE READ ALONG WITH TECHNICAL SPECIFICATION PC: TSP: APRDS: NEWNEYVELI

- | | |
|--|--------------------------------|
| 1. Valve tag No. : CDV-03 | 5. Manufacturer : * |
| 2. Service : High capacity Spray Control valve | 6. Model No. : * |
| 3. Line No./Vessel No. : | 7. Rating : ASME CL. 300 |
| 4. Qty. required per unit : 1 No. | 8. Total Qty Required : 2 Nos. |

BODY:

- | | |
|---|---|
| 9. Type : Thru ☒ 3 Way ☐
Z type ☐ Angle ☐
☐ | 16. Bonnet type : Standard ☒ Finned ☐
Extended ☐ Pr. seal ☐
☐ |
| 10. Form : Globe ☒ Ball ☐
Butterfly ☐ ☐ | 17. Material : Body : SA105/SA216WCB
Packing: GRAFOIL
Bolting : * |
| 11. Size : * | 18. Flow direction : HORIZONTAL |
| 12. Port Size : * | 19. Suitable matching pieces to match with pipe/bold size specified shall be offered. |
| 13. Connecting pipe size : Inlet : OD 48.3X5.08
Outlet : OD 48.3X5.08 | |
| 14. Body rating : ASME CL.300 | |

- | |
|---|
| 15. Type of end connections : Screwed ☐ BW ☐ SW ☒
NPI ☐ BSPT ☐ BS ☐
Flanged ☐ ☐ ☐
ANSI ☐ DIN ☐ |
|---|

TRIM: MULTI STAGE, LOW RECOVERY / *

- | | |
|--|----------------------------|
| 20. No. of ports : * | 24. Stem material : |
| 21. Type : Balanced ☒ Unbalanced ☐ | 25. Plug material : |
| 22. Plug characteristics: L/LV/EP / MODIFIED EP | 26. Seat material : |
| 23. Guiding : Cage ☒ Port ☐ Top ☐
Bottom ☐ | 27. Disc material : |
| | 28. stem guide material: } |
| | 29. -- |

ACTUATOR:

- | | |
|---|---|
| 30. Type : Electric ☐ Pneumatic ☒
Hydraulic ☐ DA/RA(Air To Close) | 34. Diaphragm/Cylinder pressure at
Valve full open : *
Valve full close : |
| 31. Size : * | 35. Force required for process &
Force available at actuator. : * |
| 32. Supply : 5-8 Kg/cm ²
Shut off Pressure: 8 Kg/cm ² | 36. Actuator sizing ΔP : * |
| 33. Failsafe position : Stayput ☒
of valve. Full Close ☐ Full Open ☐ | 37. If actuator electric fill in
data sheet as per annexure : NAPL
furnished and shall comply
with annexure-I specification. |

00	20.04.15	FRESH ISSUE	E.KRITHIGA	C.SARAVANAN	R.PRABA	DRG. NO:	4-00-306-40696	REV	00
REV	DATE	ALTERATION	PREPARED	APPD/MECH	APPD/C&I				

POSITIONER:

38. Type : Pneumatic ☐ Electronic ☐
DA/RA ☐ Electro Pneumatic (SMART WITH FAIL FREE FACILITY)# ☒

39. If Electronic : Type :
Model : Solid plate deversing contactors

Main contactor : Solid state thyristor: ☐

Relay Switching : ☐

Also refer annexure – II

position indicator reqd. for Valve & VCB

40. If Pneumatic : Type : SMART
Model : *

Split range : Yes ☐ No ☒

Controller Input & Output Signal Value } : 4-20 mA

Air supply : 5 Kg/cm²

Input/Output Pr. guage :

Required : Yes ☒ No ☐

By pass provision : Yes ☐ No ☒

Action : Direct ☐ Reverse ☐ Both ☒

Cam : =% ☐ Linear ☐ Both ☐

ACCESSORIES:

41. Handwheel : Yes ☒ Side ☒ Top ☐

42. Air filter : Yes ☒ No ☐
Filter Size : 5 Micron ☒ 25 Micron ☐

43. Limit Switches : Yes ☒ No ☐
Qty. : 1 at full open &
: 1 at full close
Rating : 240v. 5Amp. ac
No of contacts per switch : 2No + 2NC

