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25 November 2013

Our ref: E303647

Mr Raoul Harper
General Manager
Flinders Island Council
PO Box 40
Whitemark 7255

Dear Mr Harper

Planning Permit Application – 62 Thule Road, Whitemark – Solar array

Please find attached a Planning Permit Application and supporting documentation for the development of a solar array and extension to the existing power station and ancillary infrastructure is to be located at the current power station site, 62 Thule Road Whitemark, 7255 (CT 20170/1).

As part of its commitment to expanding the use of renewable energy the Bass Strait Islands, Hydro Tasmania proposes to establish a photovoltaic solar array adjacent to the Whitemark power, along with enabling technology will be added within the station compound. The intended outcomes of the project include:

- Environmentally sustainable energy generation;
- Reduced use of diesel fuel;
- Reduction in the cost of energy generation; and
- Reduction of greenhouse gas emissions.

The supporting documentation provided with the application includes assessment of the project in respect of the development standards outlined in the Flinders Island Planning Scheme and an assessment of the potential environmental impacts and proposed management and mitigation actions.

We will be in contact with your office to arrange payment of the necessary application fees. Please do not hesitate to contact us should you require anything further.

Yours sincerely

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Flinders Island Remote Area Power System - Solar Farm & Power Station Site Additions

Development application

ENTURA-7493E
8 November 2013

Prepared by Hydro-Electric Corporation ABN48 072 377 158
t/a Entura 89 Cambridge Park Drive, Cambridge TAS 7170 Australia

Entura in Australia is certified to the latest version of ISO9001, ISO14001, and OHSAS18001.

Document information

Document title	Flinders Island Remote Area Power System - Solar Farm
	Development application
Client organisation	HT - Business Development
Client contact	Ray Massie
ConsultDM number	ENTURA-7493E
Project Manager	Ian Jones
Project number	P507452

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Revision 0.1

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Prepared by	Ian Jones		
Reviewed by	David Procter		
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	(name)	(signature)	(date)
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1. Introduction

1.1 Overview

This section briefly outlines the proposed renewable energy integration project, and provides background information on the proponent, the present electricity supply system on Flinders Island, project funding and project benefits.

1.2 The project

As part of its commitment to expanding the use of renewable energy the Bass Strait Islands, Hydro Tasmania proposes to establish up to three additional wind turbines (to be subject of separate Development Application) on private land on Hayes Hill on Flinders Island (Figure 1) along with solar PV adjacent to the Whitemark power station. To support these renewable energy generators, enabling technology will be added within the station compound.

The intended outcomes of the project include:

- Environmentally sustainable energy generation;
- Reduced use of diesel fuel;
- Reduction in the cost of energy generation; and
- Reduction of greenhouse gas emissions.

1.3 The proponent

The Hydro-Electric Corporation ('Hydro Tasmania') is Tasmania's electricity generating utility. It is the largest generator of renewable electricity in Australia, producing over 45 per cent of Australia's renewable output. Hydro Tasmania's generating system has an installed capacity of approximately 2,500 MW, consisting almost entirely of renewable sources and includes:

- a network of 29 small to medium sized hydro-electric power stations;
- a wind farm and solar farm linked with a diesel station on King Island;
- a diesel station on Flinders Island; and
- one thermal (gas) power station at Bell Bay.

Hydro Tasmania opened its first wind farm at Huxley Hill on King Island in 1998 and more recently has undertaken the King Island Renewable Energy Integration Project (KIREIP) on which this Flinders Islands project will be based.

The primary electricity generation and distribution infrastructure on Finders Island is owned and operated by Hydro Tasmania.

1.4 Power supply on Flinders Island

The demand for electricity on Flinders Island is currently met by a diesel power station, located approximately 1.2 km east of Whitemark, and three privately-owned wind turbines located approximately 2.7 km east of Whitemark (Figure 1). The power station has four diesel generators (300kW, 2x750kW & 1200kW), giving a total capacity of 3 MW. Electricity is distributed on the island by three 11kV feeders.

The existing wind turbines are rated at 25 kW, 60 kW and 300kW. The 25 kW machine was installed in 1994, the 60 kW machine was installed in 1988 and more recently a 300kW turbine was installed in 2012. The power produced by the turbines is sold to Hydro Tasmania. The turbines generally produce up to 25% of the island's electricity requirements, depending on their availability.

1.5 Funding consideration

The Flinders Island Wind Farm should be considered against a background of global warming, Australian Government commitments to cap greenhouse gas emissions and the Australian Renewable Energy Agency's (ARENA) program to support off grid power systems through the Community and Regional Renewable Energy Program (CARRE).

Hydro Tasmania intends to apply for partial grant funding for the project under CARRE.

1.6 Project benefits

The aim of the development is to cost-effectively reduce the use of diesel fuel for electricity generation on Flinders Island and replace it with renewable energy generation. The combination of Hydro Tasmania's experience with renewable energy (RE) integration on King Island and the availability of ARENA funds has provided an opportunity to economically increase in the proportion of Flinders Island's energy demand that is generated from renewable resources from around 25% to around 60%.

Energy modelling for Flinders Island indicates that the total volume of diesel consumed for power generation will be reduced from the present average level of 1.2 million litres per annum to an estimated 0.5 million litres per annum once the wind farm is installed. This represents around a 60% reduction in annual diesel usage on the Island, and an associated reduction in carbon dioxide emissions from the power station of approximately 34,000 tonnes over a 20 year timeframe.

It is estimated that the wind turbines and associated infrastructure will have a project life of approximately 20 years, however the turbines may remain in operation beyond this period.

1.7 This document

This report has been prepared as supporting documentation for a formal Development Application to Flinders and include assessment of the project against the provisions of the Flinders Planning Scheme 2000 and an Environmental Impact Assessment and Management Plan.

1.8 Subsequent documentation

Should Flinders Island Council approve the proposal, environmental management plans (EMPs) will be prepared for construction and operation. These plans will incorporate various statutory and planning requirements and any agreements that may have been made with the affected landowners. Such plans are also required under Hydro Tasmania's Health, Safety and Environmental Management System.

Preparation of the plans will be undertaken in consultation with key stakeholders. These plans will ensure implementation of the management measures identified and outlined in this document, and any others required by statutory authorities.

The Construction Environmental Management Plans will incorporate requirements for quality assurance, monitoring and auditing, and will define responsibilities for key personnel. Construction contractors will be required to prepare environmental management plans which will be reviewed and approved by Hydro Tasmania.

An Operation Environmental Management Plan will be developed for the project. The core purpose of this plan is to outline ongoing environmental responsibilities. The plan will be developed by Hydro Tasmania and will include:

- environmental monitoring requirements;
- performance audits;
- review and change control procedure;
- responsibilities;
- ongoing hazardous materials management;
- integration with site quality maintenance and safety plans; and
- documentation and reporting requirements.

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2. Proposal

2.1 Overview

This section describes the overall project, aspects of the project that are specific to this application, proposed solar farm, modifications to the existing power station and ancillary infrastructure. This includes details of site selection, land tenure, plans and details of the proposed infrastructure.

2.2 The site

The proposed solar farm, extension to the existing power station and ancillary infrastructure is to be located at the current power station site, 62 Thule Road Whitemark, 7255 (CT 20170/1), approximately 1 km north-east of the town of Whitemark. A copy of the property title is included in Appendix A.

The site located on the southern side or Thule Road and is an irregular form broadly measuring 200m x 275m comprising approximately 4.16ha in area. The site is currently occupied by the existing Flinders Island Power Station which comprised two main buildings sited centrally on the site and surrounded by vegetation which acts as a screen from Thule Road and the surrounding properties.

2.3 Proposed development

This application is relates to the use of land and development of a solar array, containerised battery storage, containerised electrical switchgear, containerized resistor and Diesel Uninterruptable Power Supply (DUPS) and minor alterations to the existing electricity distribution infrastructure at the existing Whitemark Power Station site on Flinders Island.

2.3.1 Solar array

The photovoltaic (PV) solar array will have an indicative capacity of up to 200kW and shall be located immediately west of the current power station and will be located within an area of up to 7500m^2. The array will be setback a minimum of 20m from all lot boundaries. The indicative layout of the solar array is shown in Figure 2.3 below.

Subject to final design, the PV mounting structure would comprise a frame and racks fixed to steel posts and fixed to the ground. Electrical cabling would be attached beneath the modules along with electrical inverters.

Figure 2.1 shows an indicative section of a typical rack and post arrangement and the maximum height and width of each row. The specific solar PV solar plant is to be finalised through tender but will consist of rows of fixed tilt flat plate solar arrays. The maximum dimensions of the individual solar arrays will be 4m wide x 4m high, while the length of individual racks will vary depending on the final design.

