APPENDIX B: CONSULTATION

DEPARTMENT CONSULTATION

COMMUNITY CONSULTATION PLAN

COMMUNITY CONSULTATION FEEDBACK FORM

COMMUNITY CONSULTATION FACTSHEET

Jenny Walsh

From: Parker, Nick MR 1 <nick.parker1@defence.gov.au>
Sent: Wednesday, 18 March 2015 12:07 PM
To: Jenny Walsh
Subject: Jemalong Solar Station Proposal [SEC=UNCLASSIFIED]

Hi Jenny.

Thanks for forwarding through the proposed location plan and draft heliostat visability report and our discussion this morning.

As discussed.

Noting that this is a draft report, as stated in the Conclusion if the recommendation to further reduce glare by staggering are employed, the glare impacts on pilots should be minimised to level which will not impact upon pilots.

As you can appreciate, the technical experts within Defence and myself have not reviewed the full EIS for this project yet and I cannot provide an absolute that Defence is satisfied at this time.
I look forward to reviewing the EIS when it is made available.

Should you have any further questions please do not hesitate to contact me.

Thanks.

Kindest Regards

Nicholas Parker
Planning Officer
Estate Planning Branch - ACTNSW
Department of Defence
(02) 6266 8201

From: Jenny Walsh [mailto:jenny.w@nghenvironmental.com.au]
Sent: Monday, 16 March 2015 16:57
To: Parker, Nick MR 1
Cc: dsrgidepSDRGIDEP.ExecutiveSupport@defence.gov.au
Subject: Jemalong Solar Station Proposal

Hi Nick,

Thanks for speaking to me earlier in the month.

The Jemalong Solar Station Proposal is located approximately 36 kilometres west south west of Forbes, within the Forbes Shire Local Government Area. Please find attached a location plan.

The proposal would comprise the installation of a 30MW CSP plant with thermal energy storage, made up of 89 modules, with each module consisting of a heliostat field and a 27 metre high receiving tower. The heliostats would be 3 metres high, located 30 to 100 metres from the receiving tower.

The consultation response from the Department of Defence regarding the proposal notes that glare from reflective surfaces can affect the visibility of pilots' during daylight hours. We note that the heliostats are mirrors pointed in a generally northerly directly toward the receiving towers.

Please find attached a report addressing glint and glare issues related to the proposal, noting mitigations which can be put in place. The impact on pilots using the Forbes aerodrome is considered. The report is in draft form at the moment.

Are you able to advise whether this information would satisfy Defence that their pilots would not be at risk? Please let me know if you require any further information.

Many thanks,
Jenny

Jenny Walsh | Manager, Central West & Orana

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Planning & Environment

Contact: Lauren Rose
Phone: 02 9228 6325
Email: lauren.rose@planning.nsw.gov.au

Jenny Walsh
Manager Central West & Orana
NGH Environmental Pty Ltd
341 Havannah St
Bathurst NSW 2795
Via email to: jenny.walsh@nghenvironmental.com.au

Dear Ms Walsh

Jemalong Solar Station (SSD 14_6588) – Secretary's Environmental Assessment Requirements

I refer to your correspondence dated 7 October 2014 seeking clarification in regards to the Secretary's Environmental Assessment Requirements (SEARs) for Jemalong Solar Station.

The Department notes your request to use photo diagrams as part of the visual impact assessment for the proposed heliostats. The Department understands that NGH Environmental anticipates photo diagrams would be more appropriate than photomontages to represent the project infrastructure. However, the Department is not able to determine whether photo diagrams would adequately demonstrate the visual impact of the development from potentially affected residences as an example of a photo diagram has not been provided. Therefore, the Department will assess the adequacy of the visual assessment when a draft Environmental Impact Statement is received.

The Department also notes that NGH Environmental proposes to only conduct subsurface test excavations if the assessment deems necessary to determine the significance of impacts. The Department has corresponded with the Office of Environment and Heritage (OEH) with regards to this requirement and a copy of this correspondence is provided for your reference. Consequently, the Department considers that the need to conduct subsurface testing would be dependent on the outcomes of the initial assessment based on consultation with Aboriginal groups, background research and site surveys.

Should you have any enquiries about this matter, please contact Ms Lauren Rose on (02) 9228 6325.

Yours sincerely

Karen Jones 17.11.14
Director
Infrastructure Projects

Encl: Letter from OEH to DPE: Re: Request for Input for SEARs – Jemalong Solar Station, dated 7 November 2014

Office of Environment & Heritage

NSW GOVERNMENT

Your reference:
Our reference: DOC14/260182-1
Contact: Phil Purcell
(02) 68835341
Date: 7 November

Lauren Rose
Development Assessment Systems
Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Lauren,

Re: Request for Input for SEARs – Jemalong Solar Station

I refer to your email dated 10 October 2014 requesting advice from the Office of Environment and Heritage (OEH) on the Aboriginal cultural heritage (ACH) assessment methodology proposed by NGH Environmental for the above project. Please accept our apologies for the delay in our response.

In response to your request OEH can only offer advice within the context of the approved project Secretary's Environmental Assessment Requirements (SEARs) and the submitted Scoping Report[1]. OEH guidelines and documents for undertaking ACH investigation pertain only to the *National Parks and Wildlife Act 1974* and *Regulations 2009*.

The project SEARs issued by the Department of Planning are suitably adequate for designing an ACH investigation for the proposed solar station taking into consideration the extensive land use history of the site relative to the proposed footprint. The query you seek clarification on, whether the ACH investigation should include archaeological sub-surface testing, can only be determined by the specialist undertaking the ACH assessment investigation and this would involve consideration of the landuse history, the types landforms within the site relative to the footprint and the results of the field survey. OEH views the project SEARs as allowing sufficient scope to carry out test excavations if it is considered necessary to do so to reach an informed decision.

OEH has, as the only point of reference on this matter, the Scoping Report although this is lacking in sufficient information to offer detailed advice. However, based on an aerial map displaying the project site (Figure 1-2 'Proposal Site', page 3) OEH recommends caution in the western margins of the site where it approaches a prominent water feature and in the adjacent margins of a sinuous drainage line that dissects the site. Both locations are the most likely locations for Aboriginal objects, with the water feature likely to have the higher frequency of objects and potential for burials, especially if source bordering dunes are present and still intact. The water feature may in fact be part of the older Lachlan River and if so heightens the potential for sites to be of significant antiquity. These generalised observations can only be tested during the ACH assessment and subsurface testing would form part of that inquiry if the assessment results deemed it necessary.

PO Box 2111 Dubbo NSW 2830
Level 1 48-52 Wingewarra Street Dubbo NSW
Tel: (02) 6883 5330 Fax: (02) 6884 8675
ABN 30 841 387 271
www.environment.nsw.gov.au

Should you have any questions regarding this advice, please contact Phil Purcell, Archaeologist, on (02) 6883 5341 or via phil.purcell@environment.nsw.gov.au .

Yours sincerely

SONYA ARDILL
Senior Team Leader Planning, North West Region
Regional Operations

[1] NGH Environmental (2014) *Scoping Report – Jemalong Solar Station*. Report dated 18 July 2014.

Jenny Walsh

From: Sheridan Ledger <Sheridan.Ledger@epa.nsw.gov.au>
Sent: Thursday, 4 December 2014 8:44 AM
To: Jenny Walsh
Subject: RE: Jemalong Solar Station proposal

Hi Jenny,

The SEARs require justification for the level of assessment undertaken (see point 2 on page 3 in the air quality section). If you consider that air dispersion modelling is not required then this approach should be addressed in the EIS.

Cheers

Sheridan

Sheridan Ledger

Regional Operations Officer| **NSW Environment Protection Authority** | ☎: (02) 6332 7608 | 🖷: (02) 6332 7630 |🖱: Sheridan.Ledger@epa.nsw.gov.au

---

From: Jenny Walsh [mailto:jenny.w@nghenvironmental.com.au]
Sent: Friday, 28 November 2014 4:44 PM
To: Ledger Sheridan
Subject: Jemalong Solar Station proposal

Hi Sheridan,

nghenvironemtnal, on behalf of Vast Solar, is coordinating the EIA for the Jemalong Solar Station proposal – the attached SEARs were issued by the Dept Planning and Environment in August this year.

