Plant Maintenance EHS Manual

Incorporating the Operational Environmental Management Plan - Part 1 **EHS Manual & OEMP**

Nyngan Solar Plant

NOVASOURCE®

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EHS Manual Receipt and Acknowledgment Form (form NSPS-EHS-IP-4)

Please complete this form, remove it from your manual, and return it to your supervisor to file.

I have received a copy of the Health, EHS & Environment (EHS) Manual.

I understand that I am responsible for reading this Manual and understanding the policies and work rules described within it.

I understand that the information contained in this EHS Manual may be added to, deleted or changed by the Company at any time. I understand that neither this EHS Manual nor any other written or verbal communication is intended to, in any way, create a contract of employment.

If I have any questions regarding the content or interpretation of this manual, I will bring them to the attention of my supervisor, Site Supervisor/Designee, or EHS Department.

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Document Delivery

NSPS provides this document in either printed format, electronic format or both. NSPS considers the printed version to be binding. The electronic format is provided for the client's convenience and NSPS requests that the client ensures the integrity of this electronic information is maintained. Storage of this electronic information should at a minimum comply with the requirements of the Commonwealth Electronic Transactions Act (ETA) 2000.

Where an electronic only version is provided to the client, a signed hard copy of this document is held on file by NSPS and a copy will be provided if requested.

Environmental Health & EHS Manual Approval

This Manual was prepared for employees, contractors, subcontractors and visitors performing a specific, limited scope of work. It was prepared based on the best available information regarding the environment, health, EHS, plant, equipment and other physical hazards known or suspected to be present on the Nyngan Solar Farm Site.

While it is not possible to discover, evaluate, and protect in advance against all possible hazards, which may be encountered during the operation of this project, adherence to the requirements of this manual will significantly reduce the potential for occupational illness and injury.

By signing below, I acknowledge that I have reviewed and hereby approve the Health, EHS & Environment Manual. The plan is written for specified site conditions, dates, and personnel, and must be amended if these conditions change.

Revision	Author	Position	Checked By	Position	Approver	Position
8	Christopher Stewart	Tech Writer	Ravi Chandran	QHSE Manager	Daman Cole	Country Manager

REVISION LOG

Revision Number	Revision Date	Release Date	Description of Change
A	17/06/2015		ER / AGL edits to comply with consent conditions
0	24/06/2015		Proof reading and formatting
1	30/9/2015		AGL and Project ER comments
2	31/10/2015		Final Project ER comments and AGL comments
3	28/11/2015		Minor revisions by AGL
4	09/11/2018		Former EHS manual content pulled into separate HASP and ECM
5	25/06/2019		Added document flow-chart
6	14/08/2019		Added ERP to flow-chart
7	15/03/2021		Reverted to old format (with no HASP updates); Added Cultural heritage items
8	17/03/2023		Updated NSPS Logo, H&S Policy, Environmental Policy, Updated AGL Environment Legislation Compliance

1 Introduction

1.1 Purpose

NSPS is to ensure its personnel, contractors and visitors are provided guidance and awareness relating to the Environment, Health & Safety (EHS) management at the Nyngan Solar Plant (NSP) Site. It is for this reason this manual has been developed to ensure that all personnel on Site are aware of the Environment, Health & Safety controls that apply to their daily activities.

The information in this manual provides NSPS employees, its contractors and visitors with EHS requirements and work rules for conducting business on site.

A copy of this manual shall be maintained on the site and be available for review at all times. In the event of a conflict between information in this manual and that of local regulations, personnel shall follow the most stringent/protective requirements.

Nothing in this manual shall alter an employee's or contractor's status or infringe on their rights.

NSPS retains the right to suspend, stop work or dismiss any employee, contractor (or their respective employees) or visitor from the site for any infraction of this manual.

1.2 Scope

This EHS Manual has been established to ensure that all Operations and Maintenance activities, which may have an impact on Environmental and Occupational Health and Safety (or EHS), are carried out in a manner that meets or exceeds the intent of the:

- NSW Work Health & Safety Act 2011
- NSPS EHS Policy and associated corporate requirements
- AGL EHS Policy
- Australian Standards and relevant codes of practises
- Project Development Consent under Section 89E of the Environmental Planning and Assessment Act (1979).

This manual applies to all O&M activities undertaken by NSPS employees, contractors and visitors (of any tier), on behalf of AGL PV Solar Developments Pty Ltd (Owner).

This manual identifies potential impacts and EHS risks related to maintenance activities conducted within the Site. The company recognizes that it is impossible to provide a rule to cover every possible task and therefore provides guidance in identifying, assessing and addressing potential safety hazards through the Job Hazard Analysis (JHA) process.

1.3 Approval Conditions

The approval conditions for the O&M stage for the Nyngan Solar Plant (NSP) are determined in C4 of SSD-5355 and how compliance will be achieved is given in Table 3 (Appendix C).

1.3.1 Consent Conditions

In line with section 89E of the Environmental Planning and Assessment Act 1979 this Operational Environmental Management Plan (OEMP) or manual, has been developed to satisfy **Condition C4**, whereby the Owner shall prepare and implement an OEMP that shall include but not necessarily be limited to:

a. *Identification of all statutory and other obligations that the Applicant is required to fulfil in relation to the operation of the development, including all consents, licenses, approvals and consultations*

b. *A management organisational chart identifying the roles and responsibilities for all relevant employees involved in the operation of the development*

c. *Overall environmental policies to be applied to the operation of the development*

d. *Standards and performance measures to be applied to the development, and means by which environmental performance can be periodically monitored, reviewed and improved, (where appropriate) and what actions would be taken in the case that non-compliance with the requirements of this consent are identified. In particular the following environmental performance issues shall be addressed:*

    i. *Bushfire hazard and risk management*

    ii. *Management and maintenance of offsets*

    iii. *Inspection, monitoring and maintenance of all water crossings*

    iv. *Management measures for the site, including management of vegetation, soil erosion, dust, weed control and landholder liaison.*

e. *The environmental monitoring requirements outlined under consent SSD-5535*

f. *Measures to monitor and manage flood impacts in consultation with NOW*

g. *Information on water sources including details on sources and security of water supply and water use on site*

h. *Complaints handling procedures as identified in consent conditions C13 to C15*

i. *Specific consideration of relevant measures to address any requirements identified in the documents referred to under conditions A2b) (EIS) and A2c) (Submissions Report containing revised mitigation measures)*

j. *Management policies to ensure that the environmental compliance performance goals are met and comply with the conditions of consent.*

A2 Terms of Consent (referred to in C4 above): The applicant shall carry out the development generally in accordance with the EIS and Submissions Report (containing revised mitigation strategies, REMMs)

Part A. Terms of Consent. A3. Terms of Consent. If there is any inconsistency between the plans and documentation referred to above, the most recent document shall prevail to the extent of the inconsistency. However, conditions of this consent prevail to the extent of any inconsistency.

Part A. Administrative Conditions. A6. Structural Adequacy. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Part A. Administrative Conditions. A7. Decommissioning. Within one year of decommissioning, the site shall be returned, as far as practicable, to its condition prior to the commencement of construction in consultation with the relevant landowner. All solar panels and associated above ground structures including but not necessarily limited to, the control and facilities building and electrical infrastructure, including underground infrastructure to a depth of 300 millimetres, shall be removed from the site unless otherwise agreed by the Director-General in consultation with the relevant landowner, except where the control room or overhead electricity lines are transferred to or in the control of the local electricity network operator. All other elements associated with the development, including site roads, shall be removed unless otherwise directed by the Director-General.

Part A. Administrative Conditions. A8. Decommissioning. If the solar plant is not used for the generation of electricity for a continuous period of 12 months, it shall be decommissioned by the Applicant, unless otherwise agreed by the Director-General. The Applicant shall keep independently-verified annual records of the use of the solar panels for electricity generation. Copies of these records shall be provided to the Director-General upon request. The solar panels and any associated infrastructures are to be dismantled and removed from the site by the Applicant within 18 months from the date that the solar panels were last used to generate electricity.

Part A. Administrative Conditions. A10. Compliance. The Applicant shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities. Part A. Administrative Conditions.

A11. Compliance. The Applicant shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.

Part A. Administrative Conditions. A12. Compliance, Disputes. In the event of a dispute between the Applicant and a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the development, either party may refer the matter to the DG (DPE) for resolution.

Part B. Environmental Performance, General Conditions B2. Decommissioning and Rehabilitation. The site of all ancillary facilities shall be rehabilitated to at least their pre-construction condition, unless otherwise agreed by the relevant landowner.

Part B. Environmental Performance, General Conditions B3. Bushfire Risk. The Applicant shall ensure that all development components on site are designed, constructed and operated to minimise ignition risks, provide for asset protection consistent with relevant NSW Rural Fire Services (RFS) design guidelines (Planning for Bushfire Protection 2006 and Standards for Asset Protection, Undated) and provide for necessary emergency management including appropriate fire-fighting equipment and water supplies on site to respond to a bush fire.

Part B. Environmental Performance, General Conditions. B4. Bushfire Risk. Throughout the operational life of the development, the Applicant shall regularly consult with the local RFS to ensure its familiarity with the development, including the construction timetable and the final location of all infrastructures on the site. The Applicant shall comply with any reasonable request of the local RFS to reduce the risk of bushfire and to enable fast access in emergencies.

Part B. Environmental Performance, General Conditions B5. Dangerous Goods. Dangerous goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with: a) all relevant Australian Standards; b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, Technical Bulletin (Environment Protection Authority, 1997). In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.

Part B. Environmental Performance, General Conditions B6. Dust Generation. The Applicant shall construct and operate the development in a manner that minimises dust generation from the site, including wind-blown and traffic-generated dust as far as practicable. All development related activities on the site shall be undertaken with the objective of preventing visible emissions of dust from the site. Should visible dust emissions attributable to the development occur during construction and operation, the Applicant shall identify and implement all practicable dust mitigation measures, including cessation of relevant works during construction, planting ground covers, using dust suppressants as appropriate, such that emissions of visible dust cease.

Part B. Environmental Performance, General Conditions B7. Water Quality Impact. Except as may be expressly provided by an Environment Protection Licence for the development, the Applicant shall comply with Section 120 of the Protection of the Environment Operations Act 1997 which prohibits the pollution of waters.

Part B. Environmental Performance, General Conditions B11. Waste Management. All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.

Part B. Environmental Performance, General Conditions B12. Waste Management. Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997, if such a licence is required in relation to that waste.

Part B. Environmental Performance. General Conditions B13. Waste Management. All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2009), or any superseding document

Part B. Environmental Performance, General Conditions B14. Utilities and Services Utilities. Services and other infrastructure potentially affected by construction and operation shall be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the development shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The cost of any such arrangements shall be borne by the Applicant.

Part B. Environmental Performance, Visual Amenity B18. Landscaping Requirements, Within six months of the commissioning of the development, the Applicant shall prepare and submit a Visual Impact Verification Report for the Director-General's approval. Unless otherwise agreed to by the Director-General, the Visual Impact Verification Report shall confirm the visual impacts at each of the receptors and roadways identified in the Environmental Impact Statement, or subsequently identified in the final design work, as having the potential to be 'highly impacted', considering the final model and layout of generating components on site as well as site specific mitigating factors at the receptors and roadways (such as receptor orientation and intervening screening factors). The Visual Impact Verification Report shall identify all reasonable and feasible screening and landscape planting options available at each receptor and roadways at which potential impacts have been verified to be 'high' including demonstration that these measures have been determined in consultation with affected receptors and relevant road authorities.

Part B. Environmental Performance, Visual Amenity B19. Landscaping Requirements. Within 18 months of the approval of the Visual Impact Verification Report by the Director General (or as otherwise agreed to by the Director-General), the Applicant shall ensure that the measures identified in the Report are implemented at affected receptors and roadways as identified in the Report in consultation with the relevant residents landowners and road authorities.

Part B. Environmental Performance. Visual Amenity B21. Rehabilitation and Revegetation. The Applicant shall implement a revegetation and rehabilitation program for all areas of the development footprint which are disturbed during the construction of the development but which are not required for the ongoing operation of the development including temporary construction facility sites and sections of construction access roads. The Applicant shall ensure that all revegetation measures are implemented progressively where possible and in all cases within six months of the cessation of construction activities at the relevant area. Unless otherwise agreed to by the Director-General, the Applicant shall monitor and maintain the health of all revegetated areas until such time that the plantings have been verified by an independent and suitably qualified expert (whose appointment has been agreed to by the Director-General) as being well established, in good health and self-sustaining.

Part B. Environmental Performance. Noise - Operation B26. Operational Noise Criteria. The Applicant shall take all reasonable measures to minimise noise emissions and vibration from all plant and equipment operated on the site such that they do not exceed noise and vibration criteria derived by application of the NSW Industrial Noise Policy (DECC, 2000) and Assessing Vibration: A Technical Guideline (DECC, 2006).

Condition C3 (referred to in C4 (e) Monitoring Requirements):

Condition C3 (b)(iii). A Groundcover Management Plan developed in consultation with an agronomist to outline measures to ensure adequate vegetation cover and composition beneath the solar PV array. The plan shall include but not necessarily be limited to weed management measures to control and prevent the spread of noxious weeds

Condition C3 (b)(iv). A Groundcover Management Plan developed in consultation with an agronomist to outline measures to ensure adequate vegetation cover and composition beneath the solar PV array. The plan shall include but not necessarily be limited to monitoring methods to assess the impact of the development on the groundcover vegetation

Condition C3 (c) (iii). A landscape plan to minimise visual impacts from the solar plant. The plan shall include but not necessarily be limited to implementation, management and monitoring strategies to ensure the establishment and ongoing maintenance of landscaped areas.

C5 (d) Biodiversity Offset Management Package (BOMP):

Following final design and prior to the commencement of construction, or as otherwise agreed to by the Director-General, the Applicant shall develop and submit a Biodiversity Offset Management Package for the approval of the Director-General. The package shall detail how the ecological values lost as a result of the development will be offset. The Biodiversity Offset Management Package shall be developed in consultation with the OEH and shall (unless otherwise agreed by the Director-General) include, but not necessarily be limited to (d) the monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved, including i) the monitoring of the condition of species and ecological communities at offset locations; ii) the methodology for the monitoring program(s), including the number and location of offset monitoring sites, and the sampling frequency at these sites; iii) provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the OEH.

Conditions C13-15 (referred to in C4 above):

Condition C13 of the Development Consent states: Prior to the commencement of construction, the Applicant shall ensure that the following are available for community complaints for the life of the development (including construction and operation) or as otherwise agreed by the Director-General:

a) A 24 hour telephone number on which complaints about the construction and operation activities at the site may be registered.

b) A postal address to which written complaints may be sent; and

c) An email address to which electronic complaints may be transmitted.

The telephone number, postal address and email address shall be advertised in a newspaper circulating in the local area on at least one occasion prior to the commencement of construction; and at six monthly intervals during construction and for a period of two years following commencement of operation of the development. These details shall also be provided on the Applicant's internet site required by condition C11. The telephone number, the postal address and the email address shall be displayed on a sign near the entrance to the construction site(s), in a position that is clearly visible to the public.

Condition C14 of the Development Consent states: The Applicant shall record details of all complaints received through the means listed in condition C13 of this consent in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to:

a) The date and time, of the complaint;

b) The means by which the compliant was made (telephone, mail or email);

c) Any personal details about the complainant that were provided, or if no details were provided, a note to that effect;

d) The nature of the complaint;

e) Any action(s) taken by the Applicant in relation to the complaint, including timeframes for implementing the action; and

f) If no action was taken by the Applicant in relation to the complaint, the reason(s) why no action was taken.

The Complaints Register shall be made available for inspection by the Director-General upon request.

Condition C16: Prior to the commencement of construction, the Applicant shall develop and implement a Compliance Tracking Program, to track compliance with the requirements of this consent during the construction and operation of the development and shall include, but not necessarily be limited to:

a) provisions for periodic reporting of compliance status to the Director-General including at least prior to the commencement of construction of the development, prior to the commencement of operation of the development and within two years of operation commencement;

b) a program for independent environmental auditing in accordance with AS/NZ ISO 19011 :2003 - Guidelines for Quality and/or Environmental Management Systems Auditing;

c) procedures for rectifying any non-compliance identified during environmental auditing or review of compliance;

d) mechanisms for recording environmental incidents and actions taken in response to those incidents;

e) provisions for reporting environmental incidents to the Director-General during construction and operation; and

f) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities.

1.3.2 Mitigation Measures

In addition, the Consent Conditions, Mitigation Measures have been established for the operations phase. These statements of commitment relevant only to the operations phase (as approved under Table 3-1 in the Nyngan Solar Plant Staging Report) are referred to as revised mitigation measures (REMMs), and are listed as follows:

REMM - 7. Use of Existing Track: Within areas of native vegetation, existing tracks would be used wherever possible to avoid compaction and/or disturbance.

REMM - 8. Onsite Traffic Management Measures: Traffic management measures would be incorporated into the construction and operation phase and would address traffic flow, vehicle speed and vehicle numbers entering and leaving the site. This would aim to prevent collisions with fauna utilising the site, particularly Grey-crowned Babblers.

REMM - 17. Ground Cover Management Plan: A ground cover management plan would be developed as outlined in the Biodiversity Assessment

REMM - 18. Weed Control Between Arrays (Operational Phase): The space between the PV array rows would be kept clear to enable access by vehicles for ongoing weed control, and pasture renovation, if required.

REMM - 27. Management of Work Activities: All personnel are responsible for managing noise from their work activities and working in a manner to reduce noise.

REMM - 29. Work Hours and Noisy Activities: Where reasonable and feasible, noisy activity would be carried out in the least sensitive time periods (to be determined through community consultation).

REMM - 32 & 33. Noisy Equipment, Noise Sensitive Areas: Avoid the operation of noisy equipment near noise-sensitive areas and where possible, loading and unloading would be conducted away from sensitive areas.

REMM - 34. Position of Plant and Equipment: Position plant and equipment on site in a position that provides the most acoustic shielding from buildings and topography. Plant known to emit noise in one direction would be oriented where practicable to screen the emissions.

REMM - 36. Traffic Noise Management: Keep truck drivers informed of designated vehicle routes, parking locations, acceptable delivery hours or other relevant practice (for example, minimising the use of engine brakes, and no extended periods of engine idling).

REMM - 42. Air Quality Mitigation: Air quality impacts would be addressed via the development of protocols to guide vehicle and construction equipment use, to minimise emissions.

REMM - 45. Fencing Around Substation: Fencing around the substation would be maintained to limit public access.

REMM - 46. Consultation with Neighbouring Landowners: Consultation with neighbouring land holders regarding any temporary impacts to access or risks to livestock. Additional specific mitigation may be required such as (a) Additional fencing to protect livestock from collision risks, and (b) Vehicle speed restriction on access roads.

REMM - 47. Consultation with Mineral Stakeholders: Consultation with Mineral Stakeholders would be undertaken to inform them of the timing of works and infrastructure layout.

REMM - 49. Community Consultation Plan: A Community Consultation Plan would be developed to manage impacts to community stakeholders, including but not limited to (a) Protocols to keep the community updated about the progress of the project and project benefits, (b) Protocols to inform relevant stakeholders of potential impacts (haulage, noise etc), (c) Protocols to respond to any complaints received.

REMM - 58. Bush Fire Management Plan: Develop a Bush Fire Management Plan with input from the RFS to include but not be limited to (a) management of activities with a high risk of fire ignition, (b) management of fuel loads on site, (c) storage and maintenance of fire-fighting equipment (FFE), including siting and provision of adequate water supplies for bush fire suppression, (d) the following requirement of Planning for Bush Fire Protection (2006) i.e. (i) identifying asset protection zones, (ii) Providing adequate egress/access to the site (s4.1.3), (iii) emergency evacuation measures (s4.2.7), (e) operational procedures relating to mitigation and suppression of bush fire relevant to the solar plant, and (f) post-fire clean-up procedures, including the need for sampling for emissions of cadmium and lead, where appropriate.

REMM - 61. Spill Response Plan: A Spill Response Plan would be developed to (a) manage the storage of any potential contaminants onsite, and (b) Mitigate the effects of soil contamination by fuels or other chemicals (including emergency response and EPA notification procedures), and (c) prevent contaminants affecting adjacent pasture and dams.

REMM - 63. Dust Suppression Activities (operations stage): Dust suppression activities would be undertaken, including (a) Any area that was temporarily used during construction (laydown and trailer

complex areas) would be restored back to original condition or re-vegetated with native plants, and (b) Areas that may not have been hard packed but have been disturbed in some form would be treated with environmentally acceptable palliatives and/or vegetated (e.g., By means of hydro seeding) with seeds native to the area.

In addition, further environmental compliance obligations and management actions required for the operations stage are detailed in the responsibilities and management actions in Appendix C.

1.4 Internal Document Referencing of Approval Conditions

The following table identifies where each of the requirements listed under Development Condition A2, C4, C13-15 and REMMs, has been addressed within the NSPS EHS Manual and OEMP.

Approval Condition	Section of EHS Manual and OEMP
Consent Conditions	
A2 Terms of Consent (referred to in C4)	
Part A. Terms of Consent. A2. The Applicant shall carry out the development generally in accordance with the State Significant development Application SSD-5355, the Nyngan Solar Plant Environmental Impact Statement prepared by NGH environmental dated March 2013, the Nyngan Solar Plant Submissions Report prepared by NGH environmental dated June 2013 and the Conditions of this consent (SSD-5355).	This EHS Manual and OEMP & Appendices
Part A. Terms of Consent. A3. Terms of Consent. If there is any inconsistency between the plans and documentation referred to above, the most recent document shall prevail to the extent of the inconsistency. However, conditions of this consent prevail to the extent of any inconsistency.	This EHS Manual OEMP & Appendices
Part A. Administrative Conditions. A6. Structural Adequacy. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.	CEMP This EHS Manual and OEMP: Sections 4 & 5.1.2
Part A. Administrative Conditions. A7. Decommissioning. Within one year of decommissioning, the site shall be returned, as far as practicable, to its condition prior to the commencement of construction in consultation with the relevant landowner. All solar panels and associated above ground structures including but not necessarily limited to, the control	Sections 5, 6.3.3, 6.3.5, 6.3.7, 6.3.14

and facilities building and electrical infrastructure, including underground infrastructure to a depth of 300 millimetres, shall be removed from the site unless otherwise agreed by the Director-General in consultation with the relevant landowner, except where the control room or overhead electricity lines are transferred to or in the control of the local electricity network operator. All other elements associated with the development, including site roads, shall be removed unless otherwise directed by the Director-General.	
Part A. Administrative Conditions. A8. Decommissioning. If the solar plant is not used for the generation of electricity for a continuous period of 12 months, it shall be decommissioned by the Applicant, unless otherwise agreed by the Director-General. The Applicant shall keep independently-verified annual records of the use of the solar panels for electricity generation. Copies of these records shall be provided to the Director-General upon request. The solar panels and any associated infrastructures are to be dismantled and removed from the site by the Applicant within 18 months from the date that the solar panels were last used to generate electricity.	Section 5.7 and 6.3.14
Part A. Administrative Conditions. A10. Compliance. The Applicant shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities. Part A. Administrative Conditions.	Section 4.4
A11. Compliance. The Applicant shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.	Sections 4.3, 4.4 and 4.5
Part A. Administrative Conditions. A12. Compliance, Disputes. In the event of a dispute between the Applicant and a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the development, either party may refer the matter to the DG (DPE) for resolution.	Section 4.2
Part B. Environmental Performance, General Conditions B2. Decommissioning and Rehabilitation. The site of all ancillary facilities shall be rehabilitated to at least their pre-construction condition, unless otherwise agreed by the relevant landowner.	Sections 6.3.3
Part B. Environmental Performance, General Conditions B3. Bushfire Risk. The Applicant shall ensure that all development components on site are designed, constructed and operated to minimise ignition risks, provide for asset protection consistent with relevant NSW Rural Fire Services (RFS) design guidelines (Planning for Bushfire Protection 2006 and Standards for Asset Protection, Undated) and provide for necessary	Section 6.4

emergency management including appropriate fire-fighting equipment and water supplies on site to respond to a bush fire.	
Part B. Environmental Performance, General Conditions. B4. Bushfire Risk. Throughout the operational life of the development, the Applicant shall regularly consult with the local RFS to ensure its familiarity with the development, including the construction timetable and the final location of all infrastructures on the site. The Applicant shall comply with any reasonable request of the local RFS to reduce the risk of bushfire and to enable fast access in emergencies.	Section 6.4
Part B. Environmental Performance, General Conditions B5. Dangerous Goods. Dangerous goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with: a) all relevant Australian Standards; b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, Technical Bulletin (Environment Protection Authority, 1997). In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.	Section 6.3.13 & Appendix W
Part B. Environmental Performance, General Conditions B6. Dust Generation. The Applicant shall construct and operate the development in a manner that minimises dust generation from the site, including wind-blown and traffic-generated dust as far as practicable. All development related activities on the site shall be undertaken with the objective of preventing visible emissions of dust from the site. Should visible dust emissions attributable to the development occur during construction and operation, the Applicant shall identify and implement all practicable dust mitigation measures, including cessation of relevant works during construction, planting ground covers, using dust suppressants as appropriate, such that emissions of visible dust cease.	Section 6.3.7
Part B. Environmental Performance, General Conditions B7. Water Quality Impact. Except as may be expressly provided by an Environment Protection Licence for the development, the Applicant shall comply with Section 120 of the Protection of the Environment Operations Act 1997 which prohibits the pollution of waters.	Section 6.3.1
Part B. Environmental Performance, General Conditions B11. Waste Management. All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.	Section 6.3.14