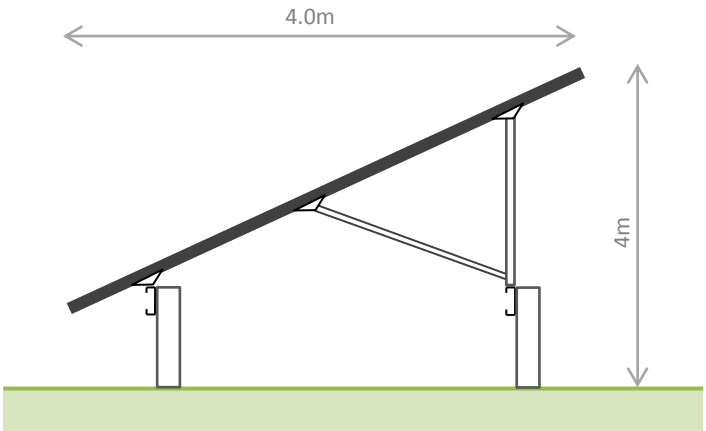


Figure 2.1: Indicative section of panel array.

2.3.2 Additional project components

The Flinders Island Renewable Energy Integration Project (FIREIP) will comprise containerised battery storage, containerised electrical switchgear, containerized resistor and Diesel Uninterruptable Power Supply (DUPS), collectively termed enabling technologies, and minor alterations to the existing electricity distribution infrastructure as follows:

- **Modularised Diesel-UPS**: Installation of an auxiliary Diesel-Uninteruptable Power Supply (D-UPS) into a modular shipping container, preferably CSC certified to facilitate ease of shipping via normal shipping routes. The installation of D-UPS is key to achieving 100% renewable energy penetration at times of high renewable energy production.
- **Resistor Banks**: The resistor heat banks are used to allow WTG's to produce as much power as possible, with excess generation being absorbed by the resistor. Given the resistor can be adjusted rapidly this can be effectively used to control system frequency. The resistor banks with the associated phase angle controllers and LV switchgear will be installed into modular shipping containers for ease of shipping and installation on site.
- **Energy Storage System:** Installation of an electrical storage system equivalent to approximately 1MW capacity and 500kWh of electrical energy. The Energy Storage system will be installed in modular shipping containers.
- **Modularised Low Voltage (LV) Switchgear:** LV switchgear is required to facilitate a single point of connection from the Enabling Technology to the 11kV Bus in the Whitemark power station. This arrangement is required to provide the capability to maximise the renewable energy penetration to the islands load during periods of high renewable energy availability. The switchgear will be housed in a modular shipping container.

The containerised battery storage, containerised electrical switchgear, containerized resistor and DUPS will be connection to the existing power station by an overhead cable tray.

All cabling associated with the solar array and enabling technologies and some existing transmission lines will be located underground in trenches, generally measuring approximately 600-800mm deep and backfilled with existing fill. All cables would be mechanically protected in accordance with relevant Australia Standards.

As identified above, the FIREIP will comprise containerised battery storage, containerised electrical switchgear and containerized resistor and Diesel Uninterruptable Power Supply (DUPS). As such each of these elements will be housed within a standard container the maximum dimensions of each shall be 6.1m long x 2.5m wide x 2.5m high. In total there will be 8 modularised containers required as part of the project. Depending on the final configuration and detailed designed of the final project components, this may require stacking of ancillary equipment such as cooling units and may be up to 5m high. The emission stack associated with the DUPS may be up to 8m high depending on the final design of the project.

The ancillary project elements identified above will be sited on a new hardstand area to the immediate south of the existing power station site and will be broadly 75m x 35m, comprising around 2625m^2. This area will be accessed via an extension to the existing internal access road. The layout of the additional project components is provided in Figure 2.4 below.

Detailed plans of the proposed layout of all infrastructure will be provided to the Flinders Island Council prior to construction commencing. This will include details of any necessary required drainage, bunding, and service locations.

