Station. In a letter to the Department of Planning, the Deputy Director General, Environment Protection and Regulation stated:

"DECC does not accept the proposed method to assess low frequency noise. The current method specified in the Industrial Noise Policy has been reviewed by industry and community representatives and approved by Cabinet as a "whole of government" policy. Therefore it is not appropriate for the Department of Environment and Climate Change to accept other methods such as that specified in the Environmental Assessment…".

Therefore, the proposed alternative assessment of low-frequency noise is clearly not acceptable in this proposal either.

Given the above, it is submitted that the following undertakings must be required of the Proponent.

- Determining the background pre-development noise levels in the Dalton village to enable a determination of the predicted impacts of the development; to provide a base level against which results from monitoring may be meaningfully assessed; and to effectively assess any subsequent proposal for extending operations beyond the 5% annual operating time sought by the Proponent under this application.

- To reduce low-frequency noise to within the required standards based on the accepted assessment methodologies.

## 5. TRAFFIC

Insufficiency of time has precluded anything other than cursory look at the traffic issues relating to the proposal. The following issues, however, clearly arise:

- Underprovision for dust abatement. One water truck per day is estimated for dust suppression for the entire 27-ha construction site and the dirt roads leading to the site (EA Appendix F Table 4-2). No provision was made for water trucks during the operational stage, despite 40 trucks per day estimated to travel on the dirt road for delivering process water.

- The Environmental Risk Assessment (EA Table 7-1 p 7-3) in relation to traffic addresses only the impacts on Dalton. Whilst the noise will be annoying and we will be overcome with dust, the really significant traffic impacts will be felt in Gunning, where the trucks will go right through the main street of town.

- The road between Dalton and Gunning does not have "overtaking opportunities for both directions for the majority of its length" (EA Appendix F p11). This is just not true.

- Dalton and its surrounds has many commuter workers, Gunning-based Shire employees and children who attend preschool, primary school and after-school care in Gunning. Alternative routes into Gunning require serious, time-consuming detours on substandard roads. The significant road modifications required and the greatly increased numbers of heavy vehicles will cause significant disruptions and inconvenience to the local population.

- The Executive Summary states that the proposed construction and operation of the facility is "…not expected to degrade the existing acoustic environment nor create annoyance to the residential receptor locations surrounding the facility"(EA, ES-12). However, this spurious conclusion is based on the fact that the predicted traffic noise impact is assessed in decibels (dB). Despite an increase in traffic flow on Dalton Road of up to 66% and an increase on Walsh's Road of more than 800%, the frequency of noise impact events is not considered relevant, nor the number of those events at the higher decibel mark (i.e. a far greater number and proportion of heavy vehicles).

The construction is expected to take four years. This is a significant time period during which we can expect to be seriously impacted and inconvenienced.

6. FLORA/FAUNA

The road between Gunning and Dalton is, for a large part of its 9-km length (contrary to the EA's measurement of 3.4 km [ES Appendix F, para 2.1]), lined on both sides by large, old eucalypts and other native vegetation. The proximity of these trees to the roadside, and their habit of overhanging the road, would necessitate the removal of many of them. Widening of the road to accommodate oversized loads will similarly involve destruction of many smaller trees and shrubs.

It is well known that roadside corridors provide the only native habitat within a highly modified landscape. These corridors are generally thought to allow plants and animals to disperse (or migrate) from one habitat area to another, facilitating gene flow and colonisation of suitable sites (www.tmr.qld.gov.au). Land reserved as easements for roads, rail lines and for protection of creeks and rivers often provide vegetated corridors vital to fauna movement. Surveys carried out by the Proponent were focused on the proposed areas of works (EA 13.2.5), and apparently no consideration has been given to roadsides. A full assessment of the impacts of the road modification and tree removal for the transportation of plant for the proposed project needs to be undertaken. Without this, there is not "sufficient information" upon which the relevant ministers can effectively assess the full environmental impact of this proposal.

Assessments by the Proponent in relation to the effect on flora and fauna on the proposed project site are inadequate and trivialise the subject. For example, surveys conducted on threatened species included a survey for the endangered Golden Sun Moth. The surveys were performed during 10-11 February and 21-

24 February 2011 (EA 13.2.3). A quick literature search for information on the flying season for the Golden Sun Moth reveal that the flying season can vary between early November to mid-December and late November to early January (www.environment.gov.au/cgibin/sprat/public/publicspecies.pl?taxon_id=25234). As the Proponent identifies, the survey carried out regarding the Golden Sun Moth is completely inadequate and does not provide us with any useful information. The Proponent proposes that further surveys be undertaken prior to construction (13.4.3). However, this does not provide either of the relevant departments with sufficient information upon which they can assess the environmental impacts of the proposed project. Nor does it allow us to address these issues in this, our one opportunity to have our submissions considered.

The farcical nature of the Proponent's assessment is demonstrated in EA p13-22 where it is claimed that the destruction of 33 hollow-bearing trees is purportedly "offset" by the existence of 49 hollow-bearing trees in the proposed "offset site", irrespective of the fact that both populations presently exist. The net result is the destruction of 33 hollow-bearing trees, which can take up to 100 years to form the hollows required for habitat.

## 7. VISUAL IMPACTS

As identified above in 6., the road between Gunning and Dalton is, for a large part of its 9-km length (contrary to the EA's measurement of 3.4 km (ES Appendix F, para 2.1)), lined on both sides by large, old eucalypts and other native vegetation. The proximity of these trees to the roadside, and their habit of overhanging the road, would necessitate the removal of many of them. Widening of the road to accommodate oversized loads will similarly involve destruction of many smaller trees and shrubs.

These trees are not only important habitats and wildlife corridors; they also form an attractive avenue on the approach to Dalton. Destruction of these old trees will have a significant adverse visual impact. The age of these trees precludes replanting from adequately compensating or offsetting their destruction. It will take more than 100 years to restore this vista to its present condition.

The Proponent has failed to identify and address this as an issue in their EA.

## 8. SOCIO-ECONOMIC

The EA identifies no positive local impacts for Dalton. Any jobs created during the construction stage are likely to be short term, and workers will "most likely be sourced from Goulburn". The EA states that "…the local population is not expected to be impacted by the project as the employment numbers during operation are not significant…" (EA, ES 16). That is the extent of the discussion in the EA of the socio-economic impacts of this proposal on Dalton. There is very little unemployment in Dalton. The employment impact, if any, will be negligible.

The only other assessment is on economic contribution at a national level.

It is submitted that a significant socio-economic impact resulting from this proposed facility will be the reduction in the value of our properties. Apart from those born here, residents of Dalton have chosen to live here for the rural ambience, clean air and serenity. People like us would not choose to live in the shadow of the largest gas-fired power station in NSW. There will be a dramatic decrease in demand for Dalton real estate at current market valuations. We will lose value in our homes through none of our own doing. There will be no offsetting increase in demand due to job creation.

Disruptions to traffic flows through road modifications and transportation of oversized loads will cause serious disruptions to our lives. The Gunning-Dalton Road is a vital link between Dalton and the rest of the world. Alternative access requires lengthy detours on sub-standard roads.

Given the above, it is submitted that the following undertakings must be required of the Proponent.

- The Proponent must acknowledge that the proposed facility could seriously negatively affect the value of our property. The Proponent should be prepared to compensate affected residents for any devaluation independently assessed to be directly attributable to the facility. We cannot accept that we should bear the financial cost of any such devaluation when we are to receive none of the benefits of the project. This is a cost that should be internalised and for which AGL shareholders should be liable.

- Adequate notice must be given to all residents regarding all traffic disruptions. There should be undertakings regarding not causing disruptions during the morning and evening peaks and during school drop-off and pick-up times.

The EA contains many other issues that we have not had time to address. This is very distressing, given that this is our only opportunity to express our concerns. The Proponent has, by the inadequacy of the EA, denied us the proper opportunity to identify and address matters of concern that will impact us.

There are many costs associated with this proposal, which the Proponent seeks to externalise. We don't believe that we should have to pay the significant personal cost for the financial benefit of AGL shareholders.

We trust that our concerns will be afforded the serious consideration that they deserve.

Yours Sincerely

Alister Waine, Dr. Kahli Weir, Tana Waine and Hunter Waine

# Dalton Public School

*Jobson St, Dalton 2581*

*Ph: 02 4845 6210*
*Fax: 02 4845 6203*
*Email: dalton-p.school@det.nsw.edu.au*

*Principal: Dominic Jones*

On behalf of the students and staff at Dalton Public School, I would like to submit the following with regard to the proposed Dalton Power Project.

The proposed facility is approximately 3 km from our school. We have concerns regarding the noise, pollution and dust that will be generated by the project, and regarding disruptions to traffic and access to Dalton and our school.

The Environmental Assessment provided has not established the existing levels of noise or air quality at our school. Any proposed monitoring of these levels will not provide any meaningful data which would allow us to assess the impacts of the development as there will be nothing to compare it to. At the moment, Dalton is a quiet place with no industrial pollution. The proposed project will obviously have impacts on the school and the learning environment.

The students grow vegetables as part of the curriculum. We also rely on rainwater for drinking water. Therefore, we have serious concerns about the impacts of pollution on the health of the students and staff.

The project is also likely to affect the traffic flows and the ability of staff and students to attend our school. A large number of students rely on the school bus to get to Dalton. The teaching and support staff also use the Dalton-Gunning Road to get to work. Disruption to access to this road would have serious consequences for our ability to provide our students with the education they require and deserve.

As far as I am aware the school or the Department of Communities and Education have not been consulted about this project.

The Applicant should be required to undertake the relevant investigations into the existing noise and air quality levels and to commit to the monitoring of those levels for the life of the project. It should also give assurances that the delivery of education to local children will not be compromised in any way through disruptions to access to Dalton.

Dominic Jones
Principal Dalton PS

(1)




# SUBMISSION

# DALTON POWER PROJECT

## FROM
## JOHN AND MARY WALSH
## MARTIN AND LOUISE WALSH &
## FAMILY

11TH SEPTEMBER 2011

WALSH FAMILY
J. & M.WALSH
M.& L.WALSH
MOUNT PLEASANT
DALTON NSW. 2581

DALTON POWER PROJECT
MAJOR PROJECTS ASSESSMENT
DEPT. PLANNING AND INFRASTRUCTURE
GPO BOX 39
SYDNEY NSW 2001

ATTENTION: TOBY PHILIP

We the WALSH FAMILY have land adjoining the actual site.
JOHN AND MARY live 2.4 k AWAY and
MARTIN AND LOUISE AND BOYS 2.9 k AWAY

**TRAFFIC**

There will be serious implications for local people with increased road use, both in the construction phase and ongoing operations.

Noise and Dust will be unbelievable to the locals. We the Walsh family have had some experience with this. A sand mining operation from the Lachlan river, using both Walsh's road and the Bevendale road.

In peak operations, eg. Hume Highway construction,(1990,s) the DUST AND NOISE was extremely annoying.

With peak use of the Walsh,s road during this project 0f 400-500 traffic Movements per day, just using the road will be very hazardous, road conditions pot holes, dust and cowboy drivers. There will be such drivers.

The Dalton - Gunning road will "break up" especially if we have a wet winter or two,and we are due for such. We haven't had wet winters for a while (we are a Winter-Spring rainfall area)

Will the contractors Leightons G.E. suspend operations, if it becomes very wet and boggy in such a winter/spring. We can expect this disruption every 3 years for 6 weeks or so (major maintenance)

STILL MUCH TO BE ADDRESSED!!!!!!!!

## WATER SUPPLY

Pretty vague. Not been settled on where is it to come from, both for operation of the facility and suppression of dust during construction, of 40 water tankers per day. If it is envisaged coming Gunning town supply a lot Of upgrading would be needed. Construct a dam on the :Lachlan? Not adequate in dry times (drought). Unlikely to be sufficient bore water available on-site. The underground water in this area is from "fractured rock"

WHY HASN'T WATER SUPPLY QUESTION BEEN SETTLED

## NOISE

As mentioned before noise in the construction phase will be very significant from vehicles and machinery. Also when major maintenance is going on. As regards, noise from the turbines, we have had at our home the AGL simulator and while the noise was not loud, it was not the POWER STATION. Remains to be seen as to what it will really be like, e.g. noise. Truck movements are going to be very annoying for Dalton and Gunning Residents, especially Gunning. All traffic through the main street. Dalton will be mostly side stepped (Loop Road),but it will be significant.

There will be ambient noise from the site during operations.