Attached is a copy of the consultation response from the EPA. In Attachment 1 to the letter under Air Quality, it is noted that air dispersion modelling should be completed where there is a risk of adverse air quality impacts or where there is sufficient uncertainty to warrant a rigorous numerical impact assessment.

The solar proposal would generate air quality impacts during construction, mainly dust as well as traffic movements. During its operation, the air quality impacts would be limited to emissions from plant and equipment. Due to the nature of the proposal, we do not consider that dispersion modelling is required.

Are you able to advise whether the EPA would be happy with a qualitative approach to the assessment? Please let me know if you require further information to comment.

Many thanks,
Jenny

Jenny Walsh | Manager, Central West & Orana

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Jenny Walsh

From: Melissa Ross <melissa.ross@forbes.nsw.gov.au>
Sent: Monday, 8 December 2014 1:54 PM
To: Jenny Walsh
Cc: Paul Bennett; Mail
Subject: FW: Jemalong Solar Station proposal

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jenny,

Thankyou for your email.

The Lachlan Valley Way (Forbes to Condobolin) is a Regional RMS Classified road, meaning that RMS will likely need to be consulted during the assessment process.

Council mapping system identifies Naroo Lane as a public road running from Wilbertroy lane to Lot 13 DP 753118.

Council request that a dilapidation survey be undertaken of The Lachlan Valley Way and Naroo Lane pre and post construction, with the developer to make good any damage as a result of the development.

Please let me know if you require any further information.

Regards,
Melissa

Melissa Ross | **Town Planner (MPIA)**| **Environmental Services & Planning**
Forbes Shire Council | 2 Court Street | PO Box 333 Forbes NSW 2871
P: 02 6850 2344 | F: 02 6850 2399 |E: melissa.ross@forbes.nsw.gov.au
Visit Forbes Shire Council website

From: Jenny Walsh [mailto:jenny.w@nghenvironmental.com.au]
Sent: Monday, 17 November 2014 3:11 PM
To: Paul Bennett
Subject: Jemalong Solar Station proposal

Hi Paul,

Please find attached a letter requesting environmental assessment requirements for the 30 Megawatt Jemalong Solar Station proposal. I will send you the relevant SEARs and Agency requirements in a separate email.

The proposal would be accessed via the Lachlan Valley Way, Wilbertroy Lane and Naroo Lane. Are you able to advise whether Roads and Maritime Services is the road authority for the Lachlan Valley Way? We understand that Naroo

Lane is partly a public road (with FSC being the road authority) and partly a private road. Are you able to advise the extent of Naroo Lane which is a public road?

Many thanks,
Jenny

Jenny Walsh | Manager, Central West & Orana

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suite 1, 39 fitzmaurice st
(po box 5464)
wagga wagga nsw 2650
t 61 2 6971 9696
f 61 2 6971 9693

canberra
unit 17, 27 yallourn st
(po box 62)
fyshwick act 2609
t 61 2 6280 5053
f 61 2 6280 9387

ngh@nghenvironmental.com.au
www.nghenvironmental.com.au

17 November 2014

Paul Bennett
Director Planning and Environment
Forbes Shire Council
2 Court Street
Forbes NSW 2795
PaulBe@forbes.nsw.gov.au

Dear Paul,

RE – Proposed Jemalong Solar Station – environmental assessment requirements

nghenvironmental is completing the environmental assessment for the proposed 30 Megawatt Jemalong Solar Station on behalf of Vast Solar. I understand that Andrew Want from First Solar met with Councillors and Council staff on 12 November 2014 to provide a briefing on the project.

The proposal is a State Significant Development and the Secretary's Environmental Assessment Requirements (SEARs) were provided in August 2014 and can be found here: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6588; I will also email you a copy of the SEARs, with the consultation responses from relevant agencies.

Also attached is a site location plan for the proposal.

Are you able to advise whether Forbes Shire Council has any environmental assessment requirements in addition to the SEARs and those from Agencies?

Please let me know if you need any further information.

Yours sincerely,

Ph 0448820748

nghenvironmental

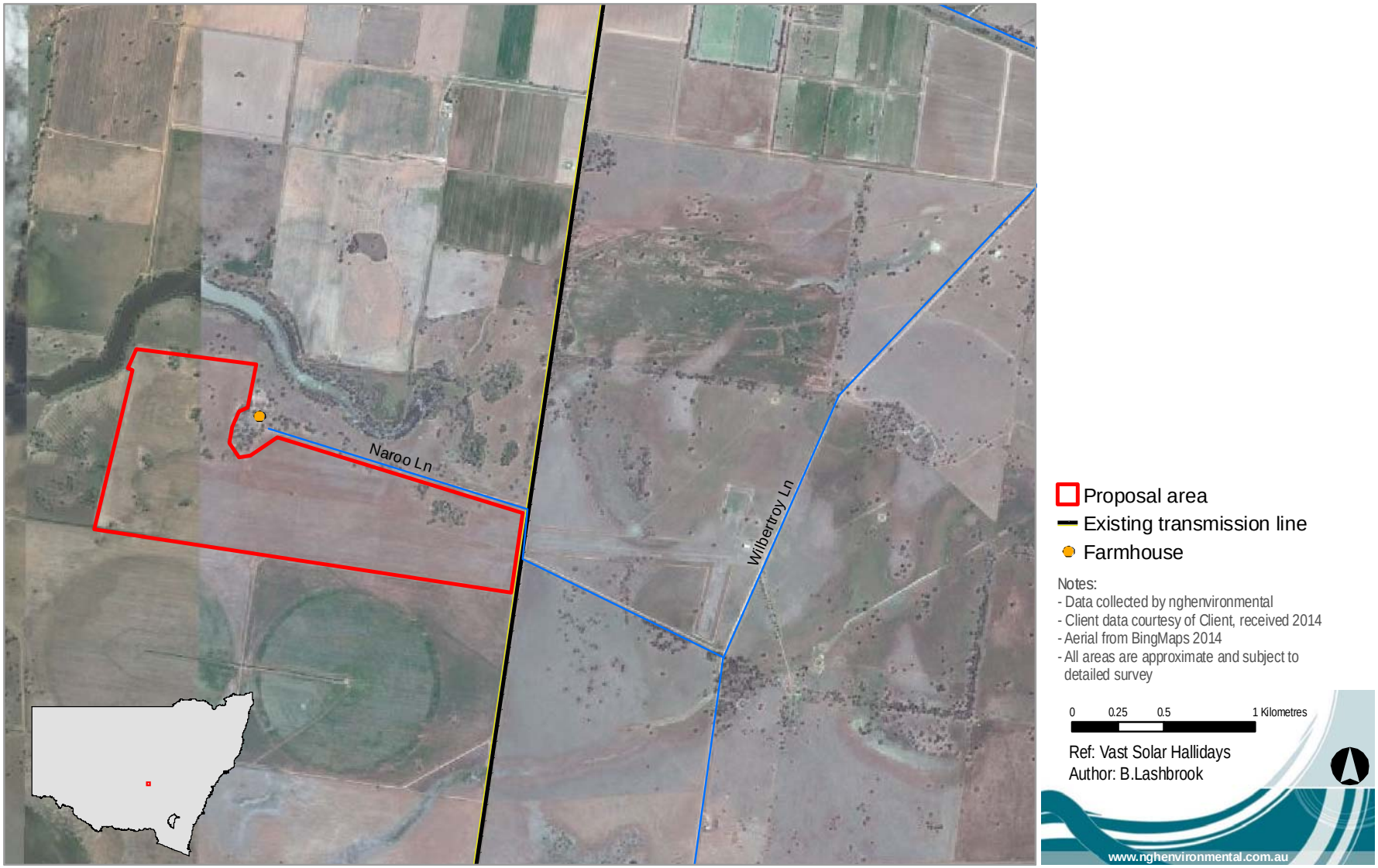

Figure 1-2 Proposal site

Jenny Walsh

From: Jane Chrystal <jane.chrystal@lls.nsw.gov.au>
Sent: Tuesday, 25 November 2014 5:06 PM
To: Jenny Walsh
Cc: Peta Holcombe; Shona Whitfield
Subject: Re: Jemalong Solar project

Hi Jenny

Thank you for sending through the document. I note it refers to the "Lachlan Catchment Management Plan". That document has since been superseded by the Central West Transitional Catchment Action Plan available on our website, if you do not already have a copy.

