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**BMS SYSTEMS Pre-Commissioning Checklist**

Item	Description	Yes	No	N/A	Date
<b>1</b>	<b>Input / Output Commissioning</b>				
1.1	I/O sheets format signoff sheets agreed				
1.2	I/O text issued approved				
1.3	All sensors installed				
1.4	Sensors calibrated				
1.5	Cabling/Terminations/Checks(open /short) completed				
1.6	Fire Alarm Interface completed				
1.7	Gas detection system interface completed				
1.8	Power available to all BMS panels				
1.9	Power available to all plant controlled monitored by BMS				
<b>2</b>	<b>Control Loops /Alarms</b>				
2.1	Control strategy/Sequence of operation approved				
2.2	Plant shutdowns sequence confirmed				
2.3	Critical plant alarms confirmed by client				
2.4	Alarms for printout redirection confirmed by client				
<b>3</b>	<b>Time Clocks</b>				
3.1	Time clocks schedule to confirmed				
3.2	Manual overrides confirmed				
<b>4</b>	<b>BMS PC/ Graphics Pre-Commissioning</b>				
4.1	BMS graphics approved by consultant and client				
4.2	Datalog points confirmed				
4.3	IT Network details/hardware confirmed				
4.4	IT cabling completed				
4.5	BMS PC/UPS installed				
<b>5</b>	<b>Client</b>				
5.1	Client available for commissioning				
5.2	Operator Access codes and usernames confirmed				
5.3	O&M Manual issued for approval				
5.4	Maintenance contract/ Call-out system in place				

<b>Remarks</b>
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NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

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### BMS Systems Commissioning Checklist

Item	Description	Yes	No	N/A	Date
<b>1</b>	<b>Input/ Output Commissioning</b>				
1.1	I/O sheets signed off				
1.2	Cabling and terminations signed off on check sheet				
1.3	All sensors reading				
1.4	All actuators driving				
1.5	I/O sheets witnessed by consultant				
<b>2</b>	<b>Control Loops/ Alarms</b>				
2.1	Control loops tuned				
2.2	Plant alarms commissioned				
2.3	Plant shutdowns commissioned				
2.4	Plant re-starts commissioned				
2.5	Control sequence strategy witnessed by consultant				
2.6	Remedial action list issued and completed				
<b>3</b>	<b>Time Clocks</b>				
3.1	Time clocks downloaded				
3.2	Time clocks operational				
3.3	Manual override points operational				
3.4	Time clocks witnessed by consultant				
<b>4</b>	<b>BMS PC/ Graphics Commissioning</b>				
4.1	BMS Graphics downloaded to PC				
4.2	BMS Graphics readings I/O points				
4.3	Datalogs operational				
4.4	IT Network operational				
4.5	Alarm printer operational				
4.6	Critical alarms commissioned/ printing out				
4.7	Remote alarm indication operational				
4.8	Graphics/ PC demonstrated to consultant				
4.9	Remedial action list issued and completed				
<b>5</b>	<b>Demonstration/ Handover to client</b>				
5.1	Operator access codes and usernames installed				
5.2	Graphics/ PC/ printer demonstrated to client				
5.3	Graphics/alarms modifications completed				

5.4	O&M Manual issued				
5.5	Backup copy of strategy graphics issued				
5.6	Maintenance contract/ Call-out system in place				

<b>Remarks</b>
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**NAME:** \_\_\_\_\_ **SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_







**COMPANY LOGO**  
**DUCTWORK QUALITY INSTALLATION CHECKLIST**

TYPE OF SERVICE: E.G. Supply/ Return An /Extract

Project:

Contract Number:

Area covered by Inspection:

<b>Item</b>	<b>SYSTEMS INSPECTION CHECKLIST BRACKET</b>	<b>Y/N</b>	<b>Checked</b>
1.0	<b><u>BRACKET</u></b>		
1.1	Confirm all brackets are sufficient size and spacing for sizes of Ducts		
1.2	Confirm fixing of brackets drop-rods from u/s of slab/ steel are correctly installed and tightened with lock nuts		
1.3	Confirm bracket base channel is adequately supported with all nuts tightened and secure with washers and spring washers as appropriate		
1.4	Confirm cut ends of all brackets have been galvanised		
1.5	Confirm uni-strut end caps are in place		
1.6	Confirm u/s of brackets are clear of all lighting zones and ceiling mounted services		
1.7	Confirm u/s of brackets are clear of plasterboard ceiling metal studs and modular ceiling t-bars.		
1.8	Confirm insulation strip as required is installed between brackets and Ducts.		
1.9	Confirm insulation spacers have been installed where appropriate between the supply air ducts and their brackets		
2.0	<b><u>DUCTWORK</u></b>		
2.1	Confirm all Ducts and sizes are installed to design requirements specified		
2.2	Confirm Ductwork is co-ordinated with other services and the building fabric		
2.3	Confirm Ducts do not prohibit the building of full height walls		
2.4	Confirm Ductwork is clear of ceiling mounted services		
2.5	Confirm clearance around ducts is adequate for installation of insulation/ cladding		
2.6	Confirm supply Duct branches are installed complete with chamfered connections in the directions of Air		
2.7	Confirm Ductwork bends and offsets contain turning veins installed as required		
2.8	Confirm Ductwork stiffeners are installed in large Ducts as appropriate		
2.9	Confirm flange clamps are installed as required		
2.10	Confirm balancing dampers are installed as required for system balancing		

