



CURTIN UNIVERSITY
PROJECT DELIVERY GUIDELINES

SERVICES METERING

APPENDIX REFERENCE DOCUMENT



Curtin University

Details of revisions			
Level	Details	Date	Initial
1	Document created from Metering Project Delivery Guideline_rB	Oct-18	RPS
2	Updating of sample forms to match 000346 update	Nov-20	FC

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1 REFERENCES

The listed reference documents on the following pages are examples of filled-in forms for various metering registration purposes.

Actual copies of the forms, in the required format to be filled in, are available for download from the PF & D webpage at <https://properties.curtin.edu.au/workingwithus/guidelines.cfm> in the Reference Documents section of the menu for **Services Metering**.

2 COMMISSIONING SHEET

The following indicative Commissioning Sheet is provided to assist the consultants and contractors in the design and installation processes. Refer also to the sample registers in this document.

Energy Meter Commissioning Sheet			
Site Information			
Site			
Meter Location			
Meter Label			
Service Metered			
Flow Sensor Details			
Manufacture		Upstream Pipe Length	
Model		Downstream Pipe Length	
Serial Number			
Meter Head Details			
Manufacture		Engineering Units Set	Y/N
Model		Scrolling Display set	Y/N
Serial Number			
Communication Parameters		Pass	Fail
Comm Port No.			
Protocol			
Baud Rate			
Parity			
Unit ID			
Meter Consumption Reading at Time of Commissioning			
Communicating with Gateway		(Attach screen capture)	
Comments: (Faults, Remedial Actions)			
Commissioning Technician Name			
Signed			
Company Name			
Date			
Time			

3 THERMAL METERING SAMPLE REGISTERS

3.1 FM ASSET REGISTER

Due to the length of the template example the register is broken down into smaller sections for visibility:

GENERAL				INSTALLATION LOCATION				ACQUISITION DETAILS		EQUIPMENT DETAILS - Water Flow Transmitter					
Equipment ID/Barcode No.	Equipment Description	Equipment Group	Replaces Equipment	Campus	Building No.	Level	Room No.	Date	Value	Vendor	Manufacturer	Model	Serial No.	Expected Life (Yr)	SIZE (mm)
100-CWM-01-0001	CHW Thermal Meter	HVAC	Upgrade	Bentley	B100	1	122	Existing	\$9,523.81	Contractor	DANFOSS	MAG3100	N/A		
100-HWM-01-0001	HW Thermal Meter	HVAC	Upgrade	Bentley	B100	1	122	Existing	\$9,523.81	Contractor	DANFOSS	MAG3100	219216T046		
101-CWM-01-0001	CHW Thermal Meter	HVAC	Upgrade	Bentley	B101	1	M104	Existing	\$9,523.81	Contractor	SIEMENS	MAG5100W	7ME652637402N108		100
101-HWM-01-0001	HW Thermal Meter	HVAC	Upgrade	Bentley	B101	1	M104	Existing	\$9,523.81	Contractor	SIEMENS	MAG3100P	052401H410		50
102-CWM-02-0001	CHW Thermal Meter	HVAC	N/A	Bentley	B102	3	M304	12/08/2017	\$9,523.81	Contractor	SIEMENS	MAG5100W	S222102H137		100
102-HWM-02-0001	HW Thermal Meter	HVAC	N/A	Bentley	B102	3	M304	12/08/2017	\$9,523.81	Contractor	SIEMENS	MAG3100P	S045501H117		80
103-CWM-RT-0001	CHW Thermal Meter	HVAC	N/A	Bentley	B103	RT	ROOF TOP	12/08/2017	\$9,523.81	Contractor	SIEMENS	MAG5100W	S265602H287		80
103-CWM-RT-0002	CHW Thermal Meter	HVAC	Deleted												
103-HWM-RT-0001	HW Thermal Meter	HVAC	N/A	Bentley	B103	RT	ROOF TOP	12/08/2017	\$9,523.81	Contractor	SIEMENS	MAG3100P	S141901H017		65
104-CWM-00-0001	CHW Thermal Meter	HVAC	N/A	Bentley	B104	RT	WALK WAY	12/08/2017	\$9,523.81	Contractor	SIEMENS	MAG5100W	S213502H207		150
104-HWM-00-0001	HW Thermal Meter	HVAC	N/A	Bentley	B104	RT	WALK WAY	12/08/2017	\$9,523.81	Contractor	SIEMENS	MAG3100P	S065501H386		65
104-HWM-00-0002	HW Thermal Meter	HVAC	N/A	Bentley	B104	RT	WALK WAY	12/08/2017	\$9,523.81	Contractor	SIEMENS	MAG3100P	S067401H207		65
106A-CWM-RT-0001	CHW Thermal Meter	HVAC	N/A	Bentley	B106A	RT	ROOF TOP	12/08/2017	\$9,523.81	Contractor	SIEMENS	MAG5100W	S265502H287		50
106A-HWM-RT-0001	HW Thermal Meter	HVAC	N/A	Bentley	B106A	RT	ROOF TOP	12/08/2017	\$9,523.81	Contractor	SIEMENS	MAG3100P	S105401H237		25