Overall, the key areas of concern for the Central West Local Land Services include:

- Native Vegetation (and biodiversity values),
- Water (surface and ground water),
- Biosecurity,
- Emergency management,
- Cultural Heritage and engagement with the Aboriginal community, and
- Community engagement in an ongoing capacity.

I am sure you will consider all the required matters in the preparation of the EIS for the Jemalong Power Station.

Thank you

Jane

Jane Chrystal | Manager - Strategic Land Services
CENTRAL WEST Local Land Services
30 Warne Street | Wellington NSW 2820
T. 02 6840 7803 | F. 02 6840 7801 | M. 0429 127 653
E: jane.chrystal@lls.nsw.gov.au
W: http://www.lls.nsw.gov.au/

On 25 November 2014 at 12:23, Jenny Walsh <jenny.w@nghenvironmental.com.au> wrote:

> Hi Jane,
>
> Copy of the SEARs attached.
>
> Many thanks,
>
> Jenny
>
> **From:** Jane Chrystal [mailto:jane.chrystal@lls.nsw.gov.au]
> **Sent:** Tuesday, 25 November 2014 12:22 PM
> **To:** Jenny Walsh
> **Subject:** Jemalong Solar project
>
> Hi Jenny
>
> Can you forward me a copy of the SEARs, as discussed.
>
> Thank you
>
> Jane
>
> Jane Chrystal | Manager - Strategic Land Services
>
> CENTRAL WEST Local Land Services
>
> 30 Warne Street | Wellington NSW 2820
>
> T. 02 6840 7803 | F. 02 6840 7801 | M. 0429 127 653
> E: jane.chrystal@lls.nsw.gov.au

W: http://www.lls.nsw.gov.au/

This message is intended for the addressee named and may contain confidential information. If you are not the intended recipient, please delete it and notify the sender. Views expressed in this message are those of the individual sender, and are not necessarily the views of their organisation.

VAST SOLAR
JEMALONG SOLAR STATION
30MW FACILITY (JSS1)
COMMUNITY LIAISON PLAN

DRAFT – June 2016.

Abstract:

This plan has been prepared to guide the community liaison activities for the planning, design and construction of Vast Solar's 30MW commercial scale concentrated solar thermal power (CSP) facility. It is a living document that is regularly reviewed and updated to reflect community input and the project cycle. This draft plan builds upon previous drafts (2014/2015).

CONTENTS

1. INTRODUCTION

1.1 COMMUNITY CONSULTATION - PRINCIPLES AND APPROACH

Vast Solar aims to undertake community consultation and engagement activities in an inclusive and respectful manner to ensure that community issues are identified and addressed appropriately at all stages of project planning, development and approval and throughout the construction and operation of the proposal.

Principles that inform our approach to the development and implementation of this plan are to:

- **Inform the community** – provide balanced and objective information to assist community understanding throughout the proposal's development, planning and approval process and delivery.

- **Consult with the community** – provide opportunities for open communication between Vast Solar and stakeholders in order to obtain public feedback about ideas, the rationale, and options for the project that may influence proejct decisions.

- **Involve the community** - Identify issues and views to ensure that concerns and aspirations are understood and considered in the proposal's planning approval process and delivery.

- **Collaborate with the community** - Work together to develop understanding of all issues and interests to work out alternatives and reflect these preferred solutions.

- **Empower the community –** Where possible, provide a variety of opportunities and resources for stakeholders to contribute to solutions to the proposal's planning approval process and delivery.

The above principles are articulated in IAP2's Public Participation Spectrum that is designed to assist with the selection of the level of participation that defines the public's role in any community engagement program. The Spectrum show that differing levels of participation are legitimate depending on the goals, time frames, resources and levels of concern in the decision to be made. The Spectrum is widely used and is quoted in most community engagement manuals.

Fundamental communication **principles** that guide our approach to engagement with project stakeholders are to:

- Communicate early and often
- Encourage community enquiries and feedback
- Actively seek opportunities to engage and inform the community
- Use all community engagement as an opportunity to educate and inform about the importance of CSP and energy storage
- Listen to feedback, investigate suggestions and always report back

- Transparency with quality; ensure access to high quality, well-researched information that will assist stakeholders to better understand what is to happen and why
- Keep the general and local community and key stakeholders informed of project progress
- Ensure that new information in areas likely to be of interest or cause some impact is made available to key stakeholders in a timely way and in a useful form.

This plan will be reviewed and updated as the proposal progresses through project stages in accordance with the above principles and with due reference to guidelines that include:

- *Establishing the social licence to operate large scale solar facilities in Australia: Insights from social research for industry,* Australian Renewable Energy Agency (ARENA).

1.2 THE AIM OF THIS PLAN

The aim of the Community Liaison Plan (CLP) is to provide a framework for consultation, engagement and positive ongoing relationships with the local community. It has been prepared to guide the community liaison activities for the development of Vast Solar's 30MW Concentrating Solar Thermal Power (CSP) facility at Jemalong, NSW ("the proposal" also referred to as JSS1).

The plan has been developed for the early planning and assessment stages of the project and these include community liaison activities for the JSS Pilot Project. If the proposed 30MW project is approved, the plan will be updated to incorporate further consultation activities pertinent to the pre-construction, construction and operational phases of the project.

This plan adopts many of the concepts and communication tools also used in development of Vast Solar's previous, smaller scale CSP development - the 6MW concentrating solar thermal pilot plant and R&D facility (JSS Pilot Project), also located at Jemalong, which was prepared in early 2014. The JSS Pilot Project is due for completion and commencement of operations in late 2016.

The primary aim of this document is to ensure that the proposed 30MW project takes intimate account of and is developed in a manner responsive to the values and expectations of the community, both locally in the Forbes/Parkes region, and more broadly as to the role of large-scale CSP power generation for the benefit of regional, state and national economies.

Potential impacts have been identified and strategies of mitigation developed in consultation with the community. These will evolve with the benefit of community feedback over time. Potential opportunities will be identified to maximise the broader benefits of the project to the community and ensure the project supports the development and maintenance of a strong social license to operate, for the benefit of the project and CSP technology more broadly.

This document also includes information about:

- Consultation activities undertaken as part of Vast Solar's 6MW JSS Pilot, as this project is a 'pilot' for the 30MW facility (JSS1).
- The consultation activities to be undertaken for the 30MW project, noting they will be phased appropriately for pre and post approval project stages.
- Key project issues, potential impacts and mitigation measures required to address issues.

- Identified issues and areas of interest for stakeholders and information relevant to these areas.
- Details about how information about the 30MW project will be accessible to residents, businesses, stakeholders and other interested members of the community.
- Clear processes for managing stakeholder enquiries and feedback (including complaints) during planning, construction and operational stages from stakeholders, including how these interactions will be documented and responded to.
- Details of the communication process, designed to be open and effective.
- Details on the process to enable effective communication liaison across key internal and external stakeholders including all relevant agencies including ARENA, Clean Energy Finance Corporation, energy system stakeholders (such as Essential Energy), regulatory authorities and agencies and funding partners so they are aware of project progress, issues and outcomes.

2. THE PROJECT PROPOSAL - OVERVIEW

2.1 ABOUT VAST SOLAR

Vast Solar is an Australian Company developing solar energy generating technology known as Concentrating solar thermal power (CSP). CSP technology uses the thermal energy of the sun to produce power. The Twynam Agricultural Group, the Australian Renewable Energy Agency (ARENA) and organisations that include Doosan Skoda are significant investors and/or partners in the Company and their work.

Vast Solar has undertaken CSP research and development activities since 2009. This has involved progressive development of demonstration facilities to trial, test and scale different aspects of the technology. Since 2011, three research and development projects or project 'phases' have been undertaken, with demonstration sites each built at Jemalong, 30 km west of Forbes, NSW.

The JSS1 Project Proposal represents the culmination of the above Australian research and engineering innovation and will be Vast Solar's first commercial scale CSP facility. The proposal, if approved, will showcase Australian research and innovation to the local region, Australia and the world, provide dispatchable renewable energy to the grid and contribute to state and national government commitments to reduce greenhouse gas emissions.