WE WOULD NOT LIKE TO SEE BRIGHT LIGHTS ALL NIGHT EITHER

## FLORA AND FAUNA

Given the amount of time that the survey was conducted ,we find it a little strange that some fairly common species were not mentioned. Bear in mind that John knows the land in question very well, having lived here for over 70 years and at one time most of the land now owned by AGL was owned by the Walsh family. We now run sheep on some of it too.(AGL land)

There is no black snakes mentioned (very common) I am up there often and it would be rare to NOT see a black wallaby. There are many birds not mentioned as well. E.G.

RED RUMPED PARROTS
SUPERB PARROT
CORRELLA
DOLLAR BIRD
HOODED ROBIN
EASTERN ROBBIN

BLACK DUCK
OTHER WATER BIRDS
PACIFIC HEROR
SPOONBILL
PLOVER (SPURWING)
COOTS

Bats 'RECORDED" on Mount Pleasant in June 2000
Adjoining A.G.L. by AUSTRALIAN NATIONAL UNIVERSITY

YELLOW BELLIED SHEATH TAIL BAT
GOULDS WATTLED BAT
CHOCOLATE WATTLED BAY
LONG EARED BAT SP.
INLAND BROADNOSED BAT
LARGE FOREST BAT\
SOUTHERN FOREST BAT
LITTLE FOREST BAT
FREETAIL BAT SPEC
WHITE STRIPED FREETAIL BAT
Were your list of Bats electronically recorded????

Also concerned that NO mention of any frogs or their habitat was mentioned at all.
There are 6 farm dams within 1k, and 3 dams within 100 - 300 metres.
Plus the access road is to cross two small creeks and a wet gully that are
All HABITAT for frogs . 3 - 4 species at least.

We would also make mention of two very common weeds (Flora) that are
Present in fairly large numbers. SERRATED TUSSOCK (Nassella
Trichotona and BATHURST BURR (Xanthium spinosa)
SERRATED TUSSOCK IS A WEED OF NATIONAL IMPORTANCE!
And BATHURST BURR are very detrimental to wool (sheep).
These were not mentioned at all, as was CAPE WEED and they are very
Prominent. WHY????????

Pat & Warwick

To AGL

RE GAS FIRED POWER STATION DALTON SITE

Martin and Louise Walsh and young family live approximately 3km from the proposed site on a property called Mt Pleasant.

Please address concerns as follows:

•Our primary concern is noise, noise from the construction stage and the ongoing noise when the station is in operation. Can you please explain to us how you will ensure noise does not affect our everyday living, given that noise will be a concern for neighbours living less than 1km away from us.

•Visual impact. Given the location of the site, we will be looking directly at it from our front door and from all bedrooms in the house. I did go to the information days and see the imposed station into pictures taken from different view points, none of these were taken from our vantage point. Please show me the visual impact from our location and show me ways you plan to reduce this impact.

•road access - Walsh's road is used by the Walsh family as an alternative access road into the property. Please show me how you plan to keep this road safe and usable for the few local families who use it.

•Dust - during construction, I am very concerned about the dust which will be created. My six year old son suffers asthma, and dust is a trigger for an onset to asthma. How are you going to ensure dust from the construction will not affect my child?

•Can you guarentee that the power station will not run for more than the proposed amount of time? AND if it does, can you show me how the prolonged noise will not affect my living conditions?

I look forward to your response.

Louise and Martin Walsh

Community for Accurate Impact Assessment of the Dalton Power Station (CAIAD)
"Altjira"
Alton Hill Road
Gunning NSW 2581
Correspondence to: amakeig@bigpond.net.au

Director, Major Infrastructure Assessment
Department of Planning
GPO Box 39
Sydney NSW 2001

Dear Sir/Madam,

**SUBMISSION IN RESPONSE TO THE ENVIRONMENTAL ASSESSMENT OF THE AGL DALTON POWER PROJECT**

The Community for Accurate Impact Assessment of the Dalton Power Station (CAIAD) hereby submits this response to the above Environmental Assessment report.

We object to the proposal on a number of grounds, as follows:

i. Inaccuracies, inconsistencies and omissions in the Environmental Assessment (EA) report particularly regarding noise and air quality assessment.
ii. Excessive cumulative negative effects of building Stage 1 and Stage 2 which effectively amounts to building two power stations on the one site with commensurate impacts on air quality, noise levels and scarce water resources.
iii. Insufficient account of the adverse meteorological conditions (such as temperature inversions) of the region in the noise and air quality assessment.
iv. The maximum cumulative 1 hour level of $NO_2$ emissions exceeds the Australian standard summer temperature adjusted limit of 214μg/$m^3$.
v. Lack of verified noise emission data for the turbines and stacks which have never before been used in Australia. There is a track record of power companies incorrectly modelling noise impacts on communities, with people subsequently forced from their homes by intolerable noise levels, and therefore extensive empirical data needs to be obtained and independently and expertly assessed.
vi. There is no justification for the power station, and certainly not for one of this scale, on the basis of supply need in the electricity market. No additional capacity is needed in NSW for seven years.
vii. The proposal is inconsistent with the aims of Upper Lachlan Shire LEP 2010 to: "encourage conservation of natural resources"; and "promote the use of rural resources for agriculture and primary production", as electricity generation at the location risks depleting water resources that are currently available for interdependent ecosystems and agriculture.
viii. Inadequate community consultation, with impacts on the community not properly identified and disclosed.

As such CAIAD asks for:

A. An inquiry into the Uranquinty power station to determine why the actual noise and vibration impacts have exceeded those predicted in the Uranquinty Environmental Assessment report, and the resulting economic impacts for that community.
B. An independent expert assessment of the noise, vibration and air quality impacts once specific turbines and stacks to be installed are confirmed. It is understood that the turbines have been confirmed as General Electric 9FA turbines. However actual stack configuration is uncertain. The community asks that prior to construction, the sound power levels of the actual plant is verified by 'real world' empirical data to ensure claimed outputs are achievable.
C. An independent expert assessment of the appropriate acoustic model and modelling parameters for adverse meteorological conditions, given that worst case meteorological conditions for noise propagation and air quality occur frequently in the region.
D. An enduring limit on the size of the power station to Stage 1 with operation not to exceed 15% of the time (and 5% of the time where water is required).
E. Any approval to contain stipulations that noise (both A-weighted and C-weighted) and air emissions may not exceed NSW government limits during typical as well as adverse weather conditions. Given that the proposal is based on assumptions about emissions, there is considerable risk to the community, which means careful specification, monitoring and enforcement of limits will be essential.
F. An independent expert assessment of available water in the area to ensure existing water users and interdependent ecosystems are not adversely impacted by the project.
G. A letter to all residents within a 6km radius informing them of AGL's proposal to build the Dalton power station. The letter needs to inform the public about the potential negative impacts for neighbouring properties and the measures AGL is taking to ensure negative impacts are minimised. Also we ask that residents 10 km away, identified as impacted with peak levels of pollutants from the power station, are contacted and given an assurance that pollution levels will be well below recommended levels.

It is appreciated that there needs to be a balance between development of industry and preservation of amenity. This balance can be achieved with an accurate assessment of the impacts, limiting negative impacts to NSW Office of Environment and Heritage (OEH) and the World Health Organisation (WHO) guidelines, and avoiding cumulative negative impacts by restricting the development to Stage 1.

Please contact me if I can be of additional assistance in relation to the information presented in this submission.

Yours sincerely,

**Andrea Strong**
**For CAIAD** 19 September 2011

**Submission to the Proposed Development of a 1500MW Open Cycle Gas Turbine Power Station at Dalton**

**By the Community for Accurate Impact Assessment of the Dalton Power Station**

## 1. Introduction

There are a number of community concerns about the construction and operation of a 1500MW open cycle gas turbine power station at Dalton:

ix. Inadequate community consultation;
x. Inaccuracies, inconsistencies and omissions in the Environmental Assessment (EA) report;
xi. No justification for the power station;
xii. Noise and vibration impacts during construction and operation;
xiii. Impacts on the scarce water resources of the region;
xiv. Air quality impacts during construction and operation;
xv. Site night lighting impacts; and
xvi. Exaggeration of job benefits to the region.

The proposed Dalton gas fired power station, if constructed, will be the biggest open cycle gas fired power station in Australia with technology not before trialled in Australia. The proposed project is in two stages: Stage 1 with a capacity of 750MW; and Stage 2 with a capacity of 1500MW. This is equivalent to building two power stations on a single site.

AGL say they have decided to construct with the larger noisier F class turbines, specifically, General Electric (GE) 9FA turbines. According to AGL these turbines have been installed in China, Eastern Europe, South America and Western Europe. The China Power Contractor website[1] indicates that all GE 9FA turbines are manufactured in China by Harbin Power Equipment Company (HPEC)[2].

There is an unacceptable degree of risk to the environment and existing landowners by constructing a gas fired power station of unprecedented size in this rural area. The cumulative negative impact of the additional capacity in Stage 2 raises serious concerns for the preservation of amenity and water resources of the region.

Concerns arise because of other cases where open cycle gas fired power stations have been installed in rural areas and have subsequently caused serious problems for neighbouring properties. In the

[1] http://www.china-power-contractor.cn/GE-9FA-255mw-Gas-Turbine-Generator.html

[2] HPEC has had environment issues with developments with which it has been involved in the past, including the massive Three Gorges Dam in China and the Merowe Dam in Sudan (Oster 2007)(Sudan Tribune 2003)(Macartney 2007). As referenced in http://www.greenwashreport.org/downloads/HRL_Report_08.pdf

case of the much smaller Uranquinty power station the actual noise and vibration impacts have exceeded those predicted in the Uranquinty Environmental Assessment report causing people to leave their properties (see Appendix A).

Further, there are a number of fundamental errors and omissions in the EA report which means it cannot be relied upon to assess the environmental impacts of the Dalton power station. The review of the EA process and report follows.

## 2. Inadequacy of community consultation

**2.1 People not contacted**. A number of affected land owners only heard about the proposal by word of mouth after the initial public meeting in April 2011. There was no notification by mail to affected land owners. Names and addresses of affected landowners could have easily been obtained from Council and the location of dwellings is well documented on the local Bushfire Brigade map.

**2.2 People not identified as impacted.** Just a few months ago and after the first public meeting, when asked about the impact of the power station on the closest neighbour to the east of the site, AGL hadn't realised that the dwelling existed. AGL said they had thought the buildings to the east of the site were only sheds. It is almost unbelievable that a $1.5billion project could get so far through the assessment process and not identify one of the closest neighbours, particularly given that consultation with the community is an essential part of the assessment process.

Serious inadequacies in the community consultation process are obvious with AGL failing to identify even their closest neighbours, and failing to contact all impacted residents.

## 3. Inaccuracies, inconsistencies and omissions in the Environmental Assessment Report

**3.1 Leafs Gully Image on the front of the Dalton EA.** The image on the front of the EA which is presumed to be an artist impression of the proposed Dalton power station positioned in the landscape behind eucalypts, is in fact an image of the Leafs Gully power station near Appin, taken from the front cover the Leafs Gully Power Station 2009 Environmental Assessment. Leafs Gully is a 300MW power station. The proposed Dalton power station is a 1500MW power station, some five times bigger, therefore with a very different visual impact. Placing the Leafs Gully image on the EA documents and EA CDs is deceptive and very misleading to the public. The general reaction of the public looking at the image is that 'it doesn't look that bad' and 'perhaps there is nothing to worry about'. By not showing the public the true image and scale of the power station, AGL is avoiding scrutiny and failing in its obligation to consult.

**3.2 No artist impression or elevation drawings of the proposed development.** Apart from the wrong image on the front cover, there is no artist impression of the power station included in the EA. While a plan of the site has been included, showing dimensions roughly 500 m by 700 m, no elevations showing reference levels are provided. Some distant views are included as part of the visual assessment, but nothing is provided to show the bulk and scale of the structure with reference to the topography. An artist's impression of the much smaller 210MW Tuggeranong power station is included here in Appendix C of this submission.

**3.3 No documentation of AGL's comprehensive review of existing gas turbine developments.** The EA states "AGL has undertaken a comprehensive review of existing gas turbine developments in Australia and has also reviewed more than 12 alternative sites for the proposed development in NSW" (AGL and URS 2011[3], pES-3). Yet the comprehensive review is not contained in the body of the report. Can the community get a copy of the comprehensive review? It would be valuable for the community of Dalton to examine AGL's review of existing gas turbine developments because of the adverse environmental impacts, particularly concerning low frequency noise and vibrations, which the residents of Uranquinty have experienced from the operation of the 640MW Uranquinty power station.

