



Updates to CFA’s Design Guidelines and Model Requirements for Renewable Energy Facilities (v3 to v4)

Document Content Changes

List of updates that provide a substantive clarification or changes the intent from the previous version of the Guideline.

Version 3 (March 2022)	Version 4 (August 2023)	
Whole Document	Whole Document	Update content to reflect 2021 version of AS 2419.1: Fire hydrant installations.
Whole Document	Whole Document	Update content to reflect the Australian Fire Danger Rating System which came into effect on the 1 st September 2022.
N/A	Whole Document	Addition of explosion as a hazard/risk to be considered and managed.
Whole Document	Whole Document	Updated content reflect AS 3745 term ‘Emergency Plans’.
Page 4	Page 5	Section 1.1: How to use these guidelines Clarification of the Model Requirements as ‘minimum requirements’.
Page 4	Page 5	Section 1.2: Fire risk management principles Updated Principle 6 to include ‘and spreading to adjoining properties’. Updated Principle 10 to an amalgamation of Principles 10 and 11.
Page 5	Page 6	Section 1.3: Key terms Alignment of the ‘Key Terms’ with current applicable Standards and research.
Page 7	Page 7	Section 2.1: Why is CFA involved in renewable energy facilities? Clarification of CFA’s Specialist Risk and Fire Safety Unit as the single CFA point of contact for renewable energy facilities.
N/A	Page 7	Section 2.2: How do I engage with CFA? Addition of table specifying the involvement of CFA at each project stage.
Pages 7-9	Page 8	Section 2.2: How do I engage with CFA? Additional information on CFA’s expectations at each project stage, for pre-planning/initial consultation and planning applications.
Page 9	Page 8	Section 2.2.1: Pre-planning Section 2.2.2: Planning applications New Model Requirements: CFA expectations for planning applications, adapted from content from previous version.
N/A	Page 9	Section 2.2.3: Prior to development commencing Section 2.2.4: During operation Additional information on CFA’s expectations at each project stage, prior to development commencing and during facility operation.
Page 11	Page 11	Section 3.3: Risk Management Plan New Model Requirement: Development of a Risk Management Plan for all facilities, adapted from content from previous version.

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N/A	Page 11	Section 3.3.1: Content of Risk Management Plans Addition of CFA's expectations where Model Requirements are proposed to be reduced.
Page 12	Page 11	Section 3.3.2: Risk Factors New Model Requirement for all facilities (previously only for BESS): Under (a) Description of the natural and built infrastructure, landscape, nature of operations and operations of the facility. Wording clarification to ensure Model Requirements reflect all facilities. Removal of Model Requirement for peer-review.
N/A	Page 13	Section 3.3.3: Hazards specific to facility type Additional information regarding explosion hazards for battery energy storage systems.
N/A	Page 13	Section 3.3.4: Review of Risk Management Plans Additional sub-section for the review of Risk Management Plans.
Pages 9 & 12	Page 13	Section 3.3.5: Additional requirements specific to facility type Additional sub-section with clarification of triggers for Fire Safety Studies and CFA's expectation for content of Fire Safety Studies.
N/A	Page 14	Section 4.1: Facility location Clarification of CFA's expectations for the location/siting of battery energy storage systems.
Page 13	Page 15	Section 4.1: Facility Location Addition of the 'Land Subject to Inundation Overlay' as a high-risk environment.
Page 15	Page 16	Section 4.2.1: Emergency vehicle (fire truck) access Model Requirements for emergency vehicle access, all facilities, updated to clarify: Under (a) that 4m is a <u>minimum</u> perimeter road width, Under (b) <u>compacted earth</u> as an example of non-suitable road construction, Under (h) that a minimum two access points are to be provided to <u>each part of the facility</u> , in consultation with CFA.
N/A	Page 16	Section 4.2.1: Emergency vehicle (fire truck) access Addition of road design parameters and supporting diagrams: Figure 1: Court-bowl style, minimum 8m radius.
N/A	Page 17	Section 4.2.1: Emergency vehicle (fire truck) access Figure 2: T-head style.
Page 15	Page 18	Section 4.2.1: Emergency vehicle (fire truck) access New Model Requirement: For emergency vehicle access, wind energy facilities, CFA's expectation for internal roads, adapted from content from previous version.
N/A	Page 18	Section 4.2.1: Emergency vehicle (fire truck) access New Model Requirement: For emergency vehicle access, solar energy facilities, CFA's expectation for vehicle access into each facility section.