2.2 ABOUT CSP

CSP is part of a new generation of solar power that captures and utilizes thermal heat from the sun and has the ability to store and distribute renewable energy twenty four hours a day. This capacity is called 'dispatchable' power.

CSP power plants involve a solar array (a field of heliostats or mirrors), a receiver that captures the thermal energy from the heliostats, and usually (though not universally) now also include large-scale thermal energy storage. The thermal energy is used to create steam in a boiler, which

drives a traditional steam turbine and electricity generator. Power so generated is then transferred to energy users via the grid.

Recent developments have seen significant advances in a form of CSP technology known as 'power tower' or central receiver configuration, where the heliostats reflect the sun's energy onto a thermal receiver at the top of a tower. 'Power tower' CSP has high solar concentration efficiency, delivering very high temperatures, which in turn provide better performance from the steam turbine and higher efficiency in energy storage. These attributes have strong potential to reduce the cost of CSP solar energy to levels comparable with wind generated energy and with the significant advantage of large-scale energy storage, which allows the energy to be delivered at times of highest demand or need in the network.

Thermal energy storage cost is a fraction of the cost of even the most modern battery technology and is likely to remain a more cost-effective solution at utility scale. As CSP systems generate heat, they also have the flexibility to deliver steam and heat (as well as electricity) for industrial processes such as food processing, brewing, chemical processes and water treatment (including desalination).

The challenge is to rapidly reduce the cost of 'power tower' systems, while maintaining the high temperatures and resultant high performance they offer. Vast Solar has developed innovative designs for a high efficiency/low cost, modular CSP power plant system, with integrated energy storage. Vast Solar modular design involves small towers and dedicated fields of heliostats and and the use of a heat transfer fluid (HTF) to capture and transfer the heat collected from each tower to a common point of thermal storage.

2.3 CSP RESEARCH AND DEVELOPMENT AT JEMALONG

After receiving approval from Forbes Shire Council, in December 2011 Vast Solar completed a small demonstration facility at Jemalong (Research & Development Phase 1). This facility consisted of 200 heliostats (mirrors) and one 25 metre tower and receiver. Demonstration of this small system enabled Vast Solar to prove the core performance of the CSP system, and from this base to raise the funds needed to expand the system to its full modular size of 699 heliostats.

During 2012, with financial support from the Australian Solar Institute (now the Australian Renewable Energy Agency; ARENA) and both financial and technical support from Doosan-Skoda Power, a large international power generation company based in Europe and owned by the huge Doosan corporation of Korea, the initial demonstration facility was expanded to include a further 500 heliostats (Research & Development Phase 2). This enabled Vast Solar to proceed with a range of tests and trials, gathering data and information to validate the expected performance of the Vast Solar system, and providing valuable information and insights for refinement of components and systems. The Phase 2 facility however did not include a steam turbine or electricity generator, and was not connected to the electricity network.

Armed with the information gained from the Phase 2 facility, Vast Solar applied to its investors and to ARENA for funding to build a new and larger research, development and demonstration facility at Jemalong – the JSS Pilot (R&D Phase 3) - which will demonstrate the Vast Solar CSP system at multi-module scale, and in a power generating R&D plant connected to the electricity

grid. The new facility will include both thermal energy storage and grid connection, to demonstrate the complete Vast Solar system from sun through storage to electricity.

ARENA invited Vast Solar to submit a detailed project proposal for the Phase 3 JSS Pilot and in February 2014 the funds required to complete the Phase 3 project were secured.

The JSS Pilot (Phase 3) is currently nearing completion. It involves the construction and operation of five solar array modules, each consisting of one 27 metre tower and receiver, heat transfer fluid and 699 heliostats. These modules will connect to central energy storage tanks. Stored thermal energy will be passed through a steam generator to make steam that will drive a small (1.1MW) turbine and electricity generator.

Research and development at Jemalong

Completion of the JSS Pilot marks a major new phase of the research and development program, in which commercial scale demonstration and further R&D is required to support commercial scale deployment of the Vast Solar CST in Australia and internationally.

Vast Solar has secured funding to construct a 30MW CST commercial scale facility on a parcel of land approximately 3 kms south of the JSS Pilot, also at Jemalong.

2.4 PROPOSAL DESCRIPTION

The Jemalong Solar Station (JSSI) proposal is to construct and operate a 30MW CSP power plant at Jemalong. The significant investment in this project triggers the requirement for an Environmental Impact Statement to be submitted to the Department of Planning and Environment. A range of stakeholder engagement and communication activities are required to support this process and to identify and address community issues and possible project impacts. The principles and tools to support this process are detailed in this plan.

Jemalong JSS 30MW Solar Station
89 towers,
63,000 heliostats
30 MW, 4 hours' thermal energy storage

The proposal site is located approximately 36 km west of Forbes within the Forbes Local Government Area. It is accessed from the Lachlan Valley Way to the north, via Wilbertroy Lane and Naroo Lane. The site is part of a 165 ha lot known as 'Hallidays', which in turn is part of the 15,478 ha Jemalong Station, a rural property managed for agricultural production. The site is mostly cleared and relatively flat farmland with a long history of cropping with small remnants of Poplar Box woodland (ranging from 0.1 to 0.5 ha) remaining.

There is no existing infrastructure on the proposal site. Directly north of the proposal site is the 'Hallidays' farm house, owned and maintained by the owner of Jemalong Station, Twynam Agricultural Group. The closest waterway to the site is Thurumbidgee Lagoon, filling intermittently when there is good rain, located approximately 400 m to the north of the proposal site. The Lachlan River is located approximately 3.7 km to the north.

The proposal comprises the construction, operation and eventual decommissioning of a 30MW CSP plant with at least four hours thermal energy storage.

Key infrastructure components include:

1. Fields of dual-axis tracking mirrors or 'heliostats' that track the sun (collectively called 'solar arrays').
2. Thermal energy receivers, mounted on the top of 30 m towers, which capture the thermal energy reflected from the heliostats.
3. Large scale thermal energy storage (usually though not universally a component of such projects), which enables the system to generate steam and produce electricity at any time, night or day.
4. Heliostats grouped in 'modules', with each module having its own thermal energy receiver.

2.5 INDICATIVE TIMELINE

An indicative timeline for the JSSI 30MW proposal is outlined in the table below.

Phase	Approximate commencement	Duration
Construction	June 2017	18 months
Commissioning	December 2018	4 - 6 months

Operation	June 2019	25 years
Decommissioning	2044	6 months

3. COMMUNITY STAKEHOLDERS

3.1 LOCAL STAKEHOLDERS

Identified key local stakeholder groups are listed below.

Group	Defining characteristic	Identification of stakeholders
Neighbours	Potential to be affected most, during construction and operation	Adjoining properties including 3 residences
Residents within 5km	Some level of impact expected, during construction and operation	Residences within 5km
Local community and businesses	Lesser impact expected, but may be opportunities for involvement ie local contactors	The nearest towns (primarily Forbes)
Local council	Representatives of the community	Forbes and Parkes Shire Council
Local media	Able to ensure clear and consistent message is delivered	Local newspapers, television networks and local radio stations – Forbes Advocate newspaper, ABC Regional Radio Orange, Channel 7 Orange
Special interest groups	Defined by their shared interest in a particular issue or set of issued	Including Indigenous representative groups, country fire services and medical services, engineering interest groups, sport, wildlife groups, Community and seniors groups such as Probus.

In addition to Jemalong neighbours, key identified local stakeholders include:

- Forbes Shire Council – Council Officers, Directors, Mayor and Councillors
- Forbes Shire Council Environmental Advisory Committee
- Forbes Shire Council Heritage Committee
- Forbes Shire Council Business and Industry Committee
- Parkes Shire Council - Council officers and Councillors
- Dubbo Shire Council - Council officers and Councillors
- Lachlan Shire Council – Council officers and Councillors
- Central NSW Councils (Centroc)
- Member for Dubbo, Troy Grant
- Residents adjoining the property
- Jemalong Polo Club
- Twynam Agricultural Group
- Local residents and businesses
- Forbes Urban LandCare Group

- Forbes Rural Fire Service
- Forbes Police Station
- Forbes and District Lions Club
- Rotary Club of Forbes
- Forbes Men & Women's Probus Clubs
- Forbes Advocate
- Central West Lifestyle Magazine
- Parkes Champion Post
- Daily Liberal
- Western Magazine
- Dubbo Weekender
- ABC Central West NSW
- Prime Television, Orange
- Forbes Community Radio (2LVR)
- Forbes Business Chamber
- Parkes Chamber of Commerce
- Parkes Champion Post
- Central West Orana Region of NSW Business Chamber
- Parkes Forbes Orana Business Enterprise Centre
- Local Land Services Central West
- National Parks & Wildlife, Forbes
- Local schools including Redbend Catholic College, Forbes High School
- TAFE Western – Forbes College

3.2 OTHER STAKEHOLDERS

The following agencies, elected representatives, Minister and media organisations have also been identified as important stakeholders for this project.