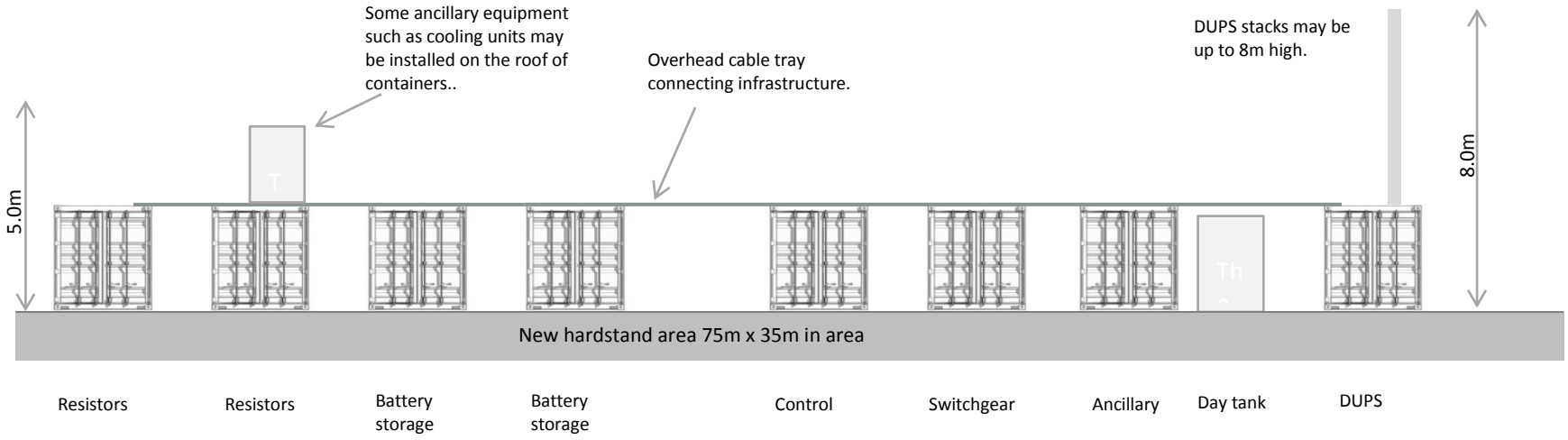


Figure 2.2: Indicative southern elevation of additional project components

Figure 2.3: Site layout

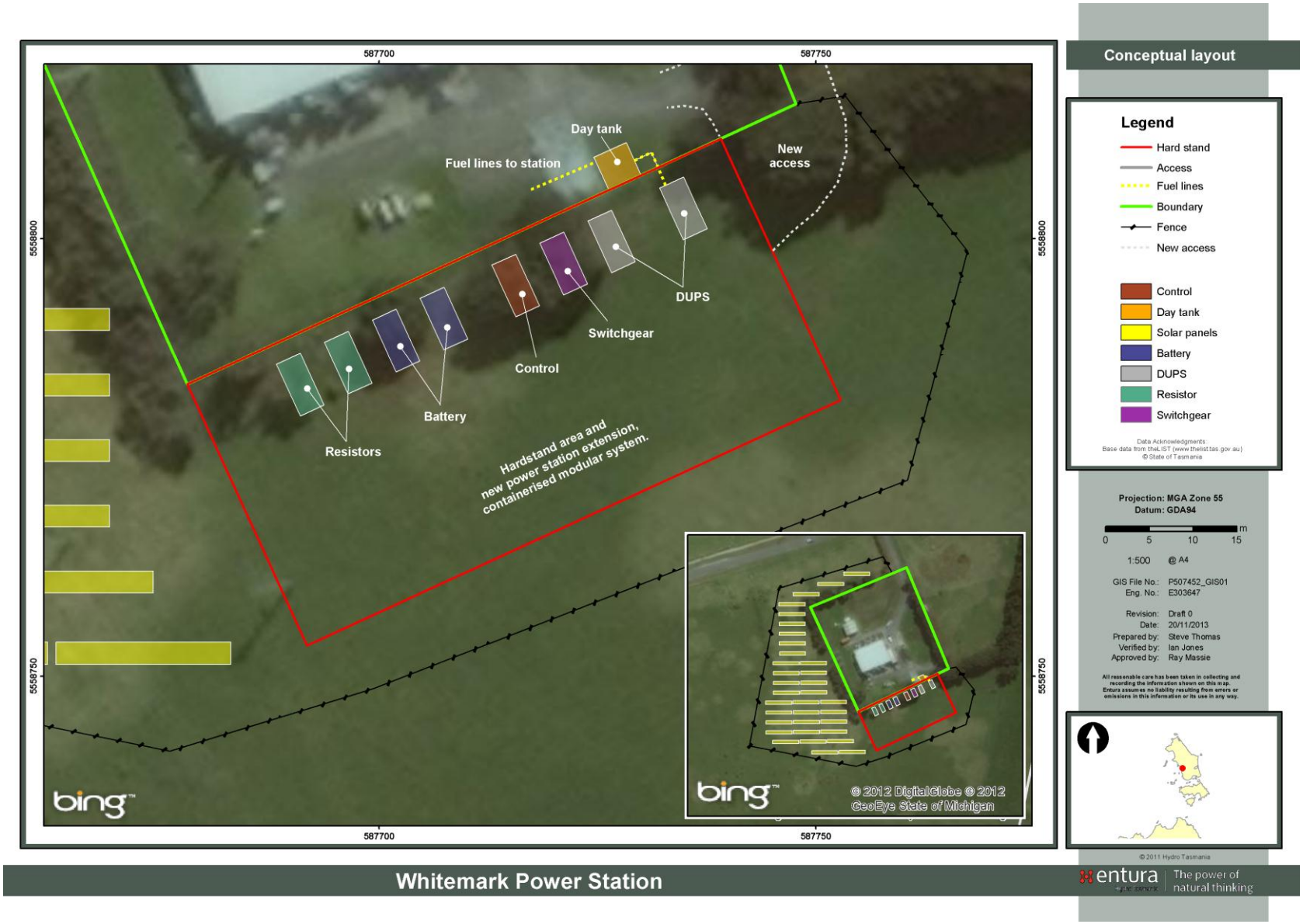


Figure 2.4: Power station extension and containerised modular system

2.4 Existing land use and development

The site is currently occupied by the existing Flinders Island Power Station which comprised two main buildings sited centrally on the site and surrounded by vegetation which acts as a screen from Thule Road and the surrounding properties. The areas of the power station site not used for plant or equipment is mainly for grazing.

There are eight residential dwellings within 1 km of the proposed development site with the closest located approximately 380m to the north east. The remaining dwellings are all located between 500-800m from the development site. In addition, the Flinders Island District High School is also located approximately 600m to the north east of the development site.

2.5 Operation and maintenance

2.5.1 Operations

Once the solar farm and extension to the power station is in service, maintenance patrols will carry out periodic inspections taking note of the condition and any damage to components.

This control system will be based at the Whitemark power station. Operators at the power station will be able to monitor operations on a routine basis by checking data displays and accessing condition monitoring data.

2.5.2 Maintenance

Routine scheduled maintenance is usually required every three or four months. Typical maintenance involves visual inspections of the PV cells, and modularised enablers and routine mechanical maintenance such as filter change outs.

2.5.3 Decommissioning

The photovoltaic cells are designed for an operational life of around 20 years. After this time the cells are approaching the end of their life and the replacement of the cells may be required at this time.

Should it be uneconomic to continue operating the solar farm after its operational life, a decommissioning project will be undertaken. Decommissioning the solar farm would involve removal of all aspects of the project to ground level and excavation would then be backfilled and the surface re-instated and vegetated. The modularised will have varying component lives and will be updated or modified subject to changing needs and economics. If any of the units is decommissioned then they would be removed from site, and the hardstand areas retained for future use or rehabilitated.

Access tracks around the PV installation not required for ongoing land use activities would be allowed to revegetate, and light scarifying, fertilising and seeding may be appropriate. Natural regrowth will be encouraged, and planting of local provenance species may be carried out in some areas.

2.5.4 Transportation

All major equipment for the proposed development will need to be shipped to the island and transported by road from Whitemark. Prior to construction works commencing, Hydro Tasmania will liaise with the Department of Infrastructure Energy and Resources (DIER) and the Flinders Council to determine the requirements for transport access to the site.

3. Planning assessment

3.1 Overview

This Section describes the planning context of the project. The two key pieces of Tasmanian legislation relevant to the development are the *Land Use Planning and Approvals Act 1993* and the *Environmental Management and Pollution Control Act 1994.* At the Commonwealth level, the primary environmental development approval relevant to the project is the *Environment Protection and Biodiversity Conservation Act 1999*.

3.1.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBCA) provides for the protection of matters of national environmental significance and the conservation of Australia's biodiversity. Whilst the States are primarily responsible for environmental impact assessment there are a number of 'matters of national environmental significance' (MNES) that may initiate Commonwealth involvement in a project. These are:

- significant impacts on World Heritage properties;
- significant impacts on National Heritage places;
- significant impacts on Ramsar Wetlands;
- significant impacts on listed threatened species or a listed threatened ecological community;
- significant impacts on listed migratory species;
- nuclear actions; and
- significant impact on the Commonwealth marine environment.

Where an action is likely to result in a 'significant' impact on a MNES the proponent of the action is required to refer the project to the Commonwealth Environment Minister. The Minister must make a binding decision on whether the action is likely to have a significant impact on a MNES and would require further assessment of the potential impacts as a 'controlled action'.

The assessment and approval of a controlled action may be undertaken independently or integrated with the assessment of a Level 2 Activity under the *Environmental Management and Pollution Control Act 1994* in accordance with the Commonwealth and Tasmanian Governments' Bilateral agreement.

3.1.2 Environmental Management and Pollution Control Act 1994

The Environmental Management and Pollution Control Act 1994 (EMPC Act) is the primary environment protection and pollution control legislation in Tasmania. This is achieve through the imposition of a general environmental duty , the development of policies relating to contaminated land, emissions by noise, air and water, and the regulation of particular land uses and developments

as Level 1, 2 or 3 activities. The Tasmanian Environment Protection Authority is responsible for implementation and enforcement of the Act and its regulations.

The generation of energy from solar energy sources is not currently specified under Schedule 2 the Act, and as such is to be considered a Level 1 activity and shall not require specific assessment under the under the EMPC Act. The burning of fuel to generate electricity is a scheduled activity, however the quantities of fuel required for the proposed DUPS will not exceed the prescribed limit of one tonne per hour.

As such referral of the application to the Tasmanian Environment Protection Authority is not required.

3.1.3 Land Use Planning and Approvals Act 1993

The *Land Use Planning Approvals Act 1993* (LUPA Act) establishes a framework for the assessment of the use and development of land in Tasmania. The Act allows for the creation and modification Planning Schemes as the primary instrument utilised to regulate the assessment of use and development. The Act also prescribes procedures for the assessment of Level 1 activities (matters dealt with in planning schemes)

The proposed development site is located within the Flinders Island Council municipal area and is falls with the area regulated under Flinders Island Planning Scheme 1994.

3.1.4 Threatened Species Protection Act 1995

The following obligations under the Tasmanian *Threatened Species Protection Act 1995* (TSP Act) are relevant to the Project. In the absence of a permit, no listed species may be killed, injured or collected listed species on land subject to an interim protection order must not be disturbed there must be no disturbance to listed species contrary to a land management agreement Any interim protection order made to conserve the critical habitat of a listed taxon of flora or fauna must be complied with. In the absence of a permit, no activity may be undertaken on land subject to an interim protection order.

As the site is comprised generally of pasture, it does not form and endangered community and is considered to have low risk of threatened species being present on site.

It is unlikely that threatened species will be impacted by the development and a permit will not be required under the *Threatened Species Protection Act 1995*.

3.1.5 Aboriginal Relics Act 1975

The *Aboriginal Relics Act 1975* provides for the protection of Aboriginal relics in Tasmania. Under the Act it is an offence to disturb, damage or destroy any Aboriginal relics without a permit.

An inspection of the Tasmanian Aboriginal Site Index revealed that no sites have been recorded in the development area. A field survey of the area failed to find any sites or artefacts of Aboriginal heritage significance.

Based on the absence of any sites or artefacts of Aboriginal heritage significance during the site survey, it is unlikely that any sites or artefacts of Aboriginal heritage significant would be affected by the proposed development.

3.1.6 Forest Practices Act

The *Forest Practices Act 1985* (FP Act) provides that the Forest Practices Code (FPC) prescribes the manner in which forest practices are to be conducted which includes the clearance and conversion of native vegetation. The Act and the Code also provide for the protection of the natural and cultural values. A Forest Practices Plan (FPP) is required when clearing trees or clearance and conversion of Threatened Native Vegetation Communities listed on Schedule 3A of the *Nature Conservation Act 2002*.

As the proposed project does not require the clearing of a threatened native vegetation community, an FPP will not be required for the development where a planning permit is granted.

3.1.7 Stakeholder consultation

Hydro Tasmania has undertaken consultations with the following stakeholders:

- The Flinders Council;
- The Tasmanian Department of Tourism, Arts and the Environment; and
- The Tasmanian Office of Energy Planning.

Public comment on the development will also be facilitated through the statutory provisions of the planning approvals process.

