10.23 Planning For and Response to Power Facility Incidents SOP

Section 1 - Purpose and Objectives

(1) To provide a procedure for planning for and responding to fires and incidents involving power generation facilities and major energy storage systems.

Section 2 - Scope

(2) This procedure applies to CFA members.

Section 3 - Procedure

Pre-Incident Planning

(3) All brigades should be aware of the locations of power generation facilities and major energy storage systems within their area of responsibility and become familiar with emergency procedures for these facilities.

(4) Pre-incident response plans shall be prepared for power generation facilities, any associated open cut coal mines and/or major energy storage systems.

(5) Ensure that expert advice is sought from the premises involved or other appropriately qualified personnel including:

a. Site engineers.
b. Facility managers.
c. Site Emergency Services Liaison Officer (ELSO).
d. Industrial bodies and statutory authorities.

Types of Incidents

(6) The following fires and incidents may occur in and around power generation facilities and/or major Energy Storage Systems:

a. Fire and/or rescue at heights.
b. Fire and/or rescue from confined spaces.
c. Fires involving pulverised coal.
d. Vehicle accidents and/or fires.
e. Pollution into inland waterways.
f. Collapse of building or plant.
g. Fires involving flammable materials including gas.

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h. Bushfire.
i. Spill or release of hazardous materials or fuel oil.
j. Electrical sub station incidents.

(7) The fire/incident should be managed with consideration for SOPs for the relevant response type (refer to related documents).

Prior to Site Entry

(8) The Incident Controller should contact the emergency contact representative either directly or via FireCom prior to entering the facility, and ensure arriving crews are effectively briefed on on-site hazards.

(9) If contact is not made via FireCom, conduct a 'sitrep' advising that contact has been made to management, including the name and emergency contact phone number.

(10) Ensure the State Duty Officer / District Duty Officer is notified via FireCom for all fires/incidents within a power generation facility, or likely to impact a power generation facility.

Response to all Fires/Incidents

(11) Each facility differs in size, layout, and number of assets. This will impact the tactics used to respond to an incident and the potential safety implications to CFA members.

(12) Establish an Incident Emergency Management Team (IEMT) at the control point (typically at the control room or main gate), consisting of a minimum of:

a. Incident Controller.
b. Safety Officer and/or
c. Site Management Representative.

(13) A Safety Officer should be appointed. To appoint a Safety Officer, follow the procedure in the Chief Officer's SOP 11.07 Role and Responsibilities of Safety Officer/Field Safety Officer SOP.

(14) Conduct a 'Size Up' of the fire or incident and undertake a dynamic risk assessment.

(15) Consider the following notifications (where applicable):

a. WorkSafe Victoria in accordance with 14.06 Notification of Injuries and Fatalities SOP
b. Energy Safe Victoria.
c. Environmental Protection Authority (EPA).

Siting of Appliances

(16) Responding CFA members should be aware of power generation facilities, electrical structures, and conductors located in the vicinity of an incident. The integrity of electrical structures/conductors and power generation facilities should be assessed before parking a CFA vehicle. Refer to 11.04 Working Near Electrical Structures and Conductors SOP.

(17) Consider safety when siting CFA vehicles. Where possible do not site appliances:

a. Under overhead electricity lines, especially when attending vehicle/pole collisions, electrical pole fires.
b. On the inside angle of the overhead electrical line.

Specific Facility Response Considerations

Coal-Fired Power Plants and Associated Mining Operations

(18) Coal-fired power plants have 24/7 onsite personnel to manage the facility and assist in incident management scenarios.

(19) Upon arrival at the incident, crews must check to ensure that fixed suppression systems have been activated and that stand-alone suppression equipment has been implemented currently to suppress the mine fire.

(20) When operationally practicable, atmospheric monitoring can be utilised to detect the presence of carbon monoxide.

(21) CFA members should be aware of heavy vehicles, machinery and conveyor belts when responding to incidents at coal-fired facilities.

(22) CFA members should also be aware of the potential fall risks such as sinkholes and unmarked edges when operating in or near coal-fired power plants and associated mine operations.

(23) Considerations should be made for the risks associated with the unique driving conditions during such incidents.