EQUIPMENT DETAILS - Water Flow Sensor					EQUIPMENT DETAILS - Energy Calculator					EQUIPMENT DETAILS - BacRouter					EQUIPMENT DETAILS - Matched Pair Temp Sensors				
Vendor	Manufacturer	Model	Serial No.	Expected Life (Yr)	Vendor	Manufacturer	Model	Serial No.	Expected Life (Yr)	Vendor	Manufacturer	Model	MAC Address	Expected Life (Yr)	Vendor	Manufacturer	Model	Serial No.	Expected Life (Yr)
Contractor	SIEMENS	MAG 5000	FDK083F5002		Contractor	SIEMENS	UC50-UO30	68950433		Contractor	SWG	BacRouter	E0:B9:4D:F9:88:3E		Contractor	Thermokon	SBTPT500-Series		
Contractor	DANFOSS	MAG 2500	083F4083		Contractor	SIEMENS	UC50-M030	69212878		Contractor					Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 5000	N/A		Contractor	SIEMENS	UC50-UO30	68884580		Contractor	SWG	BacRouter	E0:B9:4D:F9:8E:12		Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 5000	N/A		Contractor	SIEMENS	UC50-M030	69212874		Contractor					Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 6000	N1J6165329		Contractor	SIEMENS	UC50-T030	69209502		Contractor	SWG	BacRouter	E0:B9:4D:81:33:82		Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 6000	N1J6165344		Contractor	SIEMENS	UC50-L030	69209403		Contractor					Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 6000	N1J6025162		Contractor	SIEMENS	UC50-T030	69209490		Contractor	SWG	BacRouter	E0:B9:4D:B5:BE:F6		Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 6000	N1J6165339		Contractor	SIEMENS	UC50-L030	69209434		Contractor					Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 6000	N1J6165324		Contractor	SIEMENS	UC50-T030	69209484		Contractor	SWG	BacRouter	E0:B9:4D:81:33:AA		Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 6000	N1J5305016		Contractor	SIEMENS	UC50-L030	69209398		Contractor					Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 6000	N1J6165327		Contractor	SIEMENS	UC50-L030	69209429		Contractor					Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 6000	N1J6165342		Contractor	SIEMENS	UC50-T030	69209476		Contractor	SWG	BacRouter	E0:B9:4D:81:2F:B4		Contractor	Thermokon	SBTPT500-Series		
Contractor	SIEMENS	MAG 6000	N1J3215036		Contractor	SIEMENS	UC50-L030	69209388		Contractor					Contractor	Thermokon	SBTPT500-Series		

EQUIPMENT CHARACTERISTICS			WARRANTY						MAINTENANCE CONTRACT			TENANT AGREEMENT		ADDITIONAL INFORMATION	
Manual / Brochure	Section	Page	Labour			Parts/Materials			Start Date	End Date	Responsibility	User	Maintenance Responsibility	Other Comments	AREA SERVED
			Start Date	End Date	Responsibility	Start Date	End Date	Responsibility							
TMP O&M Manual														B100	
TMP O&M Manual														B100	
TMP O&M Manual														B101	
TMP O&M Manual														B101	
TMP O&M Manual														B102	
TMP O&M Manual														B102	
TMP O&M Manual														B103	
TMP O&M Manual														B102 & B103	
TMP O&M Manual														B102,103,104,106A	
TMP O&M Manual														B102,103,104,106A	
TMP O&M Manual														B104	
TMP O&M Manual														B106A	
TMP O&M Manual														B106A	