Part B. Environmental Performance, General Conditions B12. Waste Management. Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997, if such a licence is required in relation to that waste.	Section 6.3.14
Part B. Environmental Performance. General Conditions B13. Waste Management. All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2009), or any superseding document	Section 6.3.14
Part B. Environmental Performance, General Conditions B14. Utilities and Services Utilities. Services and other infrastructure potentially affected by construction and operation shall be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the development shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The cost of any such arrangements shall be borne by the Applicant.	Section 4.2, 6.3.10 & 6.3.11 Appendix T
Part B. Environmental Performance, Visual Amenity B18. Landscaping Requirements, Within six months of the commissioning of the development, the Applicant shall prepare and submit a Visual Impact Verification Report for the Director-General's approval. Unless otherwise agreed to by the Director-General, the Visual Impact Verification Report shall confirm the visual impacts at each of the receptors and roadways identified in the Environmental Impact Statement, or subsequently identified in the final design work, as having the potential to be 'highly impacted', considering the final model and layout of generating components on site as well as site specific mitigating factors at the receptors and roadways (such as receptor orientation and intervening screening factors). The Visual Impact Verification Report shall identify all reasonable and feasible screening and landscape planting options available at each receptor and roadways at which potential impacts have been verified to be 'high' including demonstration that these measures have been determined in consultation with affected receptors and relevant road authorities.	Section 6.3.5 Appendix P
Part B. Environmental Performance, Visual Amenity B19. Landscaping Requirements. Within 18 months of the approval of the Visual Impact Verification Report by the Director General (or as otherwise agreed to by the Director-General), the Applicant shall ensure that the measures	Section 6.3.5

identified in the Report are implemented at affected receptors and roadways as identified in the Report in consultation with the relevant residents landowners and road authorities.	Appendix P
Part B. Environmental Performance. Visual Amenity B21. Rehabilitation and Revegetation. The Applicant shall implement a revegetation and rehabilitation program for all areas of the development footprint which are disturbed during the construction of the development but which are not required for the ongoing operation of the development including temporary construction facility sites and sections of construction access roads. The Applicant shall ensure that all revegetation measures are implemented progressively where possible and in all cases within six months of the cessation of construction activities at the relevant area. Unless otherwise agreed to by the Director-General, the Applicant shall monitor and maintain the health of all revegetated areas until such time that the plantings have been verified by an independent and suitably qualified expert (whose appointment has been agreed to by the Director-General) as being well established, in good health and self-sustaining.	Sections 6.3.3 and 6.3.5 Appendix P
Part B. Environmental Performance. Noise - Operation B26. Operational Noise Criteria. The Applicant shall take all reasonable measures to minimise noise emissions and vibration from all plant and equipment operated on the site such that they do not exceed noise and vibration criteria derived by application of the NSW Industrial Noise Policy (DECC, 2000) and Assessing Vibration: A Technical Guideline (DECC, 2006).	Section 6.3.8, 5.1.2, 5.3 and 5.4
Condition C3 (referred to in C4 (e) Monitoring Requirements)	
Condition C3 (b)(iii). A Groundcover Management Plan developed in consultation with an agronomist to outline measures to ensure adequate vegetation cover and composition beneath the solar PV array. The plan shall include but not necessarily be limited to weed management measures to control and prevent the spread of noxious weeds	Sections 6.3.2, 6.3.3, 6.3.4, 6.3.5 and 6.4.1
Condition C3 (b)(iv). A Groundcover Management Plan developed in consultation with an agronomist to outline measures to ensure adequate vegetation cover and composition beneath the solar PV array. The plan shall include but not necessarily be limited to monitoring methods to assess the impact of the development on the groundcover vegetation	Sections 6.3.2, 6.3.3, 6.3.4, 6.3.5
Condition C3 (c) (iii). A landscape plan to minimise visual impacts from the solar plant. The plan shall include but not necessarily be limited to implementation, management and monitoring	Section 6.3.5 Appendix P

strategies to ensure the establishment and ongoing maintenance of landscaped areas.	
Condition C4	
a. *Identification of all statutory and other obligations that the Applicant is required to fulfil in relation to the operation of the development, including all consents, licenses, approvals and consultations*	This EHS Manual OEMP and Appendices
b. *A management organisational chart identifying the roles and responsibilities for all relevant employees involved in the operation of the development*	Section 4.7 & Appendix D
c. *Overall environmental policies to be applied to the operation of the development*	Sections 3.1, 3.2, & 3.3
d. *Standards and performance measures to be applied to the development, and means by which environmental performance can be periodically monitored, reviewed and improved, (where appropriate) and what actions would be taken in the case that non-compliance with the requirements of this consent are identified. In particular the following environmental performance issues shall be addressed:*	Section 6.3
I. *Bushfire hazard and risk management*	Section 6.4
II. *Management and maintenance of offsets*	Section 6.3.6
III. *Inspection, monitoring and maintenance of all water crossings*	Section 6.3.1
IV. *Management measures for the site, including management of vegetation, soil erosion, dust, weed control and landholder liaison.*	Sections 6.3.2, 6.3.3, 6.3.4, 6.3.7, 6.3.10
e. *The environmental monitoring requirements outlined under consent SSD-5535*	Section 6.5
f. *Measures to monitor and manage flood impacts in consultation with NOW*	Relevant design issues were previously complied with in CEMP Section 7.7. Section 6.3.1 of OEMP
g. *Information on water sources including details on sources and security of water supply and water use on site*	Section 6.3.1

h. Complaints handling procedures as identified in consent conditions C13 to C15	Section 6.3.11
i. Specific consideration of relevant measures to address any requirements identified in the documents referred to under conditions A2b) (EIS) and A2c) (Submissions Report containing revised mitigation measures)	This OEMP and EHS Manual and Appendices
j. Management policies to ensure that the environmental compliance performance goals are met and comply with the conditions of consent.	Sections 3, 4, 5, 6, 7.5, 7.6, 7.7, 7.13, 7.17, 7.25, 7.26, 8
C4 (Continued) *The Applicant shall prepare and implement an Operational Environmental Management Plan in accordance with the Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004), or any replacement guideline. The Plan shall include but not necessarily be limited to:* *The Plan shall be submitted for the approval of the Director-General no later than one month prior to the commencement of Operation of the development or within such period as otherwise agreed by the Director-General. Operation shall not commence until written approval has been received from the Director-General. Upon receipt of the Director-General's approval, the Applicant shall make the Plan publicly available as soon as practicable and provide a copy of the Plan to the relevant landowner as soon as practicable.*	This OEMP and EHS Manual and Appendices
C5 (d) Biodiversity Offset Management Package (BOMP) *Following final design and prior to the commencement of construction, or as otherwise agreed to by the Director-General, the Applicant shall develop and submit a Biodiversity Offset Management Package for the approval of the Director-General. The package shall detail how the ecological values lost as a result of the development will be offset. The Biodiversity Offset Management Package shall be developed in consultation with the OEH and shall (unless otherwise agreed by the Director-General) include, but not necessarily be limited to (d) the monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved, including i) the monitoring of the condition of species and ecological communities at offset locations; ii) the methodology for the monitoring program(s), including the number and location of offset monitoring sites, and the sampling frequency at these sites; iii) provisions for the annual reporting of*	Section 6.3.6 Appendix R

the monitoring results for a set period of time as determined in consultation with the OEH.	
Conditions C13-15 (referred to in C4 above)	
Condition C13 of the Development Consent states: Prior to the commencement of construction, the Applicant shall ensure that the following are available for community complaints for the life of the development (including construction and operation) or as otherwise agreed by the Director-General:	
a) A 24 hour telephone number on which complaints about the construction and operation activities at the site may be registered.	Sections 6.3.10 & 6.3.11
b) A postal address to which written complaints may be sent; and	Sections 6.3.10 & 6.3.11
c) An email address to which electronic complaints may be transmitted.	Sections 6.3.10 & 6.3.11
The telephone number, postal address and email address shall be advertised in a newspaper circulating in the local area on at least one occasion prior to the commencement of construction; and at six monthly intervals during construction and for a period of two years following commencement of operation of the development. These details shall also be provided on the Applicant's internet site required by condition C11. The telephone number, the postal address and the email address shall be displayed on a sign near the entrance to the construction site(s), in a position that is clearly visible to the public.	Sections 6.3.10 & 6.3.11
Condition C14 of the Development Consent states: The Applicant shall record details of all complaints received through the means listed in condition C13 of this consent in an up-to-date Complaints Register.	Sections 6.3.10 & 6.3.11
Mitigation Measures	
In addition to the Consent Conditions, Mitigation Measures have been established for the operations phase. These statements of commitment relevant only to the operations phase (as approved under Table 3-1 in the Nyngan Solar Plant Staging Report) are referred to as revised mitigation measures (REMMs), and are listed as follows:	
REMM - 7. Use of Existing Track: Within areas of native vegetation, existing tracks would be used wherever possible to avoid compaction and/or disturbance.	Section 6.3.3
REMM - 8. Onsite Traffic Management Measures: Traffic management measures would be incorporated into the	Sections 5.1.2, 5.2, 5.3

construction and operation phase and would address traffic flow, vehicle speed and vehicle numbers entering and leaving the site. This would aim to prevent collisions with fauna utilising the site, particularly Grey-crowned Babblers.	
REMM - 17. Ground Cover Management Plan: A ground cover management plan would be developed as outlined in the Biodiversity Assessment	Sections 6.3.3, 6.3.4
REMM - 18. Weed Control Between Arrays (Operational Phase)	Section 6.3.4
REMM - 27. Management of Work Activities: All personnel are responsible for managing noise from their work activities and working in a manner to reduce noise.	Sections 5.3, 5.4, 6.3.8
REMM - 29. Work Hours and Noisy Activities: Where reasonable and feasible, noisy activity would be carried out in the least sensitive time periods (to be determined through community consultation).	Sections 5.3, 5.4, 6.3.8, 7.21.7
REMM - 32 & 33. Noisy Equipment, Noise Sensitive Areas: Avoid the operation of noisy equipment near noise-sensitive areas and where possible, loading and unloading would be conducted away from sensitive areas.	Sections 5.3, 5.4, 6.38, 7.21.7
REMM - 34. Position of Plant and Equipment: Position plant and equipment on site in a position that provides the most acoustic shielding from buildings and topography. Plant known to emit noise in one direction would be oriented where practicable to screen the emissions.	Sections 5.3, 5.4, 6.38, 7.21.7
REMM - 36. Traffic Noise Management	Sections 5.3, 5.4, 6.38
REMM - 42. Air Quality Mitigation: Air quality impacts would be addressed via the development of protocols to guide vehicle and construction equipment use, to minimise emissions.	Section 6.3.7
REMM - 45. Fencing Around Substation: Maintained to limit public access	Sections 2.3 and 6.3.9
REMM - 46. Consultation with Neighbouring Landowners: Consultation with neighbouring land holders regarding any temporary impacts to access or risks to livestock. Additional specific mitigation may be required such as (a) Additional fencing to protect livestock from collision risks, and (b) Vehicle speed restriction on access roads.	Sections 2.3 and 6.3.9, 6.3.10
REMM - 47. Consultation with Mineral Stakeholders: Consultation with Mineral Stakeholders would be undertaken to inform them of the timing of works and infrastructure layout.	Section 6.3.10

REMM - 49. Community Consultation Plan: A Community Consultation Plan would be developed to manage impacts to community stakeholders, including but not limited to (a) Protocols to keep the community updated about the progress of the project and project benefits, (b) Protocols to inform relevant stakeholders of potential impacts (haulage, noise etc),	Sections 6.3.10 and 6.3.11
REMM - 58. Bush Fire Management Plan: Develop a Bush Fire Management Plan with input from the RFS to include but not be limited to (a) management of activities with a high risk of fire ignition, (b) management of fuel loads on site, (c) storage and maintenance of fire-fighting equipment (FFE), including siting and provision of adequate water supplies for bush fire suppression, (d) the following requirement of Planning for Bush Fire Protection (2006) i.e. (i) identifying asset protection zones, (ii) Providing adequate egress/access to the site (s4.1.3), (iii) emergency evacuation measures (s4.2.7), (e) operational procedures relating to mitigation and suppression of bush fire relevant to the solar plant, and (f) post-fire clean-up procedures, including the need for sampling for emissions of cadmium and lead, where appropriate.	Section 6.4
REMM - 61. Spill Response Plan: A Spill Response Plan would be developed to (a) manage the storage of any potential contaminants onsite, and (b) Mitigate the effects of soil contamination by fuels or other chemicals (including emergency response and EPA notification procedures), and (c) prevent contaminants affecting adjacent pasture and dams.	Section 6.3.12
REMM - 63. Dust Suppression Activities (operations stage): Dust suppression activities would be undertaken, including (a) Any area that was temporarily used during construction (laydown and trailer complex areas) would be restored back to original condition or re-vegetated with native plants, and (b) Areas that may not have been hard packed but have been disturbed in some form would be treated with environmentally acceptable palliatives and/or vegetated (e.g., By means of hydro seeding) with seeds native to the area.	Sections 6.3.2, 6.3.3, 6.3.5, and 6.3.7

2 Site and Project Information

2.1 Location

The Nyngan Solar Plant Site (NSP) is located approximately 10 km west of the town of Nyngan in Central NSW.

The NSP consists of a 102 MW solar PV power station. The solar plant occupies approximately 460 hectares of land to the north of the Barrier Highway (Lot 34, DP 751328). The location of the site is shown on Figure 2.1 below.

The NSP site falls within the Bogan Shire Local Government Area. The local area is characterised by rural activities on large holdings. Population density is low.

A new section of 132kV transmission line, approximately 3 km in length, connects the solar plant to the pre-existing Nyngan – Cobar 132kV transmission line. The new section of transmission line traverses five parcels of land including two private rural land holdings (Lot 24 DP 751328 and Lot 8 DP 724628), a railway owned by Transport for NSW (Lot 25 DP 1181299), a Crown Land parcel (Lot 7300 DP 1156652) and the Barrier Highway Road Reserve.

Figure 2.1 - Site Location

2.2 Project Background

The Nyngan Solar Plant (NSP) was constructed for the purpose of electricity generation, with a capital investment value of approximately $300 million. Accordingly, the Nyngan Solar Plant was declared to be a State Significant Development for the purposes of the *Environmental Planning and Assessment Act (1979).* An Environmental Impact Statement was required to be prepared, and approved by way of Development Consent (SSD-5355) by the Director-General on 15 July 2013. This consent document specifies the conditions of the project approval in which the applicant AGL Energy (AGL) and its contractors must comply.

The key stakeholders identified as potentially being impacted by the Nyngan Solar Plant or possibly having an interest in the project itself, including during the operations stage, are in the following table (Table 2.1).

Category	Stakeholders
Directly impacted	Adjoining and nearest neighbours to the site, in particular residents of dwellings close to the proposed site
Communities	Local city (Nyngan)
Aboriginal groups	Office of Registrar of Aboriginal Land Rights Local Council Local Aboriginal Land Council National Native Title Tribunal NSW Office of Environment and Heritage Native Title Services Corporation
Environmental non-government organisations (NGOs) and community based organisations	Local and regional groups (Lions Club of Nyngan) Police and community youth clubs Local environmental groups
Government agencies and regulators	Local government (Bogan Shire Council) NSW Office of Environment and Heritage (OEH) Rural Fire Service NSW Office of Water (part of Department of Primary Industries) Industry and Investment NSW (I&I NSW) (including Department of Primary Industries) NSW Department of Planning and Infrastructure NSW Roads and Maritime Services (RMS) Commonwealth Department of Sustainability, Environment, Water, Population and Communities Central West Catchment Management Authority
Special interest groups	Emergency response groups (Rural Fire Service, State Emergency Service) News media groups (ABC Radio, Nyngan Observer, Rural Press paper, Rebel FM radio, Outback Radio 2WEB) Business - trade, retail sales and tourism committees

Table 2.1 - Project Stakeholders

2.3 Project Description

The location of the site and immediate surrounds is provided in Figure 2.2.

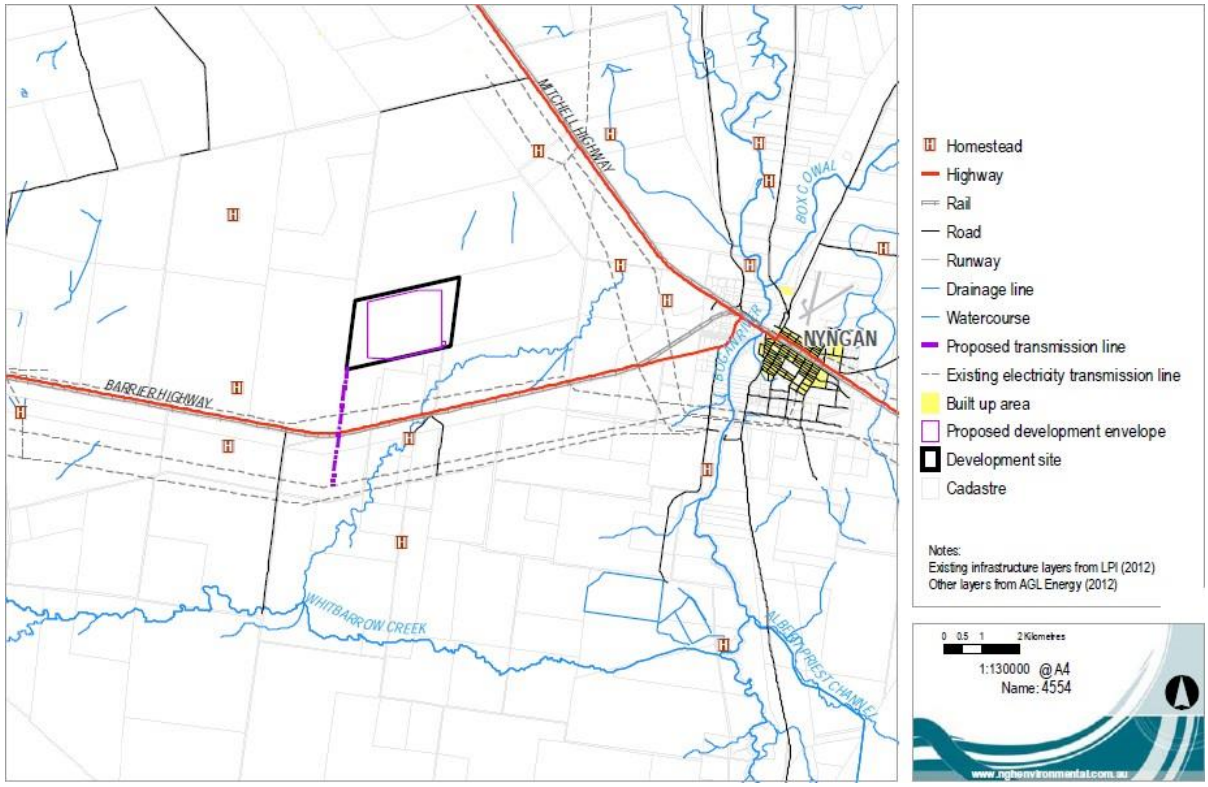

Figure 2.2 – Site Location and immediate surrounds.

The site lies within the Cobar Peneplain Bioregion, extending from just south of Bourke to north of Griffith, a total area of 7,334,664 hectares, occupying 9.2 per cent of the state. The woodlands of the Cobar Peneplain Bioregion are the most extensive woodland communities to remain in western NSW.

The overall operational area consists of approximately 460 hectares of flat terrain, characteristic of the alluvial floodplains of the Nyngan locality with an elevation of approximately 175 to178 metres Australian Height Datum (AHD). The local area is characterised by rural activities on large holdings. Population density is low.

A preliminary constraints analysis was used to inform the location of infrastructure in the early planning phase, to avoid environmental impacts where possible. Impacts of the constructed solar plant related primarily to the clearing of vegetation for the solar plant and associated infrastructure, construction noise, construction traffic and dust. The main impacts associated with operation relate to visual impact and temporary reduction in agricultural production at the site. Decommissioning impacts are generally of a similar nature but to a lesser extent than construction impacts. Mitigation measures and safeguards have been developed and incorporated into this OEMP to minimise and offset its residual impacts.

The Applicant (Owner) elected to *construct and/or operate the development in stages* defined as follows:

- Stage 1 Solar plant construction
- Stage 2 Connection works construction
- Stage 3 Solar plant operation
- Stage 4 Connection works operation.

Stage 3 Operation of the solar plant site (all infrastructure constructed in Stage 1) with the addition of the 132kV substation, including the 132/33kV transformer and associated works to the disconnector (connection point with Essential Energy) is shown on Figure 2.3. The entire site boundaries is shown over page in figure 2.4.

Estimated commencement of operation is July 2015.

The Nyngan Solar Plant is expected to operate for at least 30 years, where approximately two to three maintenance personnel would be employed at the site to support routine plant operations and maintenance of the following elements:

- Photovoltaic (PV) modules of cadmium telluride (CdTe) thin film technology
- Inverters and step-up transformers, converting direct current (DC) electricity produced by the PV modules into alternating current (AC) and connection to the electrical grid
- Aboveground and underground electrical conduits and cabling, connecting modules to the inverters and transformers
- Marshalling switchgear, collecting the power from the modules
- 33kV/132kV transformer substation and switchgear
- Site office and maintenance building
- The main access road from the Barrier Highway to the solar plant
- Internal access tracks
- Perimeter security fencing and landscaping
- 132kV transmission line to connect into existing electrical network.

The main operational activities conducted by the Owner would include:

- Day-to-day routine operations and maintenance
- Replacement of infrastructure, as required
- Provision of site security
- Periodic mowing of the grass under the arrays.

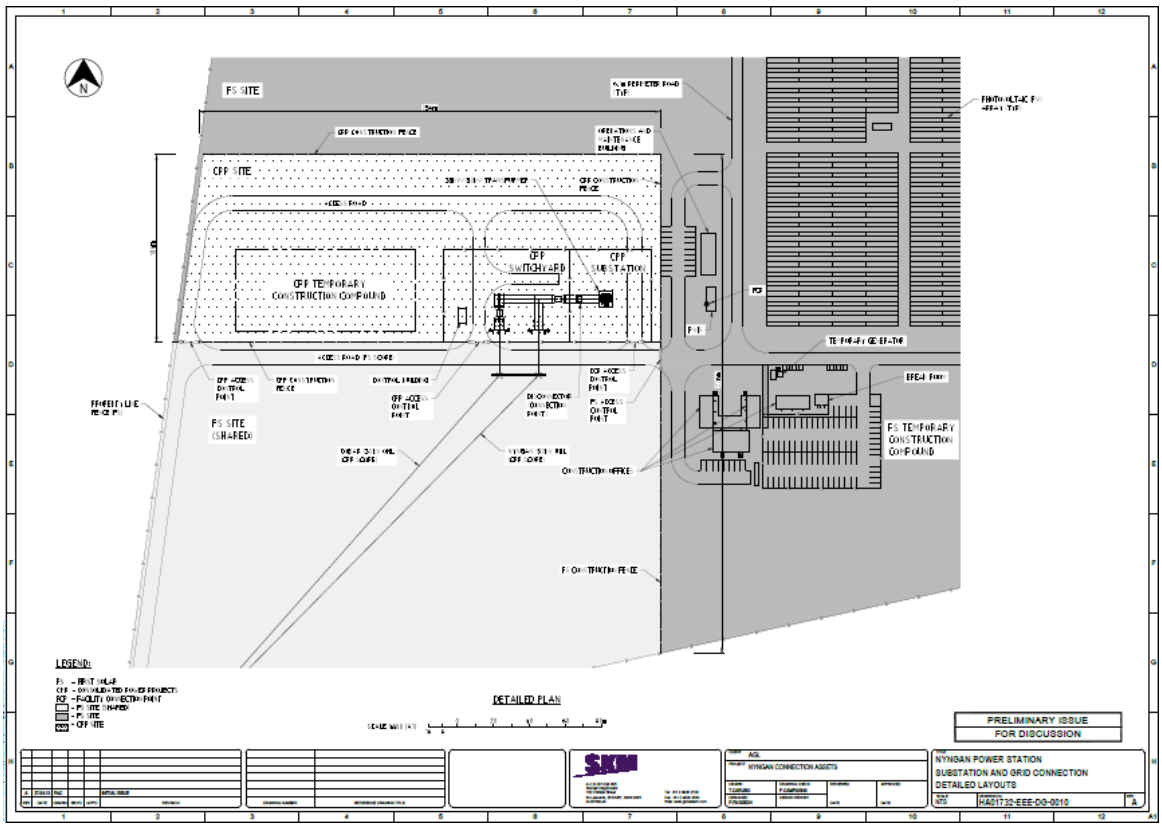

Figure 2.3 - Substation and grid connection.

Figure 2.4 - Inundation zones at the solar plant site (Source: SKM 2011)

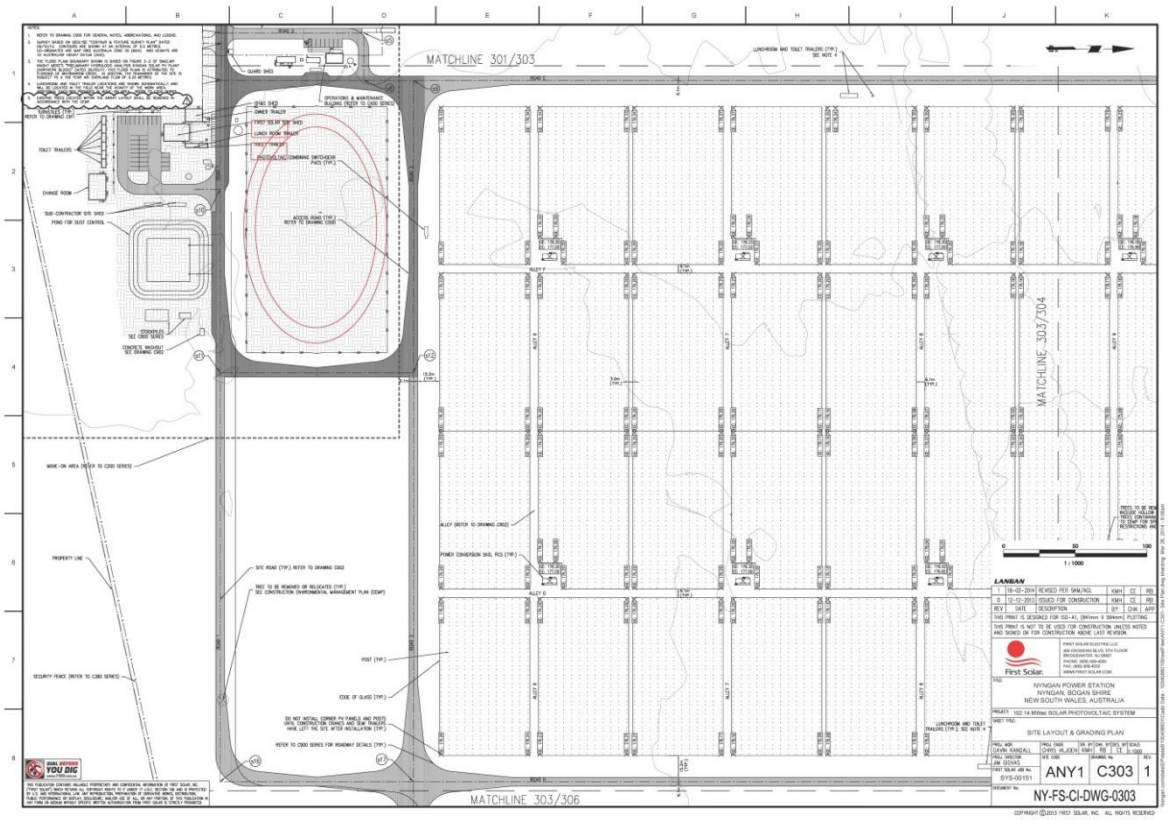

Figure 2.5 - Southwest corner of site showing permanent sea containers placed on hard surface (and raised) circular road ("Racetrack") to enable loading/unloading of heavy vehicles after wet periods.

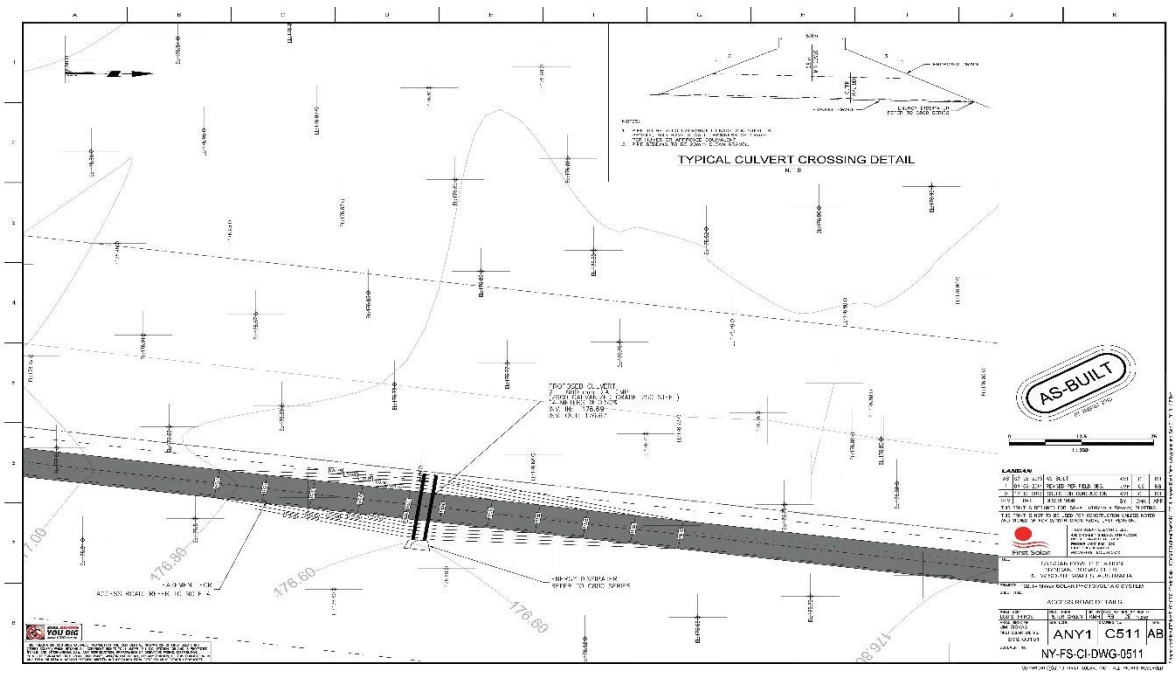

Figure 2.6 – Water crossing on the main access road showing culvert as-built.