3.2 Planning provisions

3.2.1 Zone & land use

The proposed development site at 62 Thule Road Whitemark, is zoned Rural under the Flinders Island Planning Scheme. The use of land for a photovoltaic solar array, extension to the existing power station to accommodate new battery storage and minor alterations to the existing electricity distribution infrastructure would be defined as a 'Public Utility (major)', which is a discretionary development within this zone.

3.2.2 Development standards

Section 3.1.2 of the planning scheme requires that an application for use and development must demonstrate compliance with relevant provisions of Parts 5, 6 and 7, and the relevant Schedules of Part 8. Furthermore, Section 3.5.1 of the planning scheme provides that, if a use is listed in the Table of Use as discretionary, it is discretion and to be dealt with under Section 57 of LUPAA.

Table 3.1: Rural zone development standards

Planning scheme provision	Comment
5.8.1 ZONE INTENT	
(a) The Rural Zone on Flinders Island is intended to maintain the existing rural character of the island which is typified by a pattern of areas of open farmland, typically with shelter belts of remnant vegetation, interspersed with irregular	The proposed development complements the existing character of the location by maintaining a low scale of development.

areas of native vegetation and substantial unspoiled landform. On other islands within the Planning Area the zone is intended to preserve the existing character which displays minimal signs of European occupation.	
(b) Use and development in the Rural Zone is intended to accommodate agricultural uses and development predominantly, with some compatible non-agricultural uses and development in appropriate circumstances, including tourist operation and rural industries. Forest plantations may be appropriate where they do not adversely affect the character of an area or detract from important views.	The proposed development is considered to be a compatible non-agricultural use as it serves an important utility function whilst not constraining adjacent agricultural uses.
5.8.2 DESIRED ZONE CHARACTER AND ZONE GUIDELINES	
(a) The use or development of small existing rural lots for the purpose of residential living shall only be approved where such use or development is compatible with any existing or potential agricultural use of that land or surrounding lands.	The proposed development is not for a residential land use and as such is not applicable to this application.
(b) Use or development should enhance the rural character of the zone. Buildings should be substantial distances from the road frontage and apart, unless inappropriate for operational or topographical reasons. Where land clearance is undertaken it should be visually sympathetic; important trees (or stands of trees) should be retained, important hilltop locations should not be cleared and location of trees and shrubs along fence lines, property boundaries, watercourses and at property entrances is encouraged. Buildings and structures for aquaculture should be sited with regard to the protection of coastal scenery and compatibility with recreational use of the coastline.	The proposed development will enhance the rural character of the surrounding area by maintaining appropriate setbacks to all boundaries, and minimising the clearance of vegetation.
(c) Land use or development and management practices shall be environmentally appropriate and shall avoid contamination or despoliation of the land, ground water, water courses, shorelines, lagoons and marshes. Sand-dunes and coastal vegetation and ecologically important areas shall be protected from degradation.	The proposed development has been designed to avoid impacts on protected natural values by avoiding the development on already disturbed and degraded land. In addition the project shall be undertaken in accordance with Hydro Tasmania's accredited ISO14001 Health, Safety and Environmental Management System.
(d) Forestry activities in the zone shall be in accordance with the Forest Practices Code	The proposed development does not include Forestry activities and is therefore not applicable to this application.

5.8.4 DEVELOPMENT STANDARDS	
(a) The maximum height of buildings is 8.0 metres unless it can be satisfactorily demonstrated that a higher structure is required for operational, topographic or other justified purposes.	Complies. The proposed development will comprise an array of solar panels that are a maximum of 4m high, containerised battery storage, containerised electrical switchgear, containerized resistor and DUPS with a maximum of 5m high. Subject to the final design the emission stack for the DUPS will be up to 8m high.
(b) Habitable buildings should be sited and designed to achieve the best solar gain or orientation that the site can provide. Where such design or orientation is not feasible other energy efficient practices, such as insulation, heat pumps or double glazing, should be considered.	The proposed development is not for a residential land use and as such is not applicable to this application.
(c) Buildings shall be setback a minimum distance of 20 metres from all boundaries.	Complies. The proposed photovoltaic solar array is to be located 20m from the front, side and rear boundaries of the site.
(d) Regardless of the foregoing minimum setbacks, buildings shall be set back not less than a horizontal distance of 100m from high water mark and 40 m from a perennial watercourse.	Complies. The proposed development is not located within 100m from a high water mark or 40 m from a perennial water course.
(e) Council may relax the setback requirement of the above clause pursuant to the provisions of Clause 3.5 of this Scheme and after giving consideration to: i. The particular size, shape, contours or slope of the land and the adjoining land; ii. The adjoining land and uses and zones iii. The position of existing buildings and setbacks in the immediate area; iv. Consideration of any representations received as a result of the notification under Section 57 of the Act.	N/A
(f) The external walls, roof, paving and other large surface areas of buildings shall be finished with non-reflective materials and colours that harmonise with the natural landscape or shall be substantially screened by landscaping.	The very nature of the proposed development will include solar panels that incorporate a reflective surface. However, the array has been sited and designed to avoid and minimise any direct impacts on residences or sensitive land

	uses that could be affected by reflected light.
(g) A house on any lot which contains only class 4, 5, 6 or 7 land is discretionary and may only be approved if any existing or potential development and use of agricultural land in the vicinity is likely to receive no impact, or only minor impact from the establishment of the residence taking into account: (a) The topography of the land; (b) The location of water catchments; (c) The location of neighbouring agricultural pursuits; (d) Buffers created by natural features; (e) Resource sustainability given the objective of the State Protection of Agricultural Land Policy.	The proposed development is not for a residential land use and as such is not applicable to this application.
Part 6 Use and Development Principals	
6.1 Use (a) Use or development shall not unreasonably impact on any existing or intended use of development of neighbouring land. (b) Subdivision of land shall be carried out in accordance with the subdivision provisions for the zone within which the land is located or where that is not appropriate in accordance with: (i) the requirements of the intended use, and (ii) the Zone Intent, or alternatively by (iii) an approved Development Plan that has been adopted by Council and inserted as a provision in the Scheme. (c) Residential Zones shall be protected from encroachment by incompatible use or development. (d) Rural Industrial operations shall be appropriately located and designed to avoid any detrimental effects on neighbouring land use or development, particularly in respect of atmospheric emissions, solid waste disposal and water pollution, soil erosion, noise or visual quality. (e) Mining and quarrying operations shall be located and carried out in a form which does not conflict with surrounding land use or development, scenic values and the environment.	The proposed development will not unreasonably impact on the use or development of neighbouring land as a power station would not be affected by adjacent agricultural land uses and in turn the development of a solar array would have no impact on any future adjacent land uses by way of emissions to air, land or water.
6.2 Character (a) Use and development shall adequately respect the character of, and future intentions for the area in which it is to be located. (b) Subdivision layout, particularly roads, shall take adequate account of land contours and the need to avoid visual scarring. (c) Use or development (including public facilities and services) should adequately respect the surrounding	The proposed development will reinforce the use of the existing site as a power station, by allowing for the consolidation of critical community infrastructure. The character of the locality will be maintained by adhering to the minimum boundary setbacks for development in the rural zone and retaining a low scale of development across the site.

streetscape and neighbouring use or development, particularly in relation to scale, setbacks, form (including roof shape), landscaping, materials, colours and fencing. (d) Landscaping of use or development shall be of a type, form, variety(s) and character which is suited to the intention of the zone, the area and the nature of the use or development. (e) Where trees are an important element in the character of an area they should be retained. (f) Signs shall be consistent in type, scale and location, with the intention of the zone, the streetscape and the building or structure on which they are positioned or to which they otherwise relate. (g) Forestry use or development, particularly plantations, shall be appropriately sited and planned to protect the visual quality and character of the countryside generally, and from important viewing locations in particular.	Where possible, vegetation over the site will be retained to maintain the character and streetscape appeal of the site.
6.3 Amenity (a) Adequate public open space shall be provided in areas of new subdivision, to meet the recreational and open space requirements of the community generally and particularly the new owners of the lots created by subdivision. (b) Use or development shall accord all existing and/or future occupiers with adequate and reasonable levels of amenity, especially in relation to privacy, sunlight, aspect, views and noise disturbance. (c) Dwellings shall provide an adequate amount and appropriate type of private open space, to meet the expected lifestyle requirements of occupants. Such private open space shall provide adequate privacy, be exposed to reasonable levels of sunshine and directly accessible from the dwelling to which it belongs.	The proposed development is located more than 380m from the nearest residential dwelling. As such any impacts on the neighbouring dwellings will be minimal. While the potential exists for noise impact during construction to affect the amenity of neighbouring dwellings, such impacts can be managed through management and mitigations are detailed in section 4 of this report.
6.4 Environment (a) Use or development shall not be allowed to detrimentally affect the environment. All areas, and sensitive ecological and/or visual areas in particular, shall be developed in a manner and to an extent which is consistent with the protection of the values of the area. (b) Use or Development and land management practices shall be directed towards achieving environmental sustainability, biodiversity and ecological balance, and avoiding environmental damage such as soil erosion, coastal dune erosion, loss of important animal and plant species and increases in vermin populations. (c) Use or Development shall not be located in areas of unacceptable risk (eg. from fire, flood or landslip). In situations where risk may exist, use and development shall be appropriately sited and designed to provide an acceptable level of protection and safety for future users. In particular. i. Lands subject to flood risk are those subject to a	The proposed development is considered to comply with this part as it will not have a detrimental impact on the environment. This is achieved by ensuring that the development is not located on: • land subject to flood risk are those subject to a greater than one in a 100 year flood interval; • soils that are suspected of instability; • land that is considered to be a bushfire prone area; In addition, the project is not a Level 2 activity and will not be impacted by the operation of an existing Level 2 activity. While the proposed development may involve extensive site works and ground disturbance, any potential impacts from erosion and sedimentation are considered low and can be