3.2 DATA (TO) REGISTER

CURTIN UNIVERSITY - PROJECT CSSL 10231

TO DEVICE DETAILS & ADDRESS REGISTER

Building	Make	Model	MAC Address	TO#	Colour	IP	Gateway	Sub Net Mask	TEST RESULTS (CABLE 8)	PATCHING STATUS (CURTIN)	ONLINE STATUS (MIZCO)	Location	Level
Zone 1													
B100	SWG	BacRouter	E0:B9:4D:F9:88:3E	B735W	Silver	10.31.2.225	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B100 RM121A	1
B101	SWG	BacRouter	E0:B9:4D:F9:8E:12	A085	Green	10.31.2.226	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B101 RM M104	1
B102	SWG	BacRouter	E0:B9:4D:81:33:82	B015	Green	10.31.2.227	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B102 RM 202	2
B103	SWG	BacRouter	E0:B9:4D:B5:BE:F6	318	Green	10.31.2.228	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B102 Roof	RT
B104	SWG	BacRouter	E0:B9:4D:81:33:AA	A226	Green	10.31.2.229	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B104 WW002	0
B106A	SWG	BacRouter	E0:B9:4D:81:2F:B4	317	Green	10.31.2.230	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B106A Roof	RT
B106E	SWG	BacRouter	E0:B9:4D:81:33:9E	286N	Green	10.31.2.231	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B106E RM M001	1
B106F	SWG	BacRouter	E0:B9:4D:F9:8D:D2	259N	Green	10.31.2.232	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B106F RM M100	1
B108	SWG	BacRouter	E0:B9:4D:81:2F:B6	792	Green	10.31.2.233	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B108 RM C300	1
B109	SWG	BacRouter	E0:B9:4D:F9:88:96	268	Green	10.31.2.234	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B109 RM 134	1
B111	SWG	BacRouter	E0:B9:4D:F9:8E:26	086 S	Green	10.31.2.235	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B111 RM M200	1
B400 - Main	SWG	BacRouter	E0:B9:4D:F9:8E:18	A210	Green	10.31.2.236	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B400 RM 125	1
B105	SWG	BacRouter	E0:B9:4D:B5:C7:CA	B556	Green	10.31.2.244	10.31.2.1	255.255.254.0	Submitted	Patched	Online	B105 R252	2
B300	SWG	BacRouter	E0:B9:4D:81:33:90	A122	Green	10.31.1.151	10.31.0.1	255.255.254.0	Submitted	Patched	Online	B300 M100	0
B303	SWG	BacRouter	E0:B9:4D:B5:BF:20	378W	Green	10.31.1.152	10.31.0.1	255.255.254.0	Submitted	Patched	Online	B303 C100	1
B304	SWG	BacRouter	E0:B9:4D:F9:8D:C0	A314	Silver	10.31.1.153	10.31.0.1	255.255.254.0	Submitted	Patched	Online	B304 M101	1
B305	SWG	BacRouter	E0:B9:4D:F9:8D:E8	542W	Green	10.31.5.2	10.31.4.1	255.255.254.0	Submitted	Patched	Online	Ext Plantroom	0
B306	SWG	BacRouter	E0:B9:4D:B5:BE:DE	262	Green	10.31.5.3	10.31.4.1	255.255.254.0	Submitted	Patched	Online	Ext Plantroom	1
B307 -M001	SWG	BacRouter	E0:B9:4D:B5:C7:F0	66	Green	10.31.5.4	10.31.4.1	255.255.254.0	Submitted	Patched	Online	M001	1
B307 -M003	SWG	BacRouter	E0:B9:4D:81:2F:B0	32	Green	10.31.5.5	10.31.4.1	255.255.254.0	Submitted	Patched	Online	M003	1
B308	SWG	BacRouter	E0:B9:4D:B5:C7:EA	371	Green	10.31.5.6	10.31.4.1	255.255.254.0	Submitted	Patched	Online	Ext Mech Riser	1
B310	SWG	BacRouter	E0:B9:4D:B5:BF:2C	372	Green	10.31.5.10	10.31.4.1	255.255.254.0	Submitted - Fed from B308	Patched	Online	B308 roof space	RS
B401	SWG	BacRouter	E0:B9:4D:F9:8E:2C	A061	Green	10.31.5.11	10.31.4.1	255.255.254.0	Submitted	Patched	Online	B401 R154	1
B402	SWG	BacRouter	E0:B9:4D:81:2F:AE	B507	Green	10.31.5.7	10.31.4.1	255.255.254.0	Submitted	Patched	Online	B402 R106	1
B403	SWG	BacRouter	E0:B9:4D:F9:88:84	A31	Green	10.31.5.12	10.31.4.1	255.255.254.0	Submitted	Patched	Online	B403 Plantroom 1	1
B404	SWG	BacRouter	E0:B9:4D:F9:8D:BA	A510	Green	10.31.5.8	10.31.4.1	255.255.254.0	Submitted	Patched	Online	B404 R113A	1
B405	SWG	BacRouter	E0:B9:4D:B5:C8:1A	769	Green	10.31.5.9	10.31.4.1	255.255.254.0	Submitted	Patched	Online	B405 R401	4
B407	SWG	BacRouter	20:F4:1B:BA:31:A2	999	Green	10.31.4.246	10.31.4.1	255.255.254.0	Submitted	Patched	Online	L1 Plantroom	1
B408-M0000	SWG	BacRouter	E0:B9:4D:B5:C7:EC	A470	Silver	10.31.4.252	10.31.4.1	255.255.254.0	Submitted	Patched	Online	B408 M0000	0
B408-M0500	SWG	BacRouter	E0:B9:4D:B5:BE:D6	363W	Silver	10.31.4.253	10.31.4.1	255.255.254.0	Submitted	Patched	Online	B408 M0500	0
B408 Pod3	SWG	BacRouter	E0:B9:4D:81:2F:AC	B365W	Silver	10.31.4.254	10.31.4.1	255.255.254.0	Submitted	Patched	Online	B408 RM 1505	RS
B408-MA Lab	SWG	BacRouter	E0:B9:4D:B5:BE:C2	B364W	Silver	10.31.4.255	10.31.4.1	255.255.254.0	Submitted	Patched	Online	B408 RM 2509	2