**3.4 The Uranquinty power station is referred to as a "proposed development" in the report.** Given AGL's comprehensive review of existing gas turbine developments, it is surprising that in the EA they discussed the Uranquinty power station as a "proposed development" when it was commissioned in 2009 (AGL and URS 2011, p3-20). This raises questions about what review of existing gas turbines has been done by AGL, if it is not known that the Uranquinty power station has been operating for 2 years.

**3.5 Incorrect addresses of impacted residents in the EA report.** Many of the addresses reported in the assessment are incorrect. The addresses on Alton Hill Road (which is sometimes referred to as Alton Hill Lane) are all Gunning rather than Dalton. Also a number of attendees at the community meeting, that neighboured the site, commented that the Dalton addresses were incorrect.

**3.6 Community not aware of the wind turbines 5 km from the site.** The EA states that other major projects in the Upper Lachlan Shire Council area are all wind farms between 5 and 20 km from the power station project (AGL and URS 2011, pES-16). The community are not aware of any wind farms 5 km from the site but for those residents sandwiched between the wind farms and the power station, the cumulative negative effect would be significant.

**3.7 Offset area only to the west of the site.** The proposed biodiversity offset area is only to the east of the site. In the interests of screening and reducing noise impacts we ask that consideration be given to tree planting on the east ridge line and east north-east of the site to provide additional protection to dwellings "J", "G" and "F".

[3] AGL and URS (2011), AGL Dalton Power Project Environmental Assessment (2011) here forth referred to as AGL and URS (2011) or the EA report.

**3.8 Site assessment identifies 'Geotech' problems for the site.** In Table 3-15 the Dalton site is identified as having geotech problems. The status is identified as 'caution' stating that the site is feasible but there are potential constraints or significant costs with the site selection.

This is inconsistent with Chapter 8 which states "there appear to be no geotechnical aspects that would preclude the use of the site for a gas turbine power station" (p 8-4).

**3.9 AGL's environmental record is in question.** It is stated in the report that AGL's environmental record is supported by AGL never having proceedings brought against it in court. However this is incorrect. AGL is currently in court with AGL Energy's Gloucester coal seam gas project. The proceedings are being brought against PAC and AGL in the New South Wales Land and Environment Court by the Barrington – Gloucester – Stroud Preservation Alliance.

## 4 No justification for the power station on the basis of 'State need'

**4.1 Error in the year when the LRC point is reached in NSW.** The justification provided by AGL for the project is contained in *Chapter 2: Project Need and Justification* of the EA. Reference is made to the report issued annually by the Australian Electricity Market Operator (AEMO) entitled *Electricity Statement of Opportunities 2010* (ESOO 2010) (AGL and URS 2011, p2-1).

The EA says the:

> "The ESOO includes a supply-demand balance ....indicating the ....Low Reserve Condition (LCR), when additional capacity may be needed to maintain the established level of electricity supply reliability.
>
> If no capacity in addition to that already committed is made available to the market, this point is reached for NSW somewhere around 2014 and 2015".

However this is incorrect. The ESOO 2010 says the LRC point for NSW is reached in 2016-17 for the medium and high growth scenarios and not until 2017-18 for the low growth scenario (ESOO 2010, Table 1). The latest ESOO (ESOO 2011)[4] was released August 31, 2011 and pushes the LRC for NSW out to 2018-19 for all growth scenarios (ESOO 2011 Table 1, p10 Executive Summary). Therefore for at least for the next seven years (from 2011 to 2018) there is no need for this project to provide 'electricity supply reliability'.

**4.2 Potential problems for the efficient operation of the electricity market if AGL holds a large amount of peaking plant.** The other justification given by AGL for the project is that during peak periods AGL can incur heavy financial losses by having to pay other generators 200 times the

[4] http://www.aemo.com.au/planning/esoo2011.html

cost of base load power. This amounts to AGL building capacity to strategically position itself in the electricity market. Further it raises questions about the efficient operation of the electricity market if one participant has control over the supply of such a large amount of peaking capacity in NSW. (The proposed 1500MW Dalton Power Station is the same size as the Murray Snowy Hydro).

Presumably there are hedging contracts available to AGL to manage peak demand price risk, instead of wasting resources building capacity before it is needed.

A better use of $1.5billion in the electricity market would be to upgrade customer metering equipment so customers can see and respond to price signals on the half hour and so reduce power demand in peak periods.

**4.3 Failure to identify Canberra and the ACT as a major usage area as a justification for the development.** Electricity usage and the transmission network are discussed, in the chapter on project need and justification. The main centres of peak demand are identified as Sydney, Newcastle and Wollongong (AGL and URS 2011, p2-3). Surprisingly Canberra and the ACT aren't mentioned, particularly as one would think Canberra and the ACT would be the major usage area in the region. Is there a reason Canberra and the ACT aren't mentioned as demand centres for the region?

**4.4 Inconsistent statements about the power station operation.** With regards to the operation of the power station, the EA says a number of conflicting things. In the executive summary it is stated: "It is envisaged that the power station would operate in open cycle mode during times of peak electricity demand, typically for less than 15% of the year" (AGL and URS 2011, pES-1). Also in Chapter 2 it is stated "Operation of the Dalton power station for up to 15% of the year allows for ....rare and extreme events."[5] (p2-9). However in Chapter 1 it is stated "Gas turbines...would typically operate for 15% of each year, with the potential for more extended operation." (p1-1).

In the first and second case the EA is saying the plant would rarely operate more than 15% of the year. In the third case it is saying 15% of the year is typical but more operation is possible. This needs clarifying. The environmental assessments on noise and air quality have assumed operation at no more than 15% of the time and the environmental assessment for water management has assumed water demand for operation for only 5% of the year.

The Leafs Gully EA states the Leafs Gully power station will not operate above 15% of the time without consent.

[5] There is less than half a page in the EA devoted to discussing the expected percentage of time the power station will operate. The estimation of not more than 15% is based on past experience. The EA lacks analysis of the percentage of time open fired gas turbines might be expected to operate in an electricity market with: 1. an increasing proportion of less reliable wind and solar power generation; and 2. a carbon price. Some analysis on electricity generation and capacity installed by technology type out to 2029/30, assuming different scenarios, is provided by the AEMO (National Transmission Network Development Plan 2010).

The Dalton EA consistently states that the analysis takes a conservative approach by looking at the worst case scenario. Given that the environmental assessment for the Dalton power station has been done assuming that the power station will not operate more that 15% of the time, and more than 5% of the year where water is required, the actual operation of the power station needs to be limited to this[6].

Operation for 15% of time is already a significant impact on the community. As the power station will be operating in peak periods, it will rarely operate on weekends, or after 10pm or before 6am during the week. Therefore during the week when people are awake it will be operating up to 32% of the time.[7]

## 5. Noise and vibration impacts during construction and operation

**5.1 Assessment process ignores greater adverse impacts arising from very low ambient noise in a rural environment.** The NSW Industry Noise Policy (INP) assessment process has problems for people living in a rural area because it doesn't take into account the very low ambient noise levels in the bush. People in urban areas don't seem as affected by these developments as farmers. This may be because country towns have a higher level of ambient sound. Often farmers may be closer to the developments, but an important factor seems to be that they are going from a 'no noise environment' to a 'noise environment'. This isn't taken into account in the INP assessment process as the Rating Background Level (RBL) of noise, if found to be less than 30 dB(A), is raised to 30 dB(A). For instance at Location K near the Dalton site, the RBL during the day and at night is found to be 25dB(A). As this is less than 30dB(A), for assessment purposes, this is raised to 30dB(A) and the Intrusive Noise Criteria is set at 5 dB(A) above this, i.e.35dB(A). This allows the power station to increase noise levels by up to 10 dB(A) (35 dB(A) criteria less 25 dB(A) actual RBL) which is 10 times more noise than our current noise levels[8].

Is there research that points to the need to leave RBLs at their measured levels for the purpose of assessing noise intrusiveness? It is noted that the WHO guidelines for community noise states that noise has the potential to disrupt tranquillity and "existing quiet outdoor areas should be preserved", *http://www.who.int/docstore/peh/noise/Commnoise4.htm*. On many of the surrounding properties, waterways and old remnant stands of trees have been fenced off for conservation purposes, and should have their tranquillity preserved.

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[6] When operating 15% of the time, the cumulative maximum $NO_2$ levels for 1 hour are estimated at 240.7 ug/$m^3$, very close to the OEH criteria of 246 ug/$m^3$ and higher than the WHO limit of 200 ug/$m^3$. As the EA hasn't examined the impact on the environment of exceeding the assumed maximum time of operation, the maximum time of operation needs to be limited.

[7] There are 8,760 hours in a year. 15% of the year is 1,314 hours. Taking out the weekends and time between 10pm and 6am leaves 4,160 hours during the week when people are awake. Of this time, the power station could be operating up to 32% of the time.

[8] As noted, an increase in noise levels by 3dB is a doubling of the noise, while an increase in noise levels by 10dB is a 10 fold increase in noise levels.

**5.2 Complete absence of vibration assessment.** AGL state that they haven't looked in detail at vibrations from the plant. They say "Gas turbine plant operate at high rotational speed and are very sensitive to vibration and hence very well balanced preventing vibration at levels that could be intrusive to surrounding receptors." (AGL and URS 2011, p12-7). However Uranquinty residents comment they can feel the vibrations through the ground and that windows rattle even as far as 4 to 5km away.

They say:

> "The vibrations are often felt separately to the low frequency noise. They can be noticed through the rattling of windows or felt through the body. If you stand in certain parts of our house you can feel the vibration reverberate through your body from the floor. It is quite an unpleasant feeling when a combination of both vibration & low frequency is felt. Neighbours with 'hearing loss' (which is many of the male farmers) are affected more by the low frequency emissions than those with 'full hearing'".

Complaints about vibrations have also been made about the Laverton power station. This was one of the reasons it was ordered to remain in shutdown for certain hours on weekdays.

The vibrations may be coming from the turbines or the stacks. It is thought the vibrations in the case of the Uranquinty site are coming from the stacks. Vibration assessment is a very important part of the environmental assessment. The project should not be approved until a thorough and independent assessment of vibrations has been undertaken.

**5.3 The EA report finds that the power station exceeds the INP low frequency noise emission and seeks to lower the standard.** The NSW INP guidelines say low frequency noise needs to be considered if the difference between the A and C weighted levels is greater than 15. The NSW guidelines are less stringent than the WHO guidelines which state that low frequency should be considered if the difference between the A and C weighted levels is more than 10 (http://www.who.int/docstore/peh/noise/Commnoise4.htm).

Although the Dalton Gas Fired power station is shown to exceed the INP difference approach for assessing low frequency noise impacts, the EA argues recent literature by Broner (2008) indicates "the INP difference approach is not suitable for use in assessments when the noise levels are low" (AGL and URS 2011, p12-24) – and so a less stringent control can be applied.

This is very surprising, particularly with the number of families in a 2.5km radius bought out by the recently commissioned Uranquinty Gas Fired power station because of intolerable low frequency noise levels, presumably with that project approved under the current set of noise limits (i.e. the INP difference approach). Residents have experienced the effects of the low frequency emissions through nausea, faintness and "vertigo".

As a consequence, five families neighbouring the Uranquinty gas fired power station are gone, two more families are in negotiation to go, and another two are being paid compensation. Also

the recent Four Corners report *Against the Wind* (25/7/2011) indicated a number of people have been forced from their homes by low frequency wind turbine noise because of health problems. Further the low frequency noise from the Laverton power station on the outskirts of Melbourne was impacting so badly on neighbouring office workers in 2007, that the power station was ordered by the Victorian government to remain shutdown on weekdays between 8am and 5pm.

From this anecdotal evidence, it seems the controls on low frequency noise are not tight enough. If the noise limits are too stringent now, as AGL seems to be saying, it begs the question why people are finding the noise intolerable and abandoning their homes.

The Broner (2008) paper can no longer be the most current literature available. What is the current literature saying about low frequency noise and annoyance? Is there literature pointing to the need for even more stringent controls?

There is a bias in the environmental assessment process for proponents, with considerable research resources at their disposal, to find and generate literature that makes a case to lessen the noise controls on proposals. In no circumstance when controls are met, do AGL and URS say, 'but recent literature points to a more stringent control being necessary'.

For the sake of getting the correct balance between development and amenity, it is vital that if Government noise limits are exceeded, limits aren't relaxed.

**5.4 Possible errors in worst case scenario noise modelling.** The EA report says that adverse conditions scenarios for noise impacts have been examined. The results generally show a 3 to 4 dB increase in noise levels, with one case (Receptor J – Scenario D) showing a 5 dB increase in adverse conditions.