3 Commitment to Environment, Health & Safety

3.1 NSPS

At the heart of this EHS manual and OEMP is NSPS's Environment, Health, and Safety (EHS) Management System. This system has been developed to provide policies, procedures, and work rules for eliminating accidents and injury at our facilities.

The EHS commitments to our employees, contractors, and our customers at NSPS is our foremost business consideration. No person will be required to do a job that he or she considers unsafe. The company will comply with all applicable workplace environmental, EHS and health regulations and maintain occupational EHS and health standards that equal or exceed the best practices in the industry.

This puts upfront the priorities for the workplace EHS program and where it is in relation to production. A good operation has workplace EHS integrated fully into production.

We maintain a goal of **ZERO** workplace injuries which is consistent with our values and vision.

To achieve this outcome we pledge to do the following:

- Conduct business in a manner that actively integrates the elements of the NSPS EHS Management System into all aspects of our operations
- Comply with all applicable laws, regulations and statutory obligations
- Pro-actively identify and control hazards/risks in the workplace
- Allocate responsibilities and accountabilities through job descriptions and performance monitoring
- Support employees and subcontractors in their decision to stop work and intervene when unsafe acts or unsafe conditions are identified
- Communicate and consult openly with employees, subcontractors and visitors to our work areas regarding NSPS EHS expectations
- Develop processes that facilitate continual improvement in the EHS Management System as well as EHS performance
- Provide the necessary resources and training to ensure that the objectives and targets derived from this Policy are achieved
- Maintain a pro-active leadership role in EHS management.

A signed copy of policy is shown in Appendix A.

3.2 Nyngan Solar Plant

EHS is a core value for NSPS and AGL PV Solar Developments Pty Ltd (Owner). Both companies set high standards for EHS, and continuously seek to improve performance to achieve the goal of zero harm at the Nyngan Solar Plant (NSP).

Together we strive for a total EHS culture, where every person working for or on behalf of NSP, including contractors, accepts a personal responsibility to provide a safe and healthy workplace for themselves and their fellow employees.

To achieve our goal we:

- Identify hazards with potential for injury or illness and ensure appropriate controls are implemented
- Establish, monitor and review objectives and targets that will drive continuous improvement
- As a minimum, identify and fulfil all EHS statutory and other obligations and Company standards
- Develop, implement and provide training for safe systems of work and safe working practices
- Encourage open and honest dialogue about EHS issues and behaviour in a nonthreatening way
- Ensure that systems are in place to record, investigate and learn from incidents with a no blame approach
- Provide rehabilitation assistance to encourage a safe and timely return to work
- Encourage and support employees in elected EHS positions
- Audit and review EHS Management Systems to ensure they remain relevant and effective.

3.3 Consent Conditions and Revised Mitigation Measures

As part of the Owner's commitment to operate the plant, it must ensure particular environmental compliance requirements are met throughout the life of the development. The Staging Report (Table 3.1 - NGH Environmental March 2013) sets out which conditions of consent and revised mitigation measures apply to each stage of the Nyngan Solar Plant development (Appendix B). The applicable consent conditions and revised mitigation measures are detailed earlier in Section 1.3.

4 Roles and Responsibility

A clear understanding of roles and responsibilities is required for an effective EHS Program. Following are a summary of responsibilities relating to the operational stage of the Nyngan Solar Plant (NSP).

4.1 Responsibilities for Compliance to Consent Conditions and Revised Mitigation Measures

4.1.1 Overview

This section details the responsibility of parties to ensure the approval conditions during the operations stage of the Nyngan Solar Farm are met. The responsibilities are divided between the asset owner, AGL, and the operator, NSPS. The specific responsibilities are summarised in the following subsections and detailed in Appendix C (Tables 1-3) as referenced in Section 4.1.4 (below).

Explanations of how each of these conditions and requirements will be addressed are provided in Sections 6.3 to 6.7 and 8, which refer to detailed subplans, forms and or processes in the Appendices.

4.1.2 Owner (AGL)

The owner AGL, has the following general responsibilities of:

- Part A. Terms of Consent. A2. The Applicant shall carry out the development generally in accordance with the State Significant development Application SSD-5355, the Nyngan Solar Plant Environmental Impact Statement prepared by NGH environmental dated March 2013, the Nyngan Solar Plant Submissions Report prepared by NGH environmental dated June 2013 and the Conditions of this consent (SSD-5355).
- Part A. Terms of Consent. A3. Terms of Consent If there is any inconsistency between the plans and documentation referred to above, the most recent document shall prevail to the extent of the inconsistency. However, conditions of this consent prevail to the extent of any inconsistency.

AGL also has the specific responsibilities of:

- Part A. Administrative Conditions. A7. Decommissioning. Within one year of decommissioning, the site shall be returned, as far as practicable, to its condition prior to the commencement of construction in consultation with the relevant landowner. All solar panels and associated above ground structures including but not necessarily limited to, the control and facilities building and electrical infrastructure, including underground infrastructure to a depth of 300 millimetres, shall be removed from the site unless otherwise agreed by the Director-General in consultation with the relevant landowner, except where the control room or overhead electricity lines are transferred to or in the control of the local electricity network operator. All other elements associated with the development, including site roads, shall be removed unless otherwise directed by the Director-General.

- Part A. Administrative Conditions. A8. Decommissioning. If the solar plant is not used for the generation of electricity for a continuous period of 12 months, it shall be decommissioned by the Applicant, unless otherwise agreed by the Director-General. The Applicant shall keep independently-verified annual records of the use of the solar panels for electricity generation. Copies of these records shall be provided to the Director-General upon request. The solar panels and any associated infrastructures are to be dismantled and removed from the site by the Applicant within 18 months from the date that the solar panels were last used to generate electricity.

- Part A. Administrative Conditions. A12. Compliance, Disputes. In the event of a dispute between the Applicant and a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the development, either party may refer the matter to the DG (DPE) for resolution.

- Part B. Environmental Performance, General Conditions B2. Decommissioning and Rehabilitation. The site of all ancillary facilities shall be rehabilitated to at least their pre-construction condition, unless otherwise agreed by the relevant landowner.

- Part B. Environmental Performance, General Conditions B14. Utilities and Services Utilities, services and other infrastructure potentially affected by construction and operation shall be identified prior to construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the development shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The cost of any such arrangements shall be borne by the Applicant.

- Part B. Environmental Performance, Visual Amenity B18. Landscaping Requirements, Within six months of the commissioning of the development, the Applicant shall prepare and submit a Visual Impact Verification Report for the Director-General's approval. Unless otherwise agreed to by the Director-General, the Visual Impact Verification Report shall confirm the visual impacts at each of the receptors and roadways identified in the Environmental Impact Statement, or subsequently identified in the final design work, as having the potential to be 'highly impacted', considering the final model and layout of generating components on site as well as site specific mitigating factors at the receptors and roadways (such as receptor orientation and intervening screening factors). The Visual Impact Verification Report shall identify all reasonable and feasible screening and landscape planting options available at each receptor and roadways at which potential impacts have been verified to be 'high' including demonstration that these measures have been determined in consultation with affected receptors and relevant road authorities.

- Part B. Environmental Performance, Visual Amenity B19. Landscaping Requirements. Within 18 months of the approval of the Visual Impact Verification Report by the Director General (or as otherwise agreed to by the Director-General), the Applicant shall ensure that the measures identified in the Report are implemented at affected receptors and roadways as identified in the Report in consultation with the relevant residents landowners and road authorities.

- Part C. Environmental Management, C4. Operational Environmental Management Plan. The Plan shall be submitted for the approval of the Director-General no later than one month prior to the

commencement of Operation of the development or within such period as otherwise agreed by the Director-General. Operation shall not commence until written approval has been received from the Director-General. Upon receipt of the Director-General's approval, the Applicant shall make the Plan publicly available as soon as practicable and provide a copy of the Plan to the relevant landowner as soon as practicable.

- Part C. Environmental Management, Reporting and Auditing, Environmental Management. C5. Biodiversity Offset Management Package (BOMP). Following final design and prior to the commencement of construction, or as otherwise agreed to by the Director-General, the Applicant shall develop and submit a Biodiversity Offset Management Package for the approval of the Director-General. The package shall detail how the ecological values lost as a result of the development will be offset. The Biodiversity Offset Management Package shall be developed in consultation with the OEH and shall (unless otherwise agreed by the Director-General) include, but not necessarily be limited to:

  - (a) an assessment of all native vegetation communities and threatened species habitat, supported by a suitable metric (such as the Biobanking Assessment Methodology), that will either be directly or indirectly impacted by the proposal;

  - (b) the objectives and biodiversity outcomes to be achieved (including 'improve or maintain' biodiversity values), and the adequacy of the proposed offset considered;

  - (c) the final suite of the biodiversity offset measures selected and secured including but not necessarily limited to; i) an offset proposal which is supported by a suitable metric method (such as the Biobanking Assessment Methodology); ii) details of the relative condition and values of communities on the offset site in comparison to those to be impacted; iii) proposed management actions and expected gains;

  - (d) the monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved, including: i) the monitoring of the condition of species and ecological communities at offset locations; ii) the methodology for the monitoring program(s), including the number and location of offset monitoring sites, and the sampling frequency at these sites; iii) provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the OEH; and

  - (e) timing and responsibilities for the implementation of the provisions of the Package. Land offsets shall be consistent with the Principles for the use of Biodiversity Offsets in NSW (NSW Office of Environment and Heritage, June 2011). Any land offset shall be enduring and be secured by a conservation mechanism which protects and manages the land in perpetuity. Where land offsets cannot solely achieve compensation for the loss of habitat, additional measures shall be provided to collectively deliver an improved or maintained biodiversity outcome for the region. Where monitoring referred to in condition (d) indicates that biodiversity outcomes are not being achieved, remedial actions shall be undertaken to ensure that the objectives of the Biodiversity Offset Package are achieved.

- Part C. Environmental Management, Reporting and Auditing. Reporting, C8. Incident Reporting. The Applicant shall notify, at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the development, the Applicant shall notify the Director-General and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

- Part C. Environmental Management, Reporting and Auditing, Reporting Part C. Environmental Management, Reporting and Auditing. Community C10. Community Information, Consultation and Involvement. Subject to reasonable confidentiality requirements, the Applicant shall make all documents required under this consent available for public inspection on request.

- Part C. Environmental Management, Reporting and Auditing, Community C11. Provision of Electronic Information. Prior to the commencement of construction, the Applicant shall establish a dedicated website or maintain dedicated pages within its existing website for the provision of electronic information associated with the development. The Applicant shall publish and maintain up-to-date information on this website or dedicated pages including, but not necessarily limited to: (a) the status of the development; (b) a copy of this consent and any future modification to this consent; (c) a copy of each relevant environmental consent, licence or permit required and obtained in relation to the development; (d) a copy of each plan, report, or monitoring program required by this consent; and (e) details of the outcomes of compliance reviews and audits of the development.

- Part C. Environmental Management, Reporting and Auditing, Community C12. Community Information Plan Prior to the commencement of construction, the Applicant shall prepare and implement a Community Information Plan which sets out the community communication and consultation processes to be implemented during construction and operation of the development. The Plan shall include but not be limited to: (a) procedures to inform the local community of planned investigations and construction activities, including blasting works (if any); (b) procedures to inform the relevant community of construction traffic routes and any potential disruptions to traffic flows and amenity impacts; (c) procedures to consult with local landowners residents with regard to construction traffic to ensure the safety of livestock and to limit disruption to livestock movements, (d) procedures to inform the community where work outside the construction hours specified in condition B22, in particular noisy activities, has been approved; and (e) procedures to inform and consult with the relevant landowner to rehabilitate impacted land

- Part C. Environmental Management, Reporting and Auditing, Community C13. Complaints Procedure Prior to the commencement of construction, the Applicant shall ensure that the following are available for community complaints for the life of the development (including construction and operation) or as otherwise agreed by the Director-General: a) a 24 hour telephone number on which complaints about construction and operational activities at the site may be registered; b) a postal address to which written complaints may be sent; and c) an email address to which electronic complaints may be transmitted.

- Part C. Environmental Management, Reporting and Auditing, Community C14. Complaints Procedure. The Applicant shall record details of all complaints received through the means listed in condition C13 of this consent in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to: a) the date and time, of the complaint; b) the means by which the complaint was made (telephone, mail or email); c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect; d) the nature of the complaint; e) any action(s) taken by the Applicant in relation to the complaint, including timeframes for implementing the action; and f) if no action was taken by the Applicant in relation to the complaint, the reason(s) why no action was taken. The Complaints Register shall be made available for inspection by the Director-General upon request.

- Part C. Environmental Management, Reporting and Auditing, Community C15. Complaints Procedure. The Applicant shall provide an initial response to any complaints made in relation to the development during construction or operation within 48 hours of the complaint being made. The response and any subsequent action taken shall be recorded in accordance with Condition C14. Any subsequent detailed response or action is to be provided within two weeks.

- REMM – 17 Ground Cover Management Plan. A ground cover management plan would be developed as outlined in the Biodiversity Assessment

- REMM – 47 Consultation with Mineral Stakeholders. Consultation with Mineral Stakeholders would be undertaken to inform them of the timing of works and infrastructure layout.

- REMM-58 Bush Fire Management Plan. Develop a Bush Fire Management Plan with input from the RFS to include but not be limited to management of fuel loads on site, operational procedures relating to mitigation and suppression of bush fire relevant to the solar plant, and Post-fire clean-up procedures, including the need for sampling for emissions of cadmium and lead, where appropriate. This plan must include input from NSPS's bush fire management plan for the asset zone.

- REMM - 63. Dust suppression activities would be undertaken, including during operation (a) Any area that was temporarily used during construction (laydown and trailer complex areas) would be restored back to original condition or re-vegetated with native plants, and (b) Areas that may not have been hard packed but have been disturbed in some form would be treated with environmentally acceptable palliatives and/or vegetated (e.g., By means of hydro seeding) with seeds native to the area.

4.1.3 Operator (NSPS)

The operator, NSPS, has the general responsibilities of:

- Part A. Administrative Conditions. A1. Obligation to minimise harm to the environment. The Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or decommissioning of the development.

- Part A. Administrative Conditions. A2. Terms of Consent. The Applicant shall carry out the development generally in accordance with b) Nyngan Solar Plant Environmental Impact Statement prepared by NGH environmental dated March 2013.

- Part A. Administrative Conditions. A4. Terms of Consent. The applicant shall comply with any reasonable requirement(s) of the Director-General arising from the Department's assessment of a) any reports, plans or correspondence that are submitted in accordance with this consent and b) the implementation of any actions or measures contained within these documents.

- Part A. Administrative Conditions. A6. Structural Adequacy. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

- Part A. Administrative Conditions. A10. Compliance. The Applicant shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities. Part A. Administrative Conditions.

NSPS also has the specific responsibilities of:

- A11. Compliance. The Applicant shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.

- Part B. Environmental Performance, General Conditions B3. Bushfire Risk. The Applicant shall ensure that all development components on site are designed, constructed and operated to minimise ignition risks, provide for asset protection consistent with relevant NSW Rural Fire Services (RFS) design guidelines (Planning for Bushfire Protection 2006 and Standards for Asset Protection, Undated) and provide for necessary emergency management including appropriate fire-fighting equipment and water supplies on site to respond to a bush fire.

- Part B. Environmental Performance, General Conditions. B4. Bushfire Risk. Throughout the operational life of the development, the Applicant shall regularly consult with the local RFS to ensure its familiarity with the development, including the construction timetable and the final location of all infrastructures on the site. The Applicant shall comply with any reasonable request of the local RFS to reduce the risk of bushfire and to enable fast access in emergencies.

- Part B. Environmental Performance, General Conditions B5. Dangerous Goods. Dangerous goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with: a) all relevant Australian Standards; b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, Technical Bulletin (Environment Protection Authority, 1997). In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.

- Part B. Environmental Performance, General Conditions B6. Dust Generation. The Applicant shall construct and operate the development in a manner that minimises dust generation from the site, including wind-blown and traffic-generated dust as far as practicable. All development

related activities on the site shall be undertaken with the objective of preventing visible emissions of dust from the site. Should visible dust emissions attributable to the development occur during construction and operation, the Applicant shall identify and implement all practicable dust mitigation measures, including cessation of relevant works during construction, planting ground covers, using dust suppressants as appropriate, such that emissions of visible dust cease.

- Part B. Environmental Performance, General Conditions B7. Water Quality Impact. Except as may be expressly provided by an Environment Protection Licence for the development, the Applicant shall comply with Section 120 of the Protection of the Environment Operations Act 1997 which prohibits the pollution of waters.

- Part B. Environmental Performance, General Conditions B11. Waste Management. All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.

- Part B. Environmental Performance, General Conditions B12. Waste Management. Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997, if such a licence is required in relation to that waste.

- Part B. Environmental Performance. General Conditions B13. Waste Management. All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2009), or any superseding document

- Part B. Environmental Performance. Visual Amenity B21. Rehabilitation and Revegetation. The Applicant shall implement a revegetation and rehabilitation program for all areas of the development footprint which are disturbed during the construction of the development but which are not required for the ongoing operation of the development including temporary construction facility sites and sections of construction access roads. The Applicant shall ensure that all revegetation measures are implemented progressively where possible and in all cases within six months of the cessation of construction activities at the relevant area. Unless otherwise agreed to by the Director-General, the Applicant shall monitor and maintain the health of all revegetated areas until such time that the plantings have been verified by an independent and suitably qualified expert (whose appointment has been agreed to by the Director-General) as being well established, in good health and self-sustaining.

- Part B. Environmental Performance. Noise - Operation B26. Operational Noise Criteria. The Applicant shall take all reasonable measures to minimise noise emissions and vibration from all plant and equipment operated on the site such that they do not exceed noise and vibration criteria derived by application of the NSW Industrial Noise Policy (DECC, 2000) and Assessing Vibration: A Technical Guideline (DECC, 2006).

- Part C. Environmental Management, Reporting and Auditing, Environmental Management. C4. Operational Environmental Management Plan. The Applicant shall prepare and implement an Operational Environmental Management Plan in accordance with the Guideline for the

Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004), or any replacement guideline. The Plan shall include but not necessarily be limited to:

(a) identification of all statutory and other obligations that the Applicant is required to fulfil in relation to the operation of the development, including all consents, licences, approvals and consultations;

(b) a management organisational chart identifying the roles and responsibilities for all relevant employees involved in the operation of the development;

(c) overall environmental policies to be applied to the operation of the development;

(d) standards and performance: measures to be applied to the development, and means by which environmental performance can be periodically monitored, reviewed and improved (where appropriate) and what actions would be taken in the case that non-compliance with the requirements of this consent are identified. In particular the following environmental performance issues shall be addressed: (i) bushfire hazard and risk management; (ii) management and maintenance of offsets; (iii) inspection, monitoring and maintenance of all watercourse crossings; (iv) management measures for the site, including management of vegetation, soil erosion, dust weed control and landholder liaison,

(e) the environmental monitoring requirements outlined under this consent;

(f) measures to monitor and manage flood impacts in consultation with NOW;

(g) information on water sources, including details on sources and security of water supply and water use on site;

(h) complaints handling procedures as identified in conditions C13 to C15;

(i) specific consideration of relevant measures to address any requirements identified in the documents referred to under conditions A2b) and A2c) of this consent; and

(j) management of policies to ensure that environmental performance goals are met and comply with the conditions of this consent.

- Part C. Environmental Management, Reporting and Auditing, Reporting C9. Regular Reporting. The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.
- Part C. Environmental Management, Reporting and Auditing, Compliance C16. Compliance Tracking Programme. Prior to the commencement of construction, the Applicant shall develop and implement a Compliance Tracking Program (CTP), to track compliance with the requirements of this consent during the construction and operation of the development and shall include, but not necessarily be limited to: a) provisions for periodic reporting of compliance status to the Principal including at least prior to the commencement of construction of the development, prior

to the commencement of operation of the development and within two years of operation commencement (note changes as per MSA exhibit G); b) a program for independent environmental auditing in accordance with AS/NZ ISO 19011 :2003 - Guidelines for Quality and/or Environmental Management Systems Auditing; c) procedures for rectifying any non-compliance identified during environmental auditing or review of compliance; d) mechanisms for recording environmental incidents and actions taken in response to those incidents; e) provisions for reporting environmental incidents to the Principal during construction and operation [note change as per MSA exhibit G from CEMP]; and f) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities.

- REMM – 7 Use of Existing Tracks. Within areas of native vegetation, existing tracks would be used wherever possible to avoid compaction and/or disturbance.
- REMM – 8 Onsite Traffic Management Measures. Traffic management measures would be incorporated into the construction and operation phase and would address traffic flow, vehicle speed and vehicle numbers entering and leaving the site. This would aim to prevent collisions with fauna utilising the site, particularly Grey-crowned Babblers.
- REMM – 18 Weed Control Between Arrays (Operational Phase). The space between the PV array rows would be kept clear to enable access by vehicles for ongoing weed control, and pasture renovation, if required.
- REMM – 27 Management of Work Activities. All personnel are responsible for managing noise from their work activities and working in a manner to reduce noise.
- REMM – 29 Work Hours and Noisy Activities. Where reasonable and feasible, noisy activity would be carried out in the least sensitive time periods (to be determined through community consultation).
- REMM - 32 & 33 Noisy Equipment, Noise Sensitive Area. Avoid the operation of noisy equipment near noise-sensitive areas and where possible, loading and unloading would be conducted away from sensitive areas.
- REMM – 34 Position of Plant and Equipment. Position plant and equipment on site in a position that provides the most acoustic shielding from buildings and topography. Plant known to emit noise in one direction would be oriented where practicable to screen the emissions.
- REMM – 36 Traffic Noise Management. Keep truck drivers informed of designated vehicle routes, parking locations, acceptable delivery hours or other relevant practice (for example, minimising the use of engine brakes, and no extended periods of engine idling).
- REMM – 42 Air Quality Mitigation. Air quality impacts would be addressed via the development of (a) Protocols to guide vehicle and construction equipment use, to minimise emissions.
- REMM – 45 Fencing Around Substation. Fencing around the substation would be maintained to limit public access

- REMM – 46 Consultation with Neighbouring Landowners. Consultation with neighbouring land holders regarding any temporary impacts to access or risks to livestock. Additional specific mitigation may be required such as (a) Additional fencing to protect livestock from collision risks (b) Vehicle speed restriction on access roads.
- REMM – 49 Community Consultation Plan. A Community Consultation Plan would be developed to manage impacts to community stakeholders, including but not limited to (a) Protocols to keep the community updated about the progress of the project and project benefits, (b) Protocols to inform relevant stakeholders of potential impacts (haulage, noise etc), and (c) Protocols to respond to any complaints received.
- REMM – 58 Bush Fire Management Plan. Develop a Bush Fire Management Plan with input from the RFS to include but not be limited to management of activities with a high risk of fire ignition and storage and maintenance of fire-fighting equipment (FFE), including siting and provision of adequate water supplies for bush fire suppression.
- REMM - 58. Bush Fire Management Plan. Develop a Bush Fire Management Plan with input from the RFS to include but not be limited to (d) The below requirement of Planning for Bush Fire Protection (2006), (i) Identifying asset protection zones, (ii) Providing adequate egress/access to the site (s4.1.3), (iii) Emergency evacuation measures (s4.2.7).
- REMM – 61 Spill Response Plan. A Spill Response Plan would be developed to (a) Manage the storage of any potential contaminants onsite.
- REMM – 61 Spill Response Plan. A Spill Response Plan would be developed to (b) Mitigate the effects of soil contamination by fuels or other chemicals (including emergency response and EPA notification procedures).
- REMM – 61 Spill Response Plan. A Spill Response Plan would be developed to (c) Prevent contaminants affecting adjacent pasture and dams.

4.1.4 Details of Responsibilities

The responsibilities are also included in Appendix C (Tables 1-3) which summarises the management actions required for compliance to the specific approval and applicable legal requirements, monitoring required and responsible party[1].

4.2 AGL Asset Manager

As the Applicant, AGL is responsible for carrying out the development generally in accordance with the State Significant development Application SSD-5355, the Nyngan Solar Plant Environmental Impact

[1] Note: The contractual responsibilities for compliance are defined in the Maintenance Service Agreement (MSA) (not attached).

Statement prepared by NGH environmental dated March 2013, the Nyngan Solar Plant Submissions Report prepared by NGH environmental dated June 2013 and the Conditions of this consent (SSD-5355).

AGL's representative for the site, the AGL Asset Manager, is responsible for ensuring that the operation is compliant with regard to the approval conditions as set out in this EHS Manual and OEMP. This role is responsible for managing the interface with external parties including government and/or public authorities and particularly so in the event of a dispute relating to consent conditions or planning commitments.

4.3 NSPS Senior Management

NSPS Senior Management sets policy, develops strategic programs and provides overall governance for Environment, Health, & Safety (EHS).

To achieve the desired level of EHS commitment and performance, we must:

- Ensure applicable approval conditions are achieved at the operation
- Create and communicate a compelling and inspired vision in leadership for achieving an accident and injury free workplace
- Ensure implementation of the NSPS EHS Management Systems
- Actively support and encourage efforts for Continuous Improvement
- Actively manage EHS performance
- Be accountable for regulatory compliance
- Ensure accidents, injuries, near-misses and environmental incidents are reported in a timely manner.

4.4 NSPS Site Supervisor/Designee

The Site Supervisor or Designee is responsible to know the safety and environment policies, programs, and procedures within this manual. At the discretion of the Supervisor, elements of the program (e.g. training) can be designated to other individuals.

Responsibilities include:

- Coordinating execution of activities for complying to consent conditions including monitoring as required
- Ensure only trained and competent persons are assigned work activities
- Ensure all Contractors engaged to perform works at the site does so with NSPSs' approval and in compliance with the requirements of this manual
- Ensure all personnel attend and participate in a Job Hazard Analysis (JHA), Pre-Job Briefings (PJB) prior to starting their work, and conduct safety observations

- Ensure all equipment used on the site is maintained in accordance with the manufacturer's specifications and regularly inspected to ensure it is fit for its purpose
- Conducting and documenting Site Safety Induction for Visitors and Contractors
- Establishing when and how safety meetings are conducted
- Ensuring "Incident Analysis" is conducted in accordance with company procedure and that corrective actions are implemented as assigned
- Communicating results of Investigations to Management and Owner representatives as requested
- The collation of a local hospital and medical centre listing for the Site – "Emergency Contacts Poster".

4.5 NSPS Site Personnel

NSPS and its Contract personnel are responsible for complying with this manual, as well as AGL EHS programs, in order to assure their own health and safety and that of their co-workers, and to protect the environment.

Site Personnel shall:

- Report to work "fit-for-duty"
- Complete induction prior to conducting work
- Take reasonable care for their own safety, health and welfare and that of any other personnel that may be affected by their acts or omissions while at work
- Immediately report all accidents, incidents, injuries, illnesses, environmental incidents and "near misses" to their supervisor
- Immediately report to their supervisor any unsafe condition, tool, equipment, material, or act
- Request instructions from their Supervisor or the Site Supervisor whenever they are in doubt as to the proper EHS procedures associated with any task
- Not undertake any job for which they have not received adequate or required training or for which they are not fully qualified to do
- Properly wear and use all personal protective equipment (PPE) for a given job
- Address personnel who are using questionable or unsafe work practices
- Inform Supervision or the Site Supervisor of any physical conditions, impairments or injuries (regardless of where the injury occurred, e.g. onsite or offsite) requiring accommodation, medication or that may affect the ability to safely perform required duties
- Support activities to ensure the site is compliant to the relevant consent conditions.

Any employee or NSPS appointed contractor who deliberately violates an EHS regulation, AGL or NSPS safety procedure, or acts in such a manner as to deliberately endanger his or her own or another person's personal safety, or cause harm to the environment, shall be subject to disciplinary action, up to and including termination.