3.3 VALIDATION REGISTER

kWh Validation	Serving	Archibus Reference	MSTP Number	Device Information			Plantroom/Location	Reading No.1				Reading No.2				Reading No.3				Consumption				Pass/Fail	Comment					
				Device	Remote Address	Instance Number		Network Status	Meter Reading		BMS	IBMS	Meter Reading		BMS	IBMS	Meter Reading		BMS	IBMS	Meter	BMS	iEnergy			Delta	% Delta			
									First Reading	Date: Time			First Reading	Date: Time			Second Reading	Date: Time										Second Reading	Date: Time	Third Reading
(Building Service)						(Where in Building)	(MWh)	(ddmmyy: hhmm)	(kWh)	(ddmmyy: hhmm)			(MWh)	(ddmmyy: hhmm)	(kWh)	(ddmmyy: hhmm)			(MWh)	(ddmmyy: hhmm)	(kWh)	(ddmmyy: hhmm)								
B105						Online																								
CHW Water 1	105-CWM-02-0001	10501	UC50-U030	5	105101	Online	L1-Room 252	103.64	011117	103640	011117	AB	207.95	101117	207850	101117	AB								104.31	104210.00	0.10	0.10%	Pass	
HW Water 1	105-HWM-02-0001	10501	UC50-M030	6	105102	Online	L1-Room 252	29.42	011117	29410	011117	AB	41.28	101117	41270	101117	AB								11.86	11860.00	0.00	0.00%	Pass	
B300						Online																								
CHW Water 1	300-CWM-01-0001	30001	UC50-T030	5	300101	Online	L1Plant Room M100	23.83	011117	23840	011117	AB	35.65	101117	35630	101117	AB								11.82	11790.00	0.03	0.25%	Pass	
HW Water 1	300-HWM-01-0001	30001	UC50-L030	6	300101	Online	L1Plant Room M100	0.9	011117	900	011117	AB	1.18	101117	1180	101117	AB								0.28	280.00	0.00	0.00%	Pass	
B303						Online																								
CHW Water 1	303-CWM-01-0001	30301	UC50-U030	5	303101	Online	L1Ceiling C111	10.56	021117	10560	021117	AB	21.76	091117	21760	091117	AB								11.2	11200.00	0.00	0.00%	Pass	
HW Water 1	303-HWM-01-0001	30301	UC50-M030	6	303102	Online	L1Ceiling C111	1.94	021117	1940	021117	AB	2.5	091117	2500	091117	AB								0.56	560.00	0.00	0.00%	Pass	
B304						Online																								
CHW Water 1	304-CWM-01-0001	30401	Flexim	5	304101	Online	B304 M101	37830.92	101117	37839.9	101117	AB	113596.9	271117 1115	113591.41	271117 1115	AB								75766	75751.55	14.43	0.02%	Pass	
HW Water 1	304-HWM-01-0001	30401	Dual Channel					13579.16	101117	13581.4	101117	AB	39898.33	271117 1115	39897.309	271117 1115	AB								26319.2	26315.91	3.27	0.01%	Pass	
B305						Online																								
CHW Water 1	305-CWM-00-0001	30501	UC50-U030	5	305101	Online	Ext Gas Store	23.25	011117	23250	011117	AB	52.43	101117	52410	101117	AB								29.18	29160.00	0.02	0.07%	Pass	