44. Solenoid valve to effect
Stayput : Yes ☒ No ☐
Type : 3 Way universal: Yes ☒ No ☐
Rating : 24V DC 2 wire
Class H coil : Yes ☒ No ☐

45. Vol. booster : Yes ☐ No ☒

46. Travel time : < 10 sec

47. Installation : Indoor ☐ Outdoor ☒

48. All accessories enclosure : IP65^{\$}

49. Isolated Position transmitter : Yes ☐ No ☒

Type : Pneumatic : ☐ Electronic Non contact type ☐

Rating : 2 wire 24V DC: ☐ ☐

Output : 4–20 ma : ☐ 3–15 paig ☐

50. Torque Switches : Yes ☐ No ☒

Qty. : ☐

Rating : ☐

51. Air lock : Yes ☒ No ☐

Function : TO EFFECT STAYPUT

Type : 3 Way single acting ☐

: 3 Way double acting ☐

52. Ambience : Dusty corrosive ☒

Toxic hazardous : ☐ ☐

53.1. Local position Indicator: Required.

53.2. Integral JB : 36 Way JB required

53.3. All electrical terminating : plug & socket type

MISCELLANEOUS:

54. Seat leakage : FCI 70.2 class ☒ CLASS IV ^{\$}
I.S.A : ☐ ☐

55. Approx. weight (total) : *

56. Space requirements for
online servicing : *

57. Valve sizing as per
ISA 75.01 : Yes ☒ No ☐

58. Noise Level : Less than 85 DBA at 1m
from Valve & Piping System.

59. Intertubing Diagram : As per Enclosed.

60. Performance Data
Linearity : $\pm 1\%$ Hysteresis : $\pm 0.5\%$
Sensitivity : $\pm 0.5\%$ Accuracy (overall) : $\pm 2\%$

VALVE SIZING DATA:

61. Medium : SH Steam ☐ Sat. Steam ☐
Water ☒

62. Flow rate in T/Hr

63. Operating inlet pressure in Kg/cm² (a)

64. Operating inlet temperature in °C

65. Outlet pressure in Kg/cm² (a)

66. Viscosity : --

67. Operating (required) Cv

68. Operating noise level at 1.0 metre from valve surface

69. Outlet velocity

CONDITION				
1	2	3	4	5
REFER DRAWING No. 4-00-306-40692 FOR VALVE SIZING DATA				
REFER STANDARD TABLE				
<85	dba	(for all conditions)		

20.04.15	E.KRITHIGA	C.SARAVANAN	R.PRABA
DATE	PREPARED	APPD/MECH	APPD/C&I

DRG. NO:

4-00-306-40696

REV

00

DESIGN DATA:

70. Design Pressure Kg/cm²(g) : 39 Kg/Cm² (g)
71. Design Temperature °C : 55 °C
72. Rated/Design/Selected Cv of valve : *
73. Velocity restriction : *
74. Operating lift restriction : 10 to 80 %^{\$}.

Stem travel range from min. flow to max.flow shall be around 50% of the total stem travel.

75. lift at various operating Conditions 1 TO 6 : *
76. Down stream limitations : *
77. Up stream limitations : *
78. Increase in signal Air : To open the Valve

TESTING/INSPECTION:

79. Hydraulic test report : Yes ☒ No ☐
80. Radiography : Critical Parts : ☒ Total ☐
Not required : ☐ ☐
81. IBR test report : Req'd. : ☒ ☐

82. Type test :*

Cv capacity test procedure as per ISA75.02:Required

83. Valve functional test : Yes ☒ No ☐

* Type test to be done atleast for one no on this consignment.

84. Accessories functional : Yes ☒ No ☐
Test :
85. Seat leakage test : Yes ☒ No ☐
86. Material test report : Yes ☒ No ☐
87. Customer Inspection :
In process : Yes ☒ No ☐
Final : Yes ☒ No ☐
88. Third Party inspection : Yes ☐ No ☐

DOCUMENTATION: (Required)**89. With bid. (3 sets)**

- Catalogues : Yes ☒ No ☐
- Dimensional drawing : Yes ☒ No ☐
- All data sheets : Yes ☒ No ☐
- Recommendation / Limitation : Yes ☒ No ☐
- Confirmatory report : Yes ☒ No ☐
- Contrary report : Yes ☒ No ☐
- Deviation report : Yes ☒ No ☐