greater than one in a 100 year flood interval (1% probability), and land, the natural surface level of which is below 3 metres Australian Height Datum (AHD); and ii. Land which comprises soils of known or suspected instability, has a slope greater than 1 in 4, or is filled or reclaimed land, are deemed to constitute an unstable land hazard; and iii. Use and development in bushfire prone areas will comply with the provisions of Schedule 7 Development in Bushfire Prone Areas or some other provisions acceptable to Council and the Tasmania Fire Service. (d) Potentially incompatible Uses or Developments shall be adequately and appropriately located, sited and designed to avoid conflict. Level 2 activities or sources of pollution shall be sited in accordance with the following: i. Use or Development for a use of land that is a Level 2 activity under the provisions of the *Environment Management and Pollution Control Act 1994* shall not be allowed within the lesser distance from a residential zone than that recommended by the Director of Environmental Management. ii. Use or Development of land that is not a Level 2 activity, but which Council nonetheless considers will or has the potential for environmental harm, shall not be allowed within a lesser distance from a residential zone than that determined by Council after taking into account the advice from the Director of Environmental Management. iii. A dwelling unit shall not be erected within a lesser distance of any established Level 2 activity or other use of land which Council considers a source of pollution, than that determined by Council taking into account the advice from the Director of Environmental Management. (e) Activities involving extensive site works, such as quarrying, shall be suitably sited, screened, and rehabilitated where appropriate, to protect the ecological and visual qualities of the area. (f) Use or development shall be of a suitable form and siting to avoid any adverse impact on any watercourse and vice versa. Use or development (including the siting of effluent disposal systems) shall be setback a minimum of 40 metres, or such distance as is required, from a watercourse to avoid degradation of water quality. (g) Use of land in the vicinity of those watercourses identified in Schedule 3 shall provide Riparian Reserves in an appropriate location and form.	managed through the development and implementation of a construction environmental management plan. The details of risks and potential management and mitigations are detailed in section 4 of this report.
6.5 Heritage	The proposed development is considered to

(a) Use or Development shall be undertaken in areas and in a manner which conserves items, sites, areas and customs of historic and cultural value. (b) Any Use or Development carried out on or in the vicinity of an item, site, area, feature or customary activity (including Aboriginal sites and shipwrecks) or conservation value, shall adequately respect its historic and cultural integrity. (c) The protection and conservation of items, sites, areas, features and customary activities of historic and cultural importance applies to those previously identified and listed in the Scheme, and those which subsequently become known to Council. (d) Where an item, site, area, feature or customary activity has or may have historic or cultural importance, Council may require a Statement of Cultural Significance to be prepared. (e) Use or development shall be carried out in accordance with the principles and practices of the *Burra Charter*. (f) Use or Development involving any historic building or group of buildings shall adequately respect the design and construction elements of the building(s) and particularly the relationship of spaces, orientation, form, mass, scale, fenestration, detailing, style, materials and colour. (g) Areas of identified conservation value, including National Parks and Nature Reserves, shall be protected from inappropriate use or development and detrimental land management practices including land clearance, within such areas and adjacent areas outside them.	comply with this part as it will not impact on any area, items, site or cultural values identified in the Planning Scheme. In addition, An inspection of the Tasmanian Aboriginal Site Index revealed that no sites have been recorded in the development area. A field survey of the area failed to find any sites or artefacts of Aboriginal heritage significance. Based on the absence of any sites or artefacts of Aboriginal heritage significance during the site survey, it is unlikely that any sites or artefacts of Aboriginal heritage significant would be affected by the proposed development. In addition, impacts regarding unanticipated discoveries will be managed in accordance with the prescriptions in section 4 of this report.
6.6 Access and Parking (a) All new lots must be provided with satisfactory pedestrian and vehicular access to a public street. (b) All Use or Development shall provide satisfactory pedestrian and vehicular access which is suited to the volume and needs of future users. (c) Buildings and spaces intended for public access shall provide for satisfactory use and access by the disabled; the requirements of the Building Regulations in relation to AS1428.1-1988 shall be met. (d) Road widths shall be appropriate to the road function, expected traffic type and volume, and future subdivision potential of the subject and surrounding land. (e) Footpaths shall normally be required in areas of new subdivision except where low vehicle traffic volumes are anticipated, in which case a footpath one side only or no footpath may be appropriate. (f) Road intersections shall be kept to a minimum with the use of existing roads, service roads and/or shared driveways being encouraged where appropriate. (g) Intersections of roads, footpaths and foot crossings and driveways shall provide adequate safety for all users and shall satisfy the relevant requirements of Schedule 4.	The proposed development is considered to comply with the provisions of this part as it does not require the alteration to the existing access arrangements from Thule Road or alteration to the onsite parking.

(h) New Use or Development shall provide a suitably constructed driveway of a width to provide for the safe ingress and egress of the anticipated volume of traffic associated with the Use or Development. (i) New Use or Development shall provide adequate car parking to provide for the demand it generates and shall be capable of being safely accessed. (j) On site turning shall be provided for development involving significant traffic volumes, heavy vehicle types and/or on roads which carry significant amounts of traffic. (k) New Use or Development in Bushfire Prone Areas will require access that complies with the provisions of Schedule 7, Development in Bushfire Prone Areas.	
6.7 Services (a) Use or Development shall be provided with adequate and appropriate services which are suited to the lifestyle requirements of people, the nature of the location, and the ability of the community to provide. (b) Lot size and arrangement shall be adequate and appropriate to ensure an acceptable level of servicing, particularly in relation to waste disposal. (c) In areas not serviced with water use or development shall provide adequate water supply and effluent disposal systems. Each dwelling shall provide a potable water storage facility (minimum capacity of 40kl) to provide for the anticipated number of occupants, and a wastewater disposal system approved by the Council's Environmental Health Officer (d) Use or Development in the bushfire prone areas will provide fire protection features and water supplies which comply with Schedule 7. (e) Use or Development shall be appropriately sited, designed and constructed to avoid conflict with service mains (including telephone, power, sewer, water and irrigation channels/pipelines). Buildings shall not be erected over any service main or within any easement providing for same whether utilised or not. (f) Servicing systems shall use adequate and appropriate design methods and materials to ensure an acceptable life span and allow for adequate maintenance requirements. (g) Use or Development shall optimise efficiency in the use of energy and resources. In particular, land should be subdivided on a generally sequential basis (ie. one area is substantially should be used for different services where appropriate, and solar access maximised.	The proposed development is considered to comply with the provisions of this part as use and development will not increase demand on any public services. In addition the very nature of the use and development is to optimise the use of energy resources by facilitating the integration of a solar energy into the power supply of Flinders Island.
6.8 Social Interest 1. Use or Development should demonstrate how it suits the community interest. 2. Use or Development shall have adequate and appropriate types and levels of access to social facilities and	The proposed development is considered to comply with the provision of this part as the project is intended to improve the efficiency of the electricity supply to the Flinders Island community.

services (eg. shops, government agencies, telecommunication, health services and educational facilities).	
Part 7 Special Area Provisions	The proposed development does occur within an area subject to the provisions of this part.
Schedule 2 Buildings and Works or Historic Interest	N/A
Schedule 3 Riverside, Wetlands and Shoreline Areas	N/A
Schedule 4 Roads	N/A
Schedule 5 Signs	N/A
Schedule 6 Telecommunications Infrastructure Schedule	N/A
Schedule 7 Development in Bushfire Prone Areas	N/A
Schedule 8 North East River Development Plan	N/A

3.2.3 Objective of the RMPS

Schedule 1 of LUPAA includes a number of objectives to be achieved through Tasmania's Resource Management and Planning Approval system and furthered by planning schemes and planning scheme amendments. These are provided in Table 3.2 with a comment in relation to the proposed development.