HW Water 1	305-HWM-00-0001	30501	UC50-M030	6	305102	Online	Ext Gas Store	5.5	011117	5500	011117	AB	6.56	101117	6560	101117	AB								1.06	1060.00	0.00	0.00%	Pass	
B306						Online																								
CHW Water 1	306-CWM-01-0001	30601	Flexim	5	306101		Ext Cupboard	143136.6	290118:11	143675	290118:15	JG	150209.9	020218:07	150220	020218:08	LC	JG	162629.3	090218:09	162620	090218:09	LC	JG	12419.4	12400.00	19.38	0.16%	Pass	
HW Water 1	306-HWM-01-0001	30601	Dual Channel					14407.17	290118:11	14459	290118:15	JG	15016.78	020218:07	15017	020218:08	LC	JG	15846.57	090218:09	15846	090218:09	LC	JG	829.789	829.00	0.79	0.10%	Pass	
B307 East - M001						Online																								
CHW Water 1	307-CWM-01-0001	30701	UC50-U030	5	307101	Online	M001	1.82	011117	1820	011117	AB	4.1	101117	4100	101117	AB								2.28	2280.00	0.00	0.00%	Pass	
HW Water 1	307-HWM-01-0001	30701	UC50-L030	6	307102	Online	M001	2.59	011117	2590	011117	AB	2.69	101117	2690	101117	AB								0.1	100.00	0.00	0.00%	Pass	
B307 West - M003						Online																								
CHW Water 1	307-CWM-01-0002	30702	UC50-U030	5	307201	Online	M003	5.22	101117	5220	101117	AB	9.6	271117 1100	9600	271117 1100	AB								4.38	4380.00	0.00	0.00%	Pass	
HW Water 1	307-HWM-01-0002	30702	UC50-M030	6	307202	Online	M003	0.03	101117	30	101117	AB	0.05	271117 1100	50	271117 1100	AB								0.02	20.00	0.00	0.00%	Pass	
B308						Online																								
CHW Water 1	308-CWM-01-0001	30801	UC50-U030	5	308101	Online	Ext Riser	1.28	011117	1280	011117	AB	3.06	101117	3030	101117	AB								1.78	1750.00	0.03	1.69%	Pass	
HW Water 1	308-HWM-01-0001	30801	UC50-M030	6	308102	Online	Ext Riser	8.13	011117	8140	011117	AB	12.09	101117	12060	101117	AB								3.96	3920.00	0.04	1.01%	Pass	
B310						Online																								
CHW Water 1	308-CWM-RS-0001	31001		5	310101	Online	B308 Roof Space	0	011117	0	011117	AB	0.36	101117	360	101117	AB								0.36	360.00	0.00	0.00%	Pass	
HW Water 1	308-HWM-RS-0001	31001		6	310102	Online	B308 Roof Space	1.18	011117	1180	011117	AB	1.46	101117	1460	101117	AB								0.28	280.00	0.00	0.00%	Pass	
B401						Online																								
CHW Water 1	401-CWM-01-0001	40101	UC50-T030	5	401101	Online	L1Riser R154	28.92	011117	28910	011117	AB	53.13	101117	53160	101117	AB								24.21	24250.00	-0.04	-0.17%	Pass	
HW Water 1	401-HWM-01-0001	40101	UC50-L030	6	401102	Online	L1Riser R154	31.9	011117	31900	011117	AB	36.97	101117	36970	101117	AB								5.07	5070.00	0.00	0.00%	Pass	

