

3/11/22

Waitsia Stage 2 FirePro Fire Suppression BESS # 1 – EU-9051A

The following documents form the Commissioning & Acceptance Requirements of AS4487-2013 section 8.

Section 8.2.8 - Completion Certificate & Documentation-

- Certificate of Completion & Conformance to AS4487-2013.
- Operating manuals – provided separately.
- Calculation design density included below.
- Deviations from appropriate recommendation – (Waitsia specification)- provided in Design Verification Document-
- Drawings –
 - As installed
 - FIP Block Plan
 - Cable schedule



Reinventing
Fire Suppression

CERTIFICATE OF COMPLETION & CONFORMITY

I Ray Mergard of Fire Safety Equipment hereby certify that we have completed a FirePro aerosol fire extinguishing installation/extension(s) in accordance with AS4487, as designed by Ray Mergard FSE.

Name of Client : Penske Australia

Address of Protected Area : Waitsia Stage 2 West Australia

Description of Protected Area : BESS Container # 1 – 2 x Risks

Protected Area	Agent Quantity	Number of Containers	Agent Application Density	Applicable Drawing(s)
Battery Room Lithium battery design	6,395g	2	6,726g	EU-9051A
Transformer Room Electrical design	1,124G	1	2,000g	

Remote system monitoring will be performed by :Vizulinx Modbus K580 relay module

Date of Remote Monitoring Connection : 3/11/22

Completed by:

Name: Ray Mergard

Signature: 

Company: Fire Safety Equipment

Date Completed: 3/11/22



FirePro System Commissioning

Risk Area: BESS Container # 1

Reference: EU-9051A

INSPECTION		
Tasks	Completed	
1. Location of FirePro Aerosol Generators <ul style="list-style-type: none"> Ensure units are mounted in appropriate location(s). Are the brackets securely mounted. 	Yes	Yes
2. Cabling requirements <ul style="list-style-type: none"> Has fire rated and shielded cable used. Has cable been installed as per AS-3000. Has cabling been separated from other electrical cables via conduit or cable tray. For High Voltage Environments - each FirePro unit is required to be connected to an earth circuit. Inspect cable fixings to ensure no damaged insulation. 	Yes	Yes Yes
3. Fire Indicator Panel (FIP) <ul style="list-style-type: none"> Is the panel located in an appropriate location in accordance with Australian Standards. Is the power connection to the panel a direct, suitable and dedicated supply to the Panel. Is a separate battery backup installed. 	Yes	Internal Yes Yes
4. Signage and Alarms <ul style="list-style-type: none"> Are appropriate signs / sounder strobes installed. 	Yes	Yes
COMMISSIONING		
1. FIP Programming <ul style="list-style-type: none"> Programming of FIP meets client/site requirements. Check FIP for fault(s) e.g. correct connection of FirePro units, correct connection of detection circuit. 	Yes	Yes
2. Activation Testing <ul style="list-style-type: none"> ENSURE THE FIP IS SWITCHED TO SERVICE MODE. Activation testing to be performed in accordance with the procedures specific to the FIP installed. Ensure activation simulator lamps have activated Ensure Signs and Alarms have activated. Ensure shut down relays have activated. 	Yes	Yes Yes Yes
3. Fault Monitoring <ul style="list-style-type: none"> Disconnect cable from FirePro generator - fault should register on the FIP. Where multiple units are installed, this should done separately to test each unit. Remove detector head from base - fault should register on the FIP. 	Yes	Yes
4. Earth Testing <ul style="list-style-type: none"> Using a multimeter, test to ensure that all cables have insulation intact. Earth connection should indicate an open circuit 	Yes	Yes
5. Detection Testing <ul style="list-style-type: none"> ENSURE THE FIP properly isolated from activating the Firepro system. Apply heat gun or other device to place detectors into alarm. Ensure Visual/Aural Alarms have activated. Where multiple units are installed, this should done separately to test each unit. 	Yes	Yes

Inspections all found to be compliant - Tests all completed.

Completed by :

Name: Ray Mergard

Signature: 

Company: Fire safety Equipment

Date 3/11/22

Completed:

Pre-engineered density calculation of BESS 2 x risks-

FirePro. ReInventing Fire Suppression		GENERAL APPLICATION		29/07/2022																																																																																																																															
				Rev: 22.1																																																																																																																															
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FP-0080	0	0	1000	80	-	-																																																																																																																													
FP-0100	0	200	1000	100	-	-																																																																																																																													
FP-0200	0	300	2000	200	-	-																																																																																																																													
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<h3 style="text-align: center; color: red;">Aust. Std Design Notes</h3> <p style="text-align: center; color: blue;">Pre-Engineered Design Calculation</p> <p>CALCULATION OF VOLUME : Calculation is based on Gross Volume with NO deductions for any Objects that occupy volume within the protected space. This category covers fixed condensed aerosol extinguishing system units intended for total flooding applications. AS 4487 and ASS062.</p> <p>Minimum Extinguishing Factor (mef) 84 X 1.3 = 109.2</p> <ul style="list-style-type: none"> L2 is the thermal clearance required where the temperature of the discharge is less than 200° C L3 is the thermal clearance required where the temperature of the discharge is less than 75° C 																																																																																																																																			

