BUSES LINKING MODULES – SORTED BY DESTINATION CODE

	BUS NAME	SOURCE MODULE	SOURCE CODE (SEE NOTE 1)	DESTINATION MODULE	DEST'N CODE (SEE NOTE 1)
1	ALTERNATE DUTY	SINGLE DUTY	15	COMMON DISPLAY	C
2	COMS. LINK FAIL	UNIT * BORE STATUS	13	COMMON DISPLAY	C
3	DUTY CALL	SINGLE DUTY	15	COMMON DISPLAY	C
4	INTERLOCK OPERATING	STATION INHIBIT	2	COMMON DISPLAY	C
5	STATION NO FLOW	STATION STATUS	1	COMMON DISPLAY	C
6	SV1 AIR VOLUME	SURGE VESSEL	8	COMMON DISPLAY	C
7	SV1 DISCHARGE AIR	SURGE VESSEL	8	COMMON DISPLAY	C
8	SV1 INHIBIT START	SURGE VESSEL	8	COMMON DISPLAY	C
9	SV1 INJECT AIR	SURGE VESSEL	8	COMMON DISPLAY	C
10	SV1 NORMALISED AIR MASS	SURGE VESSEL	8	COMMON DISPLAY	C
11	SV1 PRESSURE	SURGE VESSEL	8	COMMON DISPLAY	C
12	SV2 AIR VOLUME	SURGE VESSEL	8	COMMON DISPLAY	C
13	SV2 DISCHARGE AIR	SURGE VESSEL	8	COMMON DISPLAY	C
14	SV2 INHIBIT START	SURGE VESSEL	8	COMMON DISPLAY	C
15	SV2 INJECT AIR	SURGE VESSEL	8	COMMON DISPLAY	C
16	SV2 NORMALISED AIR MASS	SURGE VESSEL	8	COMMON DISPLAY	C
17	SV2 PRESSURE	SURGE VESSEL	8	COMMON DISPLAY	C
18	TRANSFORMER 1 EARTH FAULT	TRANSFORMER	9	COMMON DISPLAY	C
19	TRANSFORMER 1 OVER TEMP.	TRANSFORMER	9	COMMON DISPLAY	C
20	TRANSFORMER 1 PRESSURE FAULT	TRANSFORMER	9	COMMON DISPLAY	C
21	TRANSFORMER 2 EARTH FAULT	TRANSFORMER	9	COMMON DISPLAY	C
22	TRANSFORMER 2 OVER TEMP.	TRANSFORMER	9	COMMON DISPLAY	C
23	TRANSFORMER 2 PRESSURE FAULT	TRANSFORMER	9	COMMON DISPLAY	C
24	UNIT * CALLED	UNIT * STOP/START	3	COMMON DISPLAY	C
25	UNIT * EFFICIENCY	UNIT * BORE ANALOGUE	14	COMMON DISPLAY	C
26	UNIT * MOTOR BEARING FAULT	UNIT * BEARING FAULT	6	COMMON DISPLAY	C
27	UNIT * OFF PEAK ENERGY	UNIT * BORE ANALOGUE	14	COMMON DISPLAY	C
28	UNIT * PUMP BEARING FAULT	UNIT * BEARING FAULT	6	COMMON DISPLAY	C
29	UNIT 1 ON DUTY	SINGLE DUTY	15	COMMON DISPLAY	C
30	UNIT 2 ON DUTY	SINGLE DUTY	15	COMMON DISPLAY	C
31	AUX. TRANSFORMER ON	TRANSFORMER	9	COMMON DISPLAY, SCADA	CS
32	BUS TIE 1 CLOSED	TRANSFORMER	9	COMMON DISPLAY, SCADA	CS
33	BUS TIE 2 CLOSED	TRANSFORMER	9	COMMON DISPLAY, SCADA	CS
34	COMPRESSOR 1 FAULT	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
35	COMPRESSOR 1 RUNNING	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
36	COMPRESSOR 2 FAULT	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
37	COMPRESSOR 2 RUNNING	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
38	COMS LINK FAIL	STATION STATUS	1	COMMON DISPLAY, SCADA	CS
39	DC VOLTS LOW	STATION STATUS	1	COMMON DISPLAY, SCADA	CS
40	DUTY SELECT OFF	SINGLE DUTY	15	COMMON DISPLAY, SCADA	CS
41	FEEDER 1 ON	TRANSFORMER	9	COMMON DISPLAY, SCADA	CS
42	FEEDER 2 ON	TRANSFORMER	9	COMMON DISPLAY, SCADA	CS