Table 3.2 Objectives of Schedule 1 of LUPAA

Objective	Comment
Part 1	
(a) to promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity	The development will facilitate a reduction in the use of fossil fuels as the primary source of electricity generation on Flinders Island without any significant impact on ecological processes and genetic diversity.
(b) to provide for the fair, orderly and sustainable use and development of air, land and water	A reduction in fossil fuel electricity generation will improve sustainability outcomes for the whole community.
(c) to encourage public involvement in resource management and planning	The public can be involved in the development process, through making representations.
(d) to facilitate economic development in accordance with the objectives set out in paragraphs (a), (b) and (c)	The proposal will facilitate economic development for the area by increasing sustainability outcomes and reducing longer term reliance on the importation of diesel.
(e) to promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State	The development will require local government approval.

Part 2	
(a) to require sound strategic planning and co-ordinated action by State and local government	The proposed development accords with local and state policies.
(b) to establish a system of planning instruments to be the principal way of setting objectives, policies and controls for the use, development and protection of land	This objective is not directly applicable.
(c) to ensure that the effects on the environment are considered and provide for explicit consideration of social and economic effects when decisions are made about the use and development of land	The design of the development primarily seeks to avoid adverse impacts upon any significant values of the site.
(d) to require land use and development planning and policy to be easily integrated with environmental, social, economic, conservation and resource management policies at State, regional and municipal levels	The proposed development furthers this objective and takes into account state, regional and local planning policies and strategies.
(e) to provide for the consolidation of approvals for land use or development and related matters, and to co-ordinate planning approvals with related approvals	This objective can only be met through legislative change. This development will gain all necessary permits and approvals for its use and development.
(f) to secure a pleasant, efficient and safe working, living and recreational environment for all Tasmanians and visitors to Tasmania	The proposed development will meet this objective through avoidance of significant impacts.
(g) to conserve those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value	The proposed development will not adversely impact any significant buildings or places of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value.
(h) to protect public infrastructure and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community	Existing infrastructure will be protected through appropriate construction management.
(i) to provide a planning framework which fully considers land capability.	This objective is not directly applicable.

3.2.4 State Policies

Tasmania has a number of State Policies which guide the decision making of development applications.

The Tasmanian Coastal Policy

It is considered that the State Coastal Policy 1996 is not applicable to this application as the proposed development site is more than 1 km from the coast (as defined).

The State Policy on the Protection of Agricultural Land

The development does not impact on any designated Prime Agricultural Land and the proposed site does not have any agricultural potential.

The State Policy on Water Quality Management

The development will not conflict with the objectives of the State Policy on Water Quality Management 1997 (SPWQM).

3.2.5 National Environment Protection Measures (NEPMs)

National Environment Protection Measures (NEPMs) are treated in a similar manner to State Policies. Table 3.3 below lists the NEPMs and provides a response in relation to the proposal development.

Table 3.3: National Environment Protection Measures

National Environment Protection Measure	Relevance to Proposal
Used packaging materials	The proposal cannot influence this NEPM.
Ambient air quality	Substantive Greenhouse gas emissions are not expected from the development, and it will result in an overall reduction in greenhouse gas emissions from the existing power station.
Movement of controlled waste	The proposal does not involve controlled waste.
National pollutant inventory	Not relevant.
Assessment of site contamination	While no site investigation of contamination has occurred, the history of usage and occupation of the development area, as well as a surface inspection suggests that contamination of the development area is unlikely.
Diesel vehicle emissions	The minor level of construction will not significantly increase CO_2 emissions during construction.
Air toxics	The proposal will not produce air toxics

4. Environmental impact assessment and management

4.1 Overview

This Section describes the environmental management aspects of the project. For each component of the environment a description is given of:

- the existing environment;
- the potential effects of the project on the environment; and
- the strategies and safeguards proposed for managing these potential effects within acceptable limits.

The structure of this Section corresponds with the aspects of the environment as follows:

- the biophysical environment – that is, topography, geology, soils and water quality, flora and fauna; and
- the human environment – that is, land use and land tenure, Aboriginal heritage, visual amenity, noise and social impacts.

Information was drawn from a range of sources including specialist studies and reports carried out for the project.

The management prescriptions identified in this part shall be included in a Construction Environmental Management Plan that is to be prepared prior to the commencement of construction and approved by Hydro Tasmania.

4.2 Biophysical environment

4.2.1 Topography, geology, soils and water quality

The Existing Environment

The proposed development will be situated on the site of the existing Whitemark Power Station at , 62 Thule Road Whitemark, 7255 (CT 20170/1). The site is broadly flat in nature, located on the southern side or Thule Road and is an irregular form broadly measuring 200m x 275m comprising approximately 4.16ha in area. The site is currently occupied by the existing Flinders Island Power Station which comprised two main buildings sited centrally on the site and surrounded by vegetation which acts as a screen from Thule Road and the surrounding properties.

The superficial geology of the power station site comprises Undifferentiated Quaternary sediments, although confirmation of the geological conditions will be confirmed prior to construction commencing.

The closest waterway to the site is an unnamed tributary, located approximately 500 metres from the northern boundary of the site. Construction and operation of the turbines of the development will not impact on impact on this waterway.

Potential Effects

There is minor potential for increased soil erosion arising from any activity that involves the removal of vegetation cover or the disturbance of soil. In addition to the loss of soil, this can result in increased sediment pollution of waterways and generation of dust. Other related effects include soil structural damage, soil compaction and erosion from stockpiled material.

There is some potential for minor dusting and erosion to occur along the access to the site.

Management of Environmental Issues

The following measures will be adopted at the site.

- A stormwater management plan will be prepared as part of the Construction Environmental Management Plan for the project.
- Soil and vegetation disturbance will be kept to the minimum area necessary for the practical and economical completion of the project.
- Movement of vehicles and equipment will be restricted to designated areas.
- Drainage works will be installed to divert upslope runoff around disturbed areas and stockpile sites via stable pathways. Runoff from disturbed areas will be directed through sediment control devices such as sediment fences and will be discharged to stable, well-vegetated areas.
- Cleared vegetation and excavated topsoil will be stockpiled and used in rehabilitation works.
- Rehabilitation of disturbed areas will be carried out as soon as practicable.
- The access will be spread with gravel to minimise dust.

Regular monitoring for erosion will be carried out during construction and operation, and rehabilitation will be carried out as necessary. Rehabilitated areas will be monitored and re-treated if necessary.

4.2.2 Flora and fauna

The Existing Environment

A natural values assessment was carried at the power station site by Entura in November 2013. The assessment has included both a desktop assessment and field investigation involving a flora survey of the development site by a suitably qualified ecologist.

The proposed development site is improved pasture comprising the pasture grasses, *Lolium perenne* (perennial ryegrass), *Bromus hordeaceus* (soft brome), *Bromus diandrus* (great brome), *Bromus catharticus* (prairie grass), *Dactylis glomerata* (cocksfoot), Lagurus ovatus harestail grass, *Cynosurus echinatus* (rough dogstail), *Pennisetum clandestinum* (kikuyu grass), and *Vulpia* sp. (fescue). There were also a number of pasture weeds present including *Hypochoeris radicata* (rough catsear), *Arctotheca calendula* (capeweed), *Rumex crispus* (curled dock) and Polycarpon tetraphyllum fourleaf allseed. African boxthorn (*Lycium ferocissimum*) which is listed as a declared weed under the

Tasmanian *Weed Management Act 1999* was also present as scattered occurrences across the proposed development area.

There is a planted shelterbelt between the proposed development area and the existing Flinders Island Power Station. The shelterbelt is comprised of planted *Allocasuarina verticillata* (drooping she-oak) trees with the occasional *Eucalyptus globulus* (Tasmanian blue gum) and *Melaleuca armillaris* (giant honey-myrtle). This shelterbelt provides habitat for a limited number of native bird species including Australian magpie (*Gymnorhina tibicen*), superb fairy-wren (Malurus cyaneus) and New Holland Honeyeater (*Phylidonyris novaehollandiae*).

No threatened flora species were located during the field survey.

Potential effects

The proposed PV solar array will not impact on native vegetation or threatened flora species as the development area is improved pasture and no indigenous native flora species were recorded during the site survey. There was no habitat for threatened fauna species present because of the absence of native vegetation.

Management of Environmental Issues

As there is no native vegetation at the site there are no additional management of vegetation issues other than what is being implemented for soil erosion as detailed in Section 4.2.1.