FirePro. ReInventing Fire Suppression		LITHIUM-ION BATTERY RISK		29/07/2022																																																																																																																															
				Rev: 22.1																																																																																																																															
CLIENT NAME	Penske Waitsia Gas Stage 2 BESS container																																																																																																																																		
Risk Description	Main battery Room																																																																																																																																		
Constructed from	Stainless steel																																																																																																																																		
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<h3 style="text-align: center; color: red;">Lithium-Ion Battery Room Design Notes</h3> <p style="text-align: center; color: blue;">Pre-Engineered Design Calculation</p> <p>CALCULATION OF VOLUME : Calculation is based on NET Volume with deductions for any Objects that occupy volume within the protected space. This covers fixed condensed aerosol extinguishing system units intended for total flooding applications. AS 4487 and KIWA Test 161000995.</p> <p>Minimum Extinguishing Factors (mef) 130 X 1 = 130</p> <ul style="list-style-type: none"> L2 is the thermal clearance required where the temperature of the discharge is less than 200° C L3 is the thermal clearance required where the temperature of the discharge is less than 75° C 																																																																																																																																			

3/11/22

Waitsia Stage 2 FirePro Fire Suppression BESS # 2 – EU-9051B

The following documents form the Commissioning & Acceptance Requirements of AS4487-2013 section 8.

Section 8.2.8 - Completion Certificate & Documentation-

- Certificate of Completion & Conformance to AS4487-2013.
- Operating manuals – provided separately.
- Calculation design density included below.
- Deviations from appropriate recommendation – (Waitsia specification)- provided in Design Verification Document-
- Drawings –
 - As installed
 - FIP Block Plan
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Reinventing
Fire Suppression

CERTIFICATE OF COMPLETION & CONFORMITY

I Ray Mergard of Fire Safety Equipment hereby certify that we have completed a FirePro aerosol fire extinguishing installation/extension(s) in accordance with AS4487, as designed by Ray Mergard FSE.

Name of Client : Penske Australia
Address of Protected Area : Waitsia Stage 2 West Australia
Description of Protected Area : BESS Container # 2 – 2 x Risks

Protected Area	Agent Quantity	Number of Containers	Agent Application Density	Applicable Drawing(s)
Battery Room Lithium battery design	6,395g	2	6,726g	EU-9051B
Transformer Room Electrical design	1,124G	1	2,000g	

Remote system monitoring will be performed by : Vizulinx Modbus K580 relay module

Date of Remote Monitoring Connection : 3/11/22

Completed by:

Name: Ray Mergard

Signature:

Company: Fire Safety Equipment

Date

Completed:



FirePro System Commissioning

Risk Area: BESS Container # 2

Reference: EU-9051B

INSPECTION		
Tasks	Completed	
1. Location of FirePro Aerosol Generators <ul style="list-style-type: none"> Ensure units are mounted in appropriate location(s). Are the brackets securely mounted. 	Yes Yes	
2. Cabling requirements <ul style="list-style-type: none"> Has fire rated and shielded cable used. Has cable been installed as per AS-3000. Has cabling been separated from other electrical cables via conduit or cable tray. For High Voltage Environments - each FirePro unit is required to be connected to an earth circuit. Inspect cable fixings to ensure no damaged insulation. 	Yes Yes Yes	
3. Fire Indicator Panel (FIP) <ul style="list-style-type: none"> Is the panel located in an appropriate location in accordance with Australian Standards. Is the power connection to the panel a direct, suitable and dedicated supply to the Panel. Is a separate battery backup installed. 	Yes Internal Yes Yes	
4. Signage and Alarms <ul style="list-style-type: none"> Are appropriate signs / sounder strobes installed. 	Yes	
COMMISSIONING		
1. FIP Programming <ul style="list-style-type: none"> Programming of FIP meets client/site requirements. Check FIP for fault(s) e.g. correct connection of FirePro units, correct connection of detection circuit. 	Yes Yes	
2. Activation Testing <ul style="list-style-type: none"> ENSURE THE FIP IS SWITCHED TO SERVICE MODE. Activation testing to be performed in accordance with the procedures specific to the FIP installed. Ensure activation simulator lamps have activated Ensure Signs and Alarms have activated. Ensure shut down relays have activated. 	Yes Yes Yes Yes	
3. Fault Monitoring <ul style="list-style-type: none"> Disconnect cable from FirePro generator - fault should register on the FIP. Where multiple units are installed, this should done separately to test each unit. Remove detector head from base - fault should register on the FIP. 	Yes Yes	
4. Earth Testing <ul style="list-style-type: none"> Using a multimeter, test to ensure that all cables have insulation intact. Earth connection should indicate an open circuit 	Yes	
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Inspections all found to be compliant - Tests all completed.

Completed by :

Name: Ray Mergard

Signature: 

Company: Fire safety Equipment

Date: 3/11/22

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Pre-engineered density calculation of BESS 2 x risks-

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CLIENT NAME	Penske Waitsia Gas Stage 2 BESS container																																																																																																																																		
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