4.6 NSPS EHS Department

The NSPS EHS Department shall assist the Site Supervisor as required to:

- Assist management in workplace audits and inspections
- Ensure timely reporting of accidents, injuries, environmental incidents and near misses
- Assist in conducting incident investigations and developing corrective actions
- Assist in injury recordkeeping
- Assist with incident investigations and developing corrective actions and provide EHS and/or environmental specialists as required to assist in this regard.
- Co-ordinate the provision of specialist environmental services such as vegetation assessment and auditors.

4.7 Organisational Chart

The management organisational chart (provided in Appendix D), identifies the positions which have assigned roles and responsibilities involved in the execution of environmental, health and safety responsibilities in the maintenance activities of the power station.

4.8 Stop Work Authority

NSPS employees, contractors, and visitors understand that they have the right to stop work or refuse to work in situations that they do not understand or perceive to be unhealthful, unsafe or causing harm to the environment, and to immediately bring these situations to the attention of those at imminent risk and to their direct supervision.

4.9 Inductions and Environmental Awareness Training Requirements

Contractors and Visitors assigned to perform work on the site shall have access to a copy of this EHS Manual and shall be required to attend an induction. All personnel shall have the opportunity to ask questions on this information prior to starting work. Any unique hazards that exist at the Site or in the performance of work shall also be discussed during the training.

The following important items should be noted:

- All NSPS employees, contractors, and visitors must attend Site Induction Training prior to their first access to the site and annually every year after
- The Site Supervisor should conduct the Induction Training and inform participants to adhere to the requirements of this EHS Manual and of all other Company procedures
- Personnel shall not be allowed onto the site to work until they have completed the EHS induction training and assessment (Appendix E).

4.10 Documentation

- The EHS induction attendance sheet shall be retained at the site
- Personnel completing the Site Induction may be given a hard hat sticker to indicate they have attended and completed the training.

4.11 EHS Meetings

Regular EHS meetings are used to heighten EHS awareness and to keep employees aware of recent incident analysis, to perform or review EHS self-inspections, and to discuss relevant EHS topics. Individual employees are frequently the best source of information in learning how to work more safely, and regular EHS meetings offer individuals the opportunity to offer their input.

4.11.1 Weekly

- Weekly Site meeting should be conducted by the Site Supervisor
- An attendance roster and notes should be maintained on file to document attendance and outcomes.

4.11.2 Monthly

- NSPS's O&M Organisation has a joint EHS Committee (EHSC). This Committee is made up of both Management and Frontline personnel as well as a member of the EHS Department
- The EHSC elects a Chairperson and Co-Chairperson to facilitate meetings
- A EHSC meeting is held once a month
- Any O&M personnel can provide input to the meeting by contacting a member of the committee or by attending the monthly meeting
- An attendance roster and minutes shall be kept and maintained on file.

4.12 Monthly EHS Inspections

Monthly inspections shall be performed by Site Supervisors to ensure compliance with EHS procedures and identify the need for changes to the procedures (refer to Appendix F Form NSPS-EHS-IP-F5 Monthly O&M Safety Inspection) and using Form D01 for Monthly Environmental Monitoring (refer to Section 6.3).

A copy of the completed forms shall be retained and retrievable on the Site and on POWER for a minimum of one (1) year or as per statutory requirements.

The findings for these reports provide evidence to the Owner that particular HSE issues need to be actioned across the plant so that corrective actions can be put in place to demonstrate ongoing compliance to the approval conditions.

4.13 Behavioural Observations

Performing EHS observations is a very important element of a successful EHS program. This gives Management and Peers the opportunity to observe other employees during the performance of work and visit with them about the activities that are being performed. Observations should include identification of unsafe actions that may be occurring while also taking take note of the safe work that is being performed. In a positive manner, the observations should be communicated, recorded and changes initiated to procedures when needed.

4.13.1 Management Observations

When visiting the site Management or Peers should conduct an EHS Observation on work being conducted at the site. Documentation of observations shall be captured on the O&M Safety Ombudsman Form (Appendix G), Safety Leadership Inspection. The findings should be discussed with the party being observed and the Site Supervisor prior to leaving the site.

4.13.2 Task Based Observations

Similar to Management Observations, employees will conduct Task Based Observations or commonly referred to as TBOs. A copy of the completed Forms shall be retained and retrievable on the Site and on POWER for a minimum of one (1) years or as per statutory requirements (refer Appendix G - APP-SMP-20C). These will be used to observe tasks that have both potential safety and environmental impacts and provide evidence for compliance against the approval conditions.

4.14 Hazard Reports

Any hazards identified shall be captured on Hazard Report Form (APP-CMP-20A) to ensure they are adequately addressed and recorded for future reference (refer Appendix H – APP-CMP-20A). These will be used to capture both environmental, and health and safety hazards.

4.15 Safety Corrective Actions Register (SCAR)

Corrective actions arising from observations, monthly inspections, work orders, hazard reports or any EHS management tools used in this manual, are to be entered into the SCAR register.

This SCAR, in conjunction with the Compliance Tracking Program (Appendix O), enables the Nyngan Solar Plant to track progress against all of its EHS obligations.

A blank version of the SCAR is in Appendix I (Safety Corrective Action Register or SCAR).

5 Planning

This section contains requirements, rules and guidelines for the planning of work to ensure compliance with consent conditions and the safety of the workers, and the proper operation of equipment.

5.1 Risk Assessment

5.1.1 Background

After an initial scoping site assessment conducted by ngh environmental in 2012, a risk assessment was undertaken to characterise the likely environmental risks, including operation of the Nyngan Solar Plant. This risk assessment was published in the Nyngan EIS (ngh environmental, March 2013). The aim of the risk assessment was to ensure that all relevant risks were investigated and mitigated, relative to the degree of environmental risk represented. The risk rating was a factor of the consequence of an impact occurring and the likelihood of the impact occurring.

In addition to this initial risk assessment, NSPS has prepared a risk assessment for the EHS risks expected to be encountered in the operations stage of the project. The risk assessment and ranking process, and the results of this, are described in Appendix J (APP-SMP 04A, Appendix J).

5.1.2 HAZID Process

NSPS will act to eliminate or minimise EHS risks arising from its business. Managing work health & safety risks is an ongoing process that is triggered when any changes affect work activities.

Project Risk Management is completed on the NSPS Risk Register (APP-SMP 04A, Appendix J) implemented prior to commencing each stage of the Nyngan Solar Plant project schedule. Only NSPS workers that have been trained in the NSPS Risk Management Training module, and are deemed to have the necessary knowledge & experience of the industry, are to implement this process for NSPS work activities. The Project Manager is responsible to approve & sign off the completed Project Risk Assessment.

A Hazard Risk Workshop or HAZID group has determined the scope of the analysis and considered what could happen if someone or the environment is exposed to each hazard, i.e. the consequence, and the likelihood of it happening. The risks have been evaluated using the risk assessment matrix to determine the level of risk and therefore the prioritization to be placed on the action for control measures to be implemented. The identification of control measures for environmental risks was developed at the workshops described above, following the Hierarchy of Controls Principle.

All control measures that need to be actioned must be recorded in the Corrective Actions Register (Section 4.14), which includes a need for an owner and a timeframe that must be agreed by the workshop.

A summary of the significant risks at the Nyngan Site are taken from the HAZID and are bulleted in the following sub sections (Note that this listing is not comprehensive and does not cover all risks):

5.1.2.1 Environment

These environmental risks are summarised as follows:

- Fires, particularly from grass fires and bushfires
- Exposure to hazardous fauna and general fauna interactions including entrapment
- Management of potentially hazardous chemicals and their disposal, and managing spills or releases(of these materials)
- Managing and containing dust and sediment on site
- Controlling noxious weeds and preventing further infestations on site
- Managing the balance between excessive growth of vegetation in the arrays and providing sufficient groundcover to minimise dust generation.

5.1.2.2 Health and Safety

These health and safety risks are summarised as follows:

- Managing the effective EHS performance of maintenance contractors
- Exposure to electricity from numerous sources
- Interactions between people and plant
- Managing fatigue and heat stress
- Exposure to lightning strikes
- Undertaking manual tasks
- Preventing and managing unauthorised access to the site
- As described in 5.1.2.1, exposure to chemicals and their proper management.

5.2 Daily Safety Plan (Pre Start)

The Daily Safety Plan is a tool used to help site personnel establish a mutual understanding of the day's work activity by reviewing planned work, assessing site conditions, assessing worker conditions.

A Daily Safety Plan - Form NSPS-EHS-IP-F8 (Appendix K) should be completed at the beginning of the day to provide a guide for Safety discussions and set the tone for the day's focus on Safety.

The Daily Safety Plan discussions do not replace the Job Hazard Analysis or Pre-Job Briefing required before each work activity.

Any activities that may impact upon compliance to the site consent conditions should be raised and discussed at this meeting.

5.3 Job Hazard Analyses

The identification of hazards and assessment of risks is intended to assist all employees in 'taking all practical steps' to eliminate, isolate or minimise exposure to significant hazards.

Perform a Job Hazard Analysis or JHA by completing Form APP-SMP-05A Job Hazard Analysis Template (Appendix L) (in this manual) for each job performed on the site.

Hazards are potential sources of energy that may cause death, injury or damage to equipment or facilities or that can cause harm to the environment.

Significant hazards are those that can cause serious injury or harm to employees, contractors, the public and equipment.

If the Hazard Analysis has indicated that risks cannot be sufficiently controlled or eliminated to enable the work to be done safely (for example, on or near energised electrical equipment), the work must not proceed.

When preparing a JHA, care must be taken to ensure environmental risks (as defined by the consent and approval conditions) are included along with effective controls.

5.4 Pre-Job Briefings

One of the most important aspects of working safely and within the consent conditions, is to conduct an effective pre-job briefing. A pre-job brief shall be carried out prior to the start of work and as required throughout the job. The process of thinking through a job in advance, conducting an on-site briefing and conducting a thorough hazard analysis can result in decisions that will prevent serious injuries and damage.

Complete Pre-job Briefing Form NSPS-EHS-IP-F2 (Appendix M) (in this manual). The form should be completed by the person or Supervisor of the workers(s) performing the job or task.

The pre-job briefing shall consist of the following:

- Review of the job scope - Clearly identify and discuss the scope of the job being performed. Make clear that anytime there is a change in scope, the work must stop until the scope change has been properly assessed to ensure worker safety
- Review of individual responsibilities and expectations - Discuss each worker responsibilities in the work being performed and any expectations associated with those responsibilities
- Review of energy controls - What steps will or have been taken to ensure energy is controlled during this job. Discuss appropriate Switching Orders and LOTO
- Review hazards and hazard controls (identified in the JHA) - Discuss job hazards identified in the JHA. Discuss applicable electrical shock and arc flash boundaries? Ensure understanding of the hazards and the steps to eliminate or mitigate them. Hazards should include those that could cause harm to the environment and controls to mitigate them

- Review PPE and EHS Manual requirements for the job - Ensure workers are aware of PPE requirements for the job and any work safety rules that apply
- Review conditions that would require additional job briefings or stopping the job - Discuss times or situations that might occur where the expectations are to stop the job or to have additional job briefings. This would include things like new workers on the crew, a change in job scope, or any worker feeling that there is an unsafe condition
- Review important Contact and Emergency numbers - Ensure all workers are aware of Emergency contact information and that this information is readily available at the work location
- Invite questions or input from the work crew - Solicit questions or input from the workers. This provides time to ensure mutual understanding of the work to be performed
- Ask, "What have we missed, what can go wrong with this job and how will we respond if it does?" - Ask individual workers by name to stimulate conversation.

All workers shall sign the Pre-Job Briefing form prior to the Site Supervisor allowing work to begin.

5.5 Work Performance

The JHA and Pre-Job Brief shall be readily available to those performing the work. Any visitor wanting to enter the job site must review and sign the JHA and Pre-Job Brief prior to entry.

The work activity must be completed in accordance with the Pre-Job Brief. If there is a change in the work scope, if work conditions change or if new hazards are identified, or the controls prove inadequate or ineffective, the work activity shall be stopped immediately. The JHA and Pre-Job Brief shall be reviewed by the employees and or contractor personnel, revised as necessary, and approval/concurrence obtained from the Site Supervisor before the work is continued.

5.6 Post Job Review

After the work has been completed, a Post-Job Review should be conducted to identify any problems or improvements that could be made in future job performance.

5.7 Record Retention

JHAs, daily pre-starts, Pre-Job Brief forms and other planning documentation that considers EHS risks, shall be kept onsite for one year. These shall be made available to the NSPS HSET Manager or anyone who requests them, for the purposes of audits, providing oversight, trending, and/or lessons learned.

6 Environment

6.1 Operational Environmental Management Plan (OEMP)

One of the principle purposes of this document is to provide an Operational Environmental Management Plan (OEMP) for the NSP. This section addresses how the approval conditions for het operational stage of the NSP development will be met.

6.2 OEMP Objectives

6.2.1 Overall Objectives

The purpose of setting objectives and targets is to enable the maintenance works to meet a defined level of performance against identified criteria.

This section outlines the standards and performance measures for environmental aspects and subsequent management activities that will be used to prevent or minimise the identified potential risks during the maintenance stage. These risks were identified in the operational & maintenance stage risk assessment (or HAZID) described in Section 5.1. The objectives and targets have been set to be specific, measurable, realistic and achievable.

The Owner is responsible for setting and managing the achievement of the environmental objectives and targets, and for environmental performance issues required by the development Consent Condition C4, which apply to operations, and the associated Revised Mitigation Measures.

The purpose of setting objectives and targets is to enable the operations and maintenance works to meet a defined level of performance against identified criteria.

The overall objectives and targets for the OEMP are set out in the table below.

Item	Objective	Target	Documentation
Environmental Compliance	Operations to be undertaken in accordance with the Nyngan Development Consent	• 100% compliance with the development consent • Zero reportable environmental incidents	• Monthly Environmental Inspections (Form D-01) • OEMP Audits (every 5 years)

Legal Compliance	Compliance with all environmental legal requirements	• 100% compliance with the development consent • Zero reportable environmental incidents	• Compliance Tracking Form (Appendix O) • OEMP Audits (every 5 years)
Best Practise Environmental Management	Effective implementation of OEMP to ensure best practice environmental management	• 100% compliance with measurable management and mitigation measures outlined in OEMP • Zero reportable environmental incidents	• Monthly environmental Inspections (Form D-01) • Compliance Tracking Form (Appendix O) • OEMP Audits (every 5 years)
Environmental Complaints	Prevent (where practical) and minimise environmental complaints and adequately address any environmental complaints in a timely manner	• Zero community complaints • 100% compliance with complaints response timeframes • 100% compliance with timeframes outlined for compliant investigations and close-outs	• Monthly environmental Inspections (Form D-01) • Compliance Tracking Form (Appendix O) • OEMP Audits (every 5 years)
Incidents	Minimise, avoid and appropriately manage all environmental incidents	• Zero reportable environmental incidents • 100% compliance with incident reporting, investigation and implementation of corrective action timeframes	• Monthly environmental Inspections (Form D-01) • Compliance Tracking Form (Appendix O) • OEMP Audits (every 5 years)

Non-conformance	Minimise, avoid and appropriately manage all environmental noon-conformances	• Zero reportable environmental incidents • 100% compliance with timeframes for the investigation and implementation of correctives	• Monthly environmental Inspections (Form D-01) • Compliance Tracking Form (Appendix O) (6 monthly) • OEMP Audits (every 5 years)
Audit and Inspection	Undertake environmental site inspections and audits in a timely manner	• 100% compliance with timeframes for environmental audits and inspections • 100% compliance with timeframes for implementation of identified corrective actions	• Monthly environmental Inspections (Form D-01) • Compliance Tracking Form (Appendix O) • OEMP Audits (every 5 years) • As per the requirement in Consent Condition C16(a), the results of the first compliance status will be reported to the planning regulator (DP&E) within 2 years of the commencement of the operations.
Environmental Awareness and Training	All staff to be aware of their environmental obligations and to be competent in relation to their environmental responsibilities.	• 100% compliance with HSE Training commitments • Zero reportable incidents	• Site Induction Register • Monthly environmental Inspections (Form D-01)

			• Compliance Tracking Form (Appendix O) • OEMP Audits (every 5 years)

Table 6.1 - Overall Objectives and Targets for the OEMP

6.2.2 Specific Objectives

The specific objectives of the OEMP are to meet the C4 Consent Conditions and the relevant Revised Mitigation Measures. These specific objectives and targets are detailed in Tables 1- 3 in Appendix C.

Section 6.3 of this document describes the environmental management activities to be conducted in order to meet the objectives and targets that have been set for the operations stage of the development.

6.3 Environmental Management Activities

The following sections, in conjunction with Appendix C (Tables 1-3) specifies the standards and performance measures for environmental management activities, including mitigation and control measures that will be used to prevent or minimise the identified potential risks during the operations and maintenance stage.

It is noted here that specialised training may be provided to site personnel to ensure the environmental risks and corresponding controls are understood on site during the operations stage of the development. This will be provided by the NSPS Environment Manager as required.

The key environmental activities to manage environmental risks during the operational phase are detailed in the following Sections 6.3.1 to 6.3.14

Section 6.5 of this EHS manual and OEMP consolidates all the environmental monitoring requirements to ensure that the environmental management activities in this section (Section 6.3) are delivering the outcomes required under the Consent Conditions and Revised Mitigation Measures (Section 1.3 Approval Conditions).

6.3.1 Water Management

6.3.1.1 Security of supply

Water for the operation is supplied via a rainwater tank located at the site offices. This is expected to meet the requirements for the site personnel (drinking/washing/toilet) during typical seasons. In the instance where water runs low or is depleted, the operation will source potable water from Neill's Contracting (Nyngan) or other suitable supplier. In the event of a fire, RFS tankers can gain access to the dam on the southern boundary.

In the event that water-based dust suppression is required on the site, water will be trucked in via a water tanker.

To ensure potable water levels are sufficient in quantity for the site, NSPS will routinely check water levels in on site tanks (Form-D01 in Appendix N).

6.3.1.2 Water crossing

There is one culvert linked to the site and this is under the main access road (Figure 2.6). Given the flat topography, there is no other permanent erosion and sediment controls structures that are required to be in place. To ensure that the culvert remains effective, NSPS is responsible for inspection and monitoring of this (**Form-D01** in Appendix N).

6.3.2 Soil Erosion

Where NSPS identifies that soil erosion is occurring as a result of ineffective, poorly maintained, or defective revegetation, then the cause will be determined and the necessary contractual requirements undertaken to ensure the relevant approval conditions are complied to.

Form (D01) will also be used to monitor any soil erosion that may arise from water flows across areas that are for example particularly slow to be revegetated (**Form-D01** in Appendix N).

6.3.3 Vegetation

Revegetation and groundcover management activities after the construction phase and through the operations stage, will be designed to keep dust and soil erosion to a minimum. The contractual arrangements for these activities[2] are given in Appendix C.

This vegetation and groundcover monitoring will highlight the following:

- Ensure that existing tracks on the site are being used such that vegetation is not being disturbed and new areas of land becoming compacted
- Where vegetation is low or non-existent such that soil may be exposed to erosion and will create extreme dust erosion
- Where vegetation is excessive and is posing a fuel loading risk and general combustion hazard particularly around combiner boxes and under PCS units or other areas where ignition could occur
- Vegetation levels across the site and along the site boundary that is excessive and may expose the site to unnecessary risks from bush and/or grass fires

[2] NSPS is not responsible for maintaining the health of revegetated areas, except to the extent it is required to rectify any defect in the revegetation established during construction. Revegetation monitoring (Form H01, Appendix P) must be undertaken so that AGL can be advised of any routine vegetation management required such as reseeding.

- The long term effects of the addition of mulches or soil amendments such as shredded packaging materials[3].

Vegetation monitoring will be undertaken routinely by NSPS so that vegetation management options such as reseeding or chemical weed treatment can be initiated as soon as is required (refer to Groundcover Monitoring Form H01 in Appendix P).

In terms of vegetation management, specialists such as agronomists, RFS personnel and rangeland ecologists may be required to advise on long term management of groundcover at the site and these would be engaged on an as-required basis.

Such specialists would assess the site for weed control and appropriate species diversity (including proportion of native species in the mix) on a 6-12 monthly basis until such a time that weeds are controlled and revegetation is of good health and self-sustaining. The areas to be addressed will include vegetation on site and well as the revegetation along the transmission line south of the Barrier Highway[4].

The NSP also provides an opportunity for sheep to be introduced on site to undertake grazing. Where this is considered to be an appropriate option, this would done in a controlled manner using electrical fencing and any other measures to ensure the safety of plant, personnel and animals.

Conventional vegetation controls will be deployed on an as-required basis. These will include the use of knock-down herbicides, slashing (around the inside of the security fence for creating fire breaks), and whipper-snipping under PCS units and around combiner boxes. The effectiveness of weed control processes (and groundcover and vegetation management), will be assessed during the external auditing and management review (See also next section 6.3.4).

6.3.4 Weeds

There are several aspects related to weed management at the NSP. Of particular concern is the potential for regrowth of woody plants (weeds) along the former tree line across Blocks 3 & 4 where their re-emergence will lead to eventual lifting and/or removal and breakage of installed solar PV modules (through upward force of growing stems). Where woody weed regrowth is identified, AGL will be advised so re-spraying of the affected areas (with a residual herbicide) can be scheduled. Spraying activities during 2015 has resulted in the control of woody perennials at the time of release of this manual.

Weeds will be monitored using Form D01 (during monthly inspections) and, when control activities are undertaken, the weed management and controls form used (Form I01, Appendix Q).

Under the Noxious Weeds Act (1993), the site has an obligation to control and prevent the spread of weeds identified as noxious. At the NSP, these noxious weeds are known to be Bathurst Burr (Class 4[5])

[3] This may involve the participation of government representatives and/or their affiliates (e.g. university researchers) in monitoring/research.

[4] The responsibility for the offsite revegetation and rehabilitation is that of the owner, AGL.

[5] As a Class 4 noxious weed, the growth of the plant must be managed in a manner that reduces its numbers spread and incidence and continuously inhibits its reproduction

and Mexican Poppy (Class 5[6]). These weeds are to be removed physically (chipped, carefully pulled) and/or chemically on an as-required basis.

Another aspect of weed management is in relation to managing the groundcover (see also previous Section 6.3.3). While non-woody weeds e.g. grasses and non-noxious weeds such as sow thistle, contribute to the soil ground cover within and outside the arrays, in unseasonally wet years, this growth can become rank, contributing to the fuel loading on site and eventually growing over the solar PV modules or through the PCS platforms. The conventional options for managing the weeds is the application of a knock down herbicide e.g. glyphosate, slashing, and/or whipper-snipping.

As referred to in Section 6.3.3. above, other options that may be explored during the operations stage are the use of sheep to graze under the arrays. Though grazing is unlikely to lead to the removal of all weeds, it will reduce grass cover and selected weeds.

In addition to site personnel checking for weeds and implementing control practises as required (as well as on a scheduled monthly basis during the monthly environmental inspection), an environmental specialist (competent person) will assess the site for weed control, adequate groundcover management on a 6-12 monthly basis until such a time that weeds are controlled. The effectiveness of weed control processes (and groundcover and vegetation management, see Section 6.3.3) will be assessed during the external auditing and management review. Site wide weed control and reseeding with suitable prostrate growing pasture plants, may be considered as an option to control weeds (through pasture plant competition).

6.3.5 Landscaping

During the operations stage of the development, the landscape plantings on site will be monitored to ensure the effectiveness of plant establishment and the visual amenity objectives of the development are met. In undertaking landscape monitoring, and maintenance, the following will be considered:

- Monitoring the condition and vigour of plants
- Monitoring of the water requirements noting that plants should be watered regularly until they are well established
- Monitoring if there is excessive weed competition, remove weeds using physical means or spot spraying
- Monitoring if fauna have been browsing (grazing) excessively, and if so, additional protective measures should be instigated e.g. plant protective covers
- Monitoring for unviable plants (which should be removed) and maintaining total planned plant numbers by replacing unviable plants as soon as practical.

In addition to the monitoring and maintaining of landscaping plants, a Visual Impact Verification Report (VIVR) was undertaken and prepared by ngh environmental (for AGL) within 6 months of operations commencing. It is noted here that the findings from this VIVR report do not impact the operations stage of the development, and there were no recommendations requiring implementation.

Refer to Appendix P for Landscaping OEMP Subplan, monitoring forms **(Form G02)**.

[6] Plants that are likely, by their sale or the sale of their seeds or movement within the State or an area of the State, to spread in the State or outside the State. There are no requirements to control existing plants of Class 5 noxious weeds. However, the weeds are "notifiable" and a range of restrictions on their sale and movement exists.

6.3.6 Biodiversity Offset Management Plan

A biodiversity offset management plan (BOMP) for the operational stage of the development has been developed by ngh environmental on behalf of AGL[7]. The BOMP addresses each of the following requirements of as per Consent Condition C4 d (11) and C5.

The following commitments will be undertaken to ensure the effective adoption of the BOMP:

- an assessment of all native vegetation communities and threatened species habitat, supported by a suitable metric (such as the Biobanking Assessment Methodology), that will either be directly or indirectly impacted by the proposal,
- the objectives and biodiversity outcomes to be achieved (including 'improve or maintain' biodiversity values), and the adequacy of the proposed offset considered,
- the final suite of the biodiversity offset measures selected and secured,
- the monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved,
- timing and responsibilities for the implementation of the provisions of the Package.

The validation work and monitoring associated with the BOMP will not impact upon the operations stage of the development.

6.3.7 Dust and Air Emissions

Dust levels on site will be managed by primarily ensuring adequate groundcover outside and (particularly) within the arrays. In addition, speed limits will be enforced on access roads and alleys. Water may be used as a dust suppressant during periods of intense dust generation.

To minimise greenhouse gas emissions, vehicles must not be left running when not in use.

Dust generation will be monitored on a daily basis and actions taken as required. A monitoring program will be conducted monthly on site using **Form D01**, which will include the monitoring of dust levels (at that point in time).

6.3.8 Noise

Noise in the work environment is the major cause of noise-induced hearing loss. Noise can also create stress, and can be a hazard at work, interfering with communication, acting as a distraction and making warnings harder to hear. Noise can also have an adverse impact on the environment and be a source of complaints from neighbouring property holders.

Due to the nature of the activities, plant and equipment on site during the operations phase, there are not expected to be sources of excessive noise or vibration. A small number of light vehicles and a portable diesel powered generator will be the only noise-generating items remaining on the site. These items all

[7] Note: The Biodiversity Offset Management Plan for the site has been prepared by ngh environmental on behalf of AGL. This has been prepared separately and is available from AGL.

generate noise at levels less than industrial noise guidelines, occupational noise levels and are not expected to present an environmental, health or safety impacts.

Where noise from an activity is likely to present a risk or potential risk to the site personnel or other stakeholders including neighbours, the activity will be reviewed in the daily pre-start meeting and the activity's JHA will include the risks and the controls to be used to mitigate the noise risk including conducing the activity during normal working hours.