- ARENA CEO, Board and staff
- Clean Energy Finance Corporation
- Australian National University and other University research partners
- NSW Department of Planning & Environment
- NSW and ACT Environment Protection Authorities
- ACT Chief Minister
- ACT Environment Department
- Minister for Industry
- Parliamentary Secretary to the Minister for Industry
- Minister for Infrastructure and Regional Development
- Assistant Minister for Infrastructure and Regional Development
- Minister for Environment
- Parliamentary Secretary to the Minister for Environment
- NSW Premier, Mike Baird
- NSW Department of Premier and Cabinet
- NSW Minister for Resources and Energy, Hon. Anthony Roberts MP
- Member for Calare, Hon. John Cobb
- NSW Renewable Energy Advocate
- Greens Representatives in Orange (and other State Greens candidates)
- Australian Solar Thermal Energy Association (AUSTELA)
- Australian Solar Thermal Research Initiative (ASTRI)
- Institute for Sustainable Futures
- UNSW Centre for Energy and Environmental Markets
- CSIRO
- University of New South Wales
- Bureau of Resources and Energy Economics
- Sydney Morning Herald
- Australian Financial Review
- Energymatters.com.au

- CSP World
- Energy Business News
- Greenbiz.com
- Renew Economy
- Business and Climate Spectator
- Sustainability Matters
- The Australia

4. COMMUNICATION AND CONSULTATION STRATEGIES

The overall aim of consultation is to ensure that project is responsive to the values of the community. Potential impacts are identified and mitigation strategies developed in consultation with the community. Potential opportunities to maximize the broader benefits of the project to the community are explored and developed in conjunction with each project phase to provide the project with a social license to operate.

Community engagement and consultation with our project stakeholders is undertaken in accordance with the principles and approach described in section one of this plan utilizing the following strategies.

Communication strategies

- Establish and maintain clear lines of communication with our stakeholders
- Provide accurate, easy to understand, and timely information through a variety of channels, including face to face contact and through the website
- Work with our partnering agencies and organisations to implement appropriate communication channels and communication strategies
- Keep stakeholders informed throughout the project's lifecycle including the planning, construction and operational stage
- Identify and consider the diverse range of views and interests of stakeholders
- Follow ethical principles of conduct, be transparent and accountable, and report back to stakeholders and the community on project progress
- Continually re-evaluate communication activities and tailor them to changing needs of stakeholders
- Establish and maintain protocols for managing communications.
- Anticipate and openly engage with different stakeholder groups on identified and new issues that may emerge that may be pertinent to them.

Communication tools and action plan

Tool	Detail	Stakeholder group
Register of enquiries and complaints	Create and maintain a project enquiry register to enable regular reporting on community issues or complaints relating to the project. The register is electronic, saved in a shared folder available online to any Vast Solar employee likely to be in contact with stakeholders. The aims of the register are to: • Record all relevant enquiries or complaints regarding the project. • Prevent and reduce the impact of consequences of the enquiry to the community and stakeholders by prompt response to the enquiry. • Provide information about the effectiveness of this	Local community and interested stakeholders State Government (to respond to planning concerns)

	Plan. • Support monitoring and evaluation of this plan and community consultation and engagement. • Assist identify and manage new or emerging community issues and concerns. • Enable Vast Solar to effectively report to key internal and external stakeholders.	
One-on-one meetings	Vast Solar has and will continue to initiate and provide interested stakeholders with face to face meetings to discuss the project. These opportunities may be through individual meetings and/or group meetings. This personal approach gives Vast Solar the opportunity to directly acknowledge, receive and respond to feedback that stakeholders may have. One on one meetings will be held throughout the preparation of the EIS and follow up sessions, during the public display and submission period.	ALL
Presentations and events	Targeted presentations and events may be developed for specific stakeholders groups where required. This may include presentations for local stakeholders, government agencies and educational facilities. It may involve possible site visits to the JSS pilot and/or proposed project site.	ALL
Media releases	Media releases to be used to announce and align with key project milestones.	ARENA, local, state and national media, government agencies and the broader community.
Phone and email	Vast Solar enquiry line (**0419 478856),** email address info@vastsolar.com, and website www.vastsolar.com provide stakeholders with the means to contact the project team, register issues and concerns and making suggestions. All community consultation communications promote the availability of these contact points.	ALL
Website	Information about the project to be regularly updated to reflect key project developments. Current information about the project is made available to view or download from the Vast Solar website, along with contact details to lodge an enquiry. The website will include information regarding the EIS and the relevant public exhibition/submission details.	ALL
Community meetings and information sessions	Community meetings to be held during key project phases for the project. During the EIS public display period, community information sessions may also be held for the local community (subject to sufficient	ALL

	interest). These meetings will include a project update briefing and a Q&A period.	
Project newsletter	Project 'update' newsletters to be prepared during each key milestone period including public display, project determination, start of construction and project completion. Project updates provided to stakeholders via the website and other direct means. They also contain information about information sessions (see Community Meetings, above).	ALL
Advertisements	Advertisements to be placed in local newspapers to inform local stakeholders about the exhibition period and information sessions that Vast Solar may host.	Local community
Fact sheets	Vast Solar prepare and make available fact sheets to provide a reliable source of information about the project as it progresses over time. Fact sheets are distributed to key and impacted stakeholders, via the website and as appropriate at community information sessions.	ALL
Educational Material	Vast Solar will investigate opportunities for educational presentations to be made to local schools, for secondary and higher education institutions to educate students about the use and benefits of CSP technology, and what the project means to their community.	Local schools
Visual Materials	Visual materials, such as timelapse and aerial videos and possible diagrams and artist impressions may be prepared for use through the consultation and public exhibition period to assist audiences in understanding the scale and specifics of the 30MW project site.	ALL
Submissions	As part of the EIS planning approval process, Vast Solar will accept, review and respond to submissions regarding the project proposal. Upon receiving each submission, Vast Solar will write to each respondent acknowledging their submission.	Submission respondents
Submissions report	In response to submissions received during the planning approval process, a Submissions Report will be prepared to address all issues raised. This Submissions Report will be submitted to the Department of Planning and Environment. Upon receiving submissions, Vast Solar will write to each submission respondent to confirm receipt of their submission. Once the Submission Report is complete and lodged with DP&E, Vast Solar will write to each submission respondent to explain where their concerns	Submission respondents

	are addressed in the report.	

Community Information Sessions

Community information sessions will be held during the planning, construction and operation of the 30MW project. This draft of our CLP (current) details community liaision activities for the proposal, and early planning, development and assessment stages of the project. The following Information Sessions have been held or are currently being planned to align with these key project stages.

Date	**Milestone**	**Information available at the session**
August 2014	Request for Director General Requirements officially lodged through DP&E and the now preparation of the EIS.	Project proposal Initial planning documents Project fact sheets
November 2014	Initial discussions with key stakeholders during preparation of the EIS. Initial community consultation forum	Project fact sheets Initial planning documents Visual materials
August 2016	Public exhibition of the project EIS.	EIS and supporting documents and specialist studies. Instructions on how to submit a submission via the DP&E website. Project Updates/Fact sheets. Visual materials.
Late 2016/early 2017	Project determination and next steps.	EIS and supporting documents and specialist studies. Submission report. *Further specialist reports. Project Updates/Fact sheets Visual materials.

Note: If the proposed project is approved, further community information sessions may be planned consistent with the IAP2's Public Participation Spectrum of building more intensive community input and collaboration during detailed design, construction and operational project stages.
* Further specialist reports – as and if required.

5. COMMUNITY CONSULTATION

Community liaison for the proposal, the JSS1 project, extends and has builds upon relationships Vast Solar has established with the local community since 2011.

