

CI 12/01



CONTROL VALVE SPECIFICATION SHEET

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

PROJECT:
BRBCL -NTPC LTD.
NABINAGAR TPP - (4x250MW)

CUST.No: 6979

GENERAL: THIS IS TO BE READ ALONG WITH TECHNICAL SPECIFICATION PC: TSP: NABI: 001

- 1. Valve tag No. AS-03
- 2. Service : A C PLANT
PRESSURE CONTROL 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 : 1 No. /4 Units
(COMMON FOR 4 UNITS)

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 114.3x6.02
Outlet : OD 168.3x7.11
- 14. Body rating : ASME CL. 300

- 16. Bonnet type : Standard Finned
Extended Pr. seal
- 17. Material : Body : ASTM A 216 Gr WCB
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 (Steam side) SW (Spray side)
NPI BSPT BS
Flanged DIN
ANSI

Edge Preparation as per BPS.

TRIM:

- 20. No. of ports : *
- 21. Type : Balanced Unbalanced
- 22. Plug characteristics: ~~L~~/~~V~~/~~EP~~ / ~~MODIFIED EP~~
- 23. Guiding : Cage Port Top
Bottom

- 24. Stem material : SS316 STELLITED
- 25. Plug material : SS316 STELLITED
- 26. Seat material : SS316 STELLITED
- 27. Disc material : 17-4 PH SS
- 28. stem guide material : SS316 STELLITED
- 29. Quick change trim Yes No

ACTUATOR:

- 30. Type : Electric Pneumatic
Hydraulic DA/RA(Air To Open)
- 31. Size : *
- 32. Supply : 45 PSIG
- 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.

00	08.11.11	FRESH ISSUE	SUKUMAR	R.PRABHA	C V N
REV	DATE	ALTERATION	PREPARED	APPD/C&I	APPD/Mech

DRG. NO: 4-00-306-39774

REV 00

POSITIONER:

38. Type : Pneumatic Electronic
 Electro Pneumatic
 (SMART,HART communication)
 DA/RA (with 4-20mA analog feedback signal)
 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 Signal : 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 : IP55

49. Position transmitter : Yes No
 Type : Pnuematic : 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. Smart positioner : To suit HART protocol
 53.1. Local position Indicator: Required.
 53.2 Integral JB : 36 Way JB required
 (2no. 9pin plug & socket connection)
 (1no. 5pin plug & socket connection)

MISCELLANEOUS:

54. Seat leakage : ANSI B16.104 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 Velocity Required inside Trim : < * m/sec
 59 All electrical terminating : plug & socket type

VALVE SIZING DATA:

61. Medium : SH Steam Sat. Steam
 Water(saturated)
 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
0.5	1.5	5.5
16	16	16
210	210	210
8	8	8

REFER STANDARD TABLE

*	*	*
<85 dBA	<85 dBA	<85 dBA
*	*	*

08.11.11 SUKUMAR R.PRABHA C V N
 DATE PREPARED APPD/C&I APPD/Mech

DRG. NO: 4-00-306-39774 REV 00

DESIGN DATA:

70. Design Pressure Kg/cm²(g) : 20
 71. Design Temperature °C : 250 °C
 72. Rated/Design/Selected Cv of valve : *
 73. Velocity restriction : Less than 0.3 MACH
 74. Operating lift restriction : 10 to 80 % .

75. lift at various operating
 Conditions 1 TO 3 : *
 76. Down stream limitations : *
 77. Up stream limitations : *
 78. Increase in signal Air : To open the Valve

TESTING/INSPECTION:**AS PER RELEVANT QP.**

79. Hydraulic test report : Yes No
 80. Radiography : Critical Parts : Total
 Not required :
 81. IBR test report : Req'd. :
 82. Type test : Capacity Evolution by
 ISA S39.2/5 39.4 : Required.
 83. Valve functional test : Yes No

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)
 C.V. HOOK UP DIAGRAM : Yes No
 J.B WIRING DIAGRAM : Yes No
 Catalogues : Yes No
 Dimensional drawing : Yes No
 All data sheets : Yes No
 Recommendation /
 Limitation : Yes No
 Contrary report : Yes No
 Deviation list : Yes No
 Confirmatory report : Yes No
 90. Quality plan (enclosed) : Yes No