6.3.9 Fauna

With regard to fauna, the following actions and procedures will be adhered to:

- Animals and farm machinery may be present in the surrounding farmland and with this all personnel are to observe etiquette by being cautious when driving or working around animals, including leaving any gates in the position you found them
- In addition to farm animals a variety of snakes are local to Region. Snakes are attracted by potential food and good places to hide. They typically travel through long grass, amongst leaf-litter or under shrubbery or debris
- Under no circumstances shall personnel ever attempt to catch or kill a snake. Snakes are protected by legislation and it is a criminal offence to harm one. The penalty for harming a snake includes a potential fine. The vast majority of snake-bites occur when individuals are trying to catch or kill snakes. If personnel see a snake, they are requested to walk quietly away and leave it alone. The snake should leave of its own accord, or if it requires to be moved, the Site Supervisor shall contact the local snake (fauna) handler for assistance
- When equipment is left unattended for extended periods it has the potential to become habitat for native species. Unfortunately, some native species such as snakes, spiders, and bees can be a serious hazard for Employees
- Employees when opening equipment should always be alert for the presence of hazardous species of reptiles and insects
- Snakes and spiders do not typically reside in areas where there is not a food source, so good housekeeping can reduce the probability of infestation and assist in identifying if these species are present. Most food sources will only exist when water also exists, so eliminating water sources can also be an effective deterrent
- Employees should always be alert to the sounds of bees and not open doors to unoccupied buildings without appropriate caution. The noise of a bee colony can usually be heard or seen with a cautious approach (e.g. knocking before entering and listening). The same applied for hornets and wasps which may occupy cabinets within the PCS units at the NSP.
- Specific seasons of the year, particularly as seasons move from cold to warm temperature, cause some species such as bees and snakes to become very active and mobile. Seasonal conditions such as heavy rains cause some species to take shelter, such as spiders.
- Only suitably qualified fauna handlers should attempt to pick up and /or relocate snakes or other fauna.

All fauna interactions including relocations or deaths are recorded in **Form F02** (Appendix S) and security fence, checks for fauna on **Form F01** (Appendix S).

6.3.10 Landholder Liaison

In accordance with Condition C12, the Owner (AGL) will continue to provide a Community Information (Consultation) Plan for liaison with all impacted and neighbouring landowners. The consultation and engagement activities and tools to be used are detailed in the AGL Community Consultation Plan (attached as a Subplan in Appendix – T) and continue on from the construction stage, and are summarised as follows including the following elements:

- Provision of a dedicated 1800 community enquiry phone number, project email and PO Box address
- A project website dedicated to the NSP and information arising from community consultation meetings
- AGL attendance at local community events
- Ongoing operation of the Community Consultative Committee (scheduled monthly and held in Nyngan)
- Ongoing provision of community information sessions in Nyngan
- Provision of advertisements in the in the local newspapers
- Up-keep of the main entrance signage
- Provide contact cards for the project for new employees, site visitors and contractors
- Provision of site tours and site-based activities with various stakeholder groups (when appropriate)

NSPS will provide AGL with information and assistance to support each of the bulleted activities above. NSPS will also provide AGL with notification regarding work scheduling, including out-of-hours work, during the operations stage.

Further details of the NSP's community and consultation plan for Nyngan are described in AGL's Community Consultation Plan – Broken Hill & Nyngan Solar Plants (Appendix T).

6.3.11 Complaints Management

NSPS will work with the Owner (AGL) to ensure complaints are appropriately investigated and managed throughout the operations stage. The Owner will be responsible for establishing the notification interfaces specified in development consent condition C13. The process is as follows:

- The community will be able to submit enquires or complaints to AGL via a number of different channels including the dedicated 1800 Community Consultation Hotline, mail, email or via the project's micro-site. AGL and NSPS staff members will be available during normal business hours.
- Receipt of each complaint will be acknowledged within one business day and resolved promptly in accordance with their urgency.

- Complainants will be kept well informed about the progress of their complaint.
- Each complaint will be addressed in an equitable, objective and unbiased manner.
- Escalated complaints will be managed directly by the Community Engagement Manager. In the instance that a complaint cannot be resolved, an independent mediator will be utilised when appropriate.
- When a complaint is received, it will be appropriately investigated by the project team and the complainant will be kept updated about the status of their complaint. Once a solution is determined, the complainant will be responded to in writing to ensure the complaint is appropriately actioned.
- Records of complaints made to NSPS employees will be kept on the relevant section of the Form D01 or Form APP-SMP-22B (Appendix U) or a Hazard Report (Appendix H) can be completed. Actions from complaints should be closed out as for any other incident and done as soon as practical.
- All complaints will be recorded in the stakeholder database (maintained by AGL) and will detail: Who made the complaint; When it was made; How it was made; What it was about; What action was taken to investigate it; How it was actioned.

Further details of the NSP's complaints process for Nyngan are described in AGL's Community Consultation Plan – Broken Hill & Nyngan Solar Plants (Appendix T).

6.3.12 Spills

The PCS transformers on the site contain more than 1000L of vegetable oil each. Other transformers associated with electrical off–site transmission may contain larger quantities and may also use vegetable oil or mineral oil.

In terms of prevention and safe design, it is noted that all PCS transformers have a "Petro-Plug" drain valve which drains rainwater from the bund during normal operation but closes when it comes in contact with oil i.e. as in a spill situation, preventing oil escaping the bund. The bund floor is angled to drain towards Petro Plug (in the event of a spill). Given that this plug can become ineffective at allowing uncontaminated water to pass through it after it has been activated (as a result of a spill event), the condition of the bund and Petro-Plug will be monitored during the monthly PCS inspections.

To address the potential for oil spills from these transformers, the prevention of spills and the response; the site has prepared a Spill Prevention, Control, and Countermeasure Plan (SPCC) regardless of the threshold for applicability given in federal or state requirements specified by quantity or the potential path for release.

The SPCC plan describes the equipment, workforce, procedures, and steps to prevent the spillage of oil into the environment, and how to respond to spills.

The SPCC contains specific monthly and annual inspections that shall be performed under the direction of the Site Supervisor.

6.3.12.1 Spill Response Process

The following process will generally be followed by onsite personnel in the event of a spill of a Dangerous or Hazardous Goods:

1. Ensure the safety of self and others in the area
2. If safe to do so, shut down/isolate the spill source
3. Report the incident to the Site Supervisor. The Site Supervisor to report incident as per Section 6.7 Environmental Reporting and 7.6 Incident Reporting
4. Contain the contaminant or spillage using spill kits, earth or other available measures if safe to do so
5. Prevent the spill from entering drainage lines or permanent water sources (including the existing on site dam and the dust water suppression pond) using spill kits, diversion drains or other method appropriate to prevent the flow of a Dangerous or Hazardous Goods.

6.3.12.2 Spill Response Process (Combustibles)

For spills of Dangerous or Hazardous Goods that present a combustion risk:

1. Identify potential ignition sources in the surrounding area
2. Secure potential sources of ignition either by removal or isolation
3. Shut down non-essential plant in the immediate area
4. Stop hot work in the immediate area
5. Do not smoke or cause sparks adjacent to spills
6. Remain at the scene until made safe
7. Provide further help if required.

If a witness to an incident, provide information to the Site Supervisor as required for the incident report.

The affected area should not be hosed down. Clean-up of contaminant to be undertaken as a priority once it has been contained and it is safe to do so. Clean-up of contaminated areas will be undertaken under the supervision of an appropriately experienced person.

Both “mobile” and “wheelie bin” style spill kits will be available on site. All onsite spill kits will be “general purpose” kits, except where the need for specialist kits is identified. General spill kits are suitable for use for the following:

- General workshop liquids
- Oils, fuels and solvents
- Agricultural Chemicals

Based on the Dangerous and Hazardous Goods anticipated to be on site, it is not expected that specialist spill kits will be required. Should NSPS need to store a Dangerous or Hazardous Good that cannot be controlled with a "general purpose" spill kit, a specialist kit will be procured.

Spills are to be reported immediately when they occur. Hazard reports (see Section 4.14) will be used for reporting. In the case where a significant spill occurs with potential to cause material environmental harm, then such spills are handled as incidents and are reported to the relevant external authorities, in addition to AGL (refer to Section 6.7 and 7.6). It is noted that AGL will be notified of all spills (and incidents) involving hazardous and dangerous goods of any size or volume.

6.3.13 Hazardous Chemicals and Dangerous Goods

Employees shall be familiar with the hazards of all chemical materials in the workplace. Hazardous chemical materials in the workplace may pose potential health hazards to Employees who are exposed. Employees have a right to know the properties and potential hazards of materials to which they may be exposed.

6.3.13.1 Hazardous Material Identification System

NSPS shall implement the NSW Work Cover Control of Workplace Hazardous Substances Code of practice for the control of workplace hazardous substances, to comply with the NSW WHS ACT and Regulations (2011) so as to minimise the health risks of disease and injury due to exposure to hazardous substances in the workplace. This code of practice addresses:

- Ensuring a register and manifest of hazardous and dangerous goods is in place, along with their Safety Data Sheet (SDS)
- Ensuring chemicals to be used on site have been identified
- Risks assessments are to be undertaken on all chemicals prior to their use on site
- The hierarchy of controls is used to risks (posed by chemicals used on site)
- Emergency plans are to address emergency response procedures relevant to the types of chemicals, their quantities, storage arrangements, locations, handling procedures and PPE requirements (of hazardous and dangerous goods)

6.3.13.2 Safety Data Sheets

Employees should reference the SDS for the safe handling, use, storage, production and disposal of chemical materials prior to use.

NO CHEMICAL MATERIALS SHALL BE USED OR STORED UNTIL SDSs ARE RECEIVED, RISK ASSESSMENTS COMPLETED AND APPROVED BY SITE SUPERVISOR (EHS Department can assist in review and approval).

Containers of chemical materials shall be properly labelled to indicate their contents. Labelling on any containers not intended for single-day, individual use shall contain additional information indicating potential health and safety hazards (flammability, reactivity, etc.).

Chemical materials transferred from the original container into another container (i.e. decanted) shall have a label immediately affixed to the new container by the person making the transfer. At a minimum labels will:

- Contain the identity of the chemical(s)
- Include hazard rating, code or tag
- Provide appropriate information so a worker can match the chemical with the SDS on file with the Site Supervisor.

If the material in a container is unknown due to a missing label, the workers should contact the Site Supervisor or EHS Manager.

Chemical materials when not in use shall be kept in designated chemical storage cabinets or areas.

The forms for completing risk assessments is provided in Form APP-HCP-09A Hazardous Chemicals and DG Risk Assessment (Appendix V).

Where JHAs on site should refer to risks presented by any chemicals, these should be used to update these as required (Section 5.3).

6.3.13.3 Management of Dangerous Goods

During work hours combustible materials that present an ignition risk are to be stored and used in accordance with the manufacturer/suppliers recommendations, including the availability of fire-fighting equipment. NSPS will ensure that combustible materials that present an ignition risk are also stored in accordance with AS1940:2004 The Storage and Handling of Flammable and Combustible Liquids.

Storage of Dangerous Goods will be tailored to suit both the type and volume to ensure compliance with AS1940:2004. This includes:

- Bunding will be 110% of the volume or as dictated by AS1940:2004
- Storage and handling of Dangerous Goods to be undertaken at least 50m away from watercourses, drainage line or permanent water sources (i.e. the existing dam)
- As far as practicable Dangerous Goods will stored in a dedicated Dangerous Good store
- All containers shall be clearly marked and approved for the specific use
- A mobile spill kit shall be located near the fuel storage area to deal with any spill outside of the bunded area.

The mobile spill kit to contain at least the following:

- Absorbent pads, socks and pillows
- PPE equipment (goggles, gloves)
- Disposal bags.

Any spills of Dangerous Goods will be contained and treated in accordance with their SDS.

It is noted that petrol will not be kept onsite for use in site vehicles, plant and machinery.

6.3.13.4 Specific Dangerous Goods on Site

The only dangerous and hazardous goods on site are transformer oil, sulphur Hexafluoride, and Proinert IG-541. These materials are discussed in the following sub-sections and their locations are shown on the dangerous good manifest (Appendix W).

Transformer Oil

During the operations stage of the project, transformer oil (a combustible material) will be used on the site. This material can pose an environmental risk, from a spillage point of view, from a transformer change our or a leak. It is noted that while this material is classified as a dangerous good, it is not hazardous to human health nor is it ecotoxic.

The following precautions (conditions), however, should be adhered to in relation to transformer oil:

- Avoid inhalation of mist and vapour
- There are no special requirements for respiratory protection under normal conditions and with adequate ventilation
- Protective clothing must be impervious to oil
- Avoid prolonged or frequent skin contact to oil. Do not wear oil contaminated clothing
- Avoid eye of face contact. Use eye or face protection
- Practice good personal hygiene

On site there are 83 transformers including the 4 x PVIS (10 kva each) and main auxiliary transformer (500 kva). These contain a total quantity of transformer oil (on site) of 166275L.

Sulfur Hexafluoride (SF_6)

SF6 is used on site to eliminate arcing in the electrical switchgear. It is classified as a Division 2.2 Non-flammable, non-toxic gases. The reason it is classified in that way is that it is capable of posing serious hazards due to its potential as an asphyxiants, releasing pressure can cause direct harm and when heated the canisters can explode. The gas is ecotoxic due to its global warming potential which is approximately 22,000 times more powerful than CO_2 in this regard. Sulphur Hexafluoride (SF6) is used in the Photovoltaic Combining Switchgear (PVCS). SF6 according to the SDS is heavier than air with a specific gravity (Air=1) of 5.11 (Appendix V).

The following best practises must be applied when handling gases on the site:

- Do not store containers of SF6 on site unless necessary to support switchgear operation. If any containers are stored on-site, additional rules may apply to recordkeeping, identification, receipt and storage of containers, weighing of containers and calibration of weighing devices.

Maintain a current and complete inventory of the equipment as changes occur. The current SF6 gas inventory for the active PVCS switchgear is as follows:

- Equipment Manufacturer Serial Number: [Provided on each of the 4 PVCS units]

- Equipment Type: This Free-Standing ABB SafeSwitch Switchgear is custom in nature and designed for this site and application
- Seal Type: Sealed switchgear that is designed to be gas tight and sealed for life and is pre-charged by the manufacturer. Although it is possible for this to be refilled on-site, specialised equipment is required that is not available on the Site
- Equipment manufacturers name: ABB
- Year equipment was manufactured: 2012
- Equipment voltage capacity: 22 kV In-service
- Equipment nameplate capacity: 3 x 0.96kg @ 0.04MPa.
- Record the dates in the operations log when SF6 transferred into or out of the switchgear
- Record the amount of SF6 transferred into or out of the switchgear
- Record any changes in equipment inventory such as installation of new switchgear and disposition of the old equipment
- Retain SF6 equipment purchase documentation (e.g. contracts, invoices, receipts)
- Retain on the site all documentation and log entry information for a minimum of three years and available for inspection.

In the event that there is a loss (pressure drop) in SF6, in any one of the canisters, a monitoring alarm will be triggered on the SCADA system as a "Low Gas" signal so that the Site Supervisor is notified. This system is also tested. This is undertaken through sequential preventative maintenance checks, which cover the entire facility over a period of a month (1 block is assessed per week), including visual and virtual testing of all systems including the pressure of switchgear gases and condition of canisters and related equipment. The loss of SF6 or potential losses, as per a monitoring alarm notification, will be handled as an environmental incident and reported to AGL (refer to Sections 6.7 and 7.6).

When vendors or suppliers will be on site working with such hazardous gases, these companies and individuals must demonstrate that their procedures are aligned to and consistent with current industry best practise and specifically meet the requirements of AS IEC 66274.4:2015 (the standard procedure for handling all aspects relating to the halogen gases used on site).

On the site there are 82 small sized cylinders distributed across each of the PCS, PVCS, and PVIS units. The total quantity of this gas on the site is approximately 600 kg.

Proinert IG-541 (Fire Extinguisher Gas)

This fire extinguisher gas contains a mixture of Ar, N_2, and CO_2. It is classified as a Division 2.2 Non-flammable, non-toxic gases. The reason it is classified in that way is that it is capable of posing serious hazards due to its potential as an asphyxiants, releasing pressure can cause direct harm and when heated the canisters can explode. It has no ecotoxic properties.

On site there are 6 large cylinders in the PVIS and an additional 3 large cylinders in the SCC (both near the main site office). The total quantity of this gas on site is approximately 300 kg.

6.3.14 Hazardous Waste

6.3.14.1 General

Hazardous wastes are wastes with properties that make it potentially dangerous or harmful to human health or the environment. Hazardous wastes can be liquids, solids, or contained gases. Hazardous waste can also be discarded used materials, or discarded unused commercial products, such as cleaning fluids (solvents) or pesticides.

Any hazardous wastes generated will be identified, collected, stored, tracked and disposed of according to the NSW Waste Classification Guidelines (DECCW 2009). At site, the types of hazardous wastes that may possibly be generated are broken PV arrays that contain cadmium telluride (CdTe). Other introduced materials may include transformer oil, domestic cleaning compounds such as sprays and pesticides/herbicide residues.

6.3.14.2 Broken PV Modules

NSPS classifies modules as either warranty return or end-of-life return regardless if the module is defective, cracked, or broken. Under the NSW Waste Classification Guidelines, CdTe wastes are classified under Codes D150 and D250. These wastes are therefore required to be tracked when moved within or outside of NSW. NSPS will recycle these end-of-life materials through its own manufacturing facilities.

Even though NSPS warranty return and end-of-life return modules are classified as a hazardous waste within the various Australian states and territories based on the applicable waste characterisation requirements, the warranty return and end-of-life return modules would not be hazardous waste for export from Australia (based on information provided by the Federal Government to NSPS).

NSPS has established an arrangement with the Thiess Group to collect warranty return modules and end-of-life modules from customer locations and NSPS project Sites (including AGL Nyngan Power Station) and to store these modules at a port in Australia and coordinate the shipment back to NSPS (offshore) for recycling. In addition, NSPS will take-back all warranty-eligible modules but NSPS only takes-back end-of-life modules that are covered by a Recycling Services Agreement with a customer or if the end-of-life modules were previously covered under the original pre-funded collection and recycling program.

With regard to the NSPS project sites in New South Wales, below is a summary of the handling and storage requirements for warranty return and end-of-life return modules (collectively, PV Module Waste).

6.3.14.3 Classification of the Broken PV Modules

PEO Regulations and Waste Classification Guidelines: The NSW EPA has developed Guidelines under the PEO Act to assist in the identification of particular categories of waste. The Guidelines set out a five step process for waste classification to be followed in sequence to correctly classify waste. A detailed analysis of the application of the Guidelines to the PV Module Waste was provided to NSPS in February 2011. Based on the previous test results, the PV Module Waste will be classified as hazardous waste in NSW.

PV Modules considered 'dangerous goods': The Australian Dangerous Goods (ADG) Code was implemented in NSW by the Dangerous Goods (Road and Rail Transport) Act 2008 (NSW) (DG Act) and the Dangerous Goods (Road and Rail Transport) Regulation 2009 (NSW) (DG Regulations). This legislation is used to determine whether goods are 'dangerous goods' in NSW. Substances that are subject to the ADG Code are assigned to one of nine classes, according to the most predominant of the hazards they present. Goods are 'dangerous goods' under the DG Regulations if the EPA determines that they are dangerous goods, or if they satisfy the dangerous goods classification criteria set out or referred to in Part 2 of the ADG Code. PV Module Waste would be classified as a Class 9 dangerous good under the ADG Code. PV Module Waste will therefore be classified as a dangerous good under the DG Regulations and must be transported accordingly.

Licensing under PEO Act: Licensing requirements for waste management activities in NSW depend on whether the activity is a 'scheduled activity'. Scheduled activities are defined in Schedule 1 of the PEO Act and require a licence. The type of licence required for a scheduled activity depends on whether that activity is 'premises-based' or 'not premises-based'. The storage of PV Module Waste will be a premises based activity, and the occupier of a storage facility must apply for the licence. Transport is the only relevant non-premises based activity under the PEO Act, and the transporter must apply for the licence. Conditions may be imposed upon the licence. Schedule 1 also lists threshold limits under each category, which identify the volume of the waste being stored, processed or received over a certain time frame. These factors also inform whether a licence is required. The storage of PV Module Waste triggers classification as 'waste storage' under Schedule 1 ('the receiving from off site and storing (including storage for transfer) of waste'). The storage of more than 5 tonnes of hazardous waste on the premises at any time is the relevant threshold for inclusion as a 'scheduled activity'. Therefore, if more than 5 tonnes of PV Module Waste is stored at a facility, a licence will be required, however these volumes are not expected at the Nyngan Solar Power Station.

Waste Type	Class	Source	Management/Controls	End Use
Broken PV Modules (CdTe)	Environmentally Hazardous; Toxic Class 9 (Waste Code D150; D250)	Work front breakages Fractures and breakages once installed	Collected from work front or during maintenance activity; Stored on site in segregated and marked stockpile/bins; Prepared for offsite shipment; Tracking requirement implemented;	Recycled at manufacturing site

Table 6.2 - Waste Types

6.3.14.4 Other Wastes and the Waste Hierarchy

A waste register will be kept of any regulated and non-regulated wastes generated during the operations and maintenance stage of the Project (also refer to Section 6.4.1 and **Form U01** in **Appendix X**).

Other wastes generated during the operational phase will be collected, segregated and stored temporarily (on site), and types and quantities of waste are also recorded on **Form U01, Appendix X**. These other wastes will be assessed according to the waste classification and managed according to the waste hierarchy.

It is also noted here that the biodegradable component of the used packaging material generated during the project (i.e. cardboard and wood) has been shredded for use on site as a soil amendment, and its use (for this purpose) on site, has been approved by NSW EPA[8]. These end of life packaging materials (EOLPM), have been extensively tested for pollutants and other properties and they present a low risk to human health and the environment and are to be spread and incorporated (into the soil) on former laydowns, office areas and road verges.

6.3.15 Heritage Management

Prior to the construction phase, an Aboriginal Heritage Management Plan (AHMP) was commissioned by AGL and prepared by New South Wales Archaeology Pty Ltd (November 2013). The AHMP was developed in consultation with registered Aboriginal stakeholders and the NSW Office of Environment and Heritage (OEH).

New South Wales Archaeology Pty Ltd conducted an Aboriginal cultural heritage assessment of the Nyngan Solar Plant project in 2012. Three Aboriginal objects were identified. The Aboriginal representatives of Nyngan Local Aboriginal land Council and the archaeological consultant concluded that the area was generally of low Aboriginal cultural heritage potential and sensitivity.

The identified Aboriginal objects located in the activity area were salvaged before impacts and transferred to a safe place nearby and outside any impact areas. An Aboriginal Site Impact Recording Form was completed and submitted to NSW OEH following the salvage of the three Aboriginal objects. Refer to the Nyngan Solar Plant Aboriginal Heritage Management Plan- OzArk Environmental and Heritage Management Pty Ltd (New South Wales Archaeology Pty Ltd, November 2013) for more information: https://www.agl.com.au/-/media/aglmedia/documents/about-agl/how-we-source-energy/nyngan-solar/assessments-and-reports/2014/5-first-solar-nyngan-cemp--final.pdf?la=en&hash=187B2279DCD1C6E85E2523CB76AD2DB5.

6.3.15.1 Unexpected cultural heritage finds

If during operations, a person believes or knows that they may have discovered a cultural heritage place and/or object, they must:

- Immediately stop work at the find location; and:
    - Do not remove or disturb the find;
    - Secure the find by creating an exclusion zone to prevent disturbance, removal or interference; and
    - Record the location of the find, to assist with undertaking notification and/or reporting.
- Notify the relevant AGL Leader and/or the Environment Business Partner, and all site personnel of the find ; and

[8] The approval is provided in the letter from EPA dated 6 November 2015. EPA reference: DOC15/418098.

- Wait until notice is received from the relevant Leader(s) and/or the Environment Business Partner on how to proceed.

If required, the site must apply for an exemption, permit or authorisation for the recovery of the object and/or human remains. Conditions prescribed in the exemption, permit or authorisation must be adhered to.

The discovery of a cultural heritage place and/or object must be reported, as soon as practicable, to the relevant regulatory authority(ies).

If it is reasonably likely that the cultural heritage place and/or object found is of indigenous origin, the site must also notify and consult with the relevant indigenous community(ies) or representative(s).

In the event of uncovering human remains, personnel must:

- Immediately stop any works being carried-out within the area where the human remains have been discovered and restrict access to the area;
- Report the discovery to the Police, as soon as practicable, and to the relevant regulatory authority(ies) if required; and
- If it is reasonably likely that the human remains found are of indigenous origin, the site must also notify and consult with the relevant indigenous community(ies) or representative(s).

6.4 Fire Safety and Bushfire Management Plan

This section details the bushfire management plan for the site including those elements relevant to the maintenance activities at the site (Appendix V). The remainder of this section provides the operational aspects that site management and personnel need to be aware of in implementing the bushfire management plan and for generally managing fire risks at the site and in particular actions to prevent fires and how to identify, maintain, replace and use firefighting equipment (FFE).

6.4.1 Fire Prevention

- Be alert for fire hazards and eliminate such hazards if possible. If a fire hazard cannot be eliminated then report it to the Site Supervisor
- Good housekeeping is one of the most effective aids to fire prevention. Keep work areas clean and clutter-free
- Waste paper, rags and other combustible material shall not be allowed to accumulate
- Vegetation on the site should not be allowed to grow such that dry conditions will create a risk of ground fire on the site, or propagate an offsite grass fire throughout the site. Vegetation across the site and along site boundaries shall be monitored monthly and prior to the onset of the fire season (typically starting in October each year) (refer to sections 6.3.3. and 6.3.4).
- Explosive, flammable or combustible material shall be stored only in approved containers consistent with manufacturer instructions, Safety Data Sheets, local and state agencies or other government authorities responsible for administration of fire codes Store all flammable and

combustible liquid containers in a fire proof cabinet designed to safely store such materials (refer to section 6.3.12)

- Explosive or flammable material storage areas shall be located in areas that minimise the propagation of fire to occupied areas or other structures (see DG manifest in Appendix V).
- Spark-producing equipment shall be prohibited within 20 metres of explosive or flammable storage or where flammable liquids or vapours or bushlands and grass are present
- Smoking and outdoor cooking equipment shall be allowed only in designated areas. The use of lighters, strike matches and other types of igniter material shall not be allowed outside of these designated areas
- Outdoor cooking equipment shall not be used, nor shall spark-producing activities be conducted when wind gusts are periodic or during periods of high velocity sustained winds
- Be familiar with the operation and use of fire prevention, detection, and suppression equipment at the site
- Cap containers containing flammable and combustible liquids securely when not in use
- Use only approved containers for handling and dispensing flammable and combustible liquids

6.4.2 Fire Detection and Alarms

Fire detection equipment is installed in the O&M and PCS buildings, the SCC and the PVIS. These detectors:

- Activate alarms locally
- Shall be checked annually with a smoke generator
- Shall have the battery replaced annually as applicable.

6.4.3 Fire Response and RFS Site Access

- Evaluate the location, type, and size of the fire to determine necessary actions
- If fire is large or you are not sure of your ability to successfully fight the fire then **evacuate** the area and **call 000**
- If you believe you can fight the fire, notify the Site Supervisor first before using a fire extinguisher to put out fire
- The Site has a fire department accessible lock that shall be confirmed as in- place during monthly inspections
- The address and name of the Facility shall be clearly posted and lighted or otherwise illuminated.
- An updated fire plan for NSP must be submitted to the RFS on an annual basis (see current plan in Appendix W).

6.4.4 Fire Extinguishers

- Fire extinguishers are installed in each of the PCS and in the SCC, the PVIS and the Main Office building

- Specific fire code requirements address how and where fire extinguishers are located within a building, therefore the current location of mounted fire extinguishers shall not be changed unless approved as a result of a building code review by a qualified person
- Fire extinguishers should also be available within each Company vehicle. Due to high internal vehicle temperatures that may exist in vehicles in desert climates, fire extinguishers may need to be removed or checked frequently when the vehicle is not in use.

6.4.5 Fire Extinguisher Inspection and Maintenance

Fire extinguishers shall be checked monthly to verify:

- no visible damage or obstructions
- proper charge/pressure
- accessibility/availability
- signage/marking and labelling/certification tags.

Fire extinguishers shall be checked annually by a qualified vendor or Fire Warden certified inspector to ensure compliance with AS1851.1.

- Level 1 Six Months
- Level 2 Annually
- Level 3 Five Year Intervals
- Level 4 After Extinguisher use/discharge
- Document fire extinguisher inspections on a Fire Register maintained on site.

6.4.6 Fire Extinguisher Replacement

- Replace fire extinguisher after use
- Replace fire extinguisher when found defective
- Replace fire extinguisher if found out of specification or past inspection due dates.

