

## **Bomen Solar Farm – PHA Implementation Program**

A Preliminary Hazard Analysis (PHA) and a Supplementary PHA were undertaken as part of the planning assessment process for Bomen Solar Farm. The project was approved on 8 October 2018 by the NSW Department of Planning and Environment with a number of conditions of consent. One of these conditions (Schedule 3, Condition 21) requires a program to be prepared for the implementation of all actions and recommendations in the PHA and Supplementary PHA (see full condition below). This document contains the required program in the proceeding table.

### **Schedule 3, Condition 21**

*Prior to the commencement of construction, the Applicant must prepare a program for the implementation of all actions and recommendations arising from the following reports:*

- *Renew Estate Pty Ltd, Bomen 120 MWdc solar farm EIS, SEPP 33 Level 2 Preliminary Hazard Analysis (revision 2, dated 29 June 2018, prepared by GHD); and*
- *Renew Estate Pty Ltd, Bomen Solar Farm, PHA Supplementary Assessment (revision 0, dated 8 August 2018, prepared by GHD), to the satisfaction of the Secretary.*

*Following the Secretary's approval, the Applicant must implement the program.*

**Program for the Implementation of all PHA and Supplementary PHA Actions and Recommendations**

Hazard	Recommended Safeguards	Person Responsible	Timing	Status
<b>PHA Requirements (Revision 2, 29 June 2018)</b>				
Vehicle interactions	<p>Prepare a construction traffic management plan including standard traffic rules and signage.</p> <p>Implement site speed limits.</p> <p>Provide designated pedestrian areas.</p> <p>Ensure driver competency.</p>	HSE Manager	DPE approval pending. Ongoing compliance. <sup>1</sup>	The Traffic Management Plan (TMP), required under Schedule 3, Condition 6 of the consent, has been prepared and approved by Road and Maritime Services (RMS) and Wagga Wagga City Council (WWCC). The TMP was submitted to the Department of Planning and Environment (DPE) on 29/4/19 and is awaiting Secretary approval.
Natural Hazards  External fire (adjacent to site)	<p>A bushfire management plan will be prepared in consultation with the Rural Fire Service. This plan will include but not limited to the following:</p> <ul style="list-style-type: none"> <li>• management of activities with a risk of fire ignition</li> <li>• management of fuel loads on site</li> <li>• storage and maintenance of firefighting equipment including siting and provision of adequate water supplies</li> <li>• the below requirements of ‘Planning for Bush Fire Protection 2006’ [ref. 10]:                             <ul style="list-style-type: none"> <li>○ identifying asset protection zones</li> <li>○ providing adequate egress/access to the site</li> <li>○ emergency evacuation measures</li> </ul> </li> <li>• operational procedures relating to mitigation and suppression of bush fire relevant to the operation of a solar farm</li> </ul>	HSE Manager	Completion scheduled: June 2019	A Fire and Emergency Management Plan is currently under preparation, as required under Schedule 3, Condition 25 of the consent.

<sup>1</sup> Note ‘Ongoing compliance’ means the safeguard will require implementation and compliance throughout the life of the project.

Hazard	Recommended Safeguards	Person Responsible	Timing	Status
	Design structures to appropriate codes and standards.	Design Manager	Design completion scheduled: 20/06/2019	To be incorporated in solar farm design currently being undertaken.
	Manage fuel for vehicles and machinery on site to appropriate standards.	HSE Manager	Has been incorporated into the Work, Health, Safety and Environmental Management Plan (WHSEMP). Ongoing compliance.	Fuel to be managed and handled as per the requirements in the <i>Fuels, Chemicals and Hazardous Substances</i> chapter of the Work, Health, Safety and Environmental Management Plan (WHSEMP).
	Design buildings to appropriate codes. Provide fire protection systems.	Design Manager	Design completion scheduled: 20/06/2019	To be incorporated in solar farm design currently being undertaken.
Loss of containment of chemicals, including dangerous goods	Store chemicals in line with appropriate standards. Implement a regular inspection and maintenance regime for chemical storage areas. Implement standard handling procedures.	HSE Manager	Has been incorporated into the Work, Health, Safety and Environmental Management Plan (WHSEMP). Ongoing compliance	Chemicals to be stored, managed and handled as per the requirements in the <i>Fuels, Chemicals and Hazardous Substances</i> chapter of the Work, Health, Safety and Environmental Management Plan (WHSEMP).