91. With equipment :
 Dimensional drawing : 15 Sets
 O & M ** : --do--
 Data Sheets : --do--
 Test certificate : 1RTF + 3 Sets
 92. Valve sizing, actuator sizing,
 noise level calculations required
 with bid(with formulae) : Yes No

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

08.11.11	SUKUMAR	R.PRABHA	C V N	DRG. NO:	4-00-306-39774	REV
DATE	PREPARED	APPD/C&I	APPD/Mech			00

CI 12/0



CONTROL VALVE SPECIFICATION SHEET

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

PROJECT: NABINAGAR TPP(4X250MW) CUST NO: 1200,1201,1202&1203

CUSTOMER: BHARTIYA RAIL BIJLEE COMPANY LTD

(A Joint venture company between NTPC Ltd and Indian Railways)

GENERAL:

- | | | | |
|-----------------------------|---|-------------------------------------|---------------------------------|
| 1. Valve tag No. | : LCV-01 & LCV-02 | 5. Manufacturer : | |
| 2. Service | : CBD TANK LEVEL CONTROL VALVE & ITS BYPASS | 6. Model No. : | |
| 3. Line No./Vessel No. : | | 7. Rating : | ASME CL.300 |
| 4. Qty. required per unit : | 1No(LCV-01) & 1No(LCV-02) | 8. Total Qty Required for 4 units : | 4 Nos (LCV-01) & 4 Nos (LCV-02) |

BODY:

- | | | | | | | | | | | | | |
|----------------------------|---|----------------------|--|--------|-------|----------|------------|--------|----------|------------|--|--|
| 9. Type : | Thru <input checked="" type="checkbox"/> 3 Way <input type="checkbox"/> | 16. Bonnet type : | Standard <input checked="" type="checkbox"/> Finned <input type="checkbox"/> | | | | | | | | | |
| | Z type <input type="checkbox"/> Angle <input type="checkbox"/> | | Extended <input type="checkbox"/> Pr. seal <input type="checkbox"/> | | | | | | | | | |
| 10. Form : | Globe <input checked="" type="checkbox"/> Ball <input type="checkbox"/> | 17. Material : | Body : ASTM A 217 Gr. WC6 | | | | | | | | | |
| | Butterfly <input type="checkbox"/> | | Packing: GRAFOIL | | | | | | | | | |
| 11. Size : | * | | Bolting : * | | | | | | | | | |
| 12. Port Size : | * | 18. Flow direction : | HORIZONTAL | | | | | | | | | |
| 13. Connecting pipe size : | <table border="1"> <tr> <td></td> <td>LCV-01</td> <td>LCV-02</td> </tr> <tr> <td>Inlet</td> <td>ø73X5.16</td> <td>ø60.3X5.54</td> </tr> <tr> <td>Outlet</td> <td>ø73X5.16</td> <td>ø60.3X5.54</td> </tr> </table> | | LCV-01 | LCV-02 | Inlet | ø73X5.16 | ø60.3X5.54 | Outlet | ø73X5.16 | ø60.3X5.54 | 19. Suitable matching pieces to match with pipe size specified shall be offered. | |
| | LCV-01 | LCV-02 | | | | | | | | | | |
| Inlet | ø73X5.16 | ø60.3X5.54 | | | | | | | | | | |
| Outlet | ø73X5.16 | ø60.3X5.54 | | | | | | | | | | |
| 14. Body rating: | <table border="1"> <tr> <td>ASME</td> <td>CL.150</td> <td>CL:150</td> </tr> </table> | ASME | CL.150 | CL:150 | | | | | | | | |
| ASME | CL.150 | CL:150 | | | | | | | | | | |

- | | | | |
|-------------------------------|--|---|---|
| 15. Type of end connections : | Screwed <input type="checkbox"/> NPI <input type="checkbox"/> Flanged <input type="checkbox"/> ANSI <input type="checkbox"/> | BW <input checked="" type="checkbox"/> BSPT <input type="checkbox"/> DIN <input type="checkbox"/> | SW <input type="checkbox"/> BS <input type="checkbox"/> |
|-------------------------------|--|---|---|

Edge Preparation as per BPS: STY 'D', D1=62.7(ø73.0X5.16)
STY 'D', D1=49.0(ø60.3X5.54)

TRIM:

- | | | | |
|----------------------------|---|---------------------------|---|
| 20. No. of ports : | * | 24. Stem material : | SS316 STELLITED |
| 21. Type : | Balanced <input checked="" type="checkbox"/> Unbalanced <input type="checkbox"/> | 25. Plug material : | 17-4 PH SS |
| 22. Plug characteristics : | L/LV/EP <input checked="" type="checkbox"/> | 26. Seat material : | 17-4 PH SS |
| 23. Guiding : | Cage <input checked="" type="checkbox"/> Port <input type="checkbox"/> Top <input type="checkbox"/> Bottom <input type="checkbox"/> | 27. Disc material : | 17-4 PH SS |
| | | 28. Stem guide material : | SS316 STELLITED |
| | | 29. Quick change trim : | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |

ACTUATOR:

- | | | | |
|-------------------------|---|---|----------------|
| 30. Type : | Electric <input type="checkbox"/> Pneumatic <input checked="" type="checkbox"/> | 34. Diaphragm/Cylinder pressure at | |
| | Hydraulic <input type="checkbox"/> DA/RA (AIR TO OPEN) | Valve full open : | * |
| 31. Size : | * | Valve full close : | * |
| 32. Supply : | 45 PSI(g) | 35. Force required for process & Force available at actuator. | * |
| 33. Failsafe position : | Stayput <input checked="" type="checkbox"/> | 36. Actuator sizing ΔP : | * |
| | Full Close <input type="checkbox"/> Full Open <input type="checkbox"/> | 37. If actuator electric fill in data sheet as per annexure furnished and shall comply with annexure-I specification. | NOT APPLICABLE |

00	27.02.12	FRESH ISSUE	AMBAJI RAO.S	R PRABHA	C V NATHAN
REV	DATE	ALTERATION	PREPARED	APPROVED (C&I)	APPROVED (Mech)

DRG. NO: 4-00-306-39896

REV 00

POSITIONER:

38. Type : Pneumatic Electronic
 DA/RA Electro Pneumatic (SMART)

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 Signal : 4-20 mA

Air supply : 5 kg/sqcm

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 :

45. Vol. booster : Yes No

46. Travel time : <10 Sec

47. Installation : Indoor Outdoor

48. All accessories enclosure : IP55

49. Position transmitter : Yes No
 Type : Pneumatic : Electronic
 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. Smart Positioner : To suit HART Protocol

53.1. Local Position Indicator: Required

MISCELLANEOUS:

54. Seat leakage : ANSI B16.104 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. J.B : Required(36 Way JB with 2Nos of 9 pin plug & socket connector and 1 No 5 pin plug & Socket connector)

59. Velocity inside Trim : < 5 m/sec/*

VALVE SIZING DATA:

60. Medium : SH Steam Sat. Steam
 Water (Saturated)

61. Flow rate in T/Hr

62. Operating inlet pressure in kg/cm² (a)

63. Operating inlet temperature in °C

64. Outlet pressure in kg/cm² (a)

65. Viscosity : -----

66. Operating (required) Cv

67. Operating noise level at 1.0 metre

68. Outlet velocity

CONDITION					
1	2	3	4	5	6
27	14.9	4.4			
6	4.4	4.4			
158	136	136			
1.5	1.5	1.5			
REFER STANDARD TABLE					
*	*	*			
<85dba	<85dba	<85dba			
*	*	*			

27.02.12	AMBAJI RAO.S	R PRABHA	C V NATHAN
DATE	PREPARED	APPROVED(C&I)	APPROVED(Mech)

DRG. NO: 4-00-306-39896 REV 00

DESIGN DATA:

- 69. Design Pressure kg/cm²(g) : 10 kg/cm²
- 70. Design Temperature °C : 184 °C
- 71. Rated/Design/Selected Cv of valve : *
- 72. Velocity restriction : Less than 0.3 MACH
- 73. Operating lift restriction : 15 to 85 % .

- 74. lift at various operating Conditions 1 TO 6 : *
- 75. Down stream limitations : *
- 76. Up stream limitations : *
- 77. Increase in signal : Air : Open / Close the Valve

TESTING/INSPECTION: AS PER RELEVANT Q.P. (APPROVED)

- 78. Hydraulic test report : Yes No
- 79. Radiography : Critical Parts : Yes Total
Not required :
- 80. IBR test report : Req'd. : Yes No
- 81. Type test : Capacity Evolution by
ISA S39.2/5 39.4 : Required
- 82. Valve functional test : Yes No

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

DOCUMENTATION (required):

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

- 90. With equipment :
Dimensional drawing : 15 Sets
O & M : 20 Sets
Data Sheets : 15 Sets
Test certificate : 1RTF + 3 Sets
- 91. Valve sizing, actuator sizing,
noise level calculations required
with bid(with formulae) : Yes No

SPARES:

- 92. Commissioning spares : *
- 93. Mandatory spares : AS PER TECH. SPEC.