Colour band	Type of extinguisher
	Water
[white]	Dry Powder
	Wet Chemical
	Foam
	Carbon dioxide

Figure 6.1 - Fire Extinguisher Types

6.4.7 Fire Extinguisher Use

Remember the **PASS** method of fighting fires with an extinguisher.

- Hold the extinguisher upright
- **P**ull the Pin
- **A**im for the base of the fire
- **S**queeze the handle
- **S**weep the base of the fire.

6.4.8 Fire Watch

- A designated fire watch person or spotter is required during the performance of the following work: Hot work, including but not limited to welding, brazing and grinding of metal and when vehicles or equipment are used in areas of high dry grass areas that have high temperature under carriage exhaust systems such as catalytic converters. All hot works will be undertaken as per NSPS Hot Work Permit Form (Appendix V)
- A designated fire watch shall not be involved in the performance of the hot work and will monitor area for 30 minutes after task completion
- A designated fire watch person shall have immediate access to the appropriate class of fire extinguisher and will have been trained in the proper use of that extinguisher.

The bushfire management plan, the NSP's dangerous goods manifest and the fire plan lodged with RFS (2015), are provided in Appendix V.

6.5 Environmental Monitoring

Environmental monitoring during the operations stage of the development will be conducted to ensure that the objectives of the EHS manual, the OEMP and Approval Conditions (Section 1.3) are being met. Specifically monitoring will include field measurements taken during inspections e.g. dust level observations taken during monthly environmental inspections, that are required to ensure ongoing compliance to the Consent Conditions and Revised Mitigation Measures set out in this EHS Manual & OEMP.

The following table is a summary of the environmental monitoring requirements at the site and the corresponding means for recording the observations and or measurements. The monitoring forms listed relate to each of the environmental management activities and controls that will be implemented during the operations stage.

Environmental Management Activities, Consent Conditions & Mitigation Measures with Monitoring Requirements	**Monitoring Form/Method for Environmental Monitoring**	**Section in EHS Manual/OEMP**
Execute compliance requirements for operations stage of SSD 5355	Monthly Environmental	Appendix N

Environmental Management Activities, Consent Conditions & Mitigation Measures with Monitoring Requirements	Monitoring Form/Method for Environmental Monitoring	Section in EHS Manual/OEMP
	Monitoring (Form D01)	
	O&M Monthly Site Safety Inspection (Form NSPS-EHS-IPF5)	Appendix F
	Compliance Tracking Program	Appendix O
Managing bushfire risks, including vegetation, fuel loads, and storage and maintenance of firefighting equipment, asset protection zones, ensuring adequate site access and egress	Revegetation and Rehabilitation (Form H01)	Appendix P
	O&M Monthly Site Safety Inspection (Form NSPS-EHS-IPF5)	Appendix F
Managing dangerous goods and preventing and checking for chemical spills	Monthly Environmental Monitoring (Form D01)	Appendix N
	O&M Monthly Site Safety Inspection (Form NSPS-EHS-IPF5)	Appendix F
Managing dust levels	Monthly Environmental Monitoring (Form D01)	Appendix N
	O&M Monthly Site Safety Inspection (Form NSPS-EHS-IPF5)	Appendix F
Managing water quality impacts, sources and use onsite	Monthly Environmental Monitoring (Form D01)	Appendix N
Managing the landscape plantings and maintenance	Monthly Environmental Monitoring (Form D01)	Appendix N
	Groundcover Monitoring Form (H01)	Appendix P
Managing operational noise	Monthly Environmental Monitoring (Form D01)	Appendix N
	O&M Monthly Site Safety Inspection (Form NSPS-EHS-IPF5)	Appendix F
Management and maintenance of biodiversity offsets	AGL Monitoring	Appendix R
Inspection, maintenance and monitoring of water crossing	Monthly Environmental Monitoring (Form D01)	Appendix N
Management of vegetation	Monthly Environmental Monitoring (Form D01)	Appendix N

Environmental Management Activities, Consent Conditions & Mitigation Measures with Monitoring Requirements	Monitoring Form/Method for Environmental Monitoring	Section in EHS Manual/OEMP
	Groundcover monitoring (Form H01)	Appendix P
Managing soil erosion	Monthly Environmental Monitoring (Form D01)	Appendix N
	Groundcover monitoring (Form H01)	Appendix P
Management of weeds including identification of noxious weeds (Class 5) including Bathurst Burr and Mexican Poppy	Monthly Environmental Monitoring (Form D01)	Appendix N
	Groundcover monitoring (Form H01)	Appendix P
Monitor and manage flood impacts	Monthly Environmental Monitoring (Form D01)	Appendix N
Manage landholder liaison - Monthly	Monthly Environmental Monitoring (Form D01)	Appendix N Appendix T
Managing complaints	Monthly Environmental Monitoring (Form D01)	Appendix N Appendix T
Managing non-compliances as a result of compliance tracking	Monthly Environmental Monitoring (Form D01)	Appendix N Appendix O
Managing public access and condition of security fence	Monthly Environmental Monitoring (Form D01)	Appendix N
	O&M Monthly Site Safety Inspection (Form NSPS-EHS-IPF5)	Appendix F
	Security Fence Fauna (From F01)	Appendix S
Manage waste on the site including prevention and removing any litter	Monthly Environmental Monitoring (Form D01)	Appendix N
Managing Environmental Audits	Compliance Tracking Program	Appendix O
Managing Environmental Incidents	Hazard Report Form Monthly Environmental Monitoring (Form D01) Environmental Incident Register	Appendix H Appendix Y

Table 6.3 – Summary of Site Monitoring Requirements

It is noted here that monthly environmental monitoring (**Form D01 –** Appendix N) will be the main mechanism used to monitor the compliance with controls required to manage the risks identified in Section 5.1, and compliance to approval conditions.

6.6 Compliance Tracking

In addition to the environmental monitoring described in the previous section, this OEMP tracks compliance to each of the relevant consent conditions and mitigation measures required for the operations stage of the development. This is referred to as the project's compliance tracking program (CTP).

On a regular basis the Compliance Tracking Form, and a minimum of every 6 months, is to be kept up to date so that project stakeholders e.g. AGL, Department of Planning & Environment, NSPS, can readily review the compliance status of the operation.

The Compliance Tracking Form (Form T01) is within Appendix O.

6.7 Environmental Reporting

A project website will be maintained as is provided by AGL for all of its operating assets (https://www.agl.com.au/about-agl/how-we-source-energy/renewable-energy/nyngan-solar-plant/community-matters). This website will continue to host information arising from community consultation meetings as well as summaries of audits will also be reported on this site within 3 months of these being conducted.

AGL will be notified of all environmental incidents during the operations stage. Environmental incidents will be reported as described in the **Incident Management Protocol** (Appendix U) and Section 7.6.

A monthly environmental monitoring report will be prepared which will capture a summary of any incidents (if any have occurred) and details of any such incidents on the site will be recorded in the **Incident Notification and Investigation Report** Form APP-SMP-22B (Appendix U). Contact details for all entities and external authorities to which external reports must be provided are given in Figure 7.1 (in Section 7.6 Incident Reporting). Such external reporting will depend on whether the incident is or has potential to cause material harm.

7 Health and Safety

7.1 Introduction

This section contains requirements, rules and guidelines for employees that help reduce accidents and injuries. Many of the requirements in this section have been created to ensure compliance with standards issued by various regulatory agencies.

7.2 Safety Objective

The health and safety objective at the NSP is to keep all people at the site, visitors or workers, and to operate the facility in a safe manner so that health and safety are integrated into all that we do.

7.3 General Safety Instructions

- It is critical personnel know and understand the safety rules and requirements that apply to the work being performed. Specifically to:
  - Follow all safety programs, policies, procedures and work rules
  - Follow your leader's instructions
  - Ensure your own safety and the safety of your fellow workers
  - Ensure there are a sufficient number of qualified workers to perform the work
  - Immediately address any unsafe conditions or behaviours observed in the workplace
  - Immediately report any unsafe condition so that it can be corrected
  - If you encounter an unsafe condition, feel that there is an unaddressed safety concern or are not comfortable with your ability to perform a job…**STOP** and resolve the situation before continuing work.

7.4 General Site Safety Rules

- All contractor personnel working or visiting the site for the first time must receive Safety Induction Training prior to being allowed access to the array or any equipment
- All contractor personnel must report to work fit for duty and free of the effects of drugs or alcohol
- Notify your leader if you are taking prescription drugs that may affect your ability to perform your job safely
- Personnel shall not consume alcohol or drugs while working or driving

- All visitors must be escorted while on site unless they have completed appropriate training and have been approved for unescorted access
- The use of cameras is not permitted on the NSP without authorisation from the Plant Supervisor
- All personnel must wear the appropriate Personal Protective Equipment (PPE) at all times
- Electrical work shall be performed under a Lockout Tag out and only after the circuit has been tested to ensure a zero energy state
- Authorization and a Confined Space Entry Permit shall be obtained prior to working in a classified confined space
- Never walk under a suspended load
- Smoking is permitted in designated smoking areas only. Dispose of cigarette butts properly
- Do not use mobile phones while driving or operating equipment
- Always wear a seat belt in vehicles and do not exceed the posted speed limits
- All accidents, injuries, spills or environmental incidents and near-miss events shall be reported to the Plant Supervisor or designee as soon as possible. In all cases reports must be made within 24 hours
- All personnel working onsite shall carry their Construction Safety Induction Card and any applicable High Risk Work Tickets, at all times.

7.5 Emergency Response Instructions

7.5.1 Communication Preparedness

- Emergencies at the Nyngan Solar Site include medical or environmental emergencies including fire or chemical spill (Figure 7.1)
- Ensure a two-way communication means is available on site for prompt emergency response, as a minimum this is to be an operating Mobile (Cell) Phone
- Ensure emergency contact information is readily available. The “Emergency Contact Poster” should be prominently posted in the OPERATIONS building for quick and easy access (Figure 7.1).

7.5.2 Emergency Response

- **CALL 000** or (112 on Mobile phones) if there is doubt about your ability to handle an emergency
- Immediately contact the Site Supervisor or Designee to inform them of the emergency
- In the event of an emergency, the safety of people shall always be the **FIRST** priority
- Attend to any injured personnel in so far as is required to prevent further injury and provided no other person is put at risk in the process
- All personnel on the site shall be alerted to emergencies by verbal command and directed to a designated Muster Point.

7.5.3 Emergency Muster Point

- The location of the site emergency muster point or evacuation area is the Main Plant Access Gate (Appendix W). This will be communicated during the Site Safety Induction training
- Once emergency services have been notified, site personnel shall, at the earliest opportunity, contact the Site Supervisor to report the incident and determine the appropriate course of action.

7.5.4 First Aid

- NSPS will make sure that all its personnel and contractors have access to the necessary first aid facilities and competent personnel as required under safety legislation, including a list of First Aid officers and training requirements
- A First Aid Kit and an Automated External Defibrillator (AED) are available on site
- First Aid Kits are available in the O&M Building and in the vehicles
- An AED is located in the O&M Building.

Emergency Contact Details

NOVASOURCE®	**Emergency** Contact Information
Novasource Contacts **Site Supervisor:** Brendon Wykes 0408 668 203 **Site Technicians:** Lee Jeffrey 0447 668 204 **QHSE Manager** Ravi Chandran 0407 657 002 **Area Manager** Jackson Williams 0460 668 201 **Local Area Contacts** **Bogan Shire Council:** 02 6832 1503 **Ministry of Health NSW:** 02 9391 9000 **WorkCover NSW:** 13 10 50 **RMS Traffic Incident Reporting:** 131 700	**Emergency – Call 000** (Australia) **or 112** (GSM only – global emergency forwarding number) **Site Address: Barrier Highway, Nyngan, NSW** **GPS Coordinates: 31°34'48.99"S , 147° 4'6.67"E** **Medical Non-Emergency** **Ambulance:** St Johns Phone: 000 **Hospital:** Regional Hospital Phone: 02 6885 8666 Dubbo Base Hospital Myall St, Dubbo NSW 2830 Local Hospital Phone: 02 6835 1700 Nyngan Community Health – Hospital 15 Hoskins St, Nyngan NSW 2825 **Medical Group:** Nyngan Private Practice Phone: 02 6832 2664 Dr J.L. Brown 54 Cobar St, Nyngan NSW 2825 **Fire and Emergency Services:** Fire Brigade Phone: 000 State Emergency Services Phone: 132 500 **Environmental** EPA Office (Dubbo): Phone: 02 68835330 EPA Pollution Line: Phone: 131 555 **Work Cover NSW:** Phone: 13 10 50

7.6 Incident Reporting

A vital part of performing quality work includes the ongoing responsibility for each worker to evaluate working conditions for themselves and their co-workers and to promptly report any unsafe conditions or any condition which may lead to or cause a safety violation.

NSPS will not terminate, discipline, or otherwise discriminate against any employee for bringing safety or environment concerns to the attention of supervision.

Employees have an obligation to cooperate in any Company or AGL review or investigation of an identified concern or issue, even if they did not raise the concern or issue under investigation.

CALL 000 if there is doubt about the extent of an injury/illness or other emergency situation. Immediately contact the Site Supervisor and request assistance.

All incidents that cause, or have the potential to cause personal injury or damage to property or material harm to the environment must be externally reported and investigated to prevent re-occurrence.

7.6.1 What is to be reported?

- All injuries or illnesses, regardless of severity, sustained by employees, contractors and visitors or members of the public
- Any site property damage
- Any damage to the environment. However only material harm incidents are reported externally
- Any hazard or near-miss incident which has the potential for injury, illness or damage to the environment, property or assets
- All LTI, medical treatment injuries and first aid injuries are to be reported.

7.6.2 Why is it to be reported?

- To initiate the process of assessment of risks associated with a hazard or incident and investigation of its causes, so that corrective actions can be implemented to prevent future occurrences
- To allow us to learn from the experience of others, thus maintaining a prevention focus
- One of the Project's consent conditions (C8) is that the "Applicant (AGL) shall notify, at the earliest opportunity, the Director General and any other relevant agencies of any incident that has caused or threatens to cause, material harm to the environment". NSPSs' rapid response in reporting incidents to AGL is critical in enabling AGL to meet this reporting obligation.

7.6.3 How are incidents to be reported?

- All site personnel to verbally report incident to Supervisor or Site Supervisor
- The Site Supervisor or designee will notify their manager of an event and a Safety Log shall be completed in Plant View documenting the event
- LTI, medical treatment injuries first aid injuries, environmental incidents and near misses are to be reported to the owner (AGL)

- The **Incident Notification and Investigation Report Form (Appendix U)** must be completed and submitted to AGL within 7 working days.

7.6.4 When are incidents to be reported?

- Incidents should be verbally reported to Supervision or Site Supervisor immediately
- The submission of a Safety Log shall be made within 24-hours of the event
- When medical service off-site is required, the Site Supervisor or designee shall drive or escort the person to the medical service provider.

7.6.5 Environmental Incidents

The NSPS Environmental Manager in conjunction with the Site Supervisor will determine if an incident has caused or is threatening to cause material harm to the environment (Under POEO Act c148).

If it is determined that material harm has or is likely to occur, than the Site Supervisor and or Environmental Manager will notify relevant authorities immediately (see details below).

- The **Incident Notification and Investigation Report Form** (Appendix Y) must also be completed and submitted to AGL within 5 working days.

The authorities to be notified, after consultation with AGL, in order of priority, are as follows (Refer to contacts in Figure 7.1) and are as follows:

- Fire and Emergency Services: In the event of a spill or fire, the Fire Brigade should be called on 000. State Emergency Services (SES) should be called on 132500
- Environmental Protection Authority (EPA): 131555
- Ministry of health (via local Public Health Unit): Local Hospital is Nyngan (02) 6832 2664.
- WorkCover NSW: 121050
- Bogan Shire Council: (02) 6832 1503
- A register of environmental incidents is to be kept (**Form Q01 Environmental Incidents Register** in Appendix Y)

Refer also to section 6.7 on Environmental Reporting and **Incident Management Protocol** (Appendix U) which provides further details on assessing an environmental incident and on how to report it.

7.7 Investigation Process

Investigations into health, safety and environment incidents may be conducted by the Site Supervisor, the EHS Manager or in the case of a significant event a special Lead Investigator shall be appointed by Senior Management. The process is described as follows:

- In incidents where the Site Supervisor is involved in the event, the EHS Manager or a third party shall conduct the investigation
- The initial investigation (fact finding and interviews) should be completed within 24 hours of the accident

- Root Cause Investigation methods (such as TapRoot) should be used to identify the causal factors of the incident and associated root causes
- The Event Investigation Report should identify root causes to the event and recommended corrective actions that are designed to prevent re-occurrence
- A copy of the Event Investigation Report shall be kept on file at the Site or in POWER. A signed copy of the final report should be forwarded to the EHS Manager for regulatory reporting, workers' compensation, and trend analysis purposes. This will apply to health, safety and environment incidents
- Additionally all reportable injures under the Work Health & Safety Act 2011, must also be notified to the plant owners (Nyngan Solar Farm Pty Ltd) within 24 hours of the incident occurring. Further within 2 business days of the injury an interim report must be made to the owner, which gives full details of the injury and interim recommendations for prevention of a recurrence. Finally within 5 business days of the injury, a final full written report must be sent, which gives complete details of the injury and formal recommendations for prevention of a recurrence
- Reporting of environmental incidents should be done as soon as practical to the Owner and external authorities as described in Section 7.6.5 if they are assessed as being of material harm or potential to cause material harm.

7.8 Fit-for-Duty Policy

NSPS is committed to providing a safe and healthy work environment for its employees and subcontractors and others. In order to provide a safe work environment, personnel must be “fit for duty”, be able to perform their work tasks in a safe, secure, productive, and effective manner, and remain able to do so for the duration of the shift.

“Fit for duty” (or often abbreviated as FFW) means an individual is in a state (physical, mental, and emotional) that enables them to perform work tasks competently and in a manner that does not threaten the health and safety of themselves or others, including negatively impacting the environment.

All personnel shall:

- Manage their health in a manner that allows them to safely perform their work tasks
- Arrive at the site fit for work and able to perform work tasks in a safe, secure, productive, and effective manner for the duration of the shift
- Notify their Supervisor or Site Supervisor when they are not fit for work and to declare any medication and/or situations/concerns which may have an impact on their ability to perform work
- Notify their Supervisor or Site Supervisor when they observe a co-worker acting in a manner that indicates that they may be unfit for work.

7.9 Drug and Alcohol Policy

It is against Policy to be under the influence of, or to sell, distribute or possess alcohol, narcotics, depressants, stimulants, hallucinogens, marijuana and any other mind altering drugs, when reporting for

work, unless the individual has been legally prescribed prescription medication, assessed and certified by the prescribing medical practitioner/dentist as “Fit for Duty”.

NSPS employees and its contractors shall complete an initial Drug and Alcohol (D&A) screen prior to mobilisation to the Site, coordinated by NSPS and kept confidential.

In addition to the initial D&A screen, NSPS may also conduct the below D&A screens at the site, these include:

Random Screening - A random selection of personnel are chosen to be screened on any given day or shift. This is usually a percentage of the NSPS employees, subcontractors or visitors present at the Project Site.

For Cause/Fit for Work Screening – D&A screening can be conducted to allow Managers and Supervisors to challenge a subordinate or co-worker’s fitness for work.

Post-Accident Screening – A drug and alcohol screening will be conducted after any accident or injury event. The Plant Manager/Supervisor will coordinate getting testing conducted. Workers will not be allowed to return to work until screening results are in and evaluated.

7.10 Fatigue Management Policy

NSPS recognises that most people will suffer from fatigue from time to time, either due to work conditions and/or pressures, or as a result of activities conducted outside of work, or a combination of both. The guiding principle of fatigue management is that personnel must be fit to complete their assigned work tasks in a manner that ensures the safety of themselves and co- workers.

7.10.1 What is Fatigue?

Fatigue is a physical condition that can occur due to the following:

- Physical exertion
- Mental exertion
- Inadequate quality or quantity of sleep.

7.10.2 Signs and Symptoms

Fatigue can cause reduced performance and productivity, and increase the risk of incidents. Typical signs and symptoms of fatigue include but are not limited to:

- Chronic tiredness or sleepiness
- Headache/Dizziness/Poor concentration
- Sore, weak or aching muscles
- Slowed reflexes and responses
- Impaired decision-making and judgement

- Impaired hand-to-eye coordination/Blurry vision
- Hallucinations
- Reduced ability to pay attention to the situation at hand

7.10.3 Fatigue Self-Assessment

If you are feeling the effects or symptoms of fatigue notify you're Supervisor as soon as possible for evaluation and discussion of options. As a guide a 10 minute break is recommended every 2 hours of continuous work in fatigue inducing conditions.

7.11 Heat Illness Prevention

Heat stress is the total heat burden to which the body is subjected by both external and internal factors. Heat stress may cause heat illness, a physical response designed to reduce body temperature.

7.11.1 Types of Heat Illness

- Discomfort - flushed skin, increased sweating, heat rashes (prickly heat), increased sweating, depleting the body's fluid
- Mild heat illness - feeling tired, weak or dizzy, cramps, reduced work capacity, reduced attention span and irritability
- Heat exhaustion - fainting, headache, low blood pressure, nausea, clammy, pale or flushed skin, normal to high body temperature (up to 39°C)
- Heat stroke - irritability, confusion, speech problems, hot dry skin, convulsions, unconsciousness, body temperature above 40°C, cardiac arrest - potentially fatal.

Typically people who are medically unfit and are on certain medications, overweight, have heart disease, are pregnant, abuse alcohol, or are not acclimatised, are at a greater risk of heat stress. Some people are less tolerant of heat than others.

7.11.2 Controls to Reduce Heat Stress

These include but are not limited to:

- Replace lost fluids (drink more water, juice, sports drinks or other non-alcoholic drinks). Drinks of 100-200ml water at frequent intervals will be adequate to reduce fluid loss in sweating
- When the ambient temperature is greater than 40°C a 10 minute rest break in a cool place should be taken each hour. When ambient temperatures exceeded 45°C no outdoor work should be undertaken until the temperature recovers to below 40°C
- Minimise caffeine, carbonated drinks, alcohol and tobacco use
- Do not take salt tablets unless your doctor has specifically advised you to do so
- Inform your direct Supervisor or Manager if you have an underlying health condition that may increase your risk of heat stress
- Wear cool clothing, a wide brimmed hat and use sunscreen
- Take a break and inform your direct Supervisor if feeling dizzy or having trouble concentrating.

7.12 High Risk Work License

NSPS employees and its contractors shall have a "High Risk Work Licence (record of training held in an onsite register by NSPS) in the event they are required to undertake any of the following work:

- Scaffolding - basic, intermediate and advanced
- Rigging work - dogging; basic, intermediate and advanced rigging
- Crane and hoist operation - tower; self-erecting tower; derrick; portal boom; bridge and gantry; vehicle loading; non slewing mobile; slewing; materials hoist; personnel and materials hoist; boom-type elevating work platform; vehicle mounted concrete placing boom
- Forklift operation - forklift trucks; order-picking forklift trucks
- Pressure equipment operation - basic, intermediate and advanced boiler operation; turbine operation; reciprocating steam engine operation.

7.13 Housekeeping / Orderliness

Prior to entering a work location, employees should **STOP** to observe the work area and make note of any hazards, or conditions that may have changed since their last entry. The following are general rules of good housekeeping and orderliness that enhance the ability to work safely:

- Scrap, trash and other wastes shall be placed in the appropriate designated containers
- Waste shall be placed in containers specifically designated for that material
- Areas shall be cleaned up as the work progresses
- Cords and hoses shall not be routed in walk ways. They should be routed, preferably overhead, in a manner that shall not present a tripping hazard

- Tools and equipment shall be properly stored in a stable position (tied, stacked or choked) to prevent rolling or falling
- Cleaning materials and consumables shall be kept in approved containers and stored properly
- Safe access to all work areas and emergency exits shall be maintained
- Do not block emergency equipment, electrical disconnect switches or breaker panels. Cables, ropes, barricade tape, hoses, or shielding shall not be attached to such equipment
- Work areas shall be checked at the beginning and end of each shift to ensure safe conditions.
- Work areas shall have adequate lighting.

Personnel must take responsibility for identifying housekeeping hazards that contribute to an unsafe work environment by reporting them promptly to their immediate supervisor or by removing the hazard.

7.14 Office Safety

- When using stairs, hold handrails to maintain two points of contact
- Keep stairways, hallways, aisles and walkways clear of clutter and tripping hazards
- Go around corners slowly to avoid collisions
- Do not run or slide across floors or through doorways
- Open doors slowly to avoid striking someone on the other side
- Use door handles, do not push on glass panes on doors
- No smoking in offices or storage areas
- Keep desks, file and cabinet drawers, door slides and locker doors closed when not in use
- Know the location of emergency exits, fire extinguishers, and first aid kit
- Use proper ladders or portable steps to gain access to elevated materials and equipment
- Do not use chairs, desks, or tables as a substitute for proper ladder
- Ensure all power cords and extension cords are properly insulated and placed so to not create a tripping hazard
- Do not store materials on top of racks or shelves within 50cm of light fixtures, light bulbs, or sprinkler heads
- Do not store materials in front of mounted fire extinguishers or within 40cm of electrical panels
- Principles of good housekeeping should be adhered to.

7.15 Office Ergonomics

- Stretch the areas of the body required to perform an action prior to (and during) performing significant manual or repetitive tasks
- Choose tools that incorporate good ergonomic design whenever possible

- Avoid repetitive motion injuries by periodically changing to tasks that require different motions
- Ensure your computer workstation is designed to fit your needs. The chair, keyboard, monitor, and documents should be at the proper height, distance, and angle to fit your individual needs.

7.16 Personal Protective Equipment (PPE)

7.16.1 General PPE Instructions

Inspect all PPE prior to use to ensure it is safe, properly assembled and not visibly defective.

Personal Protective Equipment (PPE) shall be maintained in a sanitary and reliable condition. Supervisor will enforce this requirement for all employees and NSPS deployed contractors. Damaged or otherwise unserviceable PPE shall be properly disposed of and replaced. Contact the Site Supervisor or your supervisor immediately for replacement of damaged items.

Personnel shall be trained and must demonstrate that they understand the following:

- When PPE is necessary
- What PPE is necessary
- How to properly adjust, wear and use PPE
- The limitations of the PPE
- The care, maintenance, useful life and disposal of PPE.

7.16.2 Minimum PPE Requirements

PPE requirements are based on Job Hazard Analysis (JHA) for the specific work that is to be performed. Minimum PPE requirements have been established for routine work such as site tours and visual inspections. These minimum requirements are:

- Hard Hat – AS 1800:1998
- Safety Glasses – AS 1337:1991
- Safety Shoes –Safety Toed with Electrical rated soles preferred (AS 2210.1:1994)
- Work Clothing – No shorts, sweatpants or sleeveless shirts allowed. Long pants and work type shirt (long or short sleeved). Site Technicians are required to wear Arc Rated (FR) clothing as part of their regular work uniform (HRC 2 or $\geq$ 8.1 cal/cm^2)
- Work Gloves – Leather or Dyneema shall be carried if there is a possibility of material handling (AS 2161.1:2000).

7.16.3 Additional PPE

Based on the job you are performing additional PPE may be required. The type of PPE shall be identified in the Job Hazard Analysis (JHA) required prior to the beginning of each job.

Additional PPE may include:

- Arc Rated (FR) Clothing – Arc rating is based on Arc Hazard Analysis and is typically identified on Equipment Arc Flash Hazard Labels. Clothing may include shirt and pants or could include higher rated Arc Flash Suits (AS4836 : 2011 and ENA NENS 99 – 2006)
- Arc Flash Face Shield – Arc Flash Face Shields are required where hazards are HRC 2 or above
- Hearing Protection – For areas posted as greater than 85db or where noise levels make it difficult to hear another worker speaking
- Safety Vest – In areas with high traffic to improve visibility
- Kevlar or cut resistant gloves – For glass handling activities
- Protective Chemical Clothing – If exposed to or handling chemicals
- Insulated gloves for electrical work.