4 COOLING TOWER WATER AND WASTE METERING SAMPLE REGISTERS

4.1 FM ASSET REGISTER

Due to the length of the template example the register is broken down into smaller sections for visibility:

GENERAL				INSTALLATION LOCATION				ACQUISITION DETAILS		EQUIPMENT DETAILS - Water Flow Transmitter					
Equipment ID/Barcode No.	Equipment Description	Equipment Group	Replaces Equipment	Campus	Building No.	Level	Room No.	Date	Value	Vendor	Manufacturer	Model	Serial No.	Expected Life (Yr)	SIZE (mm)
154-WMR-RT-0001	Water Meter	HVAC	Y	Bentley	B154	RT	ROOF TOP	EXISTING METER REPLACED 14/06/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	7ME652693402N108		40
154-WMR-RT-0002	Water Meter	HVAC	Y	Bentley	B154	RT	ROOF TOP	EXISTING METER REPLACED 14/06/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	7ME652620002N108		40
154-WWM-01-0001	Waste Water Meter	HVAC	N/A	Bentley	B154	1	PLANTROOM	19/06/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	106302H098		100
154-WWM-02-0001	Waste Water Meter	HVAC	N/A	Bentley	B154	2	201	19/06/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	364802H058		100
612-WMR-01-0001	Water Meter	HVAC	N/A	Bentley	B612	1	M102	30/05/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	7ME652740002N118		40
612-WMR-01-0002	Water Meter	HVAC	N/A	Bentley	B612	1	M102	30/05/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	7ME652740102N118		40
612-WWM-01-0001	Waste Water Meter	HVAC	N/A	Bentley	B612	1	M102	30/05/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	105202H098		100
612-WWM-01-0002	Waste Water Meter	HVAC	N/A	Bentley	B612	1	M102	30/05/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	261201D442		100
155-WMR-RT-0001	Water Meter	HVAC	Y	Bentley	B155	RT	ROOF TOP	EXISTING METER REPLACED 22/05/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	7ME652619902N108		40
155-WWM-01-0001	Waste Water Meter	HVAC	N/A	Bentley	B155	1	PLANTROOM	EXISTING METER	\$14,166.67	Contractor	SIEMENS	MAG 5100W	7ME652636802N108		100
117-WMR-RT-0001	Water Meter	HVAC	Y	Bentley	B117	RT	ROOF EAST	EXISTING METER REPLACED 08/06/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	7ME652740202N118		40
117-WMR-RT-0002	Water Meter	HVAC	Y	Bentley	B117	RT	ROOF WEST	EXISTING METER REPLACED 08/06/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	341302H128		40
117-WWM-RT-0001	Waste Water Meter	HVAC	N/A	Bentley	B117	RT	ROOF TOP	8/06/2018	\$14,166.67	Contractor	SIEMENS	MAG 5100W	365302H058		100

EQUIPMENT DETAILS - Water Flow Sensor					EQUIPMENT DETAILS - HLI					EQUIPMENT CHARACTERISTICS			WARRANTY					
Vendor	Manufacturer	Model	Serial No.	Expected Life (Yr)	Vendor	Manufacturer	Model	MAC Address	Expected Life (Yr)	Manual / Brochure	Section	Page	Labour			Parts/Materials		
													Start Date	End Date	Responsibility	Start Date	End Date	Responsibility
Contractor	SIEMENS	MAG 6000	N1K4065103		Contractor	CHEN SEN	CSGW	D0-9B-05-08-62-D9		WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065088							WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065085							WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065087							WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065111		Contractor	CHEN SEN	CSGW	D0-9B-05-08-62-97		WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065089							WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065080							WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1J5165073							WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065099		Contractor	CHEN SEN	CSGW	D0-9B-05-03-C1-BF		WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	7ME6920-1AA30-1AA0							WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065098		Contractor	CHEN SEN	CSGW	D0-9B-05-05-7B-77		WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065097							WMP O&M Manual								
Contractor	SIEMENS	MAG 6000	N1K4065110							WMP O&M Manual								