The *African Boxthorn - Statutory Weed Management Plan* (*Weed Management Act 1999*) classifies the Flinders Island local government area as a Zone B municipality. The plan identifies that the management measure for African Boxthorn in Zone B municipalities is '*containment within municipal boundaries, protection of specified areas within municipal boundaries, and the prevention of spread to Zone A municipalities*'. Therefore a procedure to minimise the potential to spread African boxthorn and other weeds and diseases including *Phytophthora cinnamomi* to the site, the following procedures will be implemented:

- All machinery will be completely clean and free of soil material prior to entry to the site.
- As far as practicable, construction will be confined to periods of dry weather.
- Any gravel used for road construction will be sourced from quarries known to be free of Phytophthora.

4.3 Biophysical environment

4.3.1 Aboriginal heritage

The Existing Environment

An Aboriginal heritage survey was carried out by Greg Jackman, Senior Archaeologist and Stephen Stanton, Aboriginal Heritage Officer in November 2013. The purpose of the survey was to record any Aboriginal sites or artefacts in the development area and make recommendations on their management.

An inspection of the Tasmanian Aboriginal Site Index revealed that no sites have been recorded in the development area. A field survey of the area failed to find any sites or artefacts of Aboriginal heritage significance.

Consultation with Aboriginal Heritage Tasmania (AHT), the Flinders Island Aboriginal Association and the Tasmanian Aboriginal Centre (TAC) was undertaken before the survey and consultation on the findings of the survey will be undertaken in the near future. The report on the finding is currently being prepared in accordance with the guidance issued by AHT, in accordance with the requirements of the *Aboriginal Relics Act 1975*.

Potential Effects

Based on the absence of any sites or artefacts of Aboriginal heritage significance during the site survey, it is unlikely that any sites or artefacts of Aboriginal heritage significant would be affected by the proposed development.

However there is potential for buried sites to be exposed during construction. As such the AHT 'Unanticipated Discovery Plan' should be followed in the event that cultural heritage items or skeletal material is uncovered during construction.

Management of Environmental Issues

The following measures will be undertaken to manage impacts on Aboriginal Heritage:

- If any cultural heritage items or skeletal material is uncovered during construction the AHT 'Unanticipated Discovery Plan' shall be implemented.
- If any cultural heritage items or skeletal material is uncovered during construction representatives of the Flinders Island Aboriginal Association shall be notified.

4.3.2 Visual amenity

The Existing Environment

The proposed development site and surrounds is largely cleared agricultural land scattered with small remnants of degraded heath. The site is located in a low flat plain approximately 1.5 km from the coast. The existing power station building is located centrally on the site and is screened from Thule Road and surrounds by establish wind rows on all sides.

Potential Effects

Assessing the visual impact of any development is problematic due to the subjective nature of people's responses. Some people may find the development of a solar array an intrusion on the landscape, while others will see them as having aesthetic appeal. Visual effects are also complicated as perceptions can change over time.

Due to the low scale of development the 'visual catchment' of the proposed development consists largely of the properties and road directly adjacent the development site from which the solar array and additional project components are either wholly or partially visible. This area extends is likely to be around 1-1.5 km from the site due to the interrupted nature of viewing location from remnant vegetation.

Based on the low scale of the proposed development and compliance with relevant development standards in respects of height and siting, it is unlikely that the proposed development would result in any significant visual impact on the surrounding landscape.

During construction potential impacts on the visual amenity of the locality may arise from the loss of ground cover, stockpiles and waste management. Any impacts arising from construction activities will be short term in nature and can be managed through good construction management practices.

Management of Environmental Issues

To minimise the visual impact of construction activities on the amenity of the locality:

- All work sites will be kept tidy and free of rubbish and waste all time. Wastes should be segregated into separate bins for recycling or disposal at a licensed disposal site. Waste management should be included in site induction training to ensure all personnel are aware of the appropriate identification, segregation and labelling of waste.
- All works will take place in a defined works area and vegetation clearing will be kept to a minimum. Where vegetation clearance is undertaken, efforts will be made to limit the impact to the area required to establish hard stands, underground cabling and access roads.
- Areas disturbed during construction will be rehabilitated.

4.3.3 Noise

The Existing Environment

The proposed development site is located in a sparsely populated area surrounded by grazing land. There are eight residential dwellings within 1 km of the proposed development site with the closest located approximately 380m to the north east. The remaining dwellings are all located between 500-800m from the development site. In addition, the Flinders Island District High School is also located approximately 600m to the north east of the development site.

Potential Effects

The potential impacts from noise are disturbance to surrounding land users due to noise from machinery used during the construction period and from heavy vehicle traffic movements on the access road to the site. Any noise impacts experience at nearby residences are expected to be minimal and well within acceptable criteria as defined under the State *Environment Protection Policy (Noise) 2009*.

The potential noise impacts associated with increased heavy vehicle traffic in the areas through which construction materials will be transported is not considered to be significant. Traffic associated with the construction activities therefore is not considered to present a significant impact to the existing environment.

Management of Environmental Issues

The following measures will be undertaken in relation to noise issues:

- Work should be restricted to daylight hours (nominally 0700 to 1800). Some variation to this may be required so as to take advantage of favourable weather conditions. Any work outside of these hours will be agreed with Hydro Tasmania prior to commencement.
- Machinery and vehicles should be maintained in accordance with manufacturers specifications and will be in good repair.
- A log of noise complaints should be maintained on site and any noise related complaint will be investigated.

4.3.4 Hazards – Materials, waste, fire and air quality

Potential Effects

Liquids fuels such as diesel and petrol, lubricating and hydraulic oils and coolants will be used in construction machinery, vehicles and other equipment. It may be necessary to maintain and refuel such equipment on site and as such the storage of this material on site may be necessary.

These refuelling and maintenance activities carry a possibility of spillage to and contamination of land, water or increase risk of fire.

Waste materials produced as part of the proposed development may include the following:

- Soil, clay and rock excavated as part of the construction activities and not required for use on site.
- Packing materials and general construction waste.
- Oily wastes.
- General refuse.

Poor site management practices have the potential to result in contamination of land, water, or increase risk of fire. In addition, poor site management of waste may result in adverse impacts on visual amenity of the locality.

Management of Environmental Issues

The following measures will be undertaken in relation to materials, waste, fire and air quality:

- Formal waste containment be provided at the construction site to facilitate regular rubbish removal. Oily waste will be recycled, where possible.
- Waste is to be removed from the site for disposal at a licensed waste disposal facility on a regular basis;
- Controlled wastes should be removed from site by an appropriately licensed waste contractor;
- Where possible, wastes should be segregated into separate bins for recycling or disposal at a licensed disposal site. Waste management should be included in site induction training to ensure all personnel are aware of the appropriate identification, segregation and labelling of waste;
- Hazardous materials will need to be managed in accordance with applicable State and Commonwealth dangerous goods requirements and relevant standards;

- Hazardous materials will need to be stored at a dedicated location nominated for the storage and handling of these materials;
- Storage and handling of controlled wastes (eg. waste oils, chemicals) is a priority. Wastes need to be stored in accordance with appropriate Australian Standards for that material (eg. AS. 1940:2004);
- Spillage to any bunds (including contaminated rainwater collecting in bunds) will need to be disposed of as controlled waste using an appropriately licensed waste cartage contractor;
- There should be no burning of any waste material on-site;
- There should be no dumping or burying of waste on-site;
- Where practicable, fuels and oils should not be stored at the site during construction. Where it is necessary to store fuels the store should be an appropriately bunded and secure facility that is located at least 50 metres away from watercourses.

4.3.5 Socio-economic benefits

The proposed development of a solar array has the potential to bring about several positive outcomes with direct and indirect benefits for the local economy.

As a new technology industry, renewable energy developments are leading to investment, job creation and skills development. It is estimated that the construction of the project will involve capital expenditure in the order of $13m (including the wind farm). Hydro Tasmania will endeavour to employ local contractors wherever possible, and there will be flow-on effects to local services and hospitality industries. There will be up to 12 jobs associated with the on-site construction works, and regular visits to the site by maintenance crews throughout the 20 year life of the facility.

The FIREIP may be seen as a tourist attraction, and there could be an enhancement of the 'clean and green' image of the Flinders Island region through the production and increased use of renewable energy. This image provides an important market advantage for local produce and tourism.

Community pride in the region could be bolstered, as people in the area would be involved (either directly or indirectly) in this technically advanced, environmentally responsible development. The following measures will be adopted during the project:

- Hydro Tasmania and its contractors will employ local labour where practical and comply with safe and efficient work practices.
- Hydro Tasmania and its contractors will source accommodation, food supplies, fuel and materials locally wherever practical and the workforce will be accommodated in pre-existing facilities in the region.