2.11	Confirm locations of balancing dampers are accessible without subsequent access request through finished works.		
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2.12	Confirm no special access panels etc. required for obtaining system volume readings		
2.13	Confirm all rigid Ductwork is extended from FCU's, VAV's etc. to above grille positions for connections of flexible connections to grilles		
2.14	Confirm all Ductwork to installed to DW 144		
2.15	Confirm all labelling is in place as agreed		
2.16	Confirm complete installation has been snagged and resultant items have been completed		
2.17	Confirm that the installation was offered to the engineers at least two weeks prior to ceiling/ wall closure cert being issued		
3.0	<b>FIRE DAMPERS</b>		
3.1	Confirm all dampers are installed in the line of all fire compartment boundaries as per fire compartment boundaries as per fire cert. drawings		
3.2	Confirm fire dampers installed in partition walls are installed with the correct installation frames fixed to metal trimmed ope as required		
3.3	Confirm Intumescent Mastic is installed between inside face of flange and plasterboard		
3.4	Confirm fire dampers to horizontal structural opes are installed with independent brackets within the line of the fire barrier		
3.5	Confirm correct installation frames are installed to bloc work/ structural openings where damper is to be fixed in place		
3.6	Confirm fire damper is installed correct way up		
3.7	Confirm access panel is installed adjacent to the fire damper in an accessible position		
3.8	Confirm ductwork brackets either side of fire dampers are less than 1m away from damper		
3.9	Confirm complete fire damper arrangements are installed in accordance with manufacturer's recommendations		
4.0	<b>TESTING</b>		
4.1	Confirm Ductwork tests complete and witnessed in accordance with latest regulations and design requirements		
Comments:			




**COMMENTS:**

**NAME:** \_\_\_\_\_ **SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

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**Fire Alarm Installation & Pre – Commissioning Checklist**

Item	Description	Yes	No	N/A	Date
1	Confirm correct cable used as per specification requirements				
2	Confirm F/A cables are clipped and secure as per specification requirements				
3	Confirm all cable ends are correct and in compliance with specification				
4	Confirm location of F/A Panel is correct and agreed				
5	Confirm F/A "cause and effect" strategy is agreed				
6	Confirm required Fire Alarm text descriptions are agreed and available				
7	Confirm insulation and continuity checks are complete to loops				
8	Confirm insulation is free from Earth Faults				
9	Confirm correct Alarm & Sounder loops are installed to drawings				
10	Confirm all bases are fitted and terminated for devices				
11	Confirm correct polarity of all connections				
12	Confirm correct Interface and I/O Units installed				
13	Confirm interface installed for lifts and final connection to I/O complete				
14	Confirm interface installed for Smoke Vents and final connection to I/O complete				
15	Confirm interface installed for Gas Detection Panels and final connection to I/O complete				
16	Confirm interface installed for Gas Slam Shut Valve and final connection to I/O complete				
17	Confirm interface installed for Access Control and final connection to I/O complete				
18	Confirm interface installed for Electronically Operated Doors and final connection to I/O complete				
19	Confirm interface installed for MCC Panels/Plant Equipment and final connection to I/O complete				
20	Confirm interface installed for Kitchen Ansul Systems and final connection to I/O complete				

21	Confirm marked-up drawing with locations of all sounders and detectors is available				
22	Confirm all devices are addressed properly and in communication with the F/A Panel				
23	Confirm all strobe lights are in position and terminated as required				
24	Confirm correct source of supply to F/A Panel and is available				
25	Confirm battery back-up is in place and available				
26	Confirm all sounders are in place, complete and audible				
27	Confirm every device on F/A system will be checked				
28	Confirm arrangements are in place for full client demonstration of system				
<b>COMMENTS:</b>					

**NAME:** \_\_\_\_\_ **SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

\_\_\_\_\_

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**Distribution Board Inspection & Pre-Commissioning Checklist**