This is well below what would be expected. The NSW INP says that "Certain meteorological conditions may increase noise levels by focusing sound-wave propagation paths at a single point. ... These meteorological effects typically increase noise levels by 5 to 10 dB, and have been known to increase noise levels by as much as 20 dB in extreme conditions, thereby causing a significant noise impact on residents"
http://www.environment.nsw.gov.au/resources/noise/ind_noise.pdf, p 31.

Therefore if the average of adverse impacts from meteorological effects is 5 to 10 dB and up to 20 dB, it is very surprising that this noise modelling only shows a 3 to 4 dB increase.

The apparent underestimation of the adverse weather condition noise impacts could be because of two reasons: the acoustic computer model selected to simulate noise impacts is invalid; and/or the parameters chosen to model the adverse impacts are incorrect.

Noise has an ability to carry in the atmosphere in the Dalton area. Residents say they can hear distant noises loudly on clear frosty nights.

Neutral and adverse conditions are defined in the EA as (see Appendix G of the EA report, Table 5-5):

| Scenario | Temperature | Relative Humidity | Pasquill Stability Class | Wind speed |
|---|---|---|---|---|
| **Neutral: Day** | 25 | 60 | D | 0 |
| **Neutral: Night** | 10 | 75 | D | 0 |
| **Adverse: Day** | 25 | 60 | C | 4 |
| **Adverse: Night** | 10 | 75 | F | 2 |

The temperatures and relative humidity in the adverse scenario are identical to those for neutral conditions. However literature indicates for day and night adverse weather conditions a default of 10 degrees C and 70% relative humidity should be used (Kaliski and Duncan 2010).[9]

It is not clear how neutral conditions are defined. Certainly neutral atmospheric stability, but do neutral conditions mean average temperatures, humidity and wind conditions of the region? If so, a wind speed of 0 m/s is not average. In the air quality assessment (AGL and URS 2011, Appendix C) the average wind speed of the region is reported as between 4.06 and 4.39 m/s for the years 2000 to 2006, with wind speeds exceeding 7.5 m/s a significant proportion of the time (Figure A-1). Also it is noted that across all seasons, wind speeds average between 5.7 and 8.8 m/s for 16% of the time between 7am and 10pm (the period the power station is likely to operate) (Appendix G: Wind Rose analysis – All seasons). It is not clear that these conditions have been considered in the noise modelling.

In the NSW Industry Noise Policy it is stated "Where inversion conditions are predicted for at least 30% (or approximately 2 nights per week) of the total night time in winter, then inversion effects are considered to be significant and should be taken into account in the noise assessment." Appendix C of the NSW INP states that the noise assessment needs to "determine the percentage occurrence of atmospheric stability category F or G temperature inversions" for areas where the rainfall is >500mm (Appendix C, p74).

The Dalton power station noise assessment provides no estimate of the G class stability category that is referred to in the NSW INP. Stability class F is stated to occur 70% of the time in the evenings, and 65% of the time at night (Noise Assessment Appendix G, Appendix B contained in Appendix G). Does the G class stability category occur at Dalton and with what frequency? If it does occur, what does the noise modelling indicate about the noise impacts?

It is known that noise varies with wind gradient, temperature inversions, humidity and temperature. An expert in this field, who is also familiar with the functioning of acoustic computer simulation models, is needed to say exactly what parameters and simulation model will provide an accurate

[9]Atmospheric absorption is a function of temperature, humidity, and pressure. For ... modelling, we use a default of 10 degrees C and 70% relative humidity, as this generally yields the lowest attenuation (from ISO 9613-1), Kaliski and Duncan (2010). http://acousticecology.org/wind/winddocs/noise/kalinsky_annualized%20wind%20farm%20sound%20levels.pdf

estimate of adverse conditions, given the specifics of the meteorological condition of the area. Nevertheless with respect to parameters, it would seem important to consider a day time case with temperatures at 10 degrees C, 75% humidity[10], and high wind gradients;[11] and a night time case with the same temperature and humidity, but a strong temperature inversion.[12]

**5.5 If you double the size of power station you double the noise so the Dalton power station can be expected to be more than twice as noisy as the Uranquinty power station.** The proposed Dalton gas fired power station at 1500MW, if constructed, will be the biggest gas fired power station ever built in Australia. If you double the turbines you double the noise.[13] Stage 2 will be twice as noisy as Stage 1.

The Uranquinty power station at 640MW is less than half the size of the proposed Dalton power station. Nevertheless it has not been able to meet the EPA noise limits once commissioned despite retro fitting noise abatement measures. The owner of the Uranquinty power station is now in litigation with the turbine manufacturer. If Uranquinty can't meet noise limits with a smaller number of the quieter E class turbines and AGL say that they are proposing to construct with a larger number of the larger noisier F class turbines, then it would seem impossible to prevent unacceptable adverse noise impacts on neighbouring properties.

**5.6 The Dalton power station is a greater distance from dwellings than the Uranquinty power station but it is more than twice as big and not all residents are protected by distance.** AGL argue that they have done a better job than the Uranquinty gas fired power station at buying surrounding properties to ensure a better buffer between impacted neighbours. This is not entirely the case. There are three dwellings less than 2.5km from the Dalton site and many a little further out, including the town of Dalton 3.7km away. As residents 2.5km away have been forced from their homes in the case of the smaller Uranquinty power station, it would seem the proposed AGL power station, being more than twice as large, will cause significant adverse noise impacts. A map showing the location of residences near the Dalton power station site is shown in Appendix B of this submission. A map showing the location of residences near the Uranquinty power station site, where families have left their homes, are in negotiations to leave, or are being paid compensation for noise, is shown in Appendix A of this submission.

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[10] See footnote above.

[11] Wind gradient can have a pronounced effect upon sound propagation in the lower atmosphere. http://en.wikipedia.org/wiki/Wind_gradient#Sound_propagation

[12] http://en.wikipedia.org/wiki/Inversion_(meteorology); http://geography.about.com/od/climate/a/inversionlayer.htm

[13] Noise is measured in decibels (dB) and the dB unit uses a logarithmic scale. If one machine emits a sound level of 90 dB, and a second identical machine is placed beside the first, the combined sound level is 93 dB. Therefore doubling the sound energy will increase the decibels by 3. A 10 dB increase in sound means sound has increased by a factor of 10. http://www.ccohs.ca/oshanswers/phys_agents/noise_basic.html. It is also noted that sound drops 6 dB as distance from the source is doubled.

**5.7 Farming property is not just the dwelling but also the agricultural land so sound proofing homes is not the answer.** AGL are talking about double glazing windows of farm houses that are affected by the noise, but this is not the answer. The homes that AGL is proposing to sound proof with double glazing are not new. The sound will go straight through the walls.

Farmers spend much of their time outdoors and their farming property is not just their home but also their place of work - their office. The sound proofing needs to happen on the power station itself rather than on homes. If agricultural land and homes are significantly affected by noise it will lower property values. The noise needs to be controlled or significant compensation needs to be paid to indemnify against lower property values.

**5.8 Other examples of power stations failing to meet noise controls once constructed.** The inability of the Uranquinty gas fired power stations to meet noise controls once in operation isn't an isolated incident.

### 5.8.1 Alice Springs

The submission by Canberrans for Power Station Relocation (CPR) Inc to the development proposal for the Tuggeranong 210MW gas turbine power station says the proposed turbines when installed actually produced 130.1 dBa rather than the 87 dBa as claimed in the Noise Assessment. They say that ..

> the Titan 130, installed at the Ron Goodin Power Station (RGPS) in Alice Springs, "produces 103.1 dBa and they apparently cannot get it anywhere near the suggested 87dBa. This is detailed in the comprehensive report which was published in January 2007 (Full report - http://www.powerwater.com.au/news/media_releases/2007/1001_noise_report_ron_goodin_power_station.htm )
>
> On page 7 of the RGPS report it states: This real world example indicates that a Titan 130 produces levels somewhere between 99.2 and 103.1 dBa which is much higher than Bassett's base data of 87dBa. This once again, calls into serious question the quality of the Noise Assessment.
>
> This situation is even more extraordinary when you consider that the above report was commissioned AFTER approximately $800,000 was spent in an effort to reduce the noise to an acceptable level.
>
> They failed, so the generator is being moved 25 km out of Alice Springs. Full details can be found here:
> http://www.powerwater.com.au/news/ron_goodin_power_station.htm ....."

### 5.8.2 Laverton

The original licence for the Laverton North power station only allowed the power station to operate for 10% of the year, but in May 2007 the Victorian Civil and Administrative Tribunal ordered that the plant remain shutdown on weekdays between 8am and 5pm, due to the neighbouring offices being affected by the level of noise and vibration. The restriction on

operation was removed in July 2007 because of the drought which was impacting on alternate hydro peaking capacity.

> Herald Sun, May 11, 2007:
>
> "**A POWER station that supplies extra energy in the summer peak has closed in business hours because of health risks. By** Wayne Flower
>
> The Snowy Hydro gas-fired power station in Laverton North will halt at 8am today after Victorian Civil and Administrative Tribunal deputy president Helen Gibson issued an interim enforcement order.
>
> The order follows complaints by office workers across the road from the plant about the level of noise and vibration emanating from the unmanned station.
>
> Metroll Victoria general manager Frank Collett said most of the company's 20 office staff had reported headaches, nausea, ear aches and other adverse health effects since the plant fired up last November.
>
> The order, which will remain in place until at least July 29 when the matter heads back to VCAT, means the plant will be unable to operate between 8am and 5pm on weekdays."
>
> http://www.heraldsun.com.au/news/victoria/health-risk-to-close-power-plant/story-e6frf7kx-1111113511468

**5.9 Noise inputs for noise assessment have not been independently verified.** The EA report says the sound power levels of equipment have been provided by AGL and that the sound levels reported have been attenuated due to proposed noise mitigation measures (AGL and URL, Appendix G, 2011, p29).

While URL says the mitigation measures are best practice (Appendix G, p 31), there is no reference to URL independently verifying whether the attenuation of noise from the proposed mitigation methods is achievable. The manufacturer's specification for noise data, before attenuation, for the turbines and stacks, is not included in the assessment.

Reference is made to 109F Class turbines in the noise assessment, while in the air quality assessment manufacturer's emissions data was sourced on General Electric (GE) 9FA turbines. It is not clear if there is an inconsistency here.

Quite extraordinarily in a footnote to Table 5-4 (Appendix G) it is stated that the "Sound power level of the exhaust stack has been estimated based on the maximum cumulative sound power level the site can generate in order to meet noise limits. To ensure the compliance with the noise limit, sound power level of exhaust stack opening and body combined should not exceed 110 dB(A)". This assumption and subsequent testing seems completely without scientific rigour. It is assumed the stacks wont emit more than 110 dB(A), and then this figure is put into the model to see if it exceeds the noise limits. By assumption it doesn't.

This is a serious and fundamental flaw to the integrity of the noise assessment. As such, no reliance can be placed on these results. It is particularly alarming as noise from the stacks seems to be what is causing people to leave their properties at Uranquinty. The noise assessment needs to be redone with the turbine and stack configuration specified and noise emission data verified by an independent expert.

(The Office for Environment and Heritage say it is common place for proposals to assume plant is able to achieve noise limits. When the project is approved, the proponent goes out to the market and sources plant that can meet these noise limits. If the sourced plant fails to meet limits when installed, then the proponent is required to retro fit abatement measures and can litigate the supplier.

This process creates significant risk for communities.

A critical part of this process must therefore involve the Government clearly specifying, monitoring and enforcing limits to ensure compliance once the plant is constructed. In the case of the Dalton power station, it is critical that limits on A weighted and C weighted noise during typical and adverse weather conditions are specified, monitored and enforced.

At the same time an independent expert assessment of the ability of specified plant to perform as stated, before construction, would go some way towards reducing risk. Given the Uranquinty, Laverton and Alice Springs experiences, any theoretical modelled data should be confirmed with empirical data from actual 'real world' operating power stations with equivalent configurations and mitigation measures. The assessment needs to consider the case of all turbines running simultaneously and at full capacity and any amplification that the configuration may cause.

Alternatively, a credible threat that the power station will be shut down, (irrespective of its build cost), if it fails to meet noise guidelines, would encourage proponents to get it right. The current situation where those affected are bought out by the power station operator at a pre power station land price, is an insufficient deterrent to control noise. Compensation needs to be sufficient to act as a deterrent and to compensate families for the social cost of leaving the community as well as reduced land values).