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N/A	Page 18	Section 4.2.1: Emergency vehicle (fire truck) access New Model Requirement: For emergency vehicle access, facilities with battery energy storage systems, CFA’s expectations for vehicle access into each facility section with BESS.
Page 16	Page 19	Section 4.2.2: Firefighting water supply Model Requirement: For firefighting water supply, all facilities, updated to clarify: Under (n) that directional signage to fire water supplies must be provided at each vehicle entrance.
Page 17	Page 20	Section 4.2.2: Firefighting water supply Model Requirements for firefighting water supply, solar energy facilities, updated to clarify: Under (a) the provision static water tanks at each vehicle entrance to facility, Under (b) the provision of additional static fire water tanks based on the area of the facility.
N/A	Page 20	Section 4.2.2: Firefighting water supply Example calculation of additional fire water supplies for solar energy facilities.
Page 17	Page 20	Section 4.2.2: Firefighting water supply Clarification that additional fire water must be provided for battery energy storage systems as per the Model Requirements at micro solar energy facilities.
Page 18	Page 20	Section 4.2.2: Firefighting water supply New sub-section to delineate CFA’s expectations for fire water supplies for ‘centralised’ battery energy storage systems, adapted from content from previous version.
Page 18	Page 20	Section 4.2.2: Firefighting water supply New Model Requirements: For firefighting water supply, for <u>centralised</u> battery energy storage systems, provision of fire protection systems (water supplies), adapted from content from previous version.
N/A	Page 22	Section 4.2.2: Firefighting water supply New sub-section to delineate CFA’s expectations for fire water supplies for ‘decentralised’ battery energy storage systems.
N/A	Page 22	Section 4.2.2: Firefighting water supply New Model Requirements: For firefighting water supply, for <u>decentralised</u> battery energy storage systems, provision of fire protection systems (water supplies).
N/A	Page 22	Section 4.2.2: Firefighting water supply Addition of supporting diagram: Figure 8: Potential arrangement for fire water supplies for decentralised battery energy storage systems.
N/A	Page 23	Section 4.2.3: Fire Detection and suppression equipment New sub-section to delineate CFA’s expectations for fire detection and suppression equipment.

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N/A	Page 23	Section 4.2.3: Fire Detection and suppression equipment New Model Requirements: For CFA's expectations for fire detection and suppression equipment (a) – (c); (d) adapted from content from previous version (page 27).
Page 21	Page 24	Section 4.2.4: Landscape screening and on-site vegetation Addition of landscape screening and on-site vegetation considerations for wind energy facilities in high-risk environments, adapted from content from previous version.
Page 23	Page 27	Section 4.2.6: Design specific to facility type Addition of risk management considerations for breaks between solar panel arrays.
Page 23	Page 29	Section 4.2.6: Design specific to facility type Addition of NFPA 855 in the list of standards to be considered in the design of battery energy storage systems.
Page 24	Page 30	Section 4.2.6: Design specific to facility type Model Requirements for battery energy storage systems, updated to include: Under (d) the provision of explosion prevention/mitigation.
N/A	Page 30	Section 4.2.6: Design specific to facility type New sub-section to delineate CFA's expectations for separation for ' <u>decentralised</u> ' battery energy storage systems.
Page 25	Page 30	Section 4.3: Battery energy storage system safety and protective systems Additional content under 'Systems for detecting...'. Addition of 'Systems to prevent water ingress...'. Removal of 'Suppression systems'.
Page 37	Page 33	Section 6.2.1: Bushfire and grassfire Clarification of CFA's bushfire/grassfire preparedness expectations.
N/A	Page 33	Section 6.2.1: Bushfire and grassfire Additional content on the development and implementation of fire risk controls for bushfire/grassfire (a) – (g).
Page 38	Page 35	Section 6.2.2: Vegetation management Under 'Managing Vegetation On-Site', addition of 'vehicles must not be parked on unmanaged vegetation'.
N/A	Page 35	Section 6.2.3: Arc flash hazard management New sub-section on arc flash hazard management.
Page 38	Page 37	Section 6.2.7: Housekeeping Addition of (a) 'hazard identification'.
Page 37	Page 37	Section 6.3: Fire risk review Amalgamation of content under 'Fire Risk Review' to include regular review and updating of the Fire Management Plan and Emergency Plan.

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Page 31	Page 38	Section 7.1.2: Structure and content of emergency plans Additional content: Under (c) for emergency response procedures, Under (e) for evacuation procedures (amalgamation of previous content).
N/A	Page 39	Section 7.2.2: Emergency response procedures for facility plant and equipment New sub-section.
Page 32	Page 43	Section 7.7: Emergency planning specific to facility type Additional content for battery energy storage systems: Under (c) for elements monitored by the BMS, Under (e) for information that supports emergency response.
Page 33	Page 44	Section 8.1: Developing an Emergency Information Book Additional content for battery energy storage systems: Under (d) for elements monitored by the BMS.
N/A	Page 46-47	Section 9: Battery Energy Storage Systems at Commercial and Industrial Facilities. New section.
N/A	Page 48	Section 10: Neighbourhood Battery Energy Storage Systems New section.
N/A	Page 49	Appendix A: Guideline Checklist New appendix.
N/A	Page 57	Appendix B: Emergency Response Considerations for Large-Scale Battery Energy Storage Systems New appendix.
N/A	Page 58	Appendix C: Document Relationship Map New appendix.

Document Formatting and Structure Changes

Version 3 (March 2022)	Version 4 (August 2023)	
Page 7	Page 59	List of relevant legislation moved to Appendix D.
Page 7-9	Page 7	Amalgamation of Sections 2, 3 and 4 into (new) Section 2: CFA Involvement with Renewable Energy Facilities, for streamlining and clarification. Subsequent document sections renumbered accordingly.
Page 29	Page 32	Amalgamation of Section 9 (Fire Management Planning) to (new) Section 6: Facility Operation.
Page 37	Page 33	Amalgamation of Section 11 (Bushfire Emergency Planning) to (new) Section 6.2: Fire Hazards and Risk Controls.