90. Quality plan : Yes ☒ No ☐

91. With equipment :
Dimensional drawing : 15 Sets + 1 CD
O & M : 15 Sets + 1 CD
Data Sheets : 15 Sets + 1 CD
Test certificate : 03 Sets + 1 CD
92. Valve sizing, actuator sizing, Cavitation check, noise level calculations required with bid(with formulae) : Yes ☒ No ☐

93. --

SPARES:

94. Commissioning spares : *
95. Mandatory spares : As per specification

96. 2/3 Years maintenance spares : *

OTHERS:

97. Bidders experience list : Required ☒ Not required ☐
98. Operational feed back of such valves supplied elsewhere : Required ☒ Not required ☐
99. Equipment guarantee : Required ☒ Not required ☐
100. System guarantee : Required ☒ Not required ☐
101. Service contract for 5 Years : - To quote seperately
102. Commissioning of the valves : Required ☐ Not required ☒

NOTES:

1. * DENOTES BIDDER TO SPECIFY 2. \$ AS PER TENDER SPECIFICATION
3. # AFTER INSPECTION, SMART POSITIONER TO BE PACKED SEPARATELY ALONG WITH THE CONTROL VALVE AND MOUNTING ACCESSORIES. THE SAME WILL BE OPENED AND INSTALLED ONLY DURING COMMISSIONING.

20.04.15	E.KRITHIGA	C.SARAVANAN	R.PRABA	DRG. NO:	4-00-306-40696	REV
DATE	PREPARED	APPD/MECH	APPD/C&I			00



CONTROL VALVE SPECIFICATION SHEET

(IN ACCORDANCE WITH I.S.A. FORM S20.51)

PROJECT: NEYVELI NEW TPP 2X500MW PROJECT
STEAM GENERATOR PACKAGE

CUST.No: 7232, 7233

GENERAL: THIS IS TO BE READ ALONG WITH TECHNICAL SPECIFICATION PC: TSP: APRDS: NEWNEYVELI

- | | |
|---|--------------------------------|
| 1. Valve tag No. : CDV-10 | 5. Manufacturer : * |
| 2. Service : Low capacity Spray Control valve | 6. Model No. : * |
| 3. Line No./Vessel No. : | 7. Rating : ASME CI 300 |
| 4. Qty. required per unit : 1 No. | 8. Total Qty Required : 2 Nos. |

BODY:

- | | |
|---|---|
| 9. Type : Thru ☒ 3 Way ☐
Z type ☐ Angle ☐
☐ | 16. Bonnet type : Standard ☒ Finned ☐
Extended ☐ Pr. seal ☐
☐ |
| 10. Form : Globe ☒ Ball ☐
Butterfly ☐ ☐ | 17. Material : Body : SA105/SA216WCB
Packing: GRAFOIL
Bolting : * |
| 11. Size : * | 18. Flow direction : HORIZONTAL |
| 12. Port Size : * | 19. Suitable matching pieces to match with pipe size specified shall be offered. |
| 13. Connecting pipe size : Inlet : OD 48.3 x 5.08
Outlet : OD 48.3 x 5.08 | |
| 14. Body rating : ASME CI 300 | |

- | | | |
|--|--|---|
| 15. Type of end connections : Screwed ☐ NPI ☐ Flanged ☐ ANSI ☐ | BW ☐ BSPT ☐ DIN ☐ | SW ☒ BS ☐ ☐ |
|--|--|---|

TRIM: MULTI STAGE, LOW RECOVERY /*

- | | |
|--|--|
| 20. No. of ports : * | 24. Stem material : |
| 21. Type : Balanced/Unbalanced | 25. Plug material : |
| 22. Plug characteristics: L/LV/EP/MODIFIED EP | 26. Seat material : } SS316 SST Strain Hardened
OR EQUIVALENT |
| 23. Guiding : Cage ☒ Port ☐ Top ☐
Bottom ☐ | 27. Disc material : |
| | 28. stem guide material: } |
| | 29. -- |

ACTUATOR:

- | | |
|---|---|
| 30. Type : Electric ☐ Pneumatic ☒
Hydraulic ☐ DA/RA(Air To Close) | 34. Diaphragm/Cylinder pressure at
Valve full open : *
Valve full close : |
| 31. Size : * | 35. Force required for process &
Force available at actuator. : * |
| 32. Supply : 5-8 Kg/cm ²
Shut off Pressure : 8 Kg/cm ² | 36. Actuator sizing ΔP : * |
| 33. Failsafe position : Stayput ☒
of valve. Full Close ☐ Full Open ☐ | 37. If actuator electric fill in
data sheet as per annexure : NAPL
furnished and shall comply
with annexure-I specification. |