- 94. 2/3 Years maintenance spares : *

OTHERS:

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

NOTES:

- 1. * DENOTES BIDDER TO SPECIFY

27.02.12	AMBAJI RAO.S	R PRABHA	C V NATHAN	DRG. NO:	4-00-306-39896	REV
DATE	PREPARED	APPROVED(C&I)	APPROVED(Mech)			00

CI 12/01



CONTROL VALVE SPECIFICATION SHEET

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

PROJECT: NABINAGAR TPP(4X250MW);
AUXILIARY BOILER;

UNIT: 1,2,3&4;
CUST. NO: 0498

GENERAL:

1. Valve tag No. : AFW-15 (1No.)&AFW-16 (1No.)
 2. Service : FEED WATER CONTROL VALVE
 3. Line No./Vessel No. :
 4. Qty. required per unit : 2 Nos

90QLA20 AA201 90QLA20 AA202

5. Manufacturer :
 6. Model No. :
 7. Rating : ASME CL.600
 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 : ø88.9X5.49
 Outlet : ø88.9X5.49
 14. Body rating : ASME CL.600

16. Bonnet type : Standard Finned
 Extended Pr. seal
 17. Material : Body : ASTM A217 WC6
 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

Edge Preparation as per BPS: STY 'D', D1=79.0

TRIM:

20. No. of ports : *
 21. Type : Balanced Unbalanced
 22. Plug characteristics : ~~L/ALV/EP~~
 23. Guiding : Cage Port Top
 Bottom

24. Stem material : SS316 STELLITED
 25. Plug material : 17-4 PH SS
 26. Seat material : 17-4 PH SS
 27. Disc material : 17-4 PH SS
 28. Stem guide material : SS316 STELLITED
 29. Quick change trim : Yes No

ACTUATOR:

30. Type : Electric Pneumatic
 Hydraulic DA/RA (AIR TO OPEN)
 31. Size : *
 32. Supply : 45 PSI(g)
 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 : NOT
 furnished and shall comply APPLICABLE
 with annexure-I specification.

00	20.10.11	FRESH ISSUE	AMBAJI RAO S	R PRABHA	C V NATHAN
REV	DATE	ALTERATION	PREPARED	APPROVED (C&I)	APPROVED (Mech)

DRG. NO:

4-00-306-39800

REV

00

POSITIONER:

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 Signal : 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 : IP55

49. Position transmitter : Yes No
 Type : Pneumatic : Electronic
 Non contact
 Rating : 2 wire 24V DC: Type
 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 : Required
 (with A/F regulator) (Fail freeze type)
 53.3. Junction Box : Required

MISCELLANEOUS:

54. Seat leakage : ANSI B16.104 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. Velocity Required inside Trim : < * m/sec
 59. All Electrical termination : Plug & Scket type

VALVE SIZING DATA:

60. Medium : SH Steam Sat. Steam
 Water
 61. Flow rate in T/Hr
 62. Operating inlet pressure in kg/cm² (a)
 63. Operating inlet temperature in °C
 64. Outlet pressure in kg/cm² (a)
 65. Viscosity : -----
 66. Operating (required) Cv
 67. Operating noise level at 1.0 metre
 68. Outlet velocity

CONDITION					
1	2	3	4	5	6
60	30	15			
36	39	40.2			
105	105	105			
24.5	20.8	19.7			
REFER STANDARD TABLE					
*	*	*			
<85dbA	<85dbA	<85dbA			
*	*	*			

00	20.10.11	AMBAJI RAO S	R PRABHA	C V NATHAN
REV	DATE	PREPARED	APPROVED(C&I)	APPROVED(Mech)

DRG. NO: 4-00-306-39800 REV 00

DESIGN DATA:

- 69. Design Pressure kg/cm²(g) : 45 kg/cm²
- 70. Design Temperature °C : 135 °C
- 71. Rated/Design/Selected Cv of valve : *
- 72. Velocity restriction : Less than 0.3 MACH
- 73. Operating lift restriction : 15 to 85 % .