**5.10 The community response to the noise simulation.** At the Community Information Day, the last weekend of August 2011, URS and AGL brought along a noise simulator, which simulated the noise of both Stages 1 and 2. For most people Stage 1 was only slightly audible but you could hear Stage 2. It was a low rumble like an earthquake. A number of people were disappointed they could hear Stage 2 and thought the noise might get annoying[14].

[14] Annoyance is an adverse health impact according to the definition of health by WHO. http://www.euro.who.int/__data/assets/pdf_file/0004/131809/e94731.pdf

## 6 Impacts on the scarce water resource of the region

**6.1 Assumptions for modelling water consumption are inconsistent with the rest of the EA.** The analysis of water usage is based on an assumption of water demand for operation for 5% of the year. This is inconsistent with other environmental assessments presented in the report assuming the power station operates 15% of the time. When questioned on this, AGL said that water is required to improve thermal efficiency of the power station only when ambient temperatures are high, i.e. in summer. However when discussing the expected operation of the power stations the EA refers to the summer of 2007/08 when peaking requirements were for 10% of the year. Therefore the assumption that the plant won't operate with water more than 5% of the year is likely to underestimate water requirements in some years. The EA says the historical average of AGL peaking plant is 3% of the year (AGL and URS, 2011, p2-9). This suggests peaking plant operated an additional 7% of the year over the summer of 2007/08.

The overall water requirements of the site are summarised in Table 14-5 of the report and range between 15 and 106 ML/year, assuming water is only required for 5% of the year. If the conservative approach is taken and it is assumed that water is required all the time the plant is operating, water demand could be up to 318ML/year with E class turbines.

AGL have said that through their tendering process they are planning to construct the larger noisier F turbines. The water usage with these turbines operating 5% of the year is 15ML/year for Stage 1 and 29ML/year for Stage 2. A beef cattle farm on 500Ha in the Dalton area would use about 3ML/year[15]. Therefore Stage 2 represents a 10-fold increase in water taken from the environment relative to the existing land use. The more conservative assumption of water demand for operation 15% of the year would represent a 30 fold increase in water usage which is unsustainable in summer months and during drought conditions.

**6.2 The power station needs the water in summer when other demand is highest and supply is lowest.** The requirement for water by the power station in the summer coincides with when there is least supply of water and when other water users in the community have the greatest need for water.

**6.3 All water options have problems.** The EA lists water supply options in Table 4-4 stating that although tankered water is the only guaranteed water supply, Gunning water supply (Lachlan River offtake) and ground water extraction are potential options as a primary water supply source.

**6.4 Tankering water will increase traffic impacts on residents**. While tankering means that AGL is not taking scarce water from the community or interdependent ecosystems, it will increase traffic impacts. The EA says that up to 40 truck deliveries per day could be required to supply water to the plant (p11-10). However it is not clear if this is an upper limit given that it is

[15] The EA says the land use for the area is sheep for wool and dairy cattle. There haven't been dairy cattle in the region since the 1950s.

assumed the plant will only operates 5% of the year with water demand (other analysis is all based on operating 15% of the year). Traffic impacts need to be carefully assessed to minimise disruption to residents. Forty truck deliveries a day seems more than could be comfortably tolerated.

**6.5 Experience of the community indicates groundwater may not be abundant.** In relation to ground water extractions the EA states that there is currently an embargo on new applications for ground water licences within the Upper Lachlan Alluvium where the project is sited. The EA goes on to say the current level of extractions is well below sustainable yields, arguing that there is groundwater available for the project. However they also note that studies between 2004 and 2005 have shown a consistent seasonal drop in water levels since 1991 (AGL and URS 2011, p8-4). This accords with comments by the community at the public meeting, that previously reliable bores in the Dalton region have gone dry in recent years and any plans to extract groundwater could impact on water availability to the existing users.

**6.6 Reduced approval process for taking water from the community because of Part 3A.** The EA says that in 2008 the then Planning Minister declared power generation projects over 250MW to be "critical infrastructure projects" and subject to Part 3A of the EP&A Act. It then goes on to say:

> "Under Section 75U(1) of the EP&A Act, projects approved under Part 3A do not require a water use approval under Section 89, a water management work approval under Section 90 or an activity approval under Section 91 of the *Water Management Act 2000.*
>
> As the proposal does not impact on the river to the north of the site, the licence and approval provisions under the WM Act do not apply."

It is concerning that the approval process for the Dalton power station, in relation to water usage, may be any less rigorous because of Part 3A of the EP&A Act, particularly so given the ESOO 2011 report which says no new electricity capacity will be needed in NSW until 2018/19, in seven years time. The ESOO 2011 report raises serious questions about declaring all power generation projects over 250MW "critical infrastructure".

**6.7 How can taking water upstream not impact on the river downstream north or the site?** It is also unclear how it is possible to take water upstream, viz. the headwaters of the Lachlan system, and not impact on the river downstream to the north of the site.

**6.8 Demands on water resources makes the project conflict with the aims of the Upper Lachlan Shire LEP 2010.** The fact that the operation of the power station requires a large amount of water relative to the current use of the land is inconsistent with the aims of Upper Lachlan Shire LEP 2010 to "encourage conservation of natural resources" and "promote the use of rural resources for agriculture and primary production".

**6.9 A review of groundwater and Lachlan River water availability needs to take place.** A thorough review of groundwater availability, including interviews with local land owners about actual experience with water levels in bores in recent years to confirm theoretical possible water extraction, is necessary before any major extraction of ground water is approved. Also any offtake from the Lachlan River, either directly from the river or indirectly from the Gunning water supply, needs to assess the impact on existing land owners and the fragile Lachlan River environment.

Given the size of the water demand of the project, relative to agricultural use of the land, extraction of groundwater needs to be assessed to ensure yields are sustainable. It will be important that existing users aren't impacted and interdependent ecosystems aren't damaged. The NSW State Groundwater Policy Framework Document (1997) provides objectives for the ecologically sustainable management of the State's groundwater resources and it will be important this project is consistent with those. Also consistency with the objectives of the Water Management Act 2000 will be important (irrespective of any Part 3A exemptions).

## 7 Air quality impacts during construction and operation

**7.1 Increases in dust levels in wool during construction.** Concerns were raised by farmers about dust levels from the unsealed roads during construction and the impact that will have on dust levels in their wool clip. This is a real concern given that the report states that there will be 4,600 truck deliveries to the site for Stage 1 (AGL and URS, 2011, p4-32).

Dust levels along with vegetable matter (VM) and grease affect the yield of the wool. A 10% decrease in yield would typically result in a 10% drop in price. If yields drop very low to below 60% then there would be a greater price discount. The best option for all would be to prevent dust by wetting down road surfaces when needed. This will require having a system in place to identify conditions ahead of time when surfaces will need wetting and coordinating water trucks. As farmers have records on yield going back several years, if there is a significant drop in yield because of dust, then compensation should be sought.

**7.2 Air quality assessment has been done assuming 35m and 46m stacks and is invalid if shorter stacks are used.** The air quality assessment has been done assuming 35m and 46m stacks. However in Chapter 4, it is stated the "height of the exhaust stacks could be up to 46m but likely in the order of 28 to 30m". The plume dispersion modelling will have very different outcomes if shorter stacks are to be used and the impacts on air quality will need to be reassessed.

**7.3 The main emissions from the operation of the power station are known carcinogens and cause smog.** The main emissions assessed in the EA are nitrogen dioxide, carbon monoxide, sulphur dioxide, particulate matter and formaldehyde. Formaldehyde is a known human carcinogen

while nitrogen oxides ($NO_x$ - NO and $NO_2$) and sulphur dioxide react in the atmosphere to form smog and acid rain.

**7.4 What are the WHO and Australian $NO_2$ emission standards?** Long-term exposure to $NO_2$ at concentrations above 40– 100 µg/$m^3$ causes adverse health effects. The 2003 World Health Organisation (WHO) guideline values for $NO_2$ are a 1-hour level of 200 µg/$m^3$ and an annual average of 40 µg/$m^3$ (http://www.euro.who.int/__data/assets/pdf_file/0005/112199/E79097.pdf). The Australian National Environment Protection (Ambient Air Quality) Measure 2003 criteria for $NO_2$ is higher than the WHO criteria with a 1-hour level of 246 µg/$m^3$ and an annual average of 62 µg/$m^3$.

**7.5 The standards for $NO_2$ emission limits should be reduced to take into account summer air temperatures.** The submission by Canberrans for Power Station Relocation (CPR) Inc to the Tuggeranong 210MW gas turbine power station states that "The Australian standard for exposure to Nitrogen Dioxide for a maximum of 1-hour per annum was introduced in 1998 and is set in a different unit of measurement –parts per million (ppm). When this limit (0.12ppm) is converted to micrograms per meter cubed at 25 degrees centigrade, this converts to a limit of 225µg/$m^3$, not 246µg/$m^3$.". They go on to say if you take into account maximum summer time temperatures of 40 degrees centigrade, the National air quality standard is reduced to 214µg/$m^3$. They also say the WHO standard would be lowered when taking into account summer temperatures. http://canberrapowerstation.info/ftp/CPR-ACTPLA-Submission-27-5-08%20Final.pdf

**7.6 The Dalton power station $NO_2$ emissions exceed the WHO standards and the temperature adjusted Australian standards.** The proposed Dalton plant has a maximum cumulative 1 hour level of 240.7 µg/$m^3$ $NO_2$, and an annual level of 37.4 µg/$m^3$. This 1 hour level significantly breaches the temperature-adjusted Australian standard as well as the level the WHO considers safe for human health. The annual level is only just below the WHO standard to prevent adverse health effects. Also the manufacturer says for the turbines GE 9FA, NOx emissions exceed 25 ppmbv.[16] AGL says all manufacturers guarantee emissions of 25 ppm when operating at over 50% load (AGL and URS 2011, p3-62).

**7.7 Technologies are available to reduce NOx emissions but rejected as too costly.** A number of possible options for controlling NOx emissions are examined by AGL with the most effective being Selective Catalytic Reduction (SCR) (AGL and URS, 2011, p3-61). AGL state that the SCR process has the problem of causing exhaust emissions of ammonia and potential for accidental release of ammonia at a site adjacent to the Lachlan River. (It is hoped AGL have the competence to prevent the accidental release of any and all harmful chemicals stored on site). They also state that the process could cost up to $50,000 per tonne of NOx removed, whereas they are able to pay the NSW Government a load based licensing fee of $220 per tonne of NOx emitted.

[16] http://www.china-power-contractor.cn/GE-9FA-255mw-Gas-Turbine-Generator.html

An independent assessment needs to be made concerning the costs and benefits of technology options for controlling NOx emissions. Community residents are concerned that technologies that are available aren't being implemented to control NOx emissions, especially with emissions exceeding WHO guidelines.

Residents neighbouring existing gas fired power stations in NSW haven't raised air quality as a problem, but the proposed Dalton power station is unprecedented in its size and the region is subject to a very high frequency of stable meteorological conditions.

The community does not want Dalton to be an air pollution zone.

**7.8 Have residents in the peak impact area been told about the exposure to emissions from the power station?** The peak impact area is predicted to be 10km from the plant. The EA report has been written to suggest this is a good thing – that the community of Dalton won't be exposed to the worst of the emissions. It may be a relief for the people of Dalton but it will be of serious concern to the people south south-west of the site. Has AGL as part of their consultation process contacted affected land owners in this area to tell them their exposure to $NO_2$ emissions will exceed WHO safety standards?

**7.9 Incorrect peak impact area stated.** The report says the peak impact area is 10km south south-west of the plant. However this is not correct. Appendix C states "The peak impact area was predicted to occur 10km south south-west of the Facility, as shown in the Figure 9." But Figure 9 isn't included in the report. In Figure 8 of Appendix C, the iso-contours show a concentration of pollutants west south-west as well as south of the site, near the town of Dalton.

**7.10 Incorrect stability class identified for the site**. The stability classes for the site are reported in Table A-2 of Appendix A to Appendix C. It is stated that "Table A-2 shows moderately stable atmospheric conditions (Stability Class D) is the most prevalent Stability Class of the area". This is incorrect as the table shows moderately stable atmospheric conditions (Stability Class F) to be the most prevalent Stability Class of the area, occurring with a frequency of 39.2%. Stability Class D (neutral) occurs 20.2% of the time. The assumption of a less stable atmosphere will seriously underestimate the air quality impacts in any modelling.