4.4 Environmental auditing

In order to ensure that environmental management measures are appropriately applied throughout the project, site works are subject to auditing by Hydro Tasmania in accordance with its ISO14001 accredited Health, Safety and Environmental Management System.

4.5 Summary of environmental management

Aspect	Management requirement
Flora and Fauna	The *African Boxthorn - Statutory Weed Management Plan* (*Weed Management Act 1999*) classifies the Flinders Island local government area as a Zone B municipality. The plan identifies that the management measure for African Boxthorn in Zone B municipalities is '*containment within municipal boundaries, protection of specified areas within municipal boundaries, and the prevention of spread to Zone A municipalities*'. Therefore a procedure to minimise the potential to spread African boxthorn and other weeds and diseases including *Phytophthora cinnamomi* to the site, the following procedures will be implemented: • All machinery will be completely clean and free of soil material prior to entry to the site. • As far as practicable, construction will be confined to periods of dry weather. • Any gravel used for road construction will be sourced from quarries known to be free of Phytophthora.
Aboriginal heritage	The following measures will be undertaken to manage impacts on Aboriginal Heritage: • If any cultural heritage items or skeletal material is uncovered during construction the AHT 'Unanticipated Discovery Plan' shall be implemented. • If any cultural heritage items or skeletal material is uncovered during construction representatives of the Flinders Island Aboriginal Association shall be notified.
Visual impact	To minimise the visual impact of construction activities on the amenity of the locality: • All work sites will be kept tidy and free of rubbish and waste all time. Wastes should be segregated into separate bins for recycling or disposal at a licensed disposal site. Waste management should be included in site induction training to ensure all personnel are aware of the appropriate

	identification, segregation and labelling of waste. • All works will take place in a defined works area and vegetation clearing will be kept to a minimum. Where vegetation clearance is undertaken, efforts will be made to limit the impact to the area required to establish hard stands, underground cabling and access roads. • Areas disturbed during construction will be rehabilitated.
Noise	The following measures will be undertaken in relation to noise issues: • Work should be restricted to daylight hours (nominally 0700 to 1800). Some variation to this may be required so as to take advantage of favourable weather conditions. Any work outside of these hours will be agreed with Hydro Tasmania prior to commencement. • Machinery and vehicles should be maintained in accordance with manufacturers specifications and will be in good repair. • A log of noise complaints should be maintained on site and any noise related complaint will be investigated.
Materials, waste, fire and air quality	The following measures will be undertaken in relation to materials, waste, fire and air quality: • Formal waste containment be provided at the construction site to facilitate regular rubbish removal. Oily waste will be recycled, where possible. • Waste is to be removed from the site for disposal at a licensed waste disposal facility on a regular basis; • Controlled wastes should be removed from site by an appropriately licensed waste contractor; • Where possible, wastes should be segregated into separate bins for recycling or disposal at a licensed disposal site. Waste management should be included in site induction training to ensure all personnel are aware of the appropriate identification,

	segregation and labelling of waste; • Hazardous materials will need to be managed in accordance with applicable State and Commonwealth dangerous goods requirements and relevant standards; • Hazardous materials will need to be stored at a dedicated location nominated for the storage and handling of these materials; • Storage and handling of controlled wastes (eg. waste oils, chemicals) is a priority. Wastes need to be stored in accordance with appropriate Australian Standards for that material (eg. AS. 1940:2004); • Spillage to any bunds (including contaminated rainwater collecting in bunds) will need to be disposed of as controlled waste using an appropriately licensed waste cartage contractor; • There should be no burning of any waste material on-site; • There should be no dumping or burying of waste on-site; • Where practicable, fuels and oils should not be stored at the site during construction. Where it is necessary to store fuels the store should be an appropriately bunded and secure facility that is located at least 50 metres away from watercourses.

5. Conclusion

The proposal development of a solar array, containerised battery storage, containerised electrical switchgear, containerized resistor and Diesel Uninterruptable Power Supply (DUPS) and minor alterations to the existing electricity distribution infrastructure at the existing Whitemark Power Station site on Flinders Island has been designed to consider the functional requirements of the installation and minimise the environmental impacts of the project.

By virtue of the use classification as a Public Utility (major) being considered a discretionary use in the Rural zone the application is able to be considered under s57 of LUPAA.

The development will not unreasonably impact upon any values of the site and any impacts on the surrounding environmental can be easily protected through good construction management practices that will be identified in a Construction Environmental Management Plan. In addition, Hydro Tasmania's Heath Safety and Environmental Management System will apply to the construction of the development and ensure that it is undertaken in accordance with Best Practice Environment Management.

The proposal is able to be considered and meets all of the mandatory requirements under the Flinders Island Planning Scheme. It is submitted that the proposal should be approved.

Appendices

A Certificate of title

the LIST.

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmania
Explore the possibilities

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
20170	1
EDITION	**DATE OF ISSUE**
1	30-May-1994

SEARCH DATE : 17-Nov-2013
SEARCH TIME : 09.17 PM

DESCRIPTION OF LAND

Parish of METTA, Land District of FLINDERS
Lot 1 on Plan 20170
Derivation : Part of Lot 17393 Gtd. to H.J. Walker
Prior CT 4029/60

SCHEDULE 1

THE HYDRO-ELECTRIC COMMISSION

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

the LIST.

FOLIO PLAN

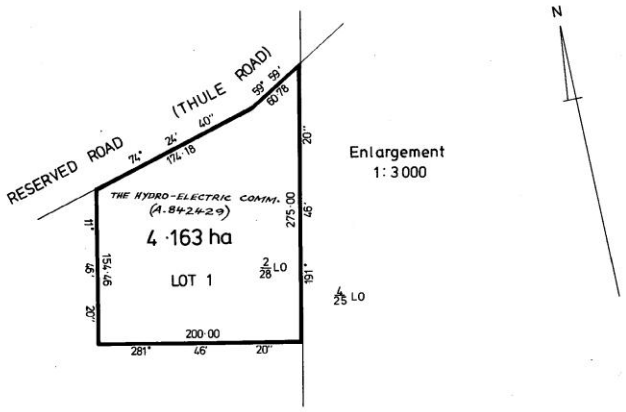
RECORDER OF TITLES

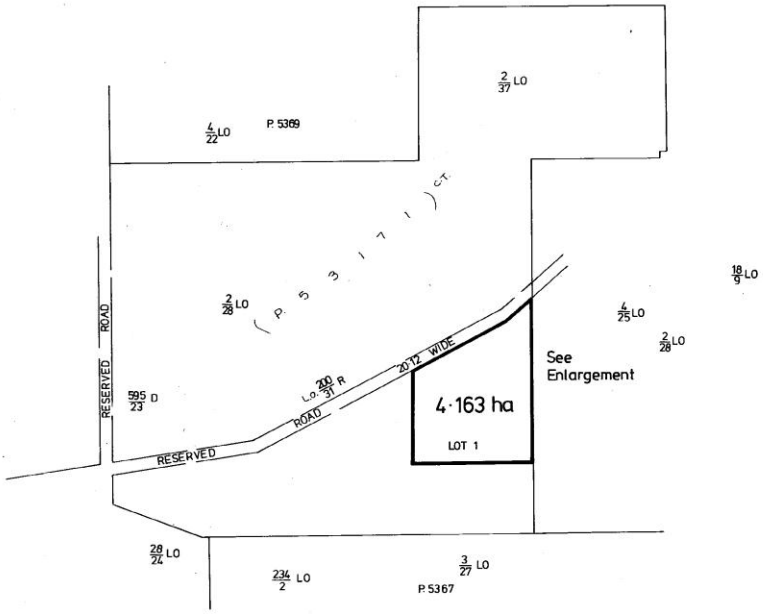
Issued Pursuant to the Land Titles Act 1980

Tasmania
Explore the possibilities

US-K 1110

Owner: NITA JOAN BLUNDSTONE DONALD CHARLES BLUNDSTONE GARRY RAYMOND BLUNDSTONE	PLAN OF SURVEY by Surveyor N. C. McGUIRE of land situated in the	Registered Number: P20170
Title Reference: CT 2270-82	LAND DISTRICT of FLINDERS PARISH of METTA	Approved ~~Effective from~~ 16 MAY 1983
Grantee: PART OF LOT 17393 99A-0R-25Ps (Ex. Roads) HAROLD JEFF WALKER, PURCHASER.	Scale 1:5 000 Measurements in Metres	Acting Deputy Recorder of Titles





Search Date: 17 Nov 2013 Search Time: 09:18 PM Volume Number: 20170 Revision Number: 01 Page 1 of 1

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