- 74. lift at various operating Conditions 1 TO 3 : *
 - 75. Down stream limitations : *
 - 76. Up stream limitations : *
 - 77. Increase in signal : *
- Air : Open / Close the Valve

TESTING/INSPECTION: AS PER RELEVANT Q.P. (APPROVED)

- 78. Hydraulic test report : Yes No
- 79. Radiography : Critical Parts : Yes Total
Not required :
- 80. IBR test report : Req'd. : Yes No
- 81. Type test : Capacity Evolution by
ISA S39.2/5 39.4 : Required
- 82. Valve functional test : Yes No

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

DOCUMENTATION (required):

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

- 90. With equipment :
Dimensional drawing : 15 Sets
O & M : -do-
Data Sheets : -do-
Test certificate : 1RTF + 3 Sets
- 91. Valve sizing, actuator sizing,
noise level calculations required
with bid(with formulae) : Yes No

SPARES:

- 92. Commissioning spares : *
- 93. Mandatory spares : AS PER TECH. SPEC.

- 94. 2/3 Years maintenance spares : *

OTHERS:

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

NOTES:

- 1. * DENOTES BIDDER TO SPECIFY

00	20.10.11	AMBAJI RAO S	R PRABHA	C V NATHAN	DRG. NO: 4-00-306-39800	REV 00
REV	DATE	PREPARED	APPROVED(C&I)	APPROVED(Mech)		

CI 12/01



CONTROL VALVE SPECIFICATION SHEET

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

PROJECT: NABINAGAR TPP(4X250MW);
AUXILIARY BOILER;

UNIT 1,2,3&4
CUST. NO: 0498

GENERAL:

1. Valve tag No. : ADM-03 (1No.)
2. Service : DEAERATOR LEVEL CONTROL VALVE
3. Line No./Vessel No. :
4. Qty. required per unit : 1 No.

900LA30
AA201

5. Manufacturer :
6. Model No. :
7. Rating : ASME CL.300
8. Total Qty : 1 No. / 1 Unit
Required

BODY:

9. Type : Thru 3 Way
Z type Angle
10. Form : Globe Ball
Butterfly
11. Size : *
12. Port Size : *
13. Connecting pipe size : Inlet : ϕ 114.3X3.05
Outlet : ϕ 114.3X3.05
14. Body rating : ASME CL.300

16. Bonnet type : Standard Finned
Extended Pr. seal
17. Material : Body : ASTM A 351-CF8/SS316
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

Edge Preparation as per BPS: STY 'D', D1=109.5

TRIM:

20. No. of ports : *
21. Type : Balanced Unbalanced
22. Plug characteristics : ~~L/V/EP~~
23. Guiding : Cage Port Top
Bottom

24. Stem material : SS316
25. Plug material : 17-4 PH SS
26. Seat material : 17-4 PH SS
27. Disc material : 17-4 PH SS
28. Stem guide material : SS316
29. Quick change trim : Yes No

ACTUATOR:

30. Type : Electric Pneumatic
Hydraulic DA/RA (AIR TO OPEN)
31. Size : *
32. Supply : 45 PSI(g)
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 Δ P : *
37. If actuator electric fill in
data sheet as per annexure : NOT
furnished and shall comply APPLICABLE
with annexure-I specification.

00	20.10.11	FRESH ISSUE	AMBAJI RAO	R PRABHA	C V NATHAN
REV	DATE	ALTERATION	PREPARED	APPROVED (C&I)	APPROVED (Mech)

DRG. NO:

4-00-306-39801

REV

00

POSITIONER:

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 Signal : 4-20 mA

Air supply : 45 PSI

Input/Output Pr. gauge :
 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 : IP55

49. Position transmitter : Yes No
 Type : Pneumatic : Electronic Non contact
 Rating : 2 wire 24V DC: Type
 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 Convertor : Required
 (with A/F regulator) (Fail freeze type)
 53.3. Junction Box : Required

MISCELLANEOUS:

54. Seat leakage : ANSI B16.104 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. Velocity Required inside Trim : < * m/sec

59. All Electrical termination : Plug & Scket type

VALVE SIZING DATA:

60. Medium : SH Steam Sat. Steam
 Water

61. Flow rate in T/Hr

62. Operating inlet pressure in kg/cm² (a)

63. Operating inlet temperature in °C

64. Outlet pressure in kg/cm² (a)

65. Viscosity : -----

66. Operating (required) Cv

67. Operating noise level at 1.0 metre

68. Outlet velocity

CONDITION					
1	2	3	4	5	6
50	30	15			
5	5	5			
40	40	40			
1.88	1.88	1.88			
REFER STANDARD TABLE					
*	*	*			
<85dba	<85dba	<85dba			
*	*	*			