5.1 CONSULTATION – THE JSS PILOT PROJECT

During the approval process for Vast Solar's Phase 3 JSS Pilot, Vast Solar undertook a range of community consultation activities to provide information and education about CSP technology.

As the JSS Pilot is constructed relatively close to a major road (Lachlan Valley Way), Vast Solar was keen to ensure stakeholders - especially neighbours - would have an appreciation of the likely impact of the JSS Pilot on visual amenity of the Jemalong area. Regular briefings were provided to Forbes Council commencing in early 2013 and Councillors and senior Council officers hosted to visit the JSS Pilot site during its construction.

The Development Application for the JSS Pilot was submitted to Forbes Council in mid 2013, and documents about the proposal were placed on public display between 14 June 2013 and 15 July 2013. Forbes Shire Council received three submissions during the exhibition period.

Feedback/information sought in these submissions included:

- support for the project and the local benefit it will bring to the region
- a request to visit the facility
- further information regarding the location of project infrastructure
- further detail regarding the long term plans of the JSS Pilot, including future operation and possible expansion
- queries regarding potential glint and glare from infrastructure
- further information regarding proposed vegetation screening and site aesthetics
- request to alter access points during construction, to minimise potential impacts on the road network and irrigation systems
- clarification on construction and operational noise.

No objections were made in relation to the Phase 3 JSS Pilot. Additional information was provided by Vast Solar to address issues raised in the submissions. During the planning approval stage, Vast Solar representatives liaised directly with nearby neighbours and provided further information about the project.

Prior to determination, Vast Solar representatives attended a full Council meeting which included a public forum, to speak about the project and provide the audience (public gallery) with an opportunity to ask any further questions. No questions or statements were received from the audience during this meeting.

5.2 CONSULTATION – THE PROPOSAL, THE JSS1 30 MW PROJECT

The proposal site and the JSS Pilot are both located on Jemalong. The proposal site is within 1-2 kilometres of the pilot plant. Consequently near neighbours are both familiar with the pilot and have properties or residences adjacent to or closeby the proposed JSS1 site.

Building upon earlier consultation measures, the formal consultation process for the JSS1 30MW Project commenced in November 2014. An advertisement was placed in the Forbes Advocate newspaper, and invitations sent to Forbes and Parkes Shire Councils, to attend a community information session in Forbes. The consultation forum was held on 14 November 2014 at Jemalong Regional Education Centre. This session saw Vast Solar present to approximately 12 attendees. Many attendees were from the business community in Forbes and Parkes, interested in exploring opportunities that might exist for their businesses as part of project delivery. One significant local business in Forbes, already a supplier to Vast Solar for the JSS Pilot project, spoke of the significant contribution Vast Solar's activities had already made to his turnover.

This Consultation Forum ran for 2.5 hours, with over 2 hours being questions and answers and interaction between stakeholders present and the Vast Solar team. Formal feedback response sheets were also provided so that view of those present could be recorded and factored into project development.

The feedback from the Consultation Forum was overwhelmingly positive, with no negative views expressed. It was observed in the Forum by one of the community stakeholders that, despite the politically conservative leanings of the region and of the stakeholders represented, there was a common view that the development was positive for the region and presented significant opportunities for economic and employment benefits in Forbes and across the region.

An information presentation was also made to the Forbes Probus Club on 24 January 2014. This session was attended by a large combined group of the Men's and Women's Probus groups. A similar information session was held with the Dubbo Seniors Group at Dubbo Workers Club in November 2014. While outside the Forbes/Parkes region, Dubbo has become a centre for solar power development and there is strong interest from stakeholders in Western NSW in large-scale solar development.

The strong interest shown by these groups and the positive feedback received provided reassurance for Vast Solar that the Project is likely to receive good and broad support across the spectrum of ages and community interests, even among traditionally very conservative community bodies.

Consequent to the formal consultation process in November 2014, Vast Solar continues to engage with neighbours, local community groups and strategic stakeholders via the distribution of regular updates and project information via the Vast solar website, placement of stories articles in local and national media, and via:

- Meetings with and presentations to Councillors and senior Council officers

- Face to face meetings with nearby neighbours
- Strategic presentations and events held in conjunction with research partners and relevant service groups.

5.3 KEY MESSAGES

Consistency of message is important for communicating clearly over a long time period and to positively share information with the community about the JSS Pilot and the JSS1 proposed project. Key messages and terminology consistently communicated are as follows:

The technology

- Vast Solar is an Australian Company developing concentrating solar thermal energy generation technology known as Concentrating solar thermal power (CSP).
- CSP power plants involve a solar array (field of mirrors), a receiver that captures the thermal energy from the mirrors, and usually (though not universally) now include thermal storage. The thermal energy is used to create steam in a boiler, which drives a traditional steam turbine and electricity generator.
- The Vast Solar CSP system includes use of a heat transfer fluid (HTF) to collect and transfer thermal heat from the towers.
- Power tower CSP has high solar concentration efficiency, delivering very high temperatures, which in turn provide for better performance from the steam turbine and higher efficiency in energy storage.
- The cost of CSP, even using modern 'power tower' technology, is such that subsidies such as feed-in tariffs or similar supports may still be required for commercial viability.
- The challenge is to rapidly reduce the cost of 'power tower' systems, while maintaining the high temperatures and resultant high performance they offer.
- Vast Solar has developed innovative designs for a high efficiency/low cost solar thermal central receiver power plant system, with integrated energy storage.
- These attributes have strong potential to reduce the cost of solar energy to levels comparable with wind generated energy (around $100 per megawatt hour), with energy storage, to allow energy to be delivered at times of high demand or need in the network.
- In early 2014, Vast Solar received funding assistance from its investors and ARENA to build the JSS Pilot at Jemalong. This phase involves the construction and operation of five solar array modules, each consisting of one 27 metre tower and receiver and 699 heliostats.
- This facility will include both thermal energy storage and grid connection, to demonstrate the complete Vast Solar system from sun through storage to electricity.
- Construction on the 6MW JSS Pilot project is underway and scheduled to be complete by September 2016. The project program, including testing and data-gathering, is scheduled to finish in June 2017.
- In mid 2014, Vast Solar received confirmation of funding from ARENA, CEFC and a number of private investors to build a commercial scale, 30MW facility consisting of 89

modules. The planning approval process is underway, with construction now scheduled to commence in June 2017, with operations forecast to commence approximately 22 months after the start date.

- The JSS Pilot project and the 30MW commercial research and demonstration plant are expected to bring significant economic benefits to the regional area including employment, use of local services (earthmoving, construction, fabrication, engineering, water, power and gas services) and will deliver a showcase for potential local and international investors (attracting local business and tourism). It will also demonstrate the potential for larger scale solar development in Forbes and Parkes Shires and the broader Central West region of NSW.
- Both the JSS Pilot and 30MW projects will demonstrate a safe, low-cost CSP power generating system incorporating thermal energy storage.
- Both projects will also demonstrate cost effective CSP power generation and energy storage capacity for small scale applications and possible industrial heat use.
- When complete, these facilities will be Australia's only operating CSP plants with thermal energy storage delivering power to the national electricity network.
- The projects will add to the knowledge base of Australia's energy sector (utilities, network operators, financiers, regulators) about the value and role of CSP technology in Australia's energy system.

5.4 KEY ISSUES

The following table presents issues that have been identified as potential issues of concern to the community during the planning, construction and operation period of the project. This list is informed by Vast Solar's experience developing the smaller scale projects as well as feedback from the formal consultation process for the JSS1 proposal. The table lists issues and the CLP communication action be taken to manage the identified issues.

The EIS prepared for the JSS1 proposal includes specialist studies prepared to respond to the NSW Department of Planning and Environment, Secretary's environmental assessment requirements (SEARs). These studies address key issues identified in the table below. These studies, along with the mitigation measures and Environmental Management Plan requirements detailed in the EIS for key phases of the project, together provide a robust body of material to support effective project issues management and community engagement as it progresses.

