

Robinson Pump House PLC IO															Document Number				REV. 9						
PLC RDD-PS - I/O List															P07551-ELE-SCH-001										
Item No	Tag No	Description	Comms	Digital Input										Digital Output			Analog Input						Analog Ouput		Remarks
				CB Tripped	Fault	E-Stop	Running/ Stopped	Opened	Closed	Local(Man)/Remote(SCADA)	Overheat	Over Vibration	Seal Failure	Other	Start/Stop	Open/Close Forward/Reverse	Other	Measured Value	Amps	Volt	kW	Run Hours	Set Point feedback	Set Point	
1	xxx-AL-01	Alarm										1			1										DI Alarm Accept, DO Alarm
2	xxx-UPS-01	UPS	x																						CAT 6
3	IN-01	Incomer MCC RDD-PS		1				1	1					1											Phase failure
4	DPM-01	Digital Power Meter	x																						CAT 6
5	RTU-01	Penstock RTU	x																						CAT 6
6	SCH-01	Managed Ethernet Switch	x																						CAT 6
7	CTRR-DD-VF-01	West Side Main Filling Valve	x																						Profibus
8	CTRR-DD-VS-01	Dock Drainage Valve 1	x																						Profibus
9	CTRR-PH-CI-01	Control Supply		1																					
10	CTRR-PH-PP-01	Main Dewatering Pump 1	x	1																					
11	CTRR-PH-PP-02	Main Dewatering Pump 2	x	1																					
12	CTRR-PH-PP-03	Drainage Pump 3		1		1	1			1			1	1											
13	CTRR-PH-PP-04	Drainage Pump 4		1		1	1			1			1	1											
14	CTRR-PH-PP-05	Seepage Pump 5		1		1	1			1			1	1											
15	CTRR-PH-VD-01	Main Pump 1 Delivery Isolation Valve		1																					
16	CTRR-PH-VD-02	Main Pump 2 Delivery Isolation Valve		1																					
17	CTRR-PH-VD-03	Drainage Pump 3 Delivery Isolation Valve		1																					
18	CTRR-PH-VD-04	Drainage Pump 4 Delivery Isolation Valve		1																					
		TOTALS						27						4			0						0		
		TOTAL Incl 20% Spare						33						5			0						0		

Robinson Pump House Remote IO															Document Number P07551-ELE-SCH-001		REV. 9							
RIO RDD-PS - I/O List																								
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				CB Tripped	Fault	E-Stop	Running/ Stopped	Opened	Closed	Auto/Main/Off	Rem Stop & Start	Over Vibration	Seal Failure	Other	Start/Stop	Open/Close Forward/Reverse	Other	Measured Value	Amps	Volt	kW		Run Hours	Set Point feedback
1	CTRR-PH-PP-01	Main Dewatering Pump 1									2													
2	CTRR-PH-PP-02	Main Dewatering Pump 2									2													
3	CTRR-PH-PP-03	Drainage Pump 3									2													
4	CTRR-PH-PP-04	Drainage Pump 4									2													
5	CTRR-PH-PM-05	Seepage Pump 5									2													
6	CTRR-PH-VD-01	Main Pump 1 Delivery Isolation Valve			1			1	1	3			2	1	2	2						1		Collective Fault signal, Torque point feedback / Analog
7	CTRR-PH-VD-02	Main Pump 2 Delivery Isolation Valve			1			1	1	3			2	1	2	2						1		Collective Fault signal, Torque point feedback / Analog
8	CTRR-PH-VD-03	Drainage Pump 3 Delivery Isolation Valve			1			1	1	3			2	1	2	2						1		Collective Fault signal, Torque point feedback / Analog
9	CTRR-PH-VD-04	Drainage Pump 4 Delivery Isolation Valve			1			1	1	3			2	1	2	2						1		Collective Fault signal, Torque point feedback / Analog
10	CTRR-PH-FS-01	Valve Pump 01 Flow Switch										1												
11	CTRR-PH-FS-02	Valve Pump 02 Flow Switch										1												
12	CTRR-PH-FS-03	Valve Pump 03 Flow Switch										1												
13	CTRR-PH-FS-04	Valve Pump 04 Flow Switch										1												
14	CTRR-PH-LIT-01	Dewatering Suction Chamber Level Transmitter															1							Analog card 1
15	CTRR-PH-LSH-03	Dewatering Suction Chamber Level Switch High										1												
16	CTRR-PH-LSH-06	Seepage Sump Level Switch High										1												
17	CTRR-PH-LSHH-02	Dewatering Suction Chamber Level Switch High High										1												
18	CTRR-PH-LSHH-07	Seepage Sump Level Switch High High										1												
19	CTRR-PH-LSL-04	Dewatering Suction Chamber Level Switch Low										1												
20	CTRR-PH-LSL-05	Seepage Sump Level Switch Low										1												
21	CTRR-PH-PIT-05	Pump 1 Delivery Pressure Transmitter															1							Analog card 1
22	CTRR-PH-PIT-06	Pump 2 Delivery Pressure Transmitter															1							Analog card 1
23	CTRR-PH-PIT-03	Pump 3 Delivery Pressure Transmitter															1							Analog card 1
24	CTRR-PH-PIT-04	Pump 4 Delivery Pressure Transmitter															1							Analog card 2
25	CTRR-PH-PIT-07	Pump 5 Delivery Pressure Transmitter															1							Analog card 2
26	CTRR-PH-TE-01	Pump 1 Motor Bearing DE Temperature Element																						Direct to the VSD 1
27	CTRR-PH-TE-02	Pump 1 Motor Bearing NDE Temperature Element																						Direct to the VSD 1
28	CTRR-PH-TE-03	Pump 1 Motor Red Winding Temperature Element																						Direct to the VSD 1
29	CTRR-PH-TE-04	Pump 1 Motor White Winding Temperature Element																						Direct to the VSD 1
30	CTRR-PH-TE-05	Pump 1 Motor Blue Winding Temperature Element																						Direct to the VSD 1
33	CTRR-PH-TE-06	Pump 2 Motor Bearing DE Temperature Element																						Direct to the VSD 2
34	CTRR-PH-TE-07	Pump 2 Motor Bearing NDE Temperature Element																						Direct to the VSD 2
35	CTRR-PH-TE-08	Pump 2 Motor Red Winding Temperature Element																						Direct to the VSD 2
36	CTRR-PH-TE-09	Pump 2 Motor White Winding Temperature Element																						Direct to the VSD 2
37	CTRR-PH-TE-10	Pump 2 Motor Blue Winding Temperature Element																						Direct to the VSD 2
40	CTRR-PH-TE-11	Pump 3 Motor Case temperature Element															1							Analog C2
41	CTRR-PH-TE-12	Pump 3 Motor Bearing DE Temperature Element															1							Analog C2
42	CTRR-PH-TE-13	Pump 3 Motor Bearing NDE Temperature Element															1							Analog C3
43	CTRR-PH-TE-14	Pump 3 Pump Thrust Bearing DE Temperature Element															1							Analog C3
45	CTRR-PH-TE-15	Pump 4 Motor Case temperature Element															1							Analog C3