43	OFF PEAK TARIFF	STATION STATUS	1	COMMON DISPLAY, SCADA	CS
44	ON PEAK TARIFF	STATION STATUS	1	COMMON DISPLAY, SCADA	CS
45	ON PEAK TARIFF	UNIT * BORE STATUS	13	COMMON DISPLAY, SCADA	CS
46	STANDBY CALL	SINGLE DUTY	15	COMMON DISPLAY, SCADA	CS
47	STANDBY LATCHED	SINGLE DUTY	15	COMMON DISPLAY, SCADA	CS
48	STATION ACCUMULATED FLOW	STATION ANALOGUES & TOTALISERS	10	COMMON DISPLAY, SCADA	CS
49	STATION DELIVERY HIGH	STATION STATUS	1	COMMON DISPLAY, SCADA	CS
50	STATION DELIVERY LOW	STATION STATUS	1	COMMON DISPLAY, SCADA	CS
51	STATION DELIVERY PRESSURE	STATION ANALOGUES & TOTALISERS	10	COMMON DISPLAY, SCADA	CS
52	STATION FAULT	STATION INHIBIT	2	COMMON DISPLAY, SCADA	CS
53	STATION FLOW RATE	STATION ANALOGUES & TOTALISERS	10	COMMON DISPLAY, SCADA	CS
54	STATION kW HOURS	STATION ANALOGUES & TOTALISERS	10	COMMON DISPLAY, SCADA	CS
55	STATION SUCTION LOW	STATION STATUS	1	COMMON DISPLAY, SCADA	CS
56	STATION SUCTION PRESSURE	STATION ANALOGUES & TOTALISERS	10	COMMON DISPLAY, SCADA	CS
57	SV1 ALARM	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
58	SV1 DEVIATION	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
59	SV1 WATER LEVEL	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
60	SV2 ALARM	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
61	SV2 DEVIATION	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
62	SV2 WATER LEVEL	SURGE VESSEL	8	COMMON DISPLAY, SCADA	CS
63	TRANSFORMER ALARM	TRANSFORMER	9	COMMON DISPLAY, SCADA	CS
64	TRANSFORMER FAULT	TRANSFORMER	9	COMMON DISPLAY, SCADA	CS
65	TRANSFORMER 1 ON	TRANSFORMER	9	COMMON DISPLAY, SCADA	CS
66	TRANSFORMER 2 ON	TRANSFORMER	9	COMMON DISPLAY, SCADA	CS
67	UNIT * AUTO/REMOTE CONTROL	UNIT * STOP/START	3	COMMON DISPLAY, SCADA	CS
68	UNIT * AVAILABLE	UNIT * STATUS	4	COMMON DISPLAY, SCADA	CS
69	UNIT * DRY WELL LEVEL FAULT	UNIT * STATUS	4	COMMON DISPLAY, SCADA	CS
70	UNIT * EMERGENCY CONTROL	UNIT * STATUS	4	COMMON DISPLAY, SCADA	CS
71	UNIT * FAULT	UNIT * BORE STATUS	13	COMMON DISPLAY, SCADA	CS
72	UNIT * ISOLATED	UNIT * STATUS	4	COMMON DISPLAY, SCADA	CS
73	UNIT * LOCAL STOP	UNIT * STOP/START	3	COMMON DISPLAY, SCADA	CS
74	UNIT * OFF	UNIT * STATUS	4	COMMON DISPLAY, SCADA	CS
75	UNIT * ON	UNIT * STATUS	4	COMMON DISPLAY, SCADA	CS
76	UNIT * ON PEAK ENERGY	UNIT * BORE ANALOGUE	14	COMMON DISPLAY, SCADA	CS
77	UNIT * PLANT FAULT	UNIT * STATUS	4	COMMON DISPLAY, SCADA	CS
78	UNIT * ROOM TEMPERATURE HIGH	UNIT * BORE ANALOGUE	14	COMMON DISPLAY, SCADA	CS
79	UNIT * RUNNING	UNIT * STATUS	4	COMMON DISPLAY, SCADA	CS
80	VOLTS FAIL	STATION STATUS	1	COMMON DISPLAY, SCADA	CS