20.10.11	AMBAJI RAO	R PRABHA	C V NATHAN
DATE	PREPARED	APPROVED(C&I)	APPROVED(Mech)

DRG. NO: 4-00-306-39801 REV 00

DESIGN DATA:

- 69. Design Pressure kg/cm²(g) : 20 kg/cm²
- 70. Design Temperature °C : 50 °C
- 71. Rated/Design/Selected Cv of valve : *
- 72. Velocity restriction : Less than 0.3 MACH
- 73. Operating lift restriction : 15 to 85 % .

- 74. lift at various operating Conditions 1 TO 3 : *
- 75. Down stream limitations : *
- 76. Up stream limitations : *
- 77. Increase in signal : Air : Open / ~~Close~~ the Valve

TESTING/INSPECTION: AS PER RELEVANT Q.P. (APPROVED)

- 78. Hydraulic test report : Yes No
- 79. Radiography : Critical Parts : Yes Total
Not required :
- 80. IBR test report : Req'd. : Yes No
- 81. Type test : Capacity Evolution by
ISA S39.2/5 39.4 : Required
- 82. Valve functional test : Yes No

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

DOCUMENTATION (required):

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

- 90. With equipment :
Dimensional drawing : 15 Sets
O & M : -do-
Data Sheets : -do-
Test certificate : 1RTF + 3 Sets
- 91. Valve sizing, actuator sizing,
noise level calculations required
with bid(with formulae) : Yes No

SPARES:

- 92. Commissioning spares : *
- 93. Mandatory spares : AS PER TECH. SPEC.

- 94. 2/3 Years maintenance spares : *

OTHERS:

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

NOTES:

1. * DENOTES BIDDER TO SPECIFY

20.10.11	AMBAJI RAO	R PRABHA	C V NATHAN	DRG. NO:	REV
DATE	PREPARED	APPROVED(C&I)	APPROVED(Mech)	4-00-306-39801	00

CONTROL VALVE SPECIFICATION SHEET

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

PROJECT: NABINAGAR TPP(4X250MW)
AUXILIARY BOILER

UNIT: 1,2,3&4
CUST.NO: 0498



CI 12/01

GENERAL:

90QLB30
AA201

1. Valve tag No. : AMS-25 (1No.)
2. Service : DEAERATOR PRESSURE CONTROL 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 : 1 No. / 1 Unit

BODY:

9. Type : Thru 3 Way
Z type Angle
10. Form : Globe Ball
Butterfly
11. Size : *
12. Port Size : *
13. Connecting pipe size : Inlet : ϕ 114.3X6.02
Outlet : ϕ 355.6X9.53
14. Body rating : ASME CL.300

16. Bonnet type : Standard Finned
Extended Pr. seal
17. Material : Body : ASTM A216 WCB
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

Edge Preparation as per BPS: STY 'D', D1=103.5/339.8

TRIM:

20. No. of ports : *
21. Type : Balanced Unbalanced
22. Plug characteristics : ~~L/V/EP~~
23. Guiding : Cage Port Top
Bottom

24. Stem material : SS316 STELLITED
25. Plug material : SS316
26. Seat material : SS316 STELLITED
27. Disc material : SS316 STELLITED
28. Stem guide material : SS316
29. Quick change trim : Yes No

ACTUATOR:

30. Type : Electric Pneumatic
Hydraulic DA/RA (AIR TO OPEN)
31. Size : *
32. Supply : 45 PSI(g)
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 : NOT
furnished and shall comply APPLICABLE
with annexure-I specification.