MAINTENANCE CONTRACT			TENANT AGREEMENT		ADDITIONAL INFORMATION	
Start Date	End Date	Responsibility	User	Maintenance Responsibility	Other Comments	AREA SERVED
						CWT-01 SUPPLY WATER
						CWT- 02 SUPPLY WATER
						WASTE WATER
						WASTE WATER
						CWT-01 SUPPLY WATER
						CWT-02 SUPPLY WATER
						CWT-01 WASTE WATER
						CWT-02 WASTE WATER
						CW TOWERS- SUPPLY WATER
						WASTE WATER
						CWT- 01 & 02 SUPPLY WATER
						CWT- 02 & 04 SUPPLY WATER
						WASTE WATER

4.2 DATA (TO) REGISTER

CURTIN UNIVERSITY - PROJECT CSSL 10231 CTM

DEVICE DETAILS & ADDRESS REGISTER

Building	Make	Model	MAC Address	UTP#	Colour	IP	Gateway	Sub Net Mask	TEST RESULTS (CABLE 8)	PATCHING STATUS (CURTIN)	ONLINE STATUS (MIZCO)	Location	Level
B117	Chen Sen	CSGW	D0-9B-05-08-62-D9	A047	Siler	10.31.6.248	10.31.6.1	255.255.254.0	Sent	Patched	Online	ROOFTOP	RT
B154	Chen Sen	CSGW	D0-9B-05-08-62-97	A066	Silver	10.31.5.16	10.31.4.1	255.255.254.0	Sent	Patched	Online	CONTROL ROOM 201	L2
B155 (Meter Panel)	Chen Sen	CSGW	D0-9B-05-03-C1-BF	A020	Green	10.31.6.249	10.31.6.1	255.255.254.0	Sent	Patched	Online	PLANTROOM M106	L1
B155 (Megatron)			00:c0:33:08:7a:8f	A021	Green	10.31.6.250	10.31.6.1	255.255.254.0	Sent	Patched	Online	PLANTROOM M106	L1
B155 (Megatron)			00:c0:33:09:4e:c7	A022	Green	10.31.6.251	10.31.6.1	255.255.254.0	Sent	Patched	Online	PLANTROOM M106	L1
B612 (Meter Panel)	Chen Sen	CSGW	D0-9B-05-05-7B-77	FIBRE	FIBRE	10.31.10.94	10.31.10.1	255.255.254.0	Sent	Patched	Online	PLANTROOM M101	L1
B612 (Megatron)			00:c0:33:09:4c:8d	FIBRE	FIBRE	10.31.10.95	10.31.10.1	255.255.254.0	Sent	Patched	Online	COMPOUND M102	L1