BUSES LINKING MODULES – SORTED BY DESTINATION CODE

	BUS NAME	SOURCE MODULE	SOURCE CODE (SEE NOTE 1)	DESTINATION MODULE	DEST'N CODE (SEE NOTE 1)
81	VOLTS FAIL	UNIT * BORE STATUS	13	COMMON DISPLAY, SCADA	CS
82	DUTY SELECT OFF	SINGLE DUTY	15	FUTURE MODULE	F
83	UNIT * FAULT	UNIT * STATUS	4	SCADA	S
84	UNIT * AUX. FAULT	UNIT * AUXILIARIES	7	UNIT * DISPLAY	U
85	UNIT * AUX. ON	UNIT * AUXILIARIES	7	UNIT * DISPLAY	U
86	UNIT * BRUSH LIFT. MOT. O'CRNT	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY	U
87	UNIT * EARTH LEAKAGE	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY	U
88	UNIT * HYDRAULICS HEALTHY	UNIT * BORE STATUS	13	UNIT * DISPLAY	U
89	UNIT * INCOMPLETE START	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY	U
90	UNIT * LOCAL CONTROL	UNIT * STOP/START	3	UNIT * DISPLAY	U
91	UNIT * LOW DELIVERY	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY	U
92	UNIT * LOW FLOW	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY	U
93	UNIT * LOW FLOW	UNIT * BORE STATUS	13	UNIT * DISPLAY	U
94	UNIT * MOTOR DE EXCESS VIB.	UNIT * BEARING FAULT	6	UNIT * DISPLAY	U
95	UNIT * MOTOR DE OVER TEMP.	UNIT * BEARING FAULT	6	UNIT * DISPLAY	U
96	UNIT * MOTOR NDE EXCESS VIB.	UNIT * BEARING FAULT	6	UNIT * DISPLAY	U
97	UNIT * MOTOR NDE OVER TEMP.	UNIT * BEARING FAULT	6	UNIT * DISPLAY	U
98	UNIT * OVER CURRENT	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY	U
99	UNIT * OVER PRESSURE	UNIT * BORE STATUS	13	UNIT * DISPLAY	U
100	UNIT * PUMP DE EXCESS VIB.	UNIT * BEARING FAULT	6	UNIT * DISPLAY	U
101	UNIT * PUMP DE OVER TEMP.	UNIT * BEARING FAULT	6	UNIT * DISPLAY	U
102	UNIT * PUMP NDE EXCESS VIB.	UNIT * BEARING FAULT	6	UNIT * DISPLAY	U
103	UNIT * PUMP NDE OVER TEMP.	UNIT * BEARING FAULT	6	UNIT * DISPLAY	U
104	UNIT * RUN	UNIT * STOP/START	3	UNIT * DISPLAY	U
105	UNIT * STARTER/VSC FAULT	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY	U
106	UNIT * SUCTION LOW	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY	U
107	UNIT * VALVE FAULT	UNIT * AUXILIARIES	7	UNIT * DISPLAY	U
108	UNIT * VALVE OPENED	UNIT * AUXILIARIES	7	UNIT * DISPLAY	U
109	UNIT * VALVE THROTTLED	UNIT * AUXILIARIES	7	UNIT * DISPLAY	U
110	UNIT * WINDING OVER TEMP.	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY	U
111	UNIT * MOTOR DE TEMPERATURE	UNIT * ANALOGUES & TOTALISERS	11	UNIT * DISPLAY, COMMON DISPLAY	UC
112	UNIT * MOTOR DE VIBRATION	UNIT * VIBRATION	12	UNIT * DISPLAY, COMMON DISPLAY	UC
113	UNIT * MOTOR NDE TEMPERATURE	UNIT * ANALOGUES & TOTALISERS	11	UNIT * DISPLAY, COMMON DISPLAY	UC
114	UNIT * MOTOR NDE VIBRATION	UNIT * VIBRATION	12	UNIT * DISPLAY, COMMON DISPLAY	UC
115	UNIT * POWER	UNIT * ANALOGUES & TOTALISERS	11	UNIT * DISPLAY, COMMON DISPLAY	UC
116	UNIT * PUMP DE TEMPERATURE	UNIT * ANALOGUES & TOTALISERS	11	UNIT * DISPLAY, COMMON DISPLAY	UC