The EIS specialist studies are: -

- Biodiversity Assessment, presented in two parts:
  - Biodiversity Assessment, and
  - Impacts on Bird Populations and Recommendations for Bird Hazard Risk Management
- Aboriginal Cultural Heritage Assessment
- Hydrology Report (including flooding)
- Glare and Glint Analysis Report
- Visual Impact Assessment

- Preliminary Hazard Analysis

Community issues identified to date

Issue	Relevant stakeholders	Response	Communication activities
Location issues	• Adjacent properties	• JSS Pilot relocation investigated but not possible due to the fact that the land suggested to the east was not available to Vast Solar, and the need to be close to the existing substation, and water supply • Undertaking to screen and protect the site with appropriate plantings. • JSS1 – undertake to relocate connection powerline to substation on Jemalong property corridor and not across neighbours property.	• Meetings with adjacent residents to discuss location. • Letters sent to adjacent residents providing location issue response • Regularly notify neighbours of upcoming works. • Investigate/adjust project building layout further from road and neighbour's property. • Vast Solar contact details on all communication materials so stakeholders can readily contact team. • Provide visual materials
Glare from infrastructure	• Road users • Local Council • Adjacent properties • Aviation	• Perceived potential glare (from the receivers when illuminated) and glint (from mirrors) – unlikely given orientation. • Existing trees Jemalong Polo Centre to largely screen JSS Pilot from view from the road. • Vast Solar to plant additional screening vegetation on the paddock boundary to minimise any potential impact to neighbours. JSS Pilot and JSS1.	• Specialist study undertaken to characterize glare issues. Study indicate no material glare risks. • Communicate outcomes via information to community at upcoming information sessions and via website. • Update Council re progress to establish and maintain new plantings.

Issue	Relevant stakeholders	Response	Communication activities
Noise during construction and operation	• Adjacent property owners • Local Council	• The Vast system does not require extensive civil works or heavy equipment. This minimises construction noise. • Noise from operation of installed plant and equipment will not be detectable above ambient noise from the	• Address expected noise levels in information provided to the local community. • Notify nearby residents of any upcoming noisy activities or out of

		distance of neighbouring properties or from the road (1km+). Some commissioning and periodic maintenance may cause noise, but these tasks will be isolated and not ongoing. • Noise emitted by the facility will be less than that emitted in typical farming operation and significantly less than noise generated by passing traffic.	hours deliveries to site. • Phone number and email details included in all community materials so any community enquiries can be delivered direct project team.

Issue	Relevant stakeholders	Response	Communication activities
Road damage, traffic and parking	• Adjacent property owners • Local Council • Road users	• The access route for site access modified to address concerns raised by near neighbours as to potential noise and impacts on road surfaces. • All parking will be contained within the property. • Heavy vehicle movement to and from site will be sporadic, via batch delivery rather than a daily stream. • Limited civil works required. This will require earthmoving equipment. All heavy vehicle parking within the Twynam property and project site	• Access arrangements communicated to adjacent land owners • Phone number and email details included in all community materials so any further enquiries can be raised with the project team.
Impacts on local fauna and flora	• Adjacent property owners • Local Council • National Parks & Wildlife • Environmental Protection Authority	• Vast Solar's system design aims to preserve native habitat and allow small animals to pass through site. • Impacts to flora and fauna were assessed during the planning approval stage. • A detailed study of impacts on avian fauna has been completed, confirming minimal risks for birds and bats. Risk mitigation measures discussed with consulting experts, ongoing studies will strengthen knowledge. • A comprehensive biodiversity study undertaken and recommendations will be followed. • There are minimal impacts expected on fauna in the area immediately adjacent to the site. • Vast Solar will monitor and register any impacts on	• Communicate key findings from Biodiversity Study. • Vast Solar contact details included on all communication materials to assist enquiries to project team. • Prepare and disseminate fact sheet to respond to flora and fauna impacts.

		local fauna.	

Issue	Relevant stakeholders	Response	Communication activities
Perceived devaluation of land based on other renewable projects	• Adjacent property owners	• The project will be barely be visible from nearby properties and from public roads. It is not expected that there will be any impact on land values. • Although loss of land value is highly unlikely and the site can be readily remediated upon decommissioning, Vast Solar takes these concerns seriously. • Vast Solar believes it is important to build a strong social license to operate (i.e. to build and maintain community support for CSP development), and that societal understanding of the benefits of CSP will help protect land values near CSP facilities. • Local zoning allows construction of this development and minimises any impacts associated with it.	• Face to face meetings with local residents to explain the project throughout construction and operation. • Continuing education and information about the value and benefits of CSP systems for 21st century electricity. • Continuing information dissemination about Vast Solar efforts to reduce solar energy costs. • Phone number and email details included so any further enquires can be made
Management of hazards and safety around the site during construction and operation	• Adjacent property owners • Local Council • Emergency services	• Vast Solar has prepared robust risk management, hazard management plans and emergency management plans. • Vast Solar has worked with world-leading specialists to develop safe operating procedures and emergency procedures relating to the storage and use of hazardous materials.	• Regular updates with Council in line with planning approval requirements. • Compliance with WHS regulations and standards • Development and maintenance of a safety culture • Comprehensive training, induction, and regular onsite Work Health and Safety staff briefings to communicate hazards, risks and safe work practices with staff. • Provide information about hazardous chemicals to explain why Vast Solar must restrict access to the project site. • Ensure comprehensive WHS procedures when receiving visitors to the site

Renewable energy's viability/ future	• ALL	• Project will demonstrate safe, low-cost CSP power generation incorporating thermal energy storage. • The project will add to the knowledge base of Australia's energy sector (utilities, network operators, financiers, regulators) about the value and role of CSP technology in Australia's energy system. • The project will also demonstrate cost effective CSP power generation and energy storage capability. • When complete, this facility will be Australia's only operating commercial scale CSP plant with storage and the capacity to dispatch power to the national electricity network. • Vast Solar CSP system has the potential to assist emerging economies modernize and develop industrial capacity with reduced reliance on fossil fuels.	• Presentations to key stakeholders • Events, launches and website containing information about the technology's benefits. • Use of research from previous studies to educate stakeholders about the technology and capabilities.

Additional issues

All additional issues identified by community stakeholders during ongoing informal community engagement and interaction and throughout the public exhibition period of the EIS will be incorporated into the above matrix, along with key messages and proposed communication response tools.

6. MONITORING AND EVALUATION

The following review actions will be undertaken alongside implementation activities to ensure the effective delivery and responsiveness of this Community Liaison Plan.

a) Appoint and maintain a consultation manager for the project to implement activities and review this plan regularly.

b) Maintain project enquiries and complaints register. Regular review of the enquiries and complaints register to ensure all enquiries and complaints have been responded to.

c) Keep an accurate record of feedback from consultation activities, submissions made in reponse to the EIS and all correspondence with the community.

d) Media monitoring. Ongoing review of media coverage regarding the project to ensure that key messages are being consistently communicated and reflected in media coverage.

e) Feedback from staff. Discussion with staff about any feedback they may have received from the community regarding the project.

f) Feedback from Council. Ongoing contact with Forbes (and, potentially, with Parkes and Dubbo) Council as to information they may have concerning stakeholder views in relation to the project.

The Plan will be reviewed every six months and as required in response to submissions made in response to the public exhibition of the EIS. The Plan will be updated to ensure that the key messages, objectives, processes and activities remain relevant to, and effective for, each project phase.

The Plan will be publicly available via the EIS exhibition process and may be available to any stakeholders who wish to receive a copy.

Communication with Vast Solar's internal stakeholders including ARENA (including milestone reports) and other partners in this project will be provided through regular correspondence and activities including those provided for in contractual and other agreements.

Feedback Form

We appreciate you attending tonight's community information session. In order for us to evaluate the effectiveness of tonight's session we would appreciate if you could answer the following questions.

Prior to coming to this information session, did you have a picture or idea in your mind of how Vast Solar's facility would look and if you did, what did you think it would look like?

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After this evening's session, do you leave with the same perception of how the facility will look? If your understanding of how the project looks varies since attending this session, in what way?

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What benefits do you think this project might bring to the local area?

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Now that you've heard a little about concentrating solar thermal power, and about Vast Solar, do you see potential for this type of system to create jobs and economic activity in the Central West? How do you feel this could fit with existing activities like agriculture and mining in the future?

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Before you came to the information session, did you know there was such a thing as concentrated solar thermal power generation? If so, where did you hear of it?