4.3 VALIDATION REGISTER

Totalization Validation		Router Information					Device Information					Meter Reading		Reading No.1				Reading No.2				Reading No.3				Reading No.4				Consumption																		
Serving	Archibus Reference	Serial Number	BacPlover IP	MAC Address	Router Instance	Network Number	Device	Remote Address	Instance Number	Network Status	Plantroom/Location	First Reading	Date: Time	First Reading	Date: Time	Initial	Initial	Second Reading	Date: Time	Second Reading	Date: Time	Initial	Initial	Third Reading	Date: Time	Third Reading	Date: Time	Initial	Initial	Third Reading	Date: Time	Third Reading	Date: Time	Initial	Initial	Meter	BMS	iEnergy	Delta	%	Pass/Fail	Comment						
(Building Service)		(Front of Device)									(Where in Building)	Cubic Meters	(ddmmyy:hhmm)	Cubic Meters	(ddmmyy:hhmm)			Cubic Meters	(ddmmyy:hhmm)	Cubic Meters	(ddmmyy:hhmm)			Cubic Meter	(ddmmyy:hhmm)	Cubic Meters	(ddmmyy:hhmm)			Cubic Meters	(ddmmyy:hhmm)	Cubic Meters	(ddmmyy:hhmm)															
B117			10.31.6.248	00-9B-05-08-62-D9	117201	1001	CSGW			Online	Roof Top WMPanel																																					
Point (TL: Total)																																																
WMP-RT-0001-TL	117-WMP-RT-0001	NIK4065098					Mag 6000	2		Online		5	280618:1153	5	280618:1200	PF	JG	5	290618:1132	5	290618:1130	PF	JG	0	290618:1132		PF	JG																				
WMP-RT-0002-TL	117-WMP-RT-0002	NIK4065097					Mag 6000	1		Online		457	280618:1159	457	280618:1200	PF	JG	477	290618:1126	477	290618:1125	PF	JG	0	290618:1126		PF																					
WWM-RT-0001-TL	117-WWM-RT-0001	NIK4065110					Mag 6000	3		Online		122	280618:1201	122	280618:1200	PF	JG	127	290618:1137	127	290618:1135	PF	JG	0	290618:1137		PF																					
B154			10.31.5.16	00-9B-05-08-62-97	154201	1001	CSGW			Online	L2 WMPanel																																					
Point (TL: Total)																																																
WMP-RT-0001-TL	154-WMP-RT-0001	NIK4965103					Mag 6000	2		Online		4	280618:1241	4	280618:1240	PF	JG	4	290618:1059	4	290618:1100	PF	JG	0	290618:1059		PF	JG																				
WMP-RT-0002-TL	154-WMP-RT-0002	NIK4965088					Mag 6000	1		Online		377	280618:1241	377	280618:1240	PF	JG	398	290618:1054	398	290618:1055	PF	JG	0	290618:1054		PF																					
WWM-01-0001-TL	154-WWM-01-0001	NIK4965085					Mag 6000	4		Online		9	280618:1241	9	280618:1240	PF	JG	11	290618:1111	11	290618:1110	PF	JG	0	290618:1111		PF																					
WWM-02-0001-TL	154-WWM-02-0001	NIK4065087					Mag 6000	3		Online		45	280618:1241	45	280618:1240	PF	JG	46	290618:1104	46	290618:1105	PF	JG	0	290618:1104		PF																					
B155			10.31.6.249	00-9B-05-03-C1-BF	155201	1001	CSGW			Online	L1 WMPanel																																					
Point (TL: Total)																																																
WMP-RT-0001-TL	155-WMP-RT-0001	NIK4965099					Mag 6000	1		Online		367	280618:1149	367	280618:1150	PF	JG	375	290618:1146	375	290618:1150	PF	JG	0	290618:1146		PF																					
WWM-01-0001-TL	155-WWM-01-0001	7ME6920-1AA30-1AA0					Mag 6000	2		Online		14974	280618:1149	14974	280618:1145	PF	JG	14980	290618:1151	14980	290618:1150	PF	JG	0	290618:1151		PF																					
B612			10.31.10.94	00-9B-05-05-7B-77	612201	1001	CSGW			Online	L1 WMPanel																																					
Point (TL: Total)																																																
WMP-01-0001-TL	612-WMP-RT-0001	NIK4065111					Mag 6000	1		Online		10	280618:1222	10	280618:1222	PF	JG	10	290618:1159	10	290618:1159	PF	JG	0	290618:1159	0	290618:1159	PF	JG	2	050718:0834	1.88	050718:0835	PF	JG	2.00	1.88	-0.12	-6.00%	Pass								
WMP-01-0002-TL	612-WMP-RT-0002	NIK4065089					Mag 6000	2		Online		1	280618:1222	1	280618:1222	PF	JG	1	290618:1205	1	290618:1205	PF	JG	0	290618:1205	0	290618:1205	PF	JG	1	050718:0834	1.31	050718:0915	PF	JG	1.00	1.31	0.31	31.00%	Pass								
WWM-01-0001-TL	612-WWM-01-0001	NIK4065073					Mag 6000	3		Online		17	280618:1223	17	280618:1230	PF	JG	19	290618:1212	19	290618:1210	PF	JG	0	290618:1212	0	290618:1212	PF	JG	13	050718:0834	13	050718:0835	PF	JG	13.00	13.00	0.00	0.00%	Pass								
WWM-01-0002-TL	612-WWM-01-0002	NIJ5165073					Mag 6000	4		Online		10	280618:1223	10	280618:1230	PF	JG	11	290618:1221	11	290618:1220	PF	JG	0	290618:1221	0	290618:1221	PF	JG	8	050718:0834	8	050718:0835	PF	JG	8.00	8.00	0.00	0.00%	Pass								