00	20.10.11	FRESH ISSUE	<i>Ambaji Rao</i> AMBAJI RAO	<i>R Prabha</i> R PRABHA	<i>C V Nathan</i> C V NATHAN	DRG. NO:	REV
REV	DATE	ALTERATION	PREPARED	APPROVED (C&I)	APPROVED (Mech)	4-00-306-39802	00

POSITIONER:

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 Signal : 4-20 mA
 Air supply : 45 PSI
 Input/Output Pr. gauge:
 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 : IP55

49. Position transmitter : Yes No
 Type : Pneumatic : Electronic
 Non contact
 Rating : 2 wire 24V DC: Type
 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 : Required
 (with A/F regulator) (Fail freeze type)
 53.3. Junction Box : Required

MISCELLANEOUS:

54. Seat leakage : ANSI B16.104 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. Velocity Required inside Trim : < * m/sec
 59. All Electrical Termination : Plug & Socket type

VALVE SIZING DATA:

60. Medium : SH Steam Sat. Steam
 Water
 61. Flow rate in T/Hr
 62. Operating inlet pressure in kg/cm²(a)
 63. Operating inlet temperature in °C
 64. Outlet pressure in kg/cm²(a)
 65. Viscosity : -----
 66. Operating (required) Cv
 67. Operating noise level at 1.0 metre
 68. Outlet velocity

CONDITION					
1	2	3	4	5	6
10	8	4	2		
20	20	20	20		
220	220	220	220		
1.23	1.23	1.23	1.23		
REFER STANDARD TABLE					
*	*	*	*		
<85dba	<85dba	<85dba	<85dba		
*	*	*	*		

20.10.11	AMBAJI RAO	R PRABHA	C V NATHAN
DATE	PREPARED	APPROVED(C&I)	APPROVED(Mech)

DRG. NO: 4-00-306-39802 REV 00

DESIGN DATA:

- 69. Design Pressure kg/cm²(g) : 22 kg/cm²
- 70. Design Temperature °C : 250 °C
- 71. Rated/Design/Selected Cv of valve : *
- 72. Velocity restriction : Less than 0.3 MACH
- 73. Operating lift restriction : 15 to 85 % .

- 74. lift at various operating Conditions 1 TO 3 : *
- 75. Down stream limitations : *
- 76. Up stream limitations : *
- 77. Increase in signal : /
~~Air~~ : Open / Close the Valve

TESTING/INSPECTION: AS PER RELEVANT Q.P. (APPROVED)

- 78. Hydraulic test report : Yes No
- 79. Radiography : Critical Parts : Yes Total
 Not required :
- 80. IBR test report : Req'd. : Yes No
- 81. Type test : Capacity Evolution by
 ISA S39.2/5 39.4 : Required
- 82. Valve functional test : Yes No
- 83. Accessories functional : Yes No
 Test :
- 84. Seat leakage test : Yes No
- 85. Material test report : Yes No
- 86. Customer Inspection :
 In process : Yes No
 Final : Yes No
- 87. Third Party inspection : Yes No

DOCUMENTATION (required):

- 88. With bid. (3 sets)
 Catalogues : Yes No
 Dimensional drawing : Yes No
 All data sheets : Yes No
 Recommendation/
 Limitation : Yes No
 Contrary report : Yes No
 Deviation list : Yes No
 Confirmatory report : Yes No
- 89. Quality plan (enclosed) : Yes No
- 90. With equipment :
 Dimensional drawing : 15 Sets
 O & M : -do-
 Data Sheets : -do-
 Test certificate : 1RTF + 3 Sets
- 91. Valve sizing, actuator sizing,
 noise level calculations required
 with bid(with formulae) : Yes No

SPARES:

- 92. Commissioning spares : *
- 93. Mandatory spares : AS PER TECH. SPEC.
- 94. 2/3 Years maintenance spares : *

OTHERS:

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

NOTES:

- 1. * DENOTES BIDDER TO SPECIFY

20.10.11	AMBAJI RAO	R PRABHA	C V NATHAN	DRG. NO:	REV
DATE	PREPARED	APPROVED(C&I)	APPROVED(Mech)	4-00-306-39802	00

CI 12/01



CONTROL VALVE SPECIFICATION SHEET

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

PROJECT: NABINAGAR TPP(4X250MW) CUST NO: 1200,1201,1202&1203

CUSTOMER: BHARTIYA RAIL BIJLEE COMPANY LTD

(A Joint venture company between NTPC Ltd and Indian Railways)

GENERAL:

LBG76
AA101

LBG76
AA102

1. Valve tag No. : ASSC-68 & ASSC-71
2. Service : SECONDARY SCAPH DRAIN TANK
LEVEL CONTROL VALVE & BYPASS VALVE
3. Line No./Vessel No. : --
4. Qty. required per unit : 2 NOs.