The company provides PPE includes hard hats, safety eyeglasses, hearing protection, and work gloves. These items can be obtained by contacting your Supervisor or the Site Supervisor.

7.16.4 Work Clothing

Arc Flash Clothing including a shirt covering the shoulders and trousers covering the legs and ankles shall be worn at all times when working on or near energized electrical equipment.

Arms—When working in the vicinity of energized lines or equipment (both high and low voltage), on high temperature lines, grinding, welding, or other high exposure hazards to the arm, full-length sleeves shall be worn.

Legs—Workers should not have cuffs on trousers when welding or performing any job that produces sparks.

7.16.5 High Visibility

High Visibility vest or clothing is required to be worn when:

- In designated areas of the site
- Working along roadside areas when traffic is high
- Identified as PPE in the Job Hazard Analysis.

7.16.6 Head Protection

- Hard hats (AS 1801 compliant) in good condition and worn properly, shall be worn in all posted “hard hat” area, beneath any overhead work (e.g. below ladders, scaffolds, open gratings, or any other openings), and in any other area where head-bumping hazards exist
- Protective headgear shall be worn following the manufacturer's guidelines. Headgear should not be reversed with the brim in the neck. (For welding operations obtain headgear designed for that purpose)
- Prior to use hard hats should be checked for cracks and penetrations, and assure that the suspension system is in good condition
- Company and employee’s name should be on the hard hat

- Only company provided stickers can be placed on the shell of the hat
- Utilization of face shields, flashlights, or hearing protection is acceptable using standard fastening devices, following the manufactures guidelines and instructions.

7.16.7 Eye/Face Protection

CAUTION: NSPS modules should be handled in the same manner as a piece of glass. The use of safety glasses is required to protect from eye injuries when handling a NSPS module whether the module is intact or damaged.

- Safety glasses with side shields, goggles, full-face shields, and burning goggles shall be worn as necessary for the work being performed (AS 1337 compliant)
- Before beginning work, every Associate should inspect safety eyewear for damage and scratches that could impair vision
- An Associate who wears prescription lenses should wear safety eyeglasses that incorporates the prescription in its design or should wear safety eyeglasses that can be worn over eye prescription lenses without disturbing the proper position of the prescription lenses. Contact lenses do not provide eye protection, and safety glasses shall be worn with them when eye protection is required
- Safety Glasses with dark lenses shall not be worn indoors or in poorly lit areas. Consult local site requirements for additional clarification
- Only non-vented safety goggles shall be used while working with chemicals.

7.16.8 Hand Protection

CAUTION: NSPS modules should be handled in the same manner as a piece of glass. The use of cut-resistant gloves to protect from lacerations is required when handling a NSPS module whether the module is intact or damaged.

- Wear gloves when performing work that could result in cuts or slivers to the hand or pinching hazards exist (Refer to Module Replacement procedure, NSPS.OM.CM.01)
- In all cases gloves appropriate to the job being performed shall be worn unless the task cannot be completed wearing gloves or they pose a greater hazard (e.g. while operating rotating equipment)
- Rubber Gloves (AS 2225 compliant) should be insulated to the highest voltage expected for the work being performed.

7.16.9 Foot Protection

- Personnel shall wear suitable industrial grade work shoes in good condition while working
- Footwear such as sneakers, loafers, moccasins, and canvas top shoes are not suitable work shoes for physical work environments
- Approved safety shoes (AS 2210.2 compliant) shall be worn in areas where mechanical, electrical, or construction work is being performed or areas where there is an increased risk of foot injury

- To help support ankles, high top shoes with laces should be worn by workers whose normal work requires climbing of poles and steel structures.

7.16.10 Hearing Protection

- Hearing protection (AS 1270 compliant) such as ear plugs and earmuffs shall be worn in all posted or designated areas
- Hearing protection shall be worn:
  - in all posted areas
  - when operating equipment or tools that produce a sound exceeding 85 decibels (even if the work area does not require it), and when any risk of noise exposure exists

    Note: Normal conversation is 50-60 decibels. If you or someone else needs to raise their voice level to be heard you should be wearing hearing protection.
  - Use Manufacturer's instructions for inspection, care and proper usage of hearing protection
  - Double hearing protection is required where noise levels have the potential to exceed 100 decibels.

7.16.11 Respiratory Protection

- Wear respiratory protection (for example, for dust and fumes) in work situations where other means have not eliminated respiratory hazards
- Ensure a qualified person or safety manager prescribes the correct respirator
- All employees using respirators must receive annual training on respiratory protection
- Ensure all respiratory equipment users are familiar with the maintenance, instructions and cleaning and storage requirements for the type of respiratory protection they are authorised to use.

7.16.12 Reimbursement

At some sites the Company will reimburse employees up to a certain amount on the purchase of approved protective footwear, and prescription safety eyeglasses. Contact your Supervisor for additional information.

7.17 Personnel Work Policy

7.17.1 Working Alone

A person is alone at work when they are on their own, when they cannot be seen or heard by another person, and when they cannot expect a visit from another worker or member of the public for some time.

The risk of injury or harm to an individual who works alone may be increased because of difficulty contacting emergency services when they are required. Emergency situations may arise because of the sudden onset of a medical condition, accidental work-related injury or disease, attack by an animal, exposure to the elements, or by becoming stranded without food or water. The consequences may be very serious and the injury or disease may be fatal.

In preparing to undertake work that may involve working alone, the following must be considered:

- When and wherever possible, avoid working alone. Tasks should be scheduled during normal business hours, or when another worker capable of helping in the event of an emergency is present.
- The work to be done, which will typically be energy isolation activity (and conducted as part of energy isolation, see Section 7.27.8) should be discussed during the pre-start discussion for that day, and a JHA prepared addressing the identified risks and how these will be controlled (as for all other tasks to be completed) (See Section 5.3).
- Regular communication (via radio) should be made by the person undertaking the work and they should check back in after the work is completed.

Refer to Appendix AE for the documentation describing the energy isolation controls (NSPS Lock-Out Tag-Out procedure, LOTO) and which includes the protocol of signing and signing out after completion of the works.

7.17.2 Working at Night

- There may be a requirement to work at night, this poses several additional hazards and risks to personnel than normal day working; these are typically related to visibility and the ability to move around the Site safely
- Working at night requires some specific activities to occur (during daylight hours) to ensure the night shift personnel are assisted and protected from hazards and risks. For example, appropriate lighting equipment must be in place to provide adequate illumination of the work area and immediate surrounds to ensure personnel have optimal visibility
- All work at night shall be assessed and approved by the Site Supervisor.

7.18 Site Access Requirements

7.18.1 Deliveries

- Delivery Drivers shall stop at the gate or at the O&M building to contact site personnel for all deliveries.

7.18.2 Visitors

- A visitor is a person who attends the site solely to conduct a site inspection, attend a meeting, or make a delivery or pick-up (Note: they do no physical work at the site
- Visitors having a reason to enter the site (outside the O&M Building) must complete Site Safety Induction Training
- All Visitors shall be escorted at all times while on the site until authorized for un-escorted access by the Site Supervisor.

7.18.3 Site Access

Prior to entry onto the site (outside the O&M Building) all Contractors and Visitors must:

- Have a reason to enter the site

- Have proper attire (suitable work clothing appropriate for work at the site)
- Be Fit-for-Duty
- Complete Site EHS Induction Training (Appendix E).

7.19 Hand and Power Equipment

7.19.1 Power Tools

- All hand-held power tools and appliances are protected by an RCD
- Where available, only double insulated power tools are used at the site
- Power tools, leads and plugs are regularly tested-and tagged for external damage or makeshift repairs
- Do not use tools if the casing, cords or plugs are broken or damaged
- Do not adjust tools without first switching off and removing the plug from the outlet.

7.19.2 Hand Tools and Equipment

All personnel required to use hand tools and/or power equipment, including chain saws, brush cutters, powder-actuated tools, and similar high-hazard implements, are appropriately trained to enable the safe operation of such equipment.

General EHS requirements include but not limited to:

- Use the right tool for the job
- Don't use broken or damaged tools, dull cutting tools, or screwdrivers with worn tips
- Cut in a direction away from the body
- Make sure grip and footing are secure when using large tools
- Keep tools secure at all times when working at heights
- Pass a tool to another person by the handle - never throw a tool
- Use the right PPE for the job
- Never carry sharp or pointed tools such as a screwdriver in a trouser pocket
- Select ergonomic tools for the work task, particularly when movements are repetitive and forceful
- Ensure tools are always kept in good condition
- Store tools properly at the end of shift.

Personnel shall also inspect all hand tools and power equipment on a regular basis. Defective tools or equipment shall be immediately removed and tagged Out Of Service or destroyed to prevent further use.

7.20 Material Handling and Storage

7.20.1 Musculoskeletal Injuries

A musculoskeletal disorder is an injury or disease of the musculoskeletal system. Musculoskeletal disorders may arise in whole or in part from performing manual tasks in the work environment, whether occurring suddenly or over a prolonged period of time.

Musculoskeletal disorders include body-stressing injuries and conditions such as:

- Sprains and strains of muscles, ligaments and tendons (e.g. back strain)
- Joint injuries or degeneration (e.g. frozen shoulder or arthritis of the back)
- Disc protrusions, disc herniations or disc degeneration of the back or neck
- Nerve injury or compression (e.g. carpal tunnel syndrome)
- Muscular and vascular disorders (e.g. vibration-induced white finger from hand-arm vibration)
- Soft tissue injuries.

Musculoskeletal disorders may result from:

- Gradual wear and tear caused by frequent or prolonged periods of performing manual tasks
- Sudden damage caused by intense or strenuous manual handling or awkward lifts
- Direct trauma caused by unexpected events.

7.20.2 Preventing Injuries

Prior to undertaking any manual handling activity, personnel must evaluate the object and the required task to determine if they can handle the object safely.

Some evidence shows that the risk of back injury increases significantly with objects over 16 kg, therefore, from the standing position it is advisable to keep the load below this weight. In seated work, it is advisable not to lift loads in excess of 4.5 kg.

In the event personnel are in doubt about whether they can safely move the object by themselves, additional manual or mechanical help should be obtained or the task should be avoided.

If a heavy object is to be moved to another location, the safest transport route should be determined prior to the activity. The area around the object and the route over which it will be transported should be checked for slip, trip, and fall hazards. Hazards should be removed prior to initiation of the task.

The object to be moved should be inspected for pinch points, grasping or handling hazards, including slivers, sharp edges, grease, water, etc. Eliminate or abate any identified hazards where possible. Safe grasping or handling points on the object should be determined.

The Code of practice for Manual Tasks applies to all work environments in NSW covered by the OSH Act and with this the NSPS Site Supervisor shall ensure that adequate guidance is provided to all Project Site personnel regarding the identification, assessment and control of EHS hazards and risks associated with manual tasks.

Materials shall be stacked, stored, or positioned so it does not create a falling hazard and can be reached safely by personnel and material-handling equipment. All protruding nails, wires and ragged metal edges shall be removed or hammered flush before handling.

7.20.3 Material Handling/Lifting

The solar module assemblies used at this Facility weigh approximately 12 kg.

Never try to lift modules or anything that cannot be lifted easily, is awkward to move or which will block your vision in the direction of movement. Check for stability by testing the weight carefully either by pushing or lifting at one of the corners.

The following proper lifting techniques shall be observed at all times:

- Make sure you have a clear path to carry the load, and a place to set it down
- Bend the knees, place your feet close to the object and centre yourself over the load
- Get a good hand-hold
- Lift straight up, smoothly, and let your legs do the work, not your back!
- Exhale as you make the lift
- Do not twist or turn your body while carrying the load
- Set the load down slow and controlled
- Always push a load on a cart or dolly, do not pull it
- If it's a long load or awkward, get additional help
- Split the load into several smaller ones when you can.

7.21 Potable Water

Water in any container that is not designed or intended for human consumption shall be labelled as: **"Non-Potable Water - Do not Drink".**

Water that is bottled as potable (i.e. safe to drink) or taken from a public water source which is then stored in a container that was used for non-potable water or chemicals, the container shall be labelled as non-potable and not used for drinking.

No cleaning of a container that has at any time contained non-potable water or chemicals is allowed that will make the container suitable for potable water.

Transfer of potable water to a non-potable container shall be accomplished only with an air gap of at least 10 cm between the potable water container and the non-potable container.

Potable water that is used on site and drawn from storage will be tested for relevant microbiological parameters on a quarterly basis (Refer to Appendix Z) Water Request Form.

Water samples are to be sent to Douglas Hanly Moir Pathology for analysis. Three individual tests are to be completed; Heterotrophic Plate Count, Escherichia Coli Count, Total Coliform Count. Water to be tested is to be collected in a sterile 250ml testing container available from pathology. Courier is to be notified at least 24 hours before samples are due to be collected from site. Samples need to be kept at 4-6 ° temperature, the use of an insulated cooler bag can be used. Complete a Water Request Form to submit with the sample (Appendix Z)[9].

Water quality results should be kept on the water testing register (Appendix Z).

7.22 Signs and Tags

Observe, read and obey all signs and tags. If it becomes apparent that a hazardous situation or area warrants the need for a sign or tag, notify the Site Supervisor immediately. Hazard warning (e.g., Safety) signs shall conform to the following color-coding systems:

- **SAFETY RED** —identifies **FIRE**, **DANGER**, or **STOP**. It is most commonly used in flammable liquid identification, emergency stop switches, and fire protection equipment. Danger indicates an immediately hazardous situation that could cause death or serious injury
- **SAFETY ORANGE** —indicates **WARNING**. Orange identifies hazardous equipment or situations. Common uses include marking machine hazards that pose cut crush, or pinch injuries, and for marking the insides of movable guards that allow access to gears, chains, and the like. Warning indicates a potentially hazardous situation that could result in death or serious injury
- **SAFETY YELLOW** —denotes **CAUTION**. Used with black lettering, yellow identifies hazards such as conditions that might result in tripping or falling or flammable material storage. Caution indicates a potentially hazardous situation that may result in moderate injury.

7.23 Administration and Isolation Controls

7.23.1 Housekeeping

Good housekeeping is fundamental and essential for the prevention of accidents due to slips, trips or falls, and in response to fires or other dangers. Work areas, passageways, storerooms, and service rooms must be kept clean, dry, orderly and in a sanitary condition.

7.23.2 Access

DO NOT block or otherwise obstruct access to exit doors, fire extinguishers, fire lanes, fire hoses, fire hose connections, controls for automatic sprinkler risers or emergency lights.

[9] Douglas Hanly Moir Pathology, 223A Darling Street, DUBBO NSW 2830. Phone: 6826 5455 and Pathology Courier – Phone: 0428 291 909 (Michael) – minimum 24 hours prior to pick up date.

7.23.3 Guards

Holes or openings through floors or decking at all elevations shall immediately be provided with covers or barricades. Material and equipment shall not be stored on a cover. Signs or labelling shall be attached indicating it is a temporary cover and not to remove it unless authorized. Covers shall be cleared, wired, or otherwise secured so it cannot slip off the exposed area, and shall extend adequately beyond the edge of the hole.

7.23.4 Barricades

Prior to beginning any work that may present potential hazards to individuals, work areas will be inspected to determine the extent of barricading. Barricades must ensure a continuous separation of work activity from people not involved in the work. If adequate barricading cannot be established, then work may not begin.

An associate who creates a hazard is responsible for having it barricaded.

The Site Supervisor shall be notified of the need to place barricades on roadways that may impede the passage of emergency vehicles.

A barricade must be placed guarding all access routes to a hazard where a person could:

- Inadvertently enter a hazardous areas
- Be unaware of required safety equipment or permission for entry
- Be uncertain of the safe distance of observation
- Be working on an activity and accidentally enter into the actual hazard.

7.23.5 Types of barricades

Warning Barricades—Warning barricades call attention to a hazard but offer no physical protections. Example: caution tape, plastic fencing, saw horse type barricade.

Protective Barricades—Protective barricades warn as well as provide physical protection and shall be able to withstand 100kg of force in any direction with minimal deflection. Examples: wooden post and rail, cable, wooden post and metal chain.

Barricades are required around excavation, holes, openings in floors, roofs, elevated platforms, overhead work, and wherever necessary to warn people of falling or tripping hazards.

Barricades shall be 1 metre high and maintained square and level.

Warning barricades may be placed 2 metres or more from the hazard.

Protective barricades may be placed closer but when used around a fall hazard they must have a mid-rail as well as the top rail.

Barricade signs shall be fully informative, legible and visibly displayed.

Barricades must have barricade tags posted around the perimeter that identify the nature of the hazard. The tag should have the name of the person who erected the barricade along with date and department.

Rigid wood, metal, or plastic barricades must be used whenever there is a removed floor or wall section, missing handrail, any openings in excess of 50 cm.

Hazardous Condition	Barricade
General Construction	Use barricades to completely isolate the work area
Overhead Work	Use barricades for areas where debris may fall or drop
Excavation (e.g., trenches, open holes)	Use barricades to prevent personnel or vehicles from falling or accidentally driving into excavation. For all excavations open for longer than a standard work day temporary fencing may be required.
Tripping Hazards	Use barricades to block-off potential trip hazards (e.g., conduit stubs, piping stubs, holes in floor, uneven surfaces, etc)
Potential Unsafe Condition	Use barricades when an unsafe condition exists (e.g., incident investigation scene, spill, etc)
Ladders	Use barricades around the base of the ladders that are located where they can be displaced by workplace activities or traffic)
Energised Lines	Use non-conductive barricades around energized lines or equipment to prevent accidental contact

Table 7.1 - Guidelines for use of Barricades

7.24 Ladders

7.24.1 Portable Ladders

Ladders are available for access and work platforms for short term and infrequent tasks. The user shall inspect the ladder before using it and labelled with load limits. Ladders found to be defective will be removed from service and tagged as deficient.

- Never exceed the rated capacity of the ladder. Instructions for use of ladders are usually affixed to the newer ladders and should be read and complied with for any work that uses the ladder
- While ascending and descending a ladder your face will be toward the ladder, hold on with both hands
- Use a hand-line to raise and lower materials
- Do not use ladders alone when the supporting surfaces are not stable such as when supporting soils are wet, supporting surfaces are wet, or weather conditions are windy or subject to wind gusts. When possible or conditions warrant have another person hold on the ladder
- Use non-conducting ladders only on the site. Wood or metal ladders are not permitted

- While working on a ladder, do not extend your reach, your beltline should be within the side rails of the ladder and change the position of the ladder as often as necessary to stay within the reach of your work and keep feet on the rungs
- Under no circumstances should chairs, furniture or any other item with a different intended use be utilized as a ladder
- If it is necessary to place a ladder in or behind a doorway, barricade the work area and post warning signs on both sides of the door
- Every ladder shall be equipped with a tie-off rope and non-skid safety feet and should be adequately tied-off or footed by another Associate
- If a ladder is used to access an elevated work area, the top of the ladders shall extend at least 1 metre above the supporting object
- The extension section of the ladder shall overlap the base section by a minimum of three (3) rungs.

7.24.2 Step Ladders

- Step ladders should be set on a level surface with all four legs on the ground, with spreaders locked in place
- A step ladder shall never be used as a straight ladder
- Do not sit or stand on the top of a stepladder
- On standard design step ladders over three feet high do not stand on the step below the top step
- Tie off a step ladder when using it close to the edge of a platform.

7.25 Working at Heights

All reasonable means will be investigated and implemented prior to any working at heights is undertaken.

In the event that work must be undertaken at heights, the following principles and or precautions will be undertaken:

- Working at Heights can only be undertaken by trained and competent personnel
- A JHA and a complete and approved working at heights permit will be in place prior to any work commencing (Appendix AB – Working at Height Permit, Form APP-HCP-01A)
- All working at heights equipment including scaffolding, work platforms, lanyards, etc will be required to be inspected by a trained and competent person.

7.26 Confined Space

A confined space means an enclosed or partially enclosed space that:

- Is not designed or intended primarily to be occupied by a person
- Is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space
- Is or is likely to be a risk to health and safety from:
  - An atmosphere that does not have a safe oxygen level, or
  - contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion, or
  - Harmful concentrations of any airborne contaminants, or engulfment.

At this site, the locations in the Table below have been identified as a Confined Spaces that require a "Confined Space Entry Permit" for entry (refer to Appendix AC Confined Space Permit, Form APP-HCP-06A).

Location	Hazard	Work Performed in Space	Permit Required (Yes / No)
Vaults	• Engulfment • Shock • Atmospheric	• Inspections • Cable Repairs	Yes
Water Storage Tank	• Engulfment	• None	Yes
Transformer Vaults	• Engulfment • Shock	• Inspections • Cable Repairs	Yes

Table 7.2 - Confined Space Requirements

- The entryway into all known Confined Spaces shall be labelled with marking stating: "Danger Confined Space"
- Only personnel trained and qualified in Confined Space Entry are permitted to enter a "Confined Space"
- Trained and qualified personnel may only enter a Confined Space after the completion and approval of a "Confined Space Permit" (Appendix AC).
- All work performed within a Confined Space at the Project Site must comply with AS 2865 Safe Working in a Confined Space (1995). It is important to note that the size of a space is not one of the factors used to define a confined space. Therefore, there is no specified minimum or maximum size.

7.27 Electrical Safety

7.27.1 Training and Qualifications

- Only persons who are qualified and authorized are permitted to perform work on or near exposed, energized electrical equipment or to open enclosures or panels that contain exposed energized electrical parts or equipment. These are licenced electricians and high voltage ticket holders.
- All energized work must be performed with two qualified persons. Both persons shall be certified in First Aid, CPR and the use of an AED
- Persons working on “live” lines or equipment shall have had appropriate training, be competent and familiar with the equipment and be aware of the all the potential risks involved with the work.

7.27.2 Basic Electrical Safety Principles

- Emphasis must be put on avoiding working on energised electrical equipment, unless unavoidable (Section 154 & 157 of Work Health and Safety Regulation 2011). All electrical lines and equipment shall be considered “live” (energized) until proven “dead” (de-energized)
- The “live, dead, live” testing method shall be used to prove that a line or piece of equipment is de-energized
- All electrical lines and equipment shall not be worked as “de-energized” until a Lockout/Tagout (LOTO) is in place
- Workers must be insulated from the energized parts with insulated gloves and/or sleeves, or a barrier or guard shall be in place between energized parts and the worker
- Conductive items such as of jewellery or clothing shall not be worn during energized electrical work.

7.27.3 Working on or Around Electrical Equipment

All persons who work near live electrical apparatus shall understand the hazards and the limits of their movements.

A Safety Observer shall be appointed when persons are working on or near energized electrical lines.

All Energized work shall have an “Energized Electrical Work Permit” completed prior to the start of work. This is in addition to the Job Hazard Analysis and Pre-Job Briefing that must be completed for all jobs. Only the Site O&M Technician or Supervision can authorise and sign off an “Energised isolation Permit” (Form APP-HCP-05A) for the site (Appendix AD).

These requirements are as follows:

- All insulated hand tools used in close proximity to live electrical equipment must be insulated to 2x the highest voltage likely to be encountered (Note: this is an industry rule of thumb)
- Visually inspect all insulated tools prior to use and check for testing certification or calibration details (Been done? Within date?)

- Verify that test metering or sensing devices are operating properly and that appropriate settings are used
- Safe approach distances are areas around energized electrical lines and equipment into which no part of a person, equipment or object (other than insulated) may encroach.

No person shall come or bring any conducting object within the distance given below from any exposed live part at the following specified voltages:

Minimum Approach Distances for Personnel and Hand Held Tools	
Energized Line Voltage	**Qualified Personnel**
Up to 1000v	500 mm
Above 1000v but not exceeding 11,000v	700 mm
Above 11,000v but not exceeding 66,000v	1000 mm

Table 7.3 - Minimum Approach Distances for Personnel and Hand Held Tools

- Safe approach distances to energized electrical lines and equipment shall be adhered to at all times.

7.27.4 Switching

- Note: AGL are in control of switching activities.
- Switching shall only be performed by qualified persons in NSPS.
- Do not perform any switching operation without authorization of the Operating Authority
- Perform all switching steps in the order of sequence as given by the Operating Authority
- Switching at the direction of the Operating Authority will be done using “Three-Legged Communication” (repeat back, positive communication).
- Appropriate high voltage gloves and protective PPE shall be worn while performing switching of any kind in the Switchyard
- Pay particular attention to ground switches and other grounding devices that they are open or removed before energizing equipment
- Visually check switch blades after operation to ensure blades are proper separation (when opening) or have proper contact (when closing).

7.27.5 Grounding

- Only qualified persons shall install grounding devices

- Inspect all grounds prior to installation to ensure good condition
- If conditions expose that section of the de-energized line to be worked on to more than one possible source, a minimum of two grounds shall be installed, one on each side of the location where the work is being performed
- In all cases, where applying grounding devices, these devices shall be securely attached to the source of ground before connections are made to the conductors and, in removing the devices, they shall be detached from the conductor first
- Grounding cables should be no longer than necessary to keep the resistance as low as possible and to minimize slack in cables to prevent violent movement under fault conditions
- Grounds shall be placed where necessary to protect from induction hazards.

7.27.6 Protective Equipment

- Electrical protective equipment shall be tested as follows:

Item	Test
Rubber Gloves	• Visual and air test prior to each use • Electrical test every 6 months
Rubber Blankets	• Visual inspection prior to each use • Electrical test every 12 months
Rubber Matting	• Visual inspection prior to each use • Electrical test every 12 months
Hotsticks	• Visual inspection prior to each use • Electrical test every 2 years

Table 7.4 - Electrical Equipment Testing

7.27.7 Photovoltaic Array Safety

CAUTION: Solar modules are energized as soon as they are exposed to sunlight and have the potential to cause an electrical shock or arc.

- Never disconnect a module under load, the module shall be taken off line and locked out until the sub-array or module is isolated from the system
- Damaged or cracked modules still have a high potential of electric shock. Special consideration should be taken in removing and handling a damaged solar photovoltaic module. Refer to Module Replacement procedure NSPS.OM.CM.01 and Direct Current Troubleshooting and Repair procedure NSPS.OM.CM.02 for specific instructions related to Photovoltaic Array Safety
- The solar module assemblies used at this Facility each can generate in excess of 90VDC, when connected in series have a potential of producing an open circuit voltage in excess of 500VDC

- Employees shall exercise additional caution when handling exposed (cracked, split or chewed) module cables and wiring harnesses
- Work on exposed energized lines or equipment may be performed only by qualified individuals in accordance with approved procedures. Refer to procedures:
  - NSPS.OM.CM.01, Module Replacement
  - NSPS.OM.CM.02, Direct Current Troubleshooting and Repair
  - NSPS.227131, Cartridge Module Replacement
  - NSPS.600020, Lockout Tagout.
- Always treat electrical equipment as energized until approved testing methods prove that it is de-energized. The “LIVE, DEAD, LIVE” testing method shall be used to prove that a line or piece of equipment is de-energized
- Working on electrical equipment in wet conditions shall be minimized to the extent necessary and when necessary appropriate precautions (e.g. dry insulation mats) shall be implemented
- Electrical tools should not be used in wet conditions. As an alternative, use battery operated or pneumatic driven equipment.

7.27.8 Hazardous Energy Control LOTO

CAUTION: Never tamper or change the position of a Locked Out or Tagged Out device without proper authority. Never remove a component or piece of equipment that has a Lockout Tagout Device attached.