Item	Description	Yes	No	N/A	Date
1	Factory Test Cert. available				
2	Check plant details against data sheet/purchase order				
3	No mechanical damage				
4	Steel installed for panels over troughs positioned correctly				
5	Floor mounted Panel sitting on plinth & secure				
6	Wall mounted Panel fixed & correctly secured				
7	Access clear to Panel front, back & sides as per requirements				
8	Panel clearance for short circuit ratings in accordance with Manufacturers recommendations				
9	Adequate access for glanding of cables				
10	Access requirements for removal of components adequate				
11	All busbars connections correctly tightened and torqued				
12	Earthing securely tight and correctly installed				
13	Protection of live parts correct				
14	All labelling and warning marks correctly installed and visible				
15	Paint-work good				
16	On-site test complete and cert available				
17	Manufacturers on site tests/inspection complete				

	and certs available				
18	Confirm all steel supports are correctly positioned and adequate				
19	All cables glanded off correctly				
20	Cables neatly dressed within Panel				
21	All terminations complete with proper lugs, etc.				
22	All terminations correctly phased and torqued				
23	Confirm all spare cores are identified and left in acceptable manner				
24	All cable cores are identified as per specification requirements				
25	All correct labels are in place and secure				
26	Confirm correct protection settings are in place				
27	Confirm all locks are available for all isolators and room				

**COMMENTS:**

**NAME:** \_\_\_\_\_ **SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**LV PANEL TEST CERTIFICATE**

**PLANT LOCATION**

**CUSTOMER** \_\_\_\_\_ **PROJECT** \_\_\_\_\_

**CUSTOMER O/N** \_\_\_\_\_ **FACTORY O/N** \_\_\_\_\_

**PANEL REF** \_\_\_\_\_ **CLASS** \_\_\_\_\_

**SUPPLY** \_\_\_\_\_ **TYPE** \_\_\_\_\_

***DETAILS OF TEST***








Reviewed by/Signature:

Date: \_\_\_\_\_

Witnessed: \_\_\_\_\_

Date: \_\_\_\_\_



39									
40									

Instruments Used		Remarks
Model	Serial No.	

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**COMPANY LOGO**

**POWER ON TO DISTRIBUTION BOARD PROCEDURE CHECKLIST**

<b>Project:</b>	
<b>Equipment:</b>	
<b>Panel Ref No.:</b>	
<b>Document No:</b>	
<b>Intended Power Up Date -</b>	

<b>Procedure Signature</b>	<b>Action</b>	<b>Initial</b>
1. Confirm panel reference to be livened up is clearly stated on top of page		
2. Confirm factory test certs issued and available		
3. Confirm panel installation and pre-commissioning checklist is filled out and issued		
4. Confirm panel vendor pre-commissioning inspections are complete and checklist available		
5. Confirm on site tests have been completed to panel with certs available		
6. Confirm LV cable installation checklist is complete and available		
7. Confirm incoming cable tests are complete and certs available		
8. Confirm all required earthing and bonding in place		
9. Confirm all outgoing circuits are isolated/locked off		
10. Confirm that proper key cabinet and control procedures for unlocking sub-circuits from panel are in place		
11. Confirm all warning signs and labels are in place		
12. Confirm permit to liven up equipment is obtained from Main Contractor where relevant		
13. Confirm Main Contractor is aware of proposed livening up procedure		
14. Confirm vendor test engineer present for power up (only in case of Main LV Panels)		
15. Confirm correct protection settings installed on upstream equipment and main incoming breaker		

<b>Schedule of Appendix</b>
A.
B.
C.

<b>Comments</b>

	<b>Print Name</b>	<b>Signature</b>	<b>Date</b>
<b>Responsible Person</b>			

**Note: The responsible person overseeing this procedure is to be fully satisfied that the equipment/system is safe and in compliance with all current Health and Safety Requirements.**

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**Internal Lighting & Emergency Lighting Installation Inspection Sheet**

<b>Item</b>	<b>Description</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Date</b>
1	Confirm that latest Architects reflected ceiling plan has been used for positioning of lights				
2	Check correct lighting fixture installed according to drawing and area classification for plantrooms and areas without ceilings				
3	Confirm that correct lighting fixture has been used according to drawing and specification				
4	Fixture is mechanically sound, solidly and correctly mounted				
5	Correct type of cable glands; glands tightened				
6	Earthing/bonding/shrouding tightened				
7	Terminations correct				
8	Spare holes plugged				
9	All nuts, bolts and washers present				
10	All wiring neat and tidy				
11	All lamps installed and working				
12	Lighting diffusers installed correctly where specified				
13	Switching correct and working in accordance with drawings				
14	Illumination intensity correct				
15	Emergency lights are correct type and installed according to drawings				
16	All exit signs are correct type and are installed in correct locations				
17	Directional arrows on exit signs are pointing in the right direction				
18	Test switchers for Em. lighting test in place as required				
19	3 hr of Em. lighting complete				
20	All L.E.D.'s on Em. lights are working				
21	Emergency lighting tests complete and certs issued				
22	Confirm flex from Kilk to fitting/transformer is not in excess of 2m or as per specification requirements				
23	Positioning of light switchers for bathrooms is satisfactory?				
24					

25					
26					
27					
28					
29					

**COMMENTS:**

**NAME:** \_\_\_\_\_ **SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_