117	UNIT * PUMP DE VIBRATION	UNIT * VIBRATION	12	UNIT * DISPLAY, COMMON DISPLAY	UC
118	UNIT * PUMP NDE TEMPERATURE	UNIT * ANALOGUES & TOTALISERS	11	UNIT * DISPLAY, COMMON DISPLAY	UC
119	UNIT * PUMP NDE VIBRATION	UNIT * VIBRATION	12	UNIT * DISPLAY, COMMON DISPLAY	UC
120	UNIT * ELECTRICAL FAULT	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY, SCADA	US
121	UNIT * HYDRAULIC FAULT	UNIT * ELECT. AND HYD. FAULT	5	UNIT * DISPLAY, SCADA	US
122	UNIT * RUN HOURS	UNIT ANALOGUES & TOTALISERS	11	UNIT * DISPLAY, SCADA	US
123	COMS. LINK HEALTHY	COMS. SYSTEM	L	STATION STATUS	1
124	DUTY SELECT OFF	FUTURE MODULE	F	STATION STATUS	1
125	STATION ALARM	STATION INHIBIT	2	STATION STATUS	1
126	STATION DHD	STATION ANALOGUES & TOTALISERS	10	STATION STATUS	1
127	STATION DLD	STATION ANALOGUES & TOTALISERS	10	STATION STATUS	1
128	STATION NFwD	STATION ANALOGUES & TOTALISERS	10	STATION STATUS	1
129	STATION REMOTE INHIBIT	SCADA	S	STATION STATUS	1
130	STATION SLD	STATION ANALOGUES & TOTALISERS	10	STATION STATUS	1
131	STATION SUNDRY FAULT	FUTURE MODULE	F	STATION STATUS	1
132	STATION SUNDRY ALARM	FUTURE MODULE	F	STATION INHIBIT	2
133	STATION SUNDRY FAULT	FUTURE MODULE	F	STATION INHIBIT	2
134	STATION SUNDRY INTERLOCK	FUTURE MODULE	F	STATION INHIBIT	2
135	SV ALARM	SURGE VESSEL	8	STATION INHIBIT	2
136	TRANSFORMER ALARM	TRANSFORMER	9	STATION INHIBIT	2
137	UNIT * ALARM	UNIT * STATUS	4	STATION INHIBIT	2
138	UNIT * FAULT	UNIT * STATUS	4	STATION INHIBIT	2
139	UNIT * STARTING	UNIT * STOP/START	3	STATION INHIBIT	2
140	STATION OVERRIDE STOP	STATION STATUS	1	UNITS STOP/START (ALL)	3
141	STATION OVERRIDE STOP	UNIT * BORE STATUS	13	UNIT * STOP/START	3
142	STATION STARTING	STATION INHIBIT	2	UNITS STOP/START (ALL)	3
143	SV INHIBIT START	SURGE VESSEL	8	UNITS STOP/START (ALL)	3
144	UNIT * AUTO START	SINGLE DUTY	15	UNIT * STOP/START	3
145	UNIT * AUTO STOP	SINGLE DUTY	15	UNIT * STOP/START	3
146	UNIT * AUX. ENABLE	UNIT * AUXILIARIES	7	UNIT * STOP/START	3
147	UNIT * FAULT	UNIT * STATUS	4	UNIT * STOP/START	3
148	UNIT * FAULT	UNIT * BORE STATUS	13	UNIT * STOP/START	3
149	UNIT * INTERLOCK STOP	UNIT * STATUS	4	UNIT * STOP/START	3
150	UNIT * RUN INHIBIT	FUTURE MODULE	F	UNIT * STOP/START	3
151	UNIT * SCADA START	SCADA	S	UNIT * STOP/START	3
152	UNIT * SCADA STOP	SCADA	S	UNIT * STOP/START	3
153	UNIT * START INHIBIT	UNIT * AUXILIARIES	7	UNIT * STOP/START	3
154	VOLTS FAIL	STATION STATUS	1	UNITS STOP/START (ALL)	3
155	VOLTS FAIL	UNIT * BORE STATUS	13	UNIT * STOP/START	3
156	VOLTS RESET	STATION STATUS	1	UNITS STOP/START (ALL)	3
157	VOLTS RESET	UNIT * BORE STATUS	13	UNIT * STOP/START	3
158	UNIT * AUTO/REMOTE CONTROL	UNIT * STOP/START	3	UNIT * STATUS	4
159	UNIT * AUX. FAULT	UNIT * AUXILIARIES	7	UNIT * STATUS	4
160	UNIT * BEARING FAULT	UNIT * BEARING FAULT	6	UNIT * STATUS	4