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				CB Tripped	Fault	E-Stop	Running/ Stopped	Opened	Closed	Auto/Man/Off	Rem Stop & Start	Over Vibration	Seal Failure	Other	Start/Stop	Open/Close Forward/Reverse	Other	Measured Value	Amps	Volt	kW	Run Hours	Set Point feedback	Set Point		Other
46	CTRR-PH-TE-16	Pump 4 Motor Bearing DE Temperature Element															1									Analog C3
47	CTRR-PH-TE-17	Pump 4 Motor Bearing NDE Temperature Element															1									Analog C3
48	CTRR-PH-TE-18	Pump 4 Pump Bearing DE Temperature Element															1									Analog C3
50	CTRR-PH-VE-01	Pump 1 Motor Bearing NDE Vibration Element																								VM unit 1.1
51	CTRR-PH-VE-02	Pump 1 Motor Bearing DE Vibration Element																								VM unit 1.2
52	CTRR-PH-VE-03	Pump 2 Motor Bearing NDE Vibration Element																								VM unit 1.3
53	CTRR-PH-VE-04	Pump 2 Motor Bearing DE Vibration Element																								VM unit 1.4
54	CTRR-PH-VE-05	Pump 3 Motor Bearing NDE Vibration Element																								VM unit 2.1
55	CTRR-PH-VE-06	Pump 3 Motor Bearing DE Vibration Element																								VM unit 2.2
57	CTRR-PH-VE-07	Pump 3 Pump Bearing DE Vibration Element																								VM unit 2.3
58	CTRR-PH-VE-08	Pump 4 Motor Bearing NDE Vibration Element																								VM unit 2.4
59	CTRR-PH-VE-09	Pump 4 Motor Bearing DE Vibration Element																								VM unit 2.5
61	CTRR-PH-VE-10	Pump 4 Pump Bearing DE Vibration Element																								VM unit 2.6
62	CTRR-PH-VT-01	Pump 1 & 2 Vibration Analyser & Transmitter	X																							Confirm supplier - VM unit
63	CTRR-PH-VT-02	Pump 3 & 4 Vibration Analyser & Transmitter	X																							Confirm supplier - VM unit
64	CTRR-PH-TS-01	Seepage Pump 5 Thermal Switch												1												Stator thermal contacts
65	CTRR-PH-AES-01	Pump 1 Water in Oil Sensor / float switch												1												
66	CTRR-PH-AES-02	Pump 1 Moisture Sensor												1												
67	CTRR-PH-AES-03	Pump 2 Water in Oil Sensor / float switch												1												
68	CTRR-PH-AES-04	Pump 2 Moisture Sensor												1												
69	CTRR-PH-AES-05	Seepage Pump 5 Moisture Sensor												1												
70	CTRR-PH-ES-01	Pump House E/Stop 1 - Pump House				1																				E/Stop activated
71	CTRR-PH-ES-02	Pump House E/Stop 2 - Pump House				1																				E/Stop activated
72	CTRR-PH-ES-03	Pump House E/Stop 3 - RIO Room				1																				E/Stop activated
		TOTALS							61					20				18					0			
		TOTAL Incl 20% Spare							74					24				22					0			

Robinson Penstock RTU IO															Document Number						REV. 9								
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				CB Tripped	Fault	E-Stop	Running/ Stopped	Opened	Closed	Auto/Man/Off	Overheat	Over Vibration	Seal Failure	Other	Start/Stop	Open/Close Forward/Reverse	Other	Measured Value	Amps	Volt	kW	Run Hours	Set Point feedback	Set Point		Other			
1	CTRR-DD-VF-02	East Side Main Filling Valve			1			1	1	3				2	1	2	2	1	Amps		Volt	kW		Run Hours		1	1		Collective Fault signal, Torque point feedback
		TOTALS						8							5			2								1			
		TOTAL Incl 20% Spare						10							6			3								2			