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Thank you for coming to the Vast Solar Community Information Session. Please provide any feedback or questions you have regarding the project. We will include and address any feedback provided below in the Environmental Impact Statement that Vast Solar is preparing for public exhibition in coming months.

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Your details (Please note you can remain anonymous however we will not be able to respond to your questions or comments if no details are provided).

Name:……

Address:……
……

Phone:…….

Email:……..

Would you like to join our mailing list? Yes No

Thank you once again for attending this community information session.

Vast Solar's 30MW Jemalong Solar Station - Concentrating Solar Thermal Power

FACT SHEET

Who is Vast Solar?

Vast Solar is an Australian company developing concentrating solar power (CSP) generation technology with integrated large-scale thermal energy storage.

Vast Solar has developed a low-cost concentrating solar power system to deliver CSP at a commercial cost, competitive with wind power, and with the additional flexibility and higher revenue generation capability available from integrated thermal energy storage.

Vast Solar has already constructed and operated three CSP research and demonstration facilities, and is currently constructing the 'Jemalong Solar Thermal Pilot Plant' – a 6MWth pilot CSP electricity generation plant, outside Forbes in Central Western NSW. The Pilot will be equipped with 3 hours' thermal energy storage. It will be Australia's only operating, grid-connected CSP plant with thermal energy storage.

Vast Solar has recently commenced planning for a commercial scale 30MWth CSP plant, with 4 hours' thermal energy storage, also planned for a location near Forbes.

What is Concentrated Solar Power (CSP) Technology?

CSP technology produces electricity from the thermal energy of the sun, by making steam to drive a traditional steam turbine and electricity generator.

Solar energy is captured using heliostats (mirrors) that track the sun to reflect the sun's rays onto a thermal receiver. In Vast Solar's CSP system, there are multiple thermal receivers, connected via a system of pipes.

A heat transfer fluid is held in a storage tank from where it is pumped through the receivers, heated to very high temperatures (~600C) and is then piped to a central thermal energy storage tank. When needed, the hot fluid is used to heat water to create steam in a boiler, and this steam then drives a traditional steam turbine and generator, which exports electricity to the grid.

What is thermal energy storage?

Thermal energy storage available with CSP systems captures solar power in the form of heat – a very efficient, large-scale and cost-effective storage method.

The sun's thermal energy can be saved for days or weeks, to be released for use in electricity generation at times of highest market value, day or night. Thermal energy storage also enables CSP systems to provide stable, reliable solar power for mining and other large-scale industrial operations.

Because the thermal energy storage system is an integral part of the CSP system, there is no additional storage cost (such as the cost of batteries with a solar photovoltaic system). In fact, thermal storage available with CSP plants actually reduces the levelised cost of electricity, by making better use of capital items like the steam turbine and electricity generator.

This ability to store renewable energy at large scale will become increasingly important in coming years as electricity supply increasingly comes from distributed energy sources, rather than the huge centralised coal-fired power plants used over the past 80 years.

Electricity systems are likely to evolve as a combination of solar PV and CSP and wind power, complementing one another, and supported by a blend of storage methods – such as batteries and electric vehicles for solar PV, and large-scale thermal energy storage from CSP.

What's involved in the 6MWth Jemalong Solar Station Pilot, and what are the key timeframes for delivery?

The 6MWth Jemalong Solar Thermal Station is a pilot demonstration facility and includes five solar array modules. Each module consists of one tower approximately 30 metres high, a thermal energy receiver and about 700 heliostats (mirrors) – there will be 3,500 heliostats in the completed Pilot plant.

Modules connect to a central energy storage tank, and from there the stored thermal energy is passed through a steam generator to make steam for a small (1.1MW_e) turbine and electricity generator. Once complete, electricity generated from the facility will be delivered into the Essential Energy distribution system via the West Jemalong substation. The Jemalong Solar Station Pilot will include 3 hours' thermal energy storage.

Construction of the Pilot commenced on site in mid-April 2014 and is due to be complete in the first quarter of 2015. A testing and data gathering program is scheduled to be completed in 2015. Once commissioned, the Jemalong Solar Station Pilot will continue to be used for research, development and demonstration purposes.

What is Vast Solar's 30MW Jemalong Solar Station?

Vast Solar's 30MW Jemalong Solar Station is planned to be a commercial scale solar thermal power generation facility, with four hours' energy storage, giving the plant the ability to produce its full output of 30MW power at night in addition to operating all day.

The 30MW plant includes approximately 90 solar array modules containing around 65,000 heliostats, each module consisting of a heliostat field and an approximately 30 metre high tower with a thermal receiver. Each heliostat is about 2 metres high, located at a distance from 30 to 100 metres from the tower.

Other components of the 30MW Jemalong Solar Station include a 30MW steam turbine and electricity generator, thermal energy storage tanks, a 66KV overhead transmission line, and internal access tracks to allow for site maintenance, fencing and vegetation.

Where is the Jemalong Solar Station proposed to be located?

The proposed site is located within Jemalong Station, a private property owned by Twynam Agricultural Group and located off Lachlan Valley Way at Jemalong, 30kms outside Forbes in Central Western NSW.

What determined the proposed location of the Jemalong Solar Station?

While Vast Solar has been constructing the 6MWth Jemalong Pilot project, Vast Solar has also been developing the potential large-scale solar power generation in the Central West NSW region. The first stage of this vision is the proposed 30MW CSP plant at Jemalong, in a location relatively close to the existing Essential Energy substation but away from homes and main roads to protect the visual amenity of the area.

In Australia, Vast Solar is actively investigating project opportunities in South Australia, Western Australia and Queensland, as well as New South Wales. Vast Solar is also investigating project opportunities overseas, in regions such as in South America, the USA, Middle East, Africa, and India.

Why does Vast Solar want to deliver this project in Australia?

Vast Solar's technology has global potential, and Vast Solar is establishing a business model to compete in the rapidly growing global CSP market. Demonstration of Vast Soalr's CSP system at increasing scale is a vital part of this business model.

The Jemalong solar thermal Pilot and Jemalong 30MW CSP project will demonstrate Vast Solar's leading cost structure for large-scale CSP, and will ready the technology for deployment in the Australian and in international energy markets.

What is the significance of the Jemalong Solar Station?

This will be the first such project in Australia, and will provide a much-needed reference point for the role that large-scale CSP technology can, and should, play Australia's energy system in the 21st century.

What is the total project value of the Jemalong Solar Station?

The total value of the project is about between $80 and $100 million. This includes all construction costs as well as commissioning and testing costs.

What are the timeframes for building the Jemalong Solar Station?

Given the level of investment, the project must be assessed in NSW as a State Significant Site. All State Significant Sites must be assessed by the NSW Department of Planning and Environment. Vast Solar initiated this planning approval process in June 2014 by submitting a Preliminary Planning Review report, prepared by ngh environmental on Vast Solar's behalf.

The planning approval process involves the preparation and public exhibition of an Environmental Impact Statement which could take up to one year to complete. Upon receipt of planning approval, construction could commence and would take about 18 months, with the site likely to be completed by 2016-17.

What sort of storage capacity does the Jemalong Solar Station include?

The 30MW Jemalong Solar Station will generate about 75,000MW hours per annum of electricity supplied into the Essential Energy network.

It has sufficient capacity to store around 4 hours of energy with a capacity factor of 30%.

What are the expected number of jobs during construction and operation of the Jemalong Solar Station?

During construction of the Pilot project, Vast Solar will employ up to 45 people. Construction of the 30MW project is expected to generate peak jobs of around 100 during construction. The two projects will provide ongoing jobs in research, operations and maintenance.

How many households could be powered by the Jemalong Solar Station?

The 30MW Jemalong Solar Station will have enough capacity to power around 15,000 average homes (the average home in the area uses about 5,000kWh per year).

How does Vast Solar's design impact on flora and fauna?

Vast Solar's CSP system is sensitive to native habitat, birdlife and animal life. Vast Solar's design uses low-profile towers – much like the typical lattice-steel frame towers used across Australia, small heliostats (mirrors) and small, compact arrays with a single and easily installed foundation system.

This design approach means that very little civil works are needed, ground-cover is mostly preserved, towers and receivers are much smaller (significantly reducing risks for birdlife), and disruption to local fauna is minimised.

The modular design allows greater flexibility in plant layout; sensitive cultural and conservation values can be accommodated by adjusting the layout of the solar arrays.