00	20.04.15	FRESH ISSUE	E.KRITHIGA	C.SARAVANAN	R.PRABA
REV	DATE	ALTERATION	PREPARED	APPD/MECH	APPD/C&I

DRG. NO:

4-00-306-40697

REV

00

POSITIONER:

38. Type : Pneumatic ☐ Electronic ☐
DA/RA
39. If Electronic : Type : Electro Pneumatic ☒
(SMART WITH FAIL FREEZE FACILITY)#
Model : Solid plate deversing contactors
Main contactor : Solid state thyristor: ☐
Relay Switching : ☐
Also refer annexure - II
position indicator reqd. for Valve & VCB

40. If Pneumatic : Type : SMART
Model : *

Split range : Yes ☐ No ☒

Controller Input & Output Signal Value } : 4–20 mA

Air supply : 5 Kg/cm²

Input/Output Pr. guage :

Required : Yes ☒ No ☐

By pass provision : Yes ☐ No ☒

Action : Direct ☐ Reverse ☐ Both ☒

Cam : =% ☐ Linear ☐ Both ☐

ACCESSORIES:

41. Handwheel : Yes ☒ Side ☒ Top ☐

42. Air filter : Yes ☒ No ☐
Filter Size : 5 Micron ☒ 25 Micron ☐

43. Limit Switches : Yes ☒ No ☐
Qty. : 1 at full open &
: 1 at full close
Rating : 240v. 5Amp. ac
No of contacts per switch : 2No + 2NC

44. Solenoid valve as
Stayput : Yes ☒ No ☐
Type : 3 Way universal: Yes ☒ No ☐
Rating : 24V DC 2 wire
Class H coil : Yes ☒ No ☐

45. Vol. booster : Yes ☐ No ☒

46. Travel time : < 10 sec

47. Installation : Indoor ☐ Outdoor ☒

48. All accessories enclosure : IP65^{\$}

49. Isolated Position transmitter : Yes ☐ No ☒

Type : Pneumatic : ☐ Electronic Non contact type ☐

Rating : 2 wire 24V DC: ☐ ☐

Output : 4-20 ma : ☐ 3-15 paig ☐

50. Torque Switches : Yes ☐ No ☒

Qty. : ☐

Rating : ☐

51. Air lock : Yes ☒ No ☐

Function : TO EFFECT STAYPUT

Type * : 3 Way single acting ☐

: 3 Way double acting ☐

52. Ambience : Dusty corrosive ☒

Toxic hazardous : ☐ ☐

53.1. Local position Indicator : Required.

53.2. Integral JB : 36 Way JB required

53.3. All electrical terminating : plug & socket type

MISCELLANEOUS:

54. Seat leakage : FCI 70.2 class ☒ CLASS IV
I.S.A : ☐ ☐

55. Approx. weight (total) : *

56. Space requirements for : *
online servicing

57. Valve sizing as per
ISA 75.01 : Yes ☒ No ☐

58. Noise Level : Less than 85 DBA at 1m
from Valve & Piping System.

59. Intertubing Diagram : As per Enclosed.

60. Performance Data
Linearity : $\pm 1\%$ Hysteresis : $\pm 0.5\%$
Sensitivity : $\pm 0.5\%$ Accuracy (overall) : $\pm 2\%$

VALVE SIZING DATA:

61.	Medium :	SH Steam	☐	Sat. Steam	☐
		Water	☒		
62.	Flow rate in			T/Hr	
63.	Operating inlet pressure in			Kg/cm ² (a)	
64.	Operating inlet temperature in			°C	
65.	Outlet pressure in			Kg/cm ² (a)	
66.	Viscosity	:	--		
67.	Operating (required)	Cv			
68.	Operating noise level at	1.0 metre from valve			
69.	Outlet velocity			surface	

CONDITION				
1	2	3	4	5
REFER DRAWING No. 4-00-306-40690 FOR VALVE SIZING DATA				
REFER STANDARD TABLE				
<85	dba	(for all conditions)		

20.04.2015	E.KRITHIGA	C.SARAVANAN	R.PRABA
DATE	PREPARED	APPD/MECH	APPD/C&I

DRG. NO:	REV
4-00-306-40697	00

DESIGN DATA:

70. Design Pressure Kg/cm²(g) : 39 Kg/Cm² (g)
 71. Design Temperature °C : 55 °C
 72. Rated/Design/Selected Cv of valve : *
 73. Velocity restriction : *
 74. Operating lift restriction : 10 to 80 %
 Stem travel range from min. flow to max.flow shall be around 50% of the total stem travel.