## 8 Site night lighting impacts and sun glare from chimney stacks

**8.1 An assessment of proposed night lighting needs to be done to prevent adverse impacts.** Uranquinty residents say that night lighting of the power station and sun glare from the chimney stacks has impacted negatively on them. AGL have stated that endangered owls in the Dalton area mean that they will face lighting downward and so night lighting won't be a problem for the Dalton community. Given that other communities have had problems with night lighting, the environmental assessment needs to review the night lighting proposal to minimise adverse impacts.

**8.2 A review of the effectiveness of non-reflective material to prevent sun glare needs to be undertaken.** AGL say non-reflective material will be used to construct the chimney stacks. This was also claimed in the construction of the Uranquinty power station. The initial non reflective material used at Uranquinty didn't prevent sun glare and had to be replaced. AGL needs to review other industry experience to ensure materials used at Dalton will prevent adverse sun glare impacts on the community.

## 9. Exaggeration of job benefits to the region

AGL have said the project will provide job opportunities for the community. The reality is however that AGL will tender for a company to construction the power station and there is no guarantee that jobs will go to locals. The tender will most likely be won by a company located outside the Dalton area, with expertise in building open cycle gas fired power stations.

When the plant is operating, it is largely unmanned (with 5 to 10 employees) and controlled remotely. It is unlikely that local residents will have the specific skill sets required to find employment at the power station when it is operating.

## 10. Conclusion

On the basis of the review of the environmental assessment it is concluded that the proposal to build a 1500MW power station at Dalton be opposed. The proposed Dalton power station would be the biggest gas fired power station in Australia. It is equivalent to two Uranquinty power stations being built on the one site. The cumulative negative impacts are too great for one community to bear. Furthermore there is no need for the project for the reliability of electricity supply in NSW for seven years.

The environmental assessment is fundamentally flawed in a number of critical areas which means there is an unacceptable level of risk with the project. The noise assessment cannot be relied upon as no noise data was available for the F class turbine stacks, so a value that wouldn't exceed noise limits was assumed. This lacks scientific rigour. By assumption the noise limits aren't exceeded.

The Uranquinty case, along with Alice Springs and Laverton cases, point to problems of engineering expectations of noise levels not according with real world outcomes. As the technology proposed hasn't operated in Australia, empirical data internationally needs to be sourced and impacts on the community need to be assessed under adverse weather conditions. There are additional risks at Dalton because temperature inversions cause stable meteorological conditions and worsen noise and air quality impacts.

Water is also a problem.  Water is required by the power station in the summer when supplies are lowest and existing user demand is highest.

Dalton is a peaceful rural area. When asked by AGL what one resident could currently hear on his rural property, the local replied “I just hear the birds”. The community wants this tranquillity preserved.

## Appendix A:

Appendix A contains details of the families at Uranquinty who have been seriously impacted by noise in excess of NSW INP guidelines. Of the families:

- 5 have been bought out by Origin and left the area (see Figure A-1 below)- Wyrilla & The Pines were 4th generation families;
- 2 have taken compensation payments for the next 5 years with the option to be bought out if the noise levels cannot be mitigated;
- 2 are currently in negotiations with Origin.

Residents at Uranquinty say that initially engineers installed “prongs” into the top of the stacks to reduce the ‘rumbling’ but have now created low frequency noise and vibration problems. Origin has had engineers from Germany and Canada on site trying to find a solution and is looking at rebuilding the stack configuration at a cost of $60 million.

In Figure A-2 the circle with a 2.5km radius shows the location of residents relative to the Uranquinty power station.

**Appendix A:** **Figure A-1**

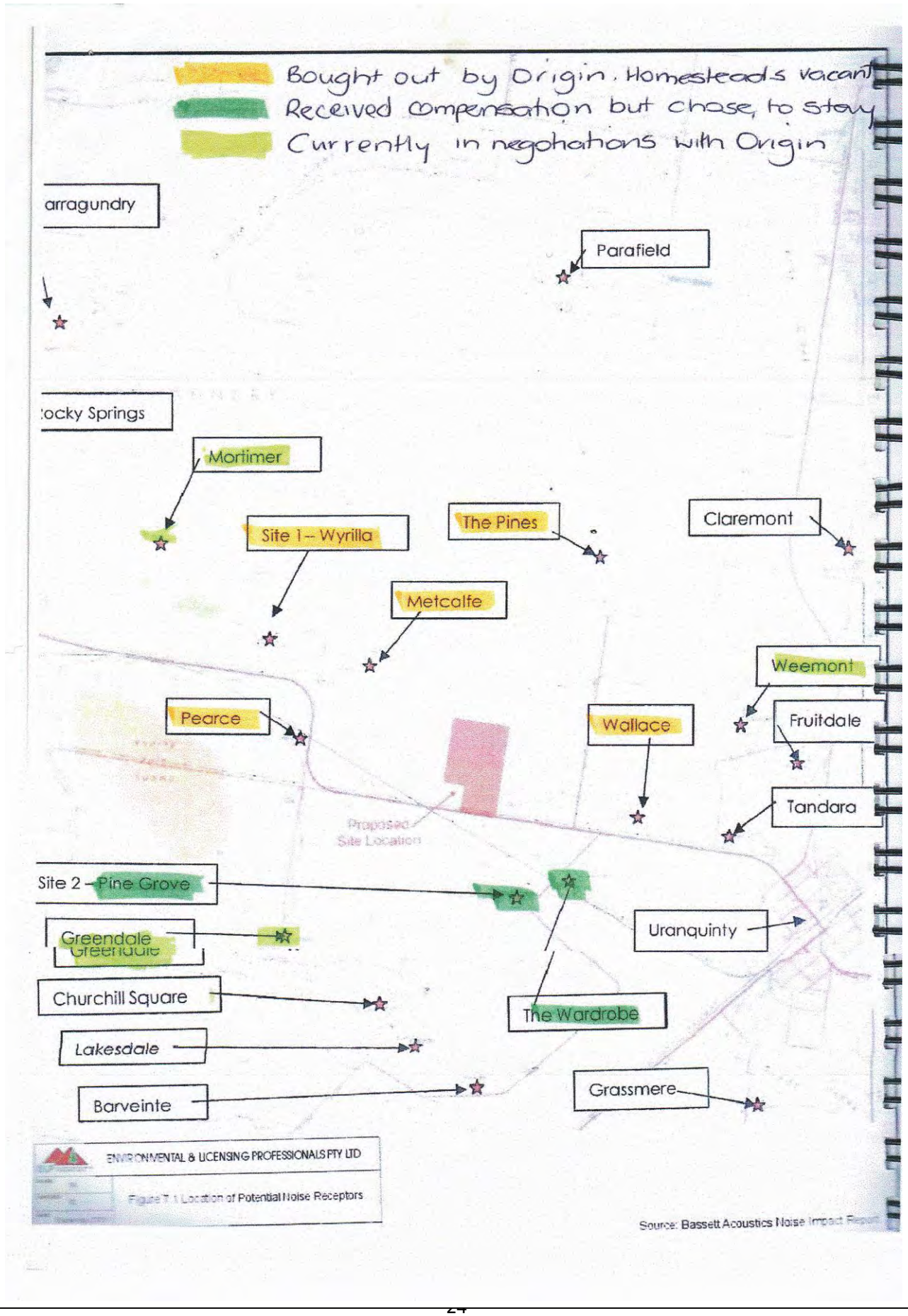
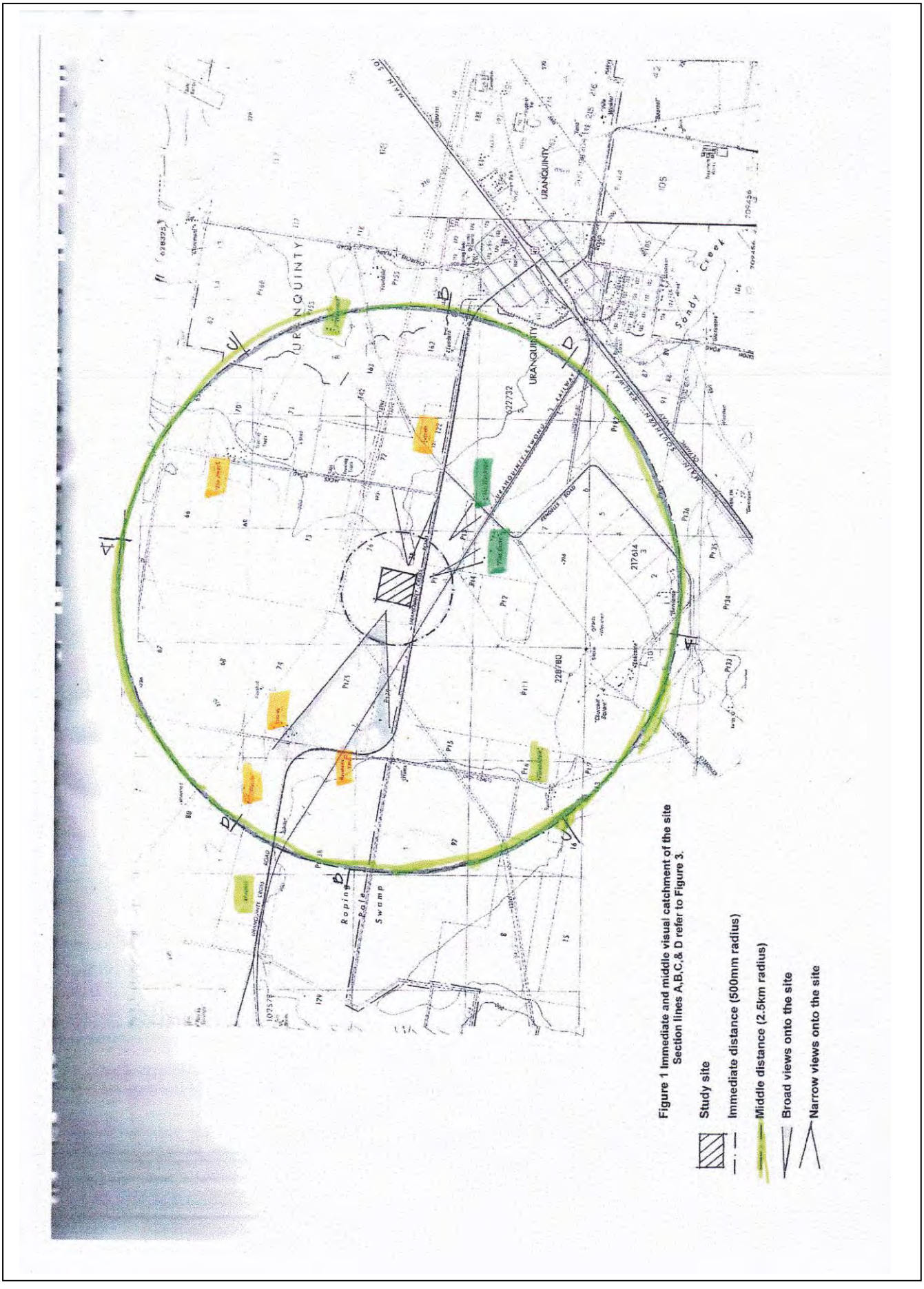
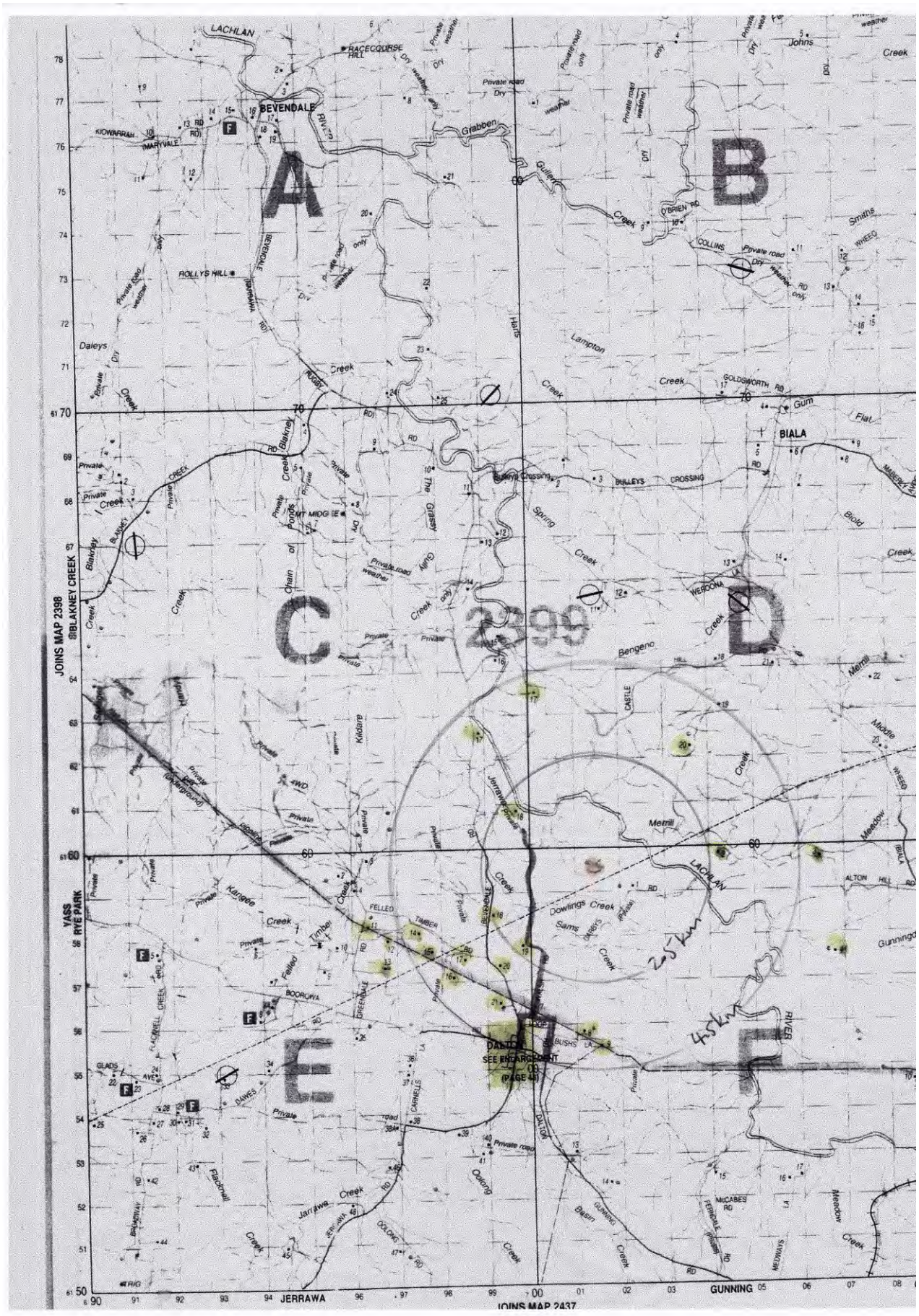