5. Manufacturer : *
6. Model No. : *
7. Rating : ASME CI 300
8. Total Qty : 8 NOs.
Required
for 4 Units

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 73x5.16
Outlet : OD 73x5.16
14. Body rating : ASME CI. 300

16. Bonnet type : Standard Finned
Extended Pr. seal
17. Material : Body : ASTM A 217 Gr WC6
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
NPI
Flanged
ANSI

- BW SW
BSPT BS

DIN

Edge Preparation as per BPS. STY.'D'; d1=62.7

TRIM:

20. No. of ports : *
21. Type : Balanced Unbalanced
22. Plug characteristics: ~~L/LV/EP~~ MODIFIED PARABOLIC
23. Guiding : Cage Port Top
Bottom

24. Stem material : SS316 STELLITED
25. Plug material : 17-4 PH SS
26. Seat material : 17-4 PH SS
27. Disc material : 17-4 PH SS
28. stem guide material : SS316 STELLITED
29. Quick change trim Yes No

ACTUATOR:

30. Type : Electric Pneumatic
Hydraulic DA/RA (AIR TO OPEN)
31. Size : *
32. Supply : 45 PSIG
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.

00	27.02.12	FRESH ISSUE	AMBAJI RAO.SR	PRABHA	CV NATHAN	DRG. NO:	4-00-306-39900	REV	00
REV	DATE	ALTERATION	PREPARED	APPD/C&I	APPD/Mech				

POSITIONER:

38. Type : Pneumatic Electronic
 DA/RA Electro Pneumatic (SMART)

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 Signal : 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 : IP55

49. Position transmitter : Yes No
 Type : Pneumatic : Electronic Non contact type
 Rating : 2 wire 24V DC:
 Output : 4-20 ma : 3-15 psig
 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. Smart Positioner : To Suit HART Protocol
 53.1. Local Position Indicator: Required
 53.2. Junction Box : Required
 (36 way Junction Box with 2nos 9 pin plug & socket connector & 1no. 5 pin plug & socket connector)

MISCELLANEOUS:

54. Seat leakage : FCI 70.2 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. Velocity Required inside Trim : < 5 m/sec

VALVE SIZING DATA:

61. Medium : SH Steam Sat. Steam
 Water(Saturated)
 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	
17.8	14.7	4.86	
1.2	1.2	1.2	
80	80	80	
0.8	0.8	0.8	
REFER STANDARD TABLE			
*	*	*	*
< 85dBA	< 85dBA	< 85dBA	< 85dBA
*	*	*	*

27.02.12	AMBAJI RAO.S	R.PRABHA	C V NATHAN
DATE	PREPARED	APPROVED/C&I	APPROVED/MECH

DRG. NO: 4-00-306-39900 REV 00

DESIGN DATA:

70. Design Pressure Kg/cm²(g) : 7 Kg/cm²(g)
 71. Design Temperature °C : 250 °C
 72. Rated/Design/Selected Cv of valve : *
 73. Velocity restriction : 8m/sec for liquid service
 150m/sec for steam service
 74. Operating lift restriction : 15 to 80 % .

75. lift at various operating Conditions 1 TO 4 : *
 76. Down stream limitations : *
 77. Up stream limitations : *
 78. Increase in signal :
 Air : To Open the valve

TESTING/INSPECTION: (AS PER APPROVED QP)

79. Hydraulic test report : Yes No
 80. Radiography : Critical Parts : Total
 Not required :
 81. IBR test report : Req'd. :
 82. Type test : Capacity Evaluation by *
 ISA S39.2/5 39.4 : 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)
 C.V. HOOK UP DIAGRAM : Yes No
 J.B WIRING DIAGRAM : Yes No
 Catalogues : Yes No
 Dimensional drawing : Yes No
 All data sheets : Yes No
 Recommendation /
 Limitation : Yes No
 Contrary report : Yes No
 Deviation list : Yes No
 Confirmatory report : Yes No
 90. Quality plan (enclosed) : Yes No

91. With equipment :
 Dimensional drawing : 15 Sets
 O & M : ---do---
 Data Sheets : ---do---
 Test certificate : 1RTF + 3 Sets
 92. Valve sizing, actuator sizing,
 noise level calculations required
 with bid(with formulae) : Yes No

SPARES:

94. Commissioning spares : *
 95. Mandatory spares : AS PER TECH SPCN

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

27.02.12	AMBAJI RAO.S	R.PRABHA	C V NATHAN	DRG. NO:	REV
DATE	PREPARED	APPROVED/C&I	APPROVED/MECH	4-00-306-39900	00