75. lift at various operating Conditions 1 TO 6 : *
 76. Down stream limitations : *
 77. Up stream limitations : *
 78. Increase in signal Air : To open the Valve

TESTING/INSPECTION:

79. Hydraulic test report : Yes ☒ No ☐
 80. Radiography : Critical Parts : ☒ Total ☐
 Not required : ☐
 81. IBR test report : Req'd. : ☒
 82. Type test : *
 Cv capacity test procedure as per ISA75.02:Required
 83. Valve functional test : Yes ☒ No ☐
 * Type test to be done atleast for one no on this consignment.

84. Accessories functional : Yes ☒ No ☐
 Test :
 85. Seat leakage test : Yes ☒ No ☐
 86. Material test report : Yes ☒ No ☐
 87. Customer Inspection :
 In process : Yes ☒ No ☐
 Final : Yes ☒ No ☐
 88. Third Party inspection : Yes ☐ No ☐

DOCUMENTATION: (Required)

89. With bid. (3 sets)
 Catalogues : Yes ☒ No ☐
 Dimensional drawing : Yes ☒ No ☐
 All data sheets : Yes ☒ No ☐
 Recommendation / Limitation : Yes ☒ No ☐
 Confirmatory report : Yes ☒ No ☐
 Contrary report : Yes ☒ No ☐
 Deviation report : Yes ☒ No ☐
 90. Quality plan : Yes ☒ No ☐

91. With equipment :
 Dimensional drawing : 15 Sets + 1 CD
 O & M : 15 Sets + 1 CD
 Data Sheets : 15 Sets + 1 CD
 Test certificate : 03 Sets + 1 CD
 92. Valve sizing, actuator sizing, Cavitation check, noise level calculations required with bid(with formulae) : Yes ☒ No ☐
 93. --

SPARES:

94. Commissioning spares : *
 95. Mandatory spares : As per specification

96. 2/3 Years maintenance spares : *

OTHERS:

97. Bidders experience list : Required ☒ Not required ☐
 98. Operational feed back of such valves supplied elsewhere : Required ☒ Not required ☐
 99. Equipment guarantee : Required ☒ Not required ☐
 100. System guarantee : Required ☒ Not required ☐
 101. Service contract for 5 Years : - To quote seperately
 102. Commissioning of the valves : Required ☐ Not required ☒

NOTES:

- * DENOTES BIDDER TO SPECIFY
- \$ AS PER TENDER SPECIFICATION
- # AFTER INSPECTION, SMART POSITIONER TO BE PACKED SEPARATELY ALONG WITH THE CONTROL VALVE AND MOUNTING ACCESSORIES. THE SAME WILL BE OPENED AND INSTALLED ONLY DURING COMMISSIONING.

20.04.2015	E.KRITHIGA	C.SARAVANAN	R.PRABA	DRG. NO:	4-00-306-40697	REV
DATE	PREPARED	APPD/MECH	APPD/C&I			00

L.T. DESUPERHEATER SPECIFICATION SHEET

01. Designation/Tag No : Auxiliary steam line / DESH – 1
02. Quantity Required per unit : One
03. Turndown ratio : Bidder to specify
04. Material : ASTM A 106 Gr B
05. Inlet connection/Outlet connection } : $\phi 406.4 \times 9.53$ }d1 shall be as per Sty 'D';
(Steam side) } $\phi 406.4 \times 9.53$ }d1=387.34
Suitable matching pieces to match with pipe/bold size specified shall be offered.
06. End connection (Steam side) : Butt Welded
07. Spray water connection : OD 48.3 x 5.08
08. End connection (Spray side) : Butt Welded / Socket Welded
09. Mounting arrangement : Horizontal; Vertical is not accepted
10. Minimum straight length required U/S of Desuperheater : Bidder to specify.
11. Minimum distance required } : Bidder to specify.
downstream of DSH }
12. Sizing Parameters : Refer Drg. No. 4-00-306-40690
13. Design Pressure : $20 \text{ Kg / cm}^2 \text{ (g)}$
14. Design Temperature : $350 \text{ }^\circ\text{C}$
15. Minimum distance required in D/S } : Bidder to specify.
of DESH for temp. control sensing element }
16. Minimum distance required in D/S } : Bidder to specify.
of DESH for pressure control sensing element }
17. IBR Certification required : Yes
18. Testing/Inspection : As per purchaser approved vendor QP
19. Documents required during offer :