Hazard	Recommended Safeguards	Person Responsible	Timing	Status
Contact with chemicals, including dangerous goods	Provide a Safe Work Method Statement detailing methods for handling chemicals. Provide spill kits to be used in the event of an incident involving release of chemicals. Implement standard transfer and handling procedures Provide Personal Protective Equipment (PPE) to all staff.	HSE Manager	Has been incorporated into the Work, Health, Safety and Environmental Management Plan (WHSEMP). Ongoing compliance	Chemicals to be stored, managed and handled as per the requirements in the <i>Fuels, Chemicals and Hazardous Substances</i> chapter of the Work, Health, Safety and Environmental Management Plan (WHSEMP).
Fall from heights	Implement working at heights procedures. Ensure all staff working at heights have completed the necessary training. Use fall prevention equipment.	HSE Manager	Has been incorporated into the Work, Health, Safety and Environmental Management Plan (WHSEMP). Ongoing compliance	Working at heights procedure as per the <i>High Risk Work Activities</i> chapter of the Work, Health, Safety and Environmental Management Plan (WHSEMP).

Hazard	Recommended Safeguards	Person Responsible	Timing	Status
Contact with electricity	<p>Implement isolation procedures.</p> <p>Install fit for purpose electrical systems.</p> <p>Follow underground utility identification protocols, including Dial Before You Dig.</p>	HSE Manager Design Manager	<p>Procedure for working on or near live electrical equipment and services has been incorporated into the Work, Health, Safety and Environmental Management Plan (WHSEMP).</p> <p>Design completion scheduled: 20/06/2019</p> <p>Ongoing compliance</p>	<p>Procedure for working on or near live electrical equipment and services as per the <i>High Risk Work Activities</i> chapter of the Work, Health, Safety and Environmental Management Plan (WHSEMP).</p> <p>The Risk associated with working on or near live electrical equipment and services has been captured in HSE Risk Assessment. Beon will engage qualified &amp; Licensed personnel to work in these conditions.</p> <p>Dial Before You Dig (DBYD) searches have been undertaken and Beon is consulting with all relevant utility owners during the design and construction of the solar farm.</p>
Mechanical or chemical damage of lithium-ion Battery assemblies	<p>Ensure batteries are Quality Assured.</p> <p>Install bollards/protective barriers around key battery Areas.</p> <p>Batteries to be stored as per suppliers specifications.</p> <p>The battery system will be containerised and banded.</p> <p>Implement a regular inspection and maintenance regime for the battery assemblies.</p>	n/a	n/a	A battery energy storage system is not being incorporated into this stage of solar farm construction.
Overheating of lithium ion batteries	<p>Provide ventilation systems in cabinets.</p> <p>Batteries to be stored as per suppliers specifications.</p> <p>Provide insulation around batteries.</p>	n/a	n/a	
<b>PHA Supplementary Assessment Requirements (Revision 0, 8 August 2018)</b>				
High pressure gas pipeline that	Selection of control building option 2 location as the lower risk location.	Design Manager	Complete	Control building Option 2 (adjacent to onsite substation) has been chosen. Option 1 will

Hazard	Recommended Safeguards	Person Responsible	Timing	Status
traverses the solar farm site	If control building option 1 location is selected, orientate the entry / exit points from the control building away from the pipelines to allow safe egress in the unlikely event of an ignited gas release.	n/a	n/a	not be used.
	If control building option 1 location is selected, install gas detection at the location of control building to provide notification in the unlikely event of a gas release.	n/a	n/a	