GENERAL NOTES

1. SOURCE AND DESTINATION CODES
   a) NUMERICAL CODES CORRESPOND TO DRAWING NUMBER WITHIN FS00–2 BUNDLE eg. CODE 9 REFERENCES DRAWING FS00–2–9
   b) ALPHABETICAL CODES ALLOCATED AS FOLLOWS :
      C COMMON DISPLAY
      F FUTURE MODULE
      L COMMUNICATION LINK
      S SCADA
      U UNIT DISPLAY

ISSUE	DATE	GRID	REVISION	DRN	REC	APPD
F	03/2007		STATION ALARM BUS TO CS (OLD 49) DELETED; 63 ADDED	TJT	RP	NHJ
E	02/2004		POWER SUPPLY FAULT BUS (OLD 46) DELETED; 86 ADDED	TJT	RP	NHJ
D	03/2003		POSITIONS 1–3, 25, 27, 29, 30, 40, 47, 48, 68, 72, 77, 79, 82, 83, 88, 93, 99, 141, 144, 145, 148, 155, 157 AND 158 INSERTED; POSITIONS 55, 74 AND 91 REVISED	TJT	RP	NHJ
C	11/2002		ORDER REVISED (WHEN DESTINATION MODULES REVISED); 126 ADDED	TJT	RP	NHJ

566
810

DESIGN SURVEY NONE | VERTICAL DATUM NONE | COORDINATE SYS NONE | ASCON SURVEY NONE | DES REF | DES CALC | DES CHD KOG | DRN TJT | Q.C. CHD HdeV | NORTH POINT

EMS Design
INFRASTRUCTURE DESIGN BRANCH
ELECTRICAL, MECHANICAL AND SCADA DESIGN
37 Lemnos Street, Shenton Park WA 6008, Telephone : (08) 9380 7452
PO Box 100, LEEDERVILLE WA 6902, Facsimile : (08) 9380 7570

RECOMMENDED 21/08/2001
R PRITCHARD (SIGNED)
PRINCIPAL RGP ENG

RECOMMENDED 24/08/2001
N H JOHNSON (SIGNED)
SUPERVISING ELECTRICAL ENGINEER, IDB

APPROVED 24/08/2001
A KLITA (SIGNED)
PRINCIPAL ENGINEER, IDB

WATER CORPORATION

ELECTRICAL STANDARD DRAWING
MAJOR PUMP STATION
STANDARD LOGIC DIAGRAMS
BUSES LINKING MODULES – SORTED BY DESTINATION CODE – PART 1

FILE | PROJECT | PLAN FS00–1–4.1 | CAD | ISSUE F

ORIGINAL SHEET SIZE A1

MF 12.14.07

© THIS DRAWING IS THE PROPERTY OF THE WATER CORPORATION. IT SHALL NOT BE COPIED WITHOUT PERMISSION.

EMS DESIGN\PROJECTS 2004\D04223W\CAD\FS00\FS0000100401F 10:10 10/04/2007 trainoe0/WS13655