Wind Farms

(24) Onshore wind turbines have blades between 40m and 90m long with tower heights usually in the range of 150m making a direct attack during a fire unviable in most circumstances.

a. Considerations must be made to the risk of falling parts during incidents.

(25) Some modern wind turbines do contain fire suppression systems that release suppression agents in case of internal fires.

(26) CFA members must not enter a wind turbine that is on fire.

(27) Due to the risks involved in undertaking a direct attack on a wind turbine, Incident Controllers should consider the following actions:

a. Establish and communicate an exclusion zone due to the risk of debris falling from the blades or turbine.
b. Implement a defensive strategy with firefighting operations to focus on protecting exposures.
c. Strategically place appliances (particularly downwind) to enable spot fires to be quickly suppressed.

Solar Facilities

(28) Refer to 10.30 Response at Solar Facilities SOP.

Large Scale Battery Energy Storage Systems (BESS)

(29) BESS may be a standalone installation of battery banks or they can form part of another power generation facility such as a solar facility.

(30) Some BESS have systems to:

a. Detect smoke and heat.
b. Prevent heat/fire spread within battery containers (such as thermal barriers, shutdown separators, isolation systems, and cooling systems).

c. Prevent explosion within battery containers (such as ventilation, pressure relief and exhaust systems).
d. Prevent water ingress.

(31) The Incident Controller should undertake responses to a fire or thermal runaway in accordance with 10.28 Lithium-Ion Batteries Undergoing Thermal Runaway SOP.

(32) Beware of explosion risk (vapour cloud explosion) of off-gassing occurring in an enclosed structure and consider establishing an exclusion zone where appropriate.

Safety Note

(33) Members should undertake a size-up and dynamic risk assessment with considerations of the specific hazard at power generation facilities and major energy storage systems.

(34) Incident Controllers should restrict access to the incident site by members of the public, non-essential CFA and facility personnel until the incident is deemed safe.

Environmental Note

(35) CFA members should consider and attempt to contain contaminated fire water run-off where operationally practicable.

Section 4 - Definitions

(36) Commonly defined terms are located in the CFA centralised glossary.

Section 5 - Related Documents

9.09 – High Rise Fire Strategy and Tactics SOP;

9.28 – Strategy and Tactics SOP;

10.04 – Boilers and Pressure Vessels SOP;

10.09 – Hazmat Response SOP;

10.15 – Pollution Spills Into Inland Waters SOP;

10.18 – Technical Rescue SOP;

10.19 – Urban Search and Rescue – Response SOP;

10.28 – Lithium-Ion Batteries Undergoing Thermal Runaway SOP; and

10.30 – Response at Solar Facilities SOP.

Status and Details

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Expiry Date	Not Applicable
Accountable Officer	Jason Heffernan Chief Officer
Responsible Officer	Tim Connor Senior Manager Governance Services
Author	Emma Pollard
Enquiries Contact	Specialist Response

Glossary Terms and Definitions

"CFA member" - Refers to all CFA volunteers, volunteer auxiliary workers, officers, employees and secondees.

"CFA vehicle" - All vehicles owned or operated by CFA or any Group or Brigade. This includes FRV vehicles being driven by an FRV Secondee.

"Incident Controller" - The individual designated by the control agency to have overall management of the incident and who is responsible for all incident activities.

"Dynamic Risk Assessment" - The continuous assessment and control of risk in the rapidly changing circumstances of an operational incident. DRA is an intuitive thought process and is typically not recorded.

"FireCom" - The callsign for day to day / normal radio communications to CFA vehicles and aircraft.

"Safety Officer" - An advisor to the Incident Controller on all aspects of potential and current safety and risk management issues present at the incident.

"Power Generation Facility" - A facility which produces power and supplies this power to the national grid. May include coal fired power stations, gas turbines, solar farms, wind turbines, and hydro facilities.

"Solar Facility" - Also known as large-scale solar (LSS), which generates power for the grid.

"Energy Storage Systems" - Include a variety of energy storage mediums such as mechanical (pumped hydro), thermal storage (phase change materials), electrochemical storage (batteries), or chemical storage (hydrogen).

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