**Figure A-2: Radius of 2.5km from the Uranquinty power station and the location of dwellings**

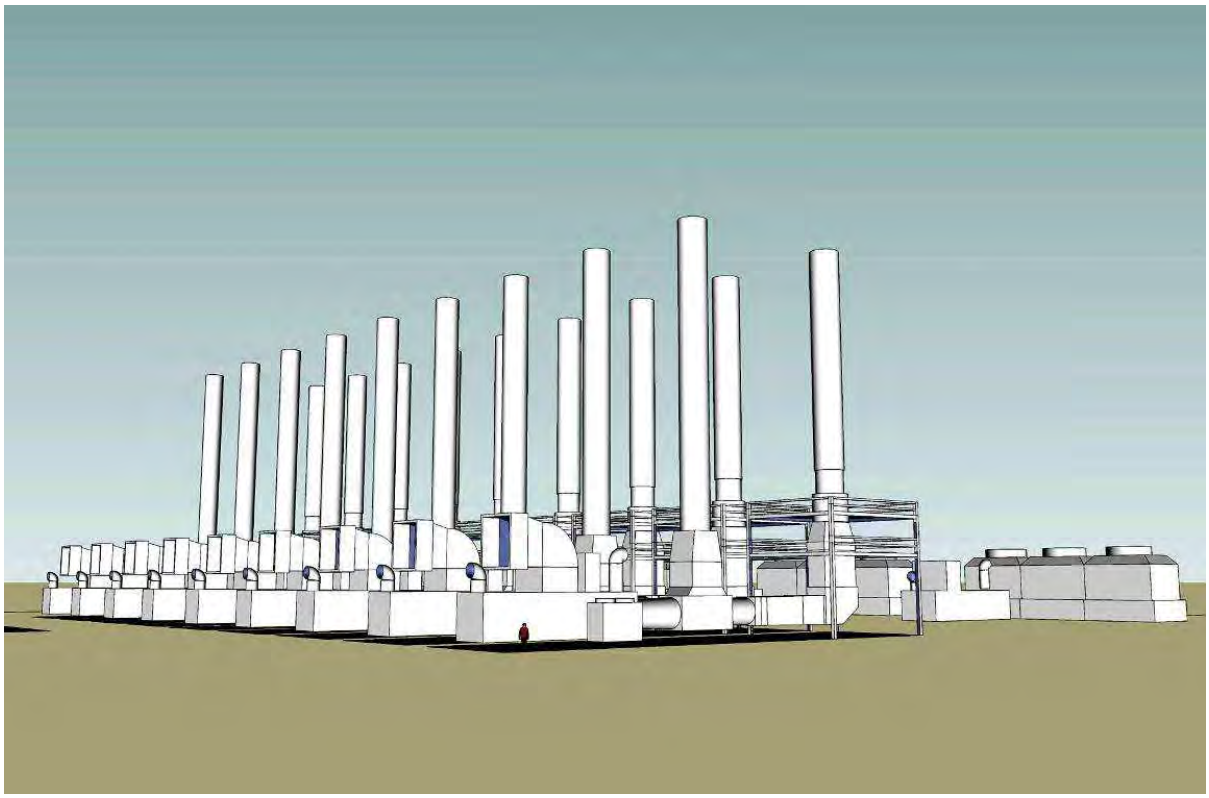


**Appendix B:** **Figure B-1: Radius of 2.5km and 4.5lm from the proposed Dalton power station (highlighted in orange) and the location of dwelling in the Dalton area (shown as highlighted in yellow)**



## Appendix C:

## 210MW GAS TURBINE POWER STATION AND DATA STORAGE CENTRE, TUGGERANONG



*Scaled Illustration of proposed power station, (note the 6ft person standing in front of the first generator).*

The stack heights in the submitted plan for Tuggeranong were 35m. The proposed height at Dalton is 35m for Stage 1 and 46m for Stage 2.

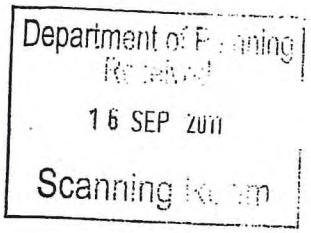
(4)

NSW GOVERNMENT | Trade & Investment


Office of the Director General

V11/2550

Mr Glenn Snow
A/Director
Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY 2001




Dear Mr Snow

Thank you for your letter of 10 August 2011 regarding public exhibition of the Environmental Assessment (EA) for the Dalton Power Project and your request for submission on the project including advice on recommended conditions of approval.

The Department raises no issues in relation to forests, minerals and fisheries. With regard to agricultural issues the Department has developed guidelines for relevant environmental matters to be considered for infrastructure developments. These guidelines can be accessed at http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0020/359030/infrastructure-proposals-on-rural-lands.pdf.

The Department notes the EA indicates that a licence under the *Pipelines Act 1967* would be required for the new gas pipeline branch from the existing Moomba to Sydney Pipeline. It is understood that a variation of the existing Moomba to Sydney Pipeline Licence is likely to be sought under the Act to include the proposed 3km long new branch of the existing pipeline.

For further information, please contact Andrew Lewis, A/Executive Director Energy on (02) 8281 7403 or email andrew.lewis@industry.nsw.gov.au.

Yours sincerely

Mark Paterson

Mark I Paterson AO
Director General
13.9.11

(2)

Our Ref: 454DA99 (11/1014) STH11/00217
Contact: Tim Webster 4221 2769
Your Ref: MP10_0035

8 SEP 2011

PCU025891

Department of Planning
GPO Box 39
Sydney NSW 2001

Department of Planning
Received
12 SEP 2011
Scanning Room

Attention: Toby Philp

**DEPARTMENT OF PLANNING COUNCIL – MP10_0035 – EXHIBITION OF ENVIRONMENTAL ASSESSMENT FOR DALTON POWER PROJECT**

Dear Sir

Reference is made to your letter received on 10 August 2011 regarding the subject development application forwarded to the Roads and Traffic Authority (RTA) for consideration.

The RTA has reviewed the submitted information and cannot make an informed comment on the subject proposal at this stage. To assess the proposal, further details are required regarding how the proponent proposes to manage the issues identified with transporting oversize/overmass loads on the classified road network including the Hume Highway crossing of Paddy's River at Marulan and the Gunning Rail Bridge. The RTA recommends the proponent liaise with the RTA Special Permits Unit in Glen Innes early in the process to assess the appropriateness of the route for transporting oversize/overmass loads and identify any other potential issues. The contact number is 1300 656 371.

If after further investigation any modifications to the classified road network are proposed, the modifications will require the concurrence or consent of the RTA under the Roads Act, 1993.

The RTA will reconsider the application once the above issues are addressed to its satisfaction. If you have any questions please contact Tim Webster on 4221 2769.

Yours faithfully

Brian Lefoe
Manager, Road Safety and Traffic Management
Southern Operations and Engineering Services

PCU025295

Land & Property Management Authority
Crown Lands

Our Ref: 11/09536
Your Ref: MP10_0035
Contact: John Flarrety



23rd August 2011

NSW Planning & Infrastructure
GPO Box 39,
SYDNEY NSW 2001

*ATTENTION: MR TOBY PHILP*

Dear Sir,

**SUBJECT: EXHIBITION OF ENVIROMNENTAL ASSESSMENT FOR DALTON POWER PROJECT.**

Reference is made to the documents received in this office 10th August 2011 seeking comments on the environmental assessment for the above project.

On behalf of Crown Lands Division of the Department of Primary Industries (CLD) I would make the following comments in relation to the Dalton Power Project:

1. The Crown public roads shown by pink colour on Diagram A herewith are affected by the main access road and the access to the communications facility respectively.

   CLD is not a road construction and maintenance authority and is not funded for such work nor does it employ staff who can provide expertise is this area – this role is the province of Local Government. In addition, Section 138 of the *Roads Act 1993* prohibits person/s from undertaking works or erecting structures on or over a public road without first obtaining the consent of the appropriate roads authority. CLD is the responsible roads authority for Crown roads on behalf of the Minister administering this legislation.

   As a consequence, CLD does not consent to any party undertaking works, including maintenance, on Crown roads.

   In this particular case, it is understood that the proponent (AGL Ltd) have entered a dialogue with Upper Lachlan Council with a view to Council accepting transfer of control pursuant to Section 151 of the *Roads Act 1993* and such a request is imminent. Transfer to the affected roads will also allow "linking" of these roads with other Council roads in this immediate vicinity.

   Once the project construction is completed, it is CLD preferred position that any roads no longer required for access be closed and sold to adjoining landowners.

2. Records available to this office suggest that parts of the waterway – Lachlan River adjoin the northern boundary of the Project area. Also in close proximity to the western boundary of the Project area is Jerrawa Creek which is a Crown waterway.

   All current access points to both waterways must remain and be available for public use. Any works and or operational activities must not impact on the bed and banks of these waterways, or affect the flows to or within the waterway/s.