- Employees working on electrical equipment shall be trained in accordance with the NSPS Lock Out and Tag Out procedure (Refer to NSPS.600020, Lockout/Tagout) (Appendix AE)
- Lock Out and Tag Out are two different methods used to protect Employees from potential dangers in the workplace. This is accomplished by establishing a safe work boundary. This isolated boundary allows the performance of work safely while controlling hazards that can be in the form of electricity, compressed or pressurized gases or harmful liquids
- The Lock Out method utilises a physical and mechanical means, an assigned numbered lock that physically controls the isolation device position and a key held by the individuals performing the work activity
- The Tag Out method utilises color-coded tags that give instructions. This is considered an administrative means to control hazards that requires procedures and must offer the same level of protection as the Lock Out method. Some plant equipment does not have a physical means to be locked out in a safe position. This is when the Tag Out method is utilised. In some cases, because of the complexity of the systems and to maintain control, the NSPS or the AGL shall use the Tag Out method
- Systems, equipment and electric circuits shall be de-energized and rendered safe whether utilising Lock Out or Tag Out, prior to commencement of work activity

7.27.9 Extension Cords

- Extension cords are for **TEMPORARY** use only. Inspect cords prior to use, if visible damage is present, remove it from service. Place cords so they are not damaged by doors, sharp corners, pinch points, etc
- Extension cords should be routed overhead, under grating or along the edges of wall and secured so they cannot move. When it is necessary to route a cord across a traffic area it shall be, enclosed in a cord protector or taped to the floor the full length of the section crossing the traffic area
- Never overload an extension cord
- Never 'ganging' or stringing multiple cords together to make a longer cord
- Do not alter plugs or receptacles
- Should not be used in wet conditions.

7.28 Operation of Vehicles and Equipment

7.28.1 Mobile Equipment

The Site Supervisor shall ensure the safe operation of mobile/heavy equipment, such as graders, water trucks, loaders and other smaller equipment, such as excavators, forklifts, mobile cranes, backhoes and other large trucks.

Mobile/heavy equipment should have the following safety specifications:

- Seat belts for all occupants
- Adequate lighting (e.g. headlights, tail, turn, brake, operating strobe or flashing light)
- Adequate walkways, railing, steps/grab handle combinations and boarding facilities including an alternative path of disembarking in case of emergency
- Reversing alarms and the use of spotters
- Horn
- Effective windscreen wipers
- Effective guarding on accessible moving parts
- Signage on the equipment that allows clear and easy identification from a distance
- Approved or certified roll-over protection
- Two-way radio or other forms of communication.

The Site Supervisor shall ensure the implementation of:

- Daily pre-start inspections by the equipment operator. Log books shall be maintained and audited, and shall be located on the machine
- A dust control and water management plan for access roads and other maintenance areas which generate excessive or hazardous dust
- A maintenance and inspection program of NSPS Vehicles

- Truck loading/unloading procedures - to avoid material or objects falling from the vehicle.

All equipment operators shall be appropriately licensed and deemed competent prior to operating any equipment at the site. Licenses and certificates of competencies shall be located with the operator at all times, in the event the Site Supervisor wishes to inspect the previously mentioned documentation.

Mobile phones, whether hands free or not, shall only be used by an operator of equipment while it is stationary and in a safe location.

7.28.2 Mobile Phone Use

Wireless communication devices shall not be used while driving a motor vehicle. This includes not only mobile phones, text pagers, two-way radios and other wireless devices.

The ban on the use of wireless communication devices above applies:

- To all vehicles operated by workers while on duty, whether owned by the company or the individual worker
- To all wireless devices, whether owned by the company or by the worker
- To all conversations, whether personal or business-related.

Violations of the foregoing rules will be considered a serious offence and may result in the imposition of discipline up to and including termination[10].

Option 1: The ban on using mobile phones and other devices while driving applies to all devices, including the use of cell phones with hands-free headsets.

Option 2: As an exception to this policy, workers may use mobile phones and other wireless devices to conduct conversations when they drive as long as they use headsets and other hands-free devices. However, workers are strongly encouraged to keep calls as brief as possible and to pull off the roadways when conversations become technical or emotional in nature.

7.28.3 Forklifts

Only licenced personnel who have been authorized may operate forklifts and industrial trucks. Any operator of this equipment shall:

- Inspect equipment prior to use to ensure it is in safe operating condition
- Fasten seatbelt when available
- Raise the load only as high as necessary to safely clear the road surface when in motion
- Not allow other employees to ride on the equipment
- Not lift loads that exceed the equipment's rated load capacity

[10] This section includes an option that would allow the use of headsets or hands-free devices. Although some mobile phone laws might allow for this, the scientific literature provides evidence that use of a hands-free device does not result in any significant improvement in driving performance. A total ban on all cell phones is the superior safety policy. While Option 2 is legally viable, legal obligations are minimum requirements, not ultimate standards.

- Not suspend or swing loads over other persons or allow other persons to stand, walk, or work under elevated forks or loads
- Assure that no person or objects are in the path of the vehicle before moving the equipment
- Use an observer when in motion and visibility is obstructed
- Check for overhead clearances in direction of motion
- Ensure that that the load is securely fastened or safely positioned to prevent tipping or falling
- Transport loads as low as possible, but high enough for the forks to clear uneven surfaces
- Avoid sudden stops which might spill a load.

7.28.4 Lifting Operations and Equipment

Whenever lifting takes place a lifting plan will be developed and used by the Crane Crew. It is the responsibility of the Site Supervisor to check this plan, authorise and oversee the safe performance of hoisting or lifting of equipment. Copies of Lift Plans will be kept onsite.

If unsure about the safety of a hoisting or lifting operation, the Site Supervisor shall STOP the operation until the issue has been clarified, and the operation can be performed safely. All lifting operations at the Project Site shall be undertaken in alignment with:

- AS 2550 – Cranes, Hoists and Winches: Safe Use Set
- AS 1418 – Cranes, Hoists and Winches Series.

Lifting operations is defined as “any operation using a crane and lifting equipment that involves the raising and lowering of a load, including the suspension of a load.

Lifting equipment is defined as “any device which is used or designed to be used directly or indirectly to connect a load to a crane and which does not form part of a load, e.g. wire rope slings, chain slings, manmade fibre slings, hooks and fittings, swivels, shackles, eye bolts, rigging screws, wedge sockets, plate claps and lifting beams.

General EHS requirements for lifting operations and equipment include but not limited to:

- The Safe Work Load (SWL) of Working Load Limit (WLL) shall be clearly identifiable and marked on all cranes and relevant lifting equipment and shall not be exceeded
- All cranes and equipment shall comply with the requirements of the relevant approved design standard
- Items of lifting equipment that are subject to wear and frequent replacement (e.g. slings, shackles, pad-eyes etc.) shall be colour coded to ensure compliance with certification and inspection requirements
- Manufacturer’s crane and lifting equipment operating manuals and load charts should be made available to the crane and lifting operator
- Controls should be put in place to prevent objects from lifting equipment and loads falling from above

- The elimination of the need to work under suspended loads shall be pursued. Where working under suspended load is unavoidable, controls shall be in place to eliminate or minimize the risk to personnel
- All cranes and lifting equipment shall be inspected prior to use by a competent person
- Suitably qualified, certified, licensed and competent person/s shall be involved in the planning, supervision and implementation of lifting operations
- Crane operators and crews should be able to communicate in a common language and are to use the correct crane signals.

7.28.5 Human Performance

7.28.5.1 Introduction

The purpose of Human Performance Improvement is to reduce the frequency and consequence of human errors that can result in accident or injury.

Error-free Performance is dependent upon:

- How well management, supervision, and frontline personnel function as a team
- The degree of alignment of values, processes, and behaviour in achieving the Organisation's Operational and Safety missions.

7.28.5.2 Principles

- People are fallible, even the best people make mistakes
- Error-likely situations are predictable, manageable, and preventable
- Individual behaviour is influenced by Organizational processes and values
- People achieve high levels of performance largely because of the encouragement and reinforcement received from leaders, peers, and subordinates
- Events can be avoided through and understanding of the reasons mistakes occur and application of the lessons learned from past events (or errors).

7.28.5.3 Tools

7.28.5.4 Self Checking – S.T.A.R

Why?

- Focuses attention and thinking just before a critical action is performed
- Helps identify error-likely conditions before an error occurs
- Provides a review of the results of the action to decide if the intended result was obtained.

When?

- Before and during the performance of any action where and error in performance could cause an injury or unwanted event.

How?

- **STOP** —Ensure you are prepared for the task or job assignment. Proper tools, PPE, have read the procedures, qualified/trained to perform, etc
- **THINK** —Review (Procedures, Guidelines, OE's, Lessons Learned, etc.) What will be the results of your actions?
- **ACT** —Perform Task
- **REVIEW** —Review results, document successes and lessons learned.

7.28.5.5 Peer Checking

Why?

- To provide a “second set of eyes” for the detection of the error of others. This can prevent the incorrect execution of irreversible actions.

When?

- During critical job steps – A step that has a direct effect on safety or quality
- Prior to irreversible actions – Actions that when performed incorrectly have an immediate impact to safety or quality
- Prior to performing actions in “error-likely situations.”

How?

- Review with another knowledgeable individual the task or action to be performed PRIOR to taking action
- Verbally state your intended action to the peer-checker
- The peer-checker verified that the action is correct and verbally communicates agreement with the intended action
- Action is completed with peer-checker as observer.

7.28.5.6 Three-way Communication

Why?

- Promotes a mutual understanding between two or more people

  Provides a means of effective, accurate, concise, and error-free transfer of information to achieve a common understanding.

When?

- During switching and clearing evolutions between the Operating Centre and field personnel
- During verbal communication involving the safety of personnel, equipment, or the public
- Communicating an important condition or parameter
- Operating or testing critical equipment
- Directing the activities of other workers.

How?

- Send the message: The sender provides clear and concise directions/information
- Acknowledgement: The receiver repeats back the message to the sender. If the message is direction, it is repeated back verbatim; if information, the message may be paraphrased
- Confirmation of Acknowledgement: The sender confirms that the receiver understands the correct message by affirming the acknowledgement (typically by responding, "That's correct.").

7.28.5.7 Questioning Attitude

Why?

- Challenges assumptions
- Stimulates a healthy scepticism
- Reduced the potential for complacency.

When?

- Before making a decision about an important activity
- Experiencing uncertainty, confusion, or doubt
- Encountering unanticipated conditions or results
- Hearing danger words: "I assume", "I think", "should be", "probably is"….

How?

- Remain vigilant of things that seem different, unusual, or "not right"
- Offer challenging questions
- Be open to being questioned by others.

7.28.5.8 STOP When Unsure

Why?

- Allows for a brief stoppage of work to address and resolve issues or concerns.

When?

- Uncertainty, doubt, confusion, or question
- Unfamiliar or unexpected situation or condition occurs.

How?

- Stop the activity
- Seek assistance or help in resolving question or condition.

7.28.6 Walking and Working Surfaces

Slips, trips and falls account for approximately 20% of all lost time injuries every year. Risk factors that contribute to slip, trip and fall injuries will vary according to the work environment and work tasks being completed.

Common risk factor categories include:

- Floor surface and condition
- Uneven terrain and dense vegetation
- Floor contamination
- Objects on the floor
- Ability to see floor/ walkways/ barricades/hazards
- Cleaning/ spill containment
- Space and design
- Stairs and stepladders
- Work activities, pace and processes
- Footwear and clothing
- Individual factors.

Slip, trip and fall hazards may be identified by reviewing hazard or incident reports, talking with Project personnel, completing a regular walk-through and inspections of work environments.

The NSPS Site Supervisor shall ensure the implementation of a risk based approach to the management of slips, trips and falls at the Project Site. This should include regular inspections of work areas to identify areas or items of risk.

8 Auditing and Management Review

Auditing is the most commonly used means for sites such as the NSP to check the performance of its OEMP and EHS management system elements against the relevant performance standards.

Auditing should address the following:

- Effectiveness of the implementation of the Consent Conditions and Revised Mitigations Measures in the OEMP (against the approval conditions for operations),
- Environmental, health and safety performance of the NSP site compared to EHS manual requirements (this document), and
- Compliance of the EHS management system to the AS 4801 standard for Health and Safety Management Systems.

Where the auditing activity identifies works to be done to address specific observations or non-conformances, these will be prioritised as action items for the NSP to close out/rectify. Progress on action items will be formally tracked using the Safety Corrective Action Register (SCAR) (section 4.14).

In addition to auditing, there is also a mechanism whereby improvements are captured based on a review of the operation's EHS performance across all of its activities. There are many different ways to review EHS performance, but it often consists of reviews by the operation's management committee with EHS representatives, assisted by technical specialists e.g. environmental, health and safety specialists. The management review will examine data from the NSP's performance monitoring from the period which is to be reviewed. The review should identify any gaps, consider what factors might be causing or contributing to those gaps and assign follow-up action items to close any gaps.

The EHS review may also include other matters to generate improvements, including incidents at similar facilities operated by NSPS in Australia or overseas, or new and emerging issues that may be relevant to the facility's operation.

In conducting audits and the management review, JHAs, daily pre-starts, pre-job brief forms, project EHS risk register and forms completed as part of meeting the conditions of consent and mitigation measures (which shall have been kept onsite for at least one year), will be examined. These records shall be made available to the NSPS National HSET Manager or anyone who requests them, for the purposes of auditing, providing oversight, trending, and/or lessons learned.

Compliance to the environmental conditions in this OEMP will be achieved through the internal application of the **Compliance Tracking Program Form** (Appendix O) on a 6-monthly basis and by an external audit at least once every 5 years **(Form-T01)**. EHS Manual audits are to be undertaken every 5 years. As per the requirement in Consent Condition C16(a), the results of the first compliance status will be reported to the planning regulator (DP&E) within 2 years of the commencement of the operations stage of the development.

A summary of audit findings will be reported as soon as practical after the audit is completed to the planning regulator (DP&E) and published on the NSP website.

9 References

Number	Title
OFSC	OFSC – Office of the Federal Safety Commissioner
NCC (formally BCA)	National Construction Code 2015
	Code of Practice: Managing Electrical Risks in the Workplace July 2012
AS/NZS 4801	Occupational Health and Safety Management Systems
AS 2550 Series	Australian Standard for cranes, winches, hoists
AS1337	Australian Standard for Eye Protection
AS/NZ 1800:1998	Australian Standard for safety hard hats
AS 2675B	Australian Standard for Workplace First Aid Kits
AS 1319: 1994	Safety signs for the occupational environment
AS/NZS 1336: 1997	Recommended practices for occupational eye protection
AS/NZS 1800:1998	Occupational protective helmets – Selection, care and use
AS/NZS 2161.1:2000	Occupational protective gloves – Part 1: Selection, use and maintenance
AS/NZS 2210.1:1994	Occupational protective footwear – Part 1: Guide to selection, care and use.
AS 2225	Insulating gloves for electrical purposes
AS 2865: 1995	Safe working in a confined space
AS/NZS 4602:1999	High visibility safety garments
AS/NZS 1336:1997	Recommended practices for occupational eye protection
ISO 14001	Environmental Management Systems
DECCW 2009	NSW Waste Classification Guidelines
NSW DG Act	Dangerous Goods (Road and Rail Transport) Act 2008 (NSW) (DG Act)
NSW DG Regulations	Dangerous Goods (Road and Rail Transport) Regulation 2009 (NSW) (DG Regulations).
POEO Act	The Protection of the Environment Operations Act (1997)

Abbreviations

Abbreviation	Written in Full
ALARP	As Low As Reasonably Practicable
AS/NZS	Australian/New Zealand Standard
AS	Australian Standard
BAC	Blood Alcohol Content
BBS	Behaviour Based Safety
CTP	Compliance Tracking Program
CoP	Code of Practice
D&A	Drugs and Alcohol
DG	Dangerous Goods
DTMR	Daily Toolbox Meeting Record
EAP	Employee Assistance Program
EHS	Environment, Health & Safety
EMS	Environmental Management System
CEMP	Construction Environmental Management Plan
OEMP	Operational Environmental Management Plan
ERP	Emergency Response Plan
FAT	Fatality
FFW	Fitness for Work
FFE	Fire Fighting Equipment
EHS	Environmental, Health and Safety
EHSMP	Environmental, Health and Safety Management Plan
FFW	Fit For Work (ie Fit For Duty)
HOC	Hierarchy of Controls
IM	Injury Management
JSA	Job Safety Analysis
KPI	Key Performance Indicators
LTI	Lost Time Injury
LV	Light Vehicle
MMH	Material Manual Handling
MTI	Medical Treatment Injury
SDS	Safety Data Sheets
NATA	National Association of Testing Authorities
NSWFB	NSW Fire Brigade
O&M	Operations and Maintenance
OHS	Occupational Health and Safety
Owner	AGL
PPE	Personal Protective Equipment
PDCA	Plan-Do-Check-Act

Abbreviation	Written in Full
RA	Risk Assessment
RCA	Root Cause Analysis
RCD	Residual Current Device
RWI	Restricted Work Injury
SoW	Scope of Work
SSE	Short Service Employee
SWL	Safe Working Load
SWP	Safe Work Procedures
TMP	Traffic Management Plan
WA	Western Australia
WLL	Working Load Limit

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Appendix – Policy's

Health and Safety Policy

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At NovaSource Power Services Australia Pty Ltd (NovaSource), We believe that we are **Impacting Tomorrow, Today** by fostering a safety culture that motivates employees to do the right thing, even when no one is looking. NovaSource are committed at all levels to delivering industry leading health and safety standards during the Operations and Maintenance of renewable energy projects. Our Safety System serves as the foundation for quality delivery of all services by emphasizing our Core Values of *Safety, Passion, Accountability, Customer Experience, & Excellence* to help us prevent accidents and incidents from occurring.

Our people, including employees, contractors and suppliers, pursue a commitment to these fundamental core values co-operatively, constructively and by continually collaborating with our staff and business partners to ensure a safe and healthy workplace.

NovaSource provides Operations and Maintenance (O&M) services for the renewable energy sector and through our pro-active and integrated approach to developing, implementing, documenting and maintaining a progressive management system, we;

- Endeavour to ensure a safe workplace and commitment to zero safety incidents, by ensuring adequate resources are provided to prevent accidents and incidents.
- Ensure a safe culture through our values and behaviors.
- Identify, assess and continually control our workplace, in relation to health and safety hazards and consequential risk.
- Comply with, or exceed, requirements of applicable legislation, industry codes of practice, government initiatives and our own procedures.
- Employ, motivate, and train people to apply our health and safety policy and procedures.
- Set and manage realistic and measurable objectives and targets and implement initiatives that support sustainable value.
- Provide a collaborative environment and ensure our work policies and procedures operate effectively through regular communication and consultation with all employees and Sub-Contractors; and
- Encourage all employees to take personal responsibility for the safety of themselves, colleagues and the community at large.

This policy is driven by the NovaSource Management representatives and establishes a framework based on consultation, communication and the formation of objectives and targets designed to promote continual improvement of our practices and performance.

The NovaSource Management System is designed to exceed the requirements of ISO 45001:2018. This Policy will be communicated to all employees and made available to the public and interested parties.

Our success is driven by the value we bring to our projects. It is our commitment to ensure that this policy is implemented in a cooperative and consultative work environment.

Daman Cole
Country Manager
Novasource Power Services Australia Pty Ltd
1st March 2023

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Environmental Policy

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NovaSource Power Services Australia Pty Ltd (NovaSource) is committed to at all levels to sustainable Operations and Maintenance (O&M) of the renewable energy facilities that we manage. NovaSource is committed to implementing and maintaining environmentally sustainable practices that demonstrate a high standard of responsible environmental management.

NovaSource's mission is to create enduring value by enabling a world powered by clean and affordable solar energy. We are committed to performing our work in a sustainable manner and protecting the environment by:

- Communicating and encouraging the teaching of the NovaSource Environmental Policy and procedures to all employees.
- Making business decisions that work towards achieving sustainable operation and minimise pollution - noise, visual impact, odor and the accumulation of waste at renewable energy facilities.
- Responding to the environmental challenges in all areas of our business.
- Ensuring that our employees, subcontractors, suppliers and consultants are aware of and comply with their environmental obligations with respect to NovaSource operations and activities under their control.
- Striving to reduce our impact on the environment by minimising waste generation through reduction, reuse and recycling.
- Set and manage realistic objectives and targets and implement initiatives that support sustainable value.
- Working with our clients and other stakeholders to help them achieve their environmental objectives and obligations.
- Eliminating or minimising adverse environmental effects and risks by reducing and, where possible, eliminating the use of harmful substances and ensuring the correct and safe disposal of all substances.
- Periodically review and revise our Environmental Policy and procedures to maintain their relevance; and
- Complying with all applicable environmental laws, regulations, statutory obligations and relevant voluntary codes of practice.

The NovaSource Management System is designed to exceed the requirements of ISO 14001:2015. It has the full support of the NovaSource Management Team, and its successful implementation and maintenance is a commitment by them.

The organisational culture of environmental stewardship is upheld by strong management support and individual involvement. NovaSource associates shall adhere to this NovaSource environmental policy in the planning and conduct of operation and maintenance activities.

All NovaSource Power Services Associates are personally responsible to perform their job in accordance with the environmental procedures and this overriding policy of environmental responsibility.

Daman Cole
Country Manager
Novasource Power Services Australia Pty Ltd
1st March 2023

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Appendix – Environmental Legislative and Other Requirements

All activities associated with the operation and maintenance of NSP must comply with relevant State and Commonwealth Legislation, Regulations and Regulatory Guidelines. A summary of the relevant legislation and how it may apply to NSP is provided below.

1.1.1. Commonwealth Legislation relevant for NSP

Legislation and administering authority	Summary of legislation	Potential Relevance to NSP
Aboriginal & Torres Straits Islander Heritage Protection Act 1984	The purpose of the Act is the preservation and protection from injury or desecration of areas and objects in Australia and in Australian waters, being areas and objects that are of particular significance to Aboriginals in accordance with Aboriginal tradition. The Minister may make declarations to protect significant Aboriginal areas, objects and classes of objects from threats of injury or desecration. A declaration issued by the Minister to protect an area or object may override any State or Territory approval.	In undertaking our projects, if we discover any Aboriginal remains, we have to comply with the requirements in the Act in reporting the remains to the Minister.
Environment Protection & Biodiversity Conservation Act 1999 (Australian Government Department of the Environment)	All environmental assessments undertaken must consider matters of National Environmental Significance as well as any Commonwealth land. If a significant impact is proposed the approval of the Commonwealth Minister for Environment, Water, Heritage and Arts is required. The Act applies if any action that has, will have or is likely to have a significant impact on: a matter of National Environmental Significance; or Commonwealth land (whether action takes place inside or outside Commonwealth land).	Under the EPBC legislation, the project was determined "not a controlled action". No Commonwealth or threatened species were impacted by the construction of the NSP. It is not expected operational activities will impact on Commonwealth or threatened species.
National Greenhouse and Energy Reporting Act 2007 (Australian Government Department of the Environment)	Provides for the reporting and dissemination of information related to greenhouse gas emissions, greenhouse gas projects, energy production and energy consumption. Controlling corporations that meet thresholds for the amount of GHG's they emit, or how much energy they consume or produce in a given reporting year are required to report this under the Act.	AGL will record and report NGERs data for the operation of the NSP as part of its corporate requirements.
National Environment Protection Council Act 1994	The object of this Act is to ensure that, by means of the establishment and operation of the National Environment Protection Council: (a) people enjoy the benefit of equivalent protection from air, water or soil pollution and from noise, wherever they live in Australia; and (b) decisions of the business community are not distorted, and markets are not fragmented, by variations between participating jurisdictions in relation to the adoption or implementation of major environment protection measures. The NEPC achieves its objectives through National Environment Protection Measures (NEPMs) which are broad framework setting statutory instruments that outline agreed national objectives for protecting or managing particular aspects of the environment.	AGL is committed to meet the NEPM objectives for all its projects.

1.1.2. NSW Legislation relevant for NSP

Legislation and administering authority	Summary of legislation	Potential Relevance to NSP
Biosecurity Act 2015	The primary object of this Act is to provide a framework for the prevention, elimination and minimisation of biosecurity risks posed by biosecurity matter, dealing with biosecurity matter, carriers and potential carriers, and other activities that involve biosecurity matter, carriers or potential carriers.	Weed Management
Environmental Planning and Assessment Act 1979 (EP&A Act) (DP&E – Department of Planning and Environment)	The Project has been approved under Part 3A the EP&A Act as critical infrastructure.	MCoA relevant to NSP operational activities to be complied with.
Protection of the Environment Operations Act 1997 (POEO Act) (OEH - Environmental Protection Authority Branch)	Contains severe penalties for harming the environment, polluting waters, operating equipment inefficiently and incorrectly handling waste. Environmental Protection Licences may be issued by EPA/OEH to regulate and authorise discharges to the environment (e.g. from sediment basins).	The Project does not trigger a scheduled activity for an Environmental Protection Licence. However, the Project team is to prevent pollution and AGL is to notify the EPA of any existing or potential environmental harm during operational work activities.
Waste Avoidance and Resource Recovery Act 2001 (OEH)	Outlines specific targets and objectives for waste reduction.	Compliance must be achieved in relation to waste management. Permits may be required for offsite disposal of hazardous or contaminated material if used or encountered during operation.
Contaminated Land Management Act 1997 (OEH)	Establishes a process for investigating and (where appropriate) remediation of land where contamination presents a significant risk of harm to human health or some other aspect of the environment.	Specific approvals are not required however operational activities must comply. Project team to identify and manage contamination in accordance with the Act.
Water Management Act 2000 (DPI (Water)) (formerly NOW)	Relates to the management of surface and groundwater and water management works.	Water is provided from third party suppliers and stored in storage tanks and rainwater is also captured on site. As the project is approved under part 3A of the EP&A Act, under Section 75U requirements to obtain a water use approval under Section 89, a water management work approval under Section 90 or an activity approval under Section 91 of the Water Management is not required.
Water Act 1912	Manages water extraction from ground and surface waters.	Not applicable as water for operational purposes is provided from third party suppliers and stored in storage tanks, rainwater is also captured on site.

Legislation and administering authority	Summary of legislation	Potential Relevance to NSP
National Parks and Wildlife Act 1974 (NPW Act) (OEH - NPWS branch)	Addresses the protection of Aboriginal items and places of significance and certain native flora and fauna. A consent under section 90 of the NPW Act is required if an Aboriginal place, relic, or site is to be damaged or destroyed or approval under Section 87 of the Act if disturbance is required.	The NSP is not in or in the vicinity of any protected areas as defined in the Act
Threatened Species Conservation Act 1995 (OEH- NPWS branch)	Relates to the protection of species, ecological communities, populations and critical habitat listed as endangered or vulnerable. Approval required if disturbance of threatened species or habitats are to occur.	It is not expected operational activities will impact on threatened species.
Occupational Health and Safety Act 2000 (OHS Regulation 2001) (WorkCover – storage licence, OEH - transport licence for dangerous goods)	Storage and transport of dangerous goods is to be in accordance with the Act. Licence required for storage and/or transport of prescribed quantities of dangerous goods.	Applies to any operational activities that trigger storage and transport of dangerous goods.
Environmentally Hazardous Chemicals Act 1985 (OEH)	This Act regulates the use and storage of environmentally hazardous chemicals. It provides OEH with assessment and control mechanisms for chemicals and chemical wastes.	Limited chemicals are stored onsite, however these are stored and handled in accordance with legislation.
Rural Fires Act 1997 (NSW Rural Fire Service)	Establishes the NSW Rural Fire Service and define its functions and to make provision for the prevention, mitigation and suppression of rural fires.	Emergency Response
Roads Act 1993 (RMS)	Establishes procedures for closing of public roads, roadworks, traffic control devices etc. The Operations contractor is to obtain Road Occupancy Licences (ROL) for use of lanes, and consult on establishing access/exit the NSP if works are required to be undertaken on adjacent roads.	In the event of major works involving large plant and machinery.

1.1.3. Other requirements

Additionally, NSP must comply with other environmental requirements and agreements in place as listed below:

Name / No.	Issued by / Agreement with	Description	Date of Issue
Development Consent SSD-5355	Minister for Planning and Infrastructure	The consent allows development and use of land for the purpose of a photovoltaic power plant facility with the a nominal 53.5MW capacity, and associated buildings and works, including; an operations and maintenance building, marshalling switchgear, 22kv transmission line, car parking, internal access tracks, upgrades to existing roads, fencing and landscaping	27/03/2013