Catalogues, filled up data sheets, Sizing calculations, Turn down ration calculation, Detailed drawing with BOM, Material specifications, Weight, Special requirements such as Liner, Upstream & Downstream straight length, O & M manual. Quality plan indicating various checks for raw material in process & final inspection stage.

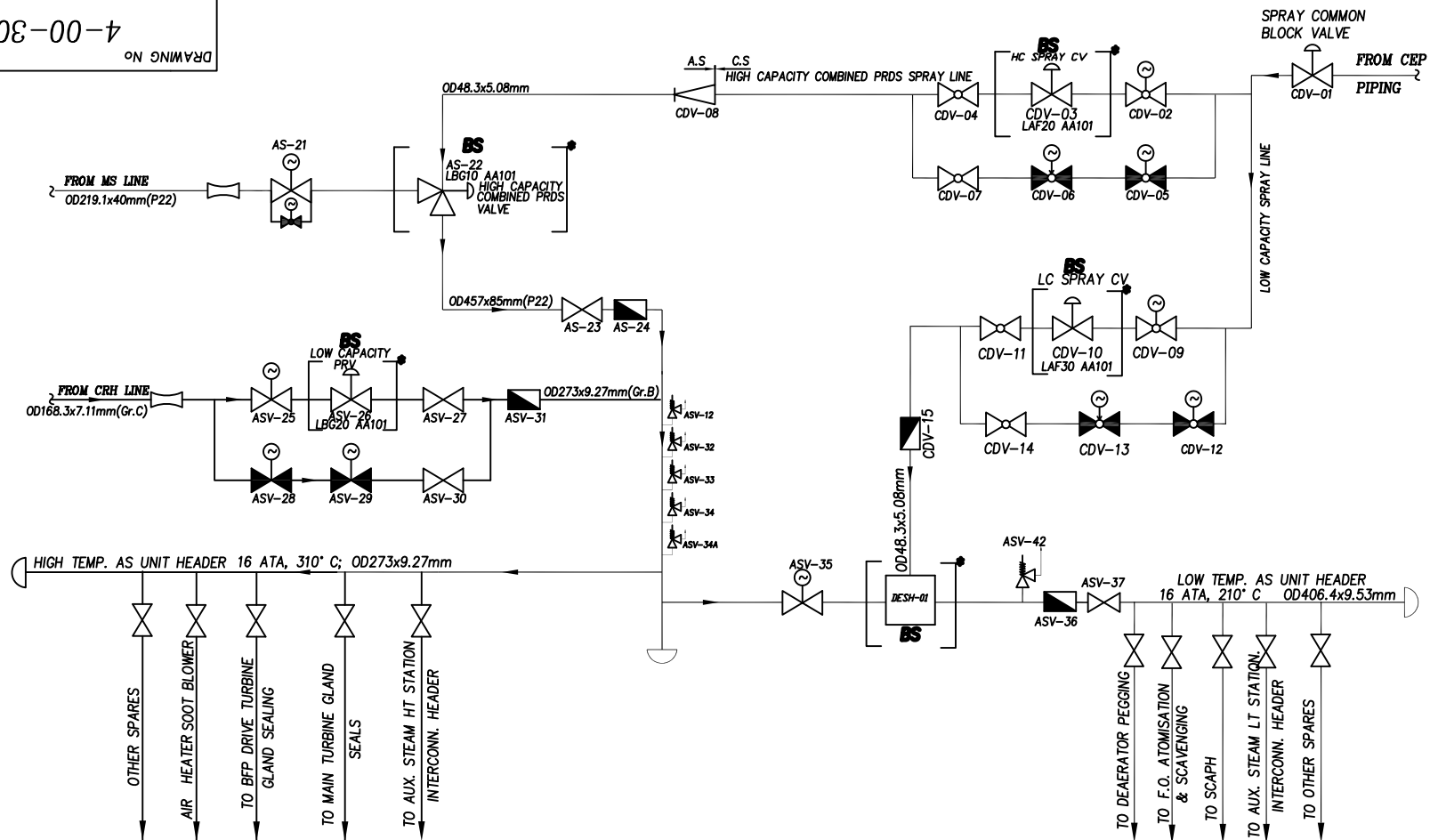
20. Documents required after Placement of Order

Catalogues, Final detailed drawing with BOM, Material } 20 sets plus
specification, Weight, Final sizing, Turn down ratio calculation, } 2 sets on CD
Testcertificates as per QP and O & M manual.