GOULBURN OFFICE
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GOULBURN NSW 2580

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Dangar NSW 2309
1300 052 637
ABN 33 537 762 019 | www.lpma.nsw.gov.au

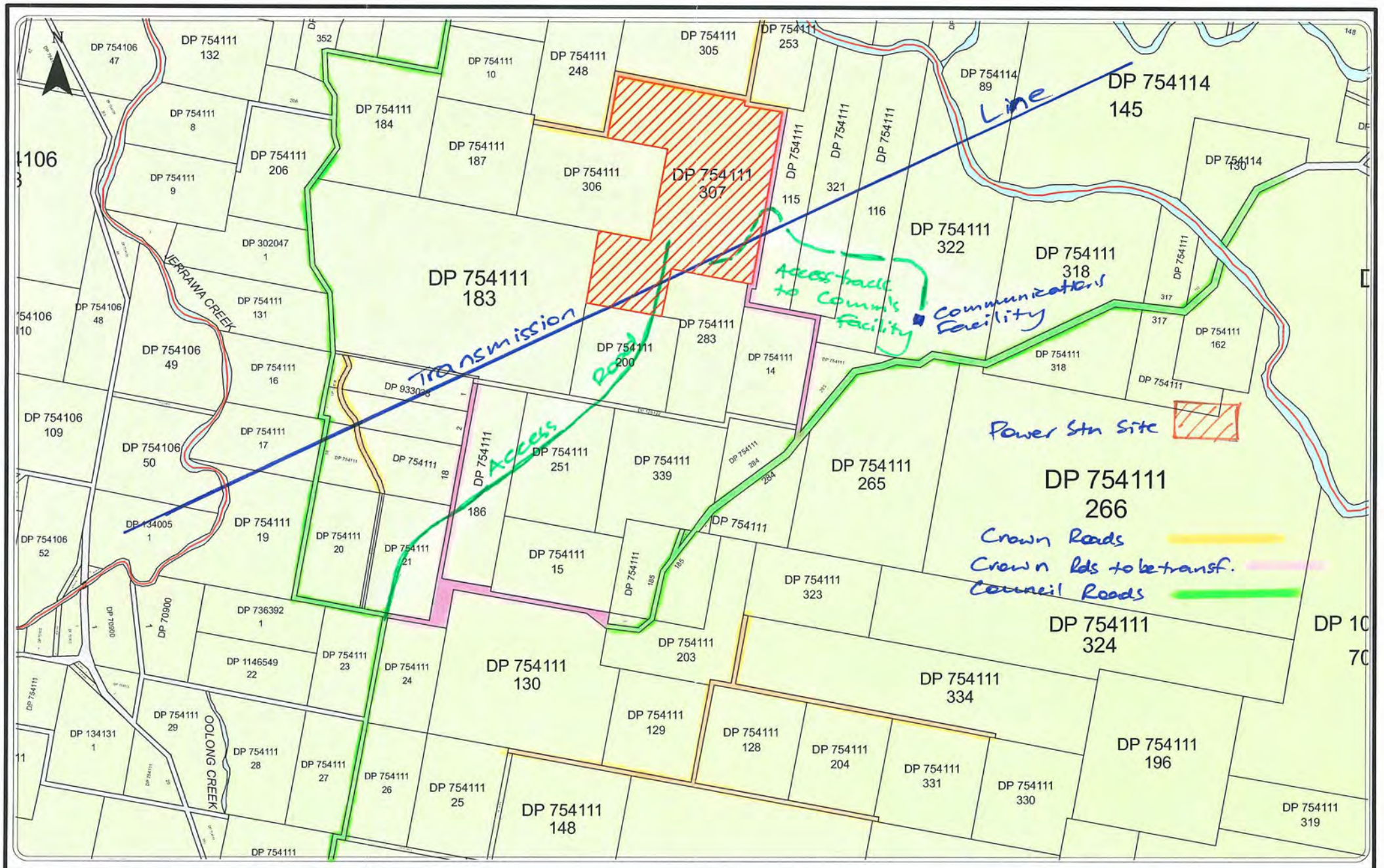
If any disturbance or activities are to occur within the waterway and or access is required CLD must be consulted prior to any disturbance or activities. This is to ensure that there is no long term impact on the Crown waterway/s and any adjoining riparian zones.

If you have any queries or would like to meet to discuss the contacted of this letter please do not hesitate to call me at the CLD Goulburn Office on (02) 4824-3714.

Yours Sincerely

John Flarrety

John Flarrety
Group Leader, Goulburn




**DISCLAIMER**
The Crown information shown has not been validated and may contain errors and omissions. Verification of Crown information should be made through the Land NSW office displayed. This is a diagramatic representation only.

Printed By: John Flarrety
Date Printed: 23/08/2011
Land NSW Office: GOULBURN
Telephone: (02) 4824 3700

Scale 1:20,000
160 0 160 320 480
Metres

PARISH: DALTON
COUNTY: KING
LGA: UPPER LACHLAN SHIRE
SUBURB: DALTON

NSW GOVERNMENT Land & Property Management Authority



www.lands.nsw.gov.au

# Office of Water

Glenn Snow
NSW Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2000

Contact: Tim Baker
Phone: (02) 6841 7403
Fax: (02) 6884 0096
Email: Tim.Baker@water.nsw.gov.au

Our ref: ER20980
Your ref:

26 September 2011

**Attention: Toby Philp**

Dear Mr Philp

**Subject: DALTON POWER PROJECT – EXHIBITION OF ENVIRONMENTAL ASSESSMENT**

I refer to your letter requesting a submission on the publicly exhibited environmental assessment for the proposed Dalton Power Project (MP10_0035). The NSW Office of Water has reviewed the documentation provided and can support the project based on consideration of the following comments and inclusion of the recommended conditions of consent in Attachment 1. The comments include:

- The Environmental Assessment (EA) provides a range of potential water supply options and water supply requirements depending on the final configuration of the project. As these options have not been finalised and no water licences or agreements with licensed providers have been obtained, this represents a significant commercial risk to the project.
- As detailed in the EA the use of an evaporation pond to store wastewater requires specific design requirements to prevent seepage of contaminants into the groundwater and potentially surface water systems. The NSW Office of Water supports the proposed use of an impermeable liner to mitigate this potential impact and would require the development of a groundwater monitoring program to NOW's requirements to monitor its effectiveness.
- The NSW Office of Water requests consultation during the development of management plans relevant to water management for both construction and operation periods.
- Based on the potential water supply options detailed in the EA it is likely that the proponent will require licenses under the *Water Act 1912* or *Water Management Act 2000* and the transfer of water entitlements prior to water extraction and use at the site.

Should further information be required please do not hesitate to contact Tim Baker on (02) 6841 7403.

Yours sincerely

**Mark Mignanelli**
**Manager Major Projects and Assessment**

# NSW OFFICE OF WATER

## ATTACHMENT 1

## RECOMMENDED CONDITIONS OF APPROVAL

The NSW Office of Water requests the following conditions be included in any determination issued for the Dalton Power Project:

1. The proponent shall prepare a Water Management Plan in consultation with and to the satisfaction of the NSW Office of Water. This plan must include the following:
    a. An Erosion and Sediment Control Plan
    b. A Surface Water Management Plan
    c. A Groundwater Management Plan
2. The proponent must obtain relevant licensing under the *Water Act 1912 or Water Management Act 2000* from the NSW Office of Water before commencing any works which intercept or extract groundwater.

NSW GOVERNMENT | Office of Environment & Heritage

Your reference: MP10_0035
Our reference: FIL10/3530 DOC11/36490
Contact: Julian Thompson, 02 6229 7002

Mr Glenn Snow
A/ Director – Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
Sydney NSW 2001

29 September 2011

Dear Mr Snow

**RE: ENVIRONMENTAL ASSESSMENT FOR DALTON POWER PROJECT (MP10_0035)**

I refer to your letter to the Office of Environment and Heritage (OEH) received on 10 August 2011 which enclosed the *AGL Dalton Power Project Environmental Assessment* prepared by URS Australia Pty Ltd.

AGL Energy Limited proposes to construct a 1500MW gas turbine power plant north-east of Dalton, NSW. You invited the OEH to review the Environmental Assessment (EA), make a submission on the project and provide advice on recommended conditions of approval to the Department of Planning and Infrastructure. I apologise for the delay in responding.

After reviewing the EA, the OEH has decided it could issue an Environment Protection Licence in relation to the proposal if our recommended conditions are incorporated into any project approval. In summary, OEH makes the following points on the proposal and the EA:

*Noise*

- Tonality and low frequency noise are likely and accordingly, adjustment should be made in noise limits for the project;
- consideration be given to a C-weighted (low frequency) noise limit;
- The use of TAPM data needs to be demonstrated as not under predicting temperature inversions and light winds;
- Site based meteorological monitoring is recommended.

*Air*

- Emission limits and monitoring program are recommend

*Water*

- Project required to achieve nil-discharge to the environment.



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**www.environment.nsw.gov.au**

*Flora and fauna*

- Mechanism for securing the biodiversity offset needs to be identified;
- Further survey work required for certain threatened species prior to construction.

*Cultural Heritage*

- Assessment and its recommendations supported.

The OEH's detailed comments and recommendations are in **Attachment A** to this letter.

Should DoPI be minded to approve the project, the OEH would appreciate an opportunity to review any draft approval conditions developed. The proponent will also need to make a separate application to the OEH to obtain an Environment Protection Licence should project approval be granted. If approved the OEH would use these recommended conditions of approval in developing any Licence.

OEH is happy to discuss these comments further with the Department of Planning and Infrastructure and the proponent, including meeting if required. Please contact me 02 6229 7002 if you have any queries in relation to this matter.

Yours sincerely

**JULIAN THOMPSON**
**Unit Head – South East Region**
**Environment Protection and Regulation Group**

Att.

**OFFICE OF ENVIRONMENT AND HERITAGE**
**COMMENTS AND RECCOMENDATIONS**
**ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED DALTON POWER PROJECT**

**SEPTEMBER 2011**

# Noise Impacts

OEH has undertaken a review of the "Noise Impact Assessment Report" prepared by URS Australia Pty Ltd dated 20 July 2011 ("the NIA") contained at Appendix G of the EA. This review has identified the following the issues:

*Tonality*

- The NIA does not demonstrate whether there is potential for tonality of noise emissions from the power station, stating that it was not possible to perform an analysis. It is further stated that it is not anticipated that the operation of the gas fired turbines will exhibit tonal components. As noted in the OEH's adequacy review of the draft EA (20 April 2011), the (operational) Uranquinty gas fired power station had tonal components which meant that 5 dB was added to the predicted A weighted noise level at the receivers during the environmental approval process. The NIA demonstrates under the current NSW policy for assessing low frequency noise (the *NSW Industrial Noise Policy*- INP) that there is potential for a low frequency component from the proposed power station, which also means adding 5 dB(A) to the predicted levels at the receivers in setting noise limits. Both the tonality and low frequency characteristics could result in +10 dB(A) being added to the predicted levels in Table 5-10 in the NIA (if the tone is not in the low frequency range). This means at three receivers (B,C and D – Table 5.10 of the NIA), the predicted noise levels from the operating power station could be greater than 5 dB(A) above the INP criteria for these receivers – a level to which OEH would not normally Licence. The low frequency correction alone results in a 3 dB(A) exceedence of the INP criterion at these three receivers. Given the power station is a stationary source with minimal options for noise management post-commissioning, the OEH recommends that the noise limit for the nearest sensitive receivers is 35 dB(A). The OEH suggests to DoPI that the negotiated agreements option (Chapter 8 – INP) is available to the proponent for any receiver location where the 35 dB(A) criterion cannot be met.

*Low frequency noise*

- The OEH notes that the prediction in the NIA of C-weighted noise levels includes estimated data down to 20Hz. Whilst OEH recognises that this is likely to result in a more accurate prediction of low frequency noise, OEH also understands from the Uranquinty power station that the dominant frequency in the low frequency bandwidth was around 16Hz. Therefore the C-weighted levels in the NIA may be under predicted if there was significant noise in frequencies lower than 20Hz. The NIA refers to Dr Broner's findings in this regard, however, OEH notes that Dr Broner recommends that A and C weighted levels be measured/predicted down to 10Hz.

- Supplementary to the INP derived noise limits which are recommended below, the OEH suggests that DoPI give consideration to the imposition of C-weighted noise limits in any project approval as gas turbines are known to produce low frequency noise emissions. Such limits could be introduced on a project basis, until a broader, industry wide approach can be agreed. OEH notes that discussions about low frequency noise have commenced between industry and government, but are not yet sufficiently progressed to have an agreed industry standard. Any low frequency noise limits introduced on a project basis could then be adapted to any future standard to ensure consistency across the sector. If such limits were

introduced in a project approval, OEH would reflect these in any Environment Protection Licence issued for that project.

- In our adequacy review, OEH noted that the use of TAPM meteorological data in noise assessment has been known to underestimate the occurrence of conditions most likely to enhance noise propagation (inversions and low wind speeds). OEH recommended that the proponent demonstrate that this potential underestimation is not occurring by presenting cumulative distribution functions of wind speeds for the TAPM-generated "site" data versus cumulative distribution functions of wind speeds from surrounding "real" meteorological stations. This information does not appear to have been included in the exhibited NIA, therefore unless the proponent provides further information regarding the occurrence of inversions, OEH has included by way of the suggested conditions below that the noise limits apply under all Stability Class temperature inversions conditions, including G class.

Given the above comments, OEH's recommended noise limits for the project and conditions based on the assessment in the NIA are therefore:

**Recommended Noise Conditions**

**L6 Noise Limits**

**L6.1** Noise generated at the Dalton Power Station premises must not exceed the noise limits presented in the table below. The localities are those described in the *"AGL Dalton Power Project – Environmental Assessment"* – Appendix G prepared by URS dated July 2011.

| Noise Limits dB(A) | | | | |
|---|---|---|---|---|
| Locality | Day | Evening | Night | |
| | $L_{Aeq, (15\ minute)}$ | $L_{Aeq, (15\ minute)}$ | $L_{