20.04.15	E.KRITHIGA	C.SARAVANAN	R.PRABA	DRG. NO: 4-00-306-40695	REV
DATE	PREPARED	APPD/MECH	APPD/C&I		00

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00804-908-40800
DRAWING No



BS BIDDER SCOPE OF SUPPLY

CUST.NO: 7232 & 7233

NEYVELI LIGNITE CORPORATION LIMITED
NEYVELI NEW THERMAL POWER PROJECT(NNTPP)
2X500MW LIGNITE FIRED UNITS AT NEYVELI

DRAWN	CHECKED	APPROVED	DATE
E.KRITHIGA	C.SARAVANAN	R.PRABA	03.11.2015

TITLE
AUX PRDS STATION SCHEME

DRAWING No
4-00-306-40800/00



NEYVELI NEW TPP 2X500MW PROJECT
STEAM GENERATOR PACKAGE
LOW CAPACITY PRV SIZING DATA (ASV-26)

S.No.	MEDIUM : SH STEAM	CONDITION					
		1	2	3	4		
		CASE 3 @40% LOAD	CASE 3 @100% LOAD	CASE 4 @100% LOAD	CASE 8 @40% LOAD		
01	STEAM FLOW RATE T/Hr.	49.54	50.61	54.81	62.73		
02	STEAM OPERATING INLET PR. Kg/cm ² (a)	18.29	43.67	43.67	18.29		
03	STEAM OPERATING INLET TEMP. °C	331.5	331.4	331.4	331.5		

04	STEAM OUTLET PRESSURE Kg/cm ² (a)	16 +Δp DSH	16 +Δp DSH	16 +Δp DSH	16 +Δp DSH		
05	STEAM OUTLET TEMP. °C	329.21	301.34	301.34	329.21		
06	Cv REQUIRED (STEAM)	*	*	*	*		
07	OPERATING NOISE LEVEL AT 1.0 METRE	*	*	*	*		
08	OUTLET VELOCITY	*	*	*	*		

NOTES:— 1. Δp DSH → STEAM SIDE Δp ACROSS L.T.DESUPERHEATER
2. * BIDDER TO SPECIFY

PREPARED	APPROVED/MECH	APPROVED/C&I	DATE	DRG.No.	4-00-306-40689	SH. 1 OF 1	REV. 00
E.KRITHIGA	C.SARAVANAN	R.PRABA	20.04.15				



NEYVELI NEW TPP 2X500MW PROJECT
STEAM GENERATOR PACKAGE

CUST. No: 7232, 7233

SIZING DATA FOR LT DESUPERHEATER, CDV-01 & CDV-10

S.No.	MEDIUM : SH STEAM	CONDITION									
		1	2	3	4	5	6	7	8	9	REMARKS
		CASE 1	CASE 2	CASE 3 @40%	CASE 3 @100%	CASE 4	CASE 5	CASE 6	CASE 7	CASE 8	
01	STEAM FLOW RATE INLET T/Hr.	88.89	63.9	49.24	50.31	50.31	127.95	98.69	63.9	54.83	
02	STEAM OPERATING INLET PR. Kg/cm ² (a)	16 +dp DSH	16 +dp DSH	16 +dp DSH	16 +dp DSH	16 +dp DSH	16 +dp DSH	16 +dp DSH	16 +dp DSH	16 +dp DSH	
03	STEAM OPERATING INLET TEMP. °C	310.0	310.0	329.21	301.34	301.34	310.0	310.0	310.0	329.21	

S.No.	MEDIUM : SPRAY WATER	CONDITION									
		1	2	3	4	5	6	7	8	9	REMARKS
		CASE 1	CASE 2	CASE 3 @40%	CASE 3 @100%	CASE 4	CASE 5	CASE 6	CASE 7	CASE 8	
04	SPRAY FLOW RATE T/Hr.	8.21	5.9	5.36	4.29	4.29	11.85	9.11	5.90	5.97	
05	SPRAY PR AT BLOCK VALVE INLET .Kg/cm ² (a)	31.0	28.0	26.0	26.0	26.0	26.0	31.0	28.0	26.0	
06	SPRAY INLET TEMP. °C	47.7	47.7	49.9	49.9	49.9	49.9	47.7	47.7	49.9	
07	STEAM OUTLET FLOW RATE T/Hr.	97.1	69.8	54.6	54.6	54.6	139.8	107.8	69.8	60.8	
08	STEAM OUTLET PRESSURE Kg/cm ² (a)	16	16	16	16	16	16	16	16	16	
09	STEAM OUTLET TEMP. °C	210	210	210	210	210	210	210	210	210	

NOTES: -

1. dp DSH → STEAM SIDE dp ACROSS L.T.DESUPERHEATER
2. PRESSURE INDICATED ARE AT INLET OF SPRAY BLOCK VALVE.
3. THE PRESSURE DROP FROM INLET OF BLOCK VALVE (CDV-01) TO BE SUITABLY APPORTIONED BETWEEN SPRAY BLOCK VALVE CDV-01, CDV-10 & DESH-01(LT DESUPERHEATER.)
4. THE OUTLET PRESSURE OF CDV-10 SHALL CORRESPONDS TO SPRAY INLET PRESSURE OF DESH-01 (LT DESUPERHEATER.)
5. THIS TO BE READ IN CONJUNCTION WITH DRG. 4-00-306-40694 FOR ADDITIONAL DATA FOR BLOCK VALVE SIZING CDV-01.

PREPARED	APPROVED/MECH	APPROVED/C&I	DATE	DRG.No.	SH. 1 OF 1	REV.
E.KRITHIGA	C.SARAVANAN	PRABA	20.04.2015	4-00-306-40690		00



NEYVELI NEW TPP 2X500MW PROJECT
STEAM GENERATOR PACKAGE
COMBINED PRDS VALVE SIZING DATA (ASV-22)

S.No.	MEDIUM : SH STEAM	CONDITION					REMARKS
		1	2	3	4	5	
		CASE 1	CASE 2	CASE 5	CASE 6	CASE 7	
01	STEAM FLOW RATE INLET T/Hr.	105.93	64.92	130.52	116.41	89.68	
02	STEAM OPERATING INLET PR. Kg/cm ² (a)	40.7	112	178	83.6	68.3	
03	STEAM OPERATING INLET TEMP. °C	345	500	540	460	385	

S.No.	MEDIUM : SPRAY WATER	CONDITION					REMARKS
		1	2	3	4	5	
		CASE 1	CASE 2	CASE 5	CASE 6	CASE 7	
04	SPRAY WATER FLOW RATE T/Hr.	0.86	6.88	15.33	9.67	2.12	
05	SPRAY WATER OPERATING PR. AT BLOCK VALVE INLET Kg/cm ² (a)	31	28	26	31	28	
06	SPRAY WATER OPERATING INLET TEMP. °C	47.7	47.7	49.9	47.7	47.7	

07	STEAM OUTLET PRESSURE Kg/cm ² (a)	16 +Δp DSH	16 +Δp DSH	16 +Δp DSH	16 +Δp DSH	16 +Δp DSH	
08	STEAM OUTLET TEMP. °C	310	310	310	310	310	
09	Cv REQUIRED	*	*	*	*	*	
10	OPERATING NOISE LEVEL AT 1.0 METRE	<85dbA	<85dbA	<85dbA	<85dbA	<85dbA	
11	OUTLET VELOCITY	*	*	*	*	*	

- NOTES:— 1. THIS SIZING TABLE TO BE USED FOR VALVE ASV-22, SPRAY BLOCK VALVE (TAG No.CDV-01),
HC SPRAY CV (TAG No.CDV-03).
2. * BIDDER TO SPECIFY
3. Δp DSH → STEAM SIDE Δp ACROSS L.T.DESUPERHEATER

PREPARED	APPD/MECH	APPD/C&I	DATE	DRG.No. 4-00-306-40692	SH. 1 OF 1	REV. 00
E.KRITHIGA	C.SARAVANAN	R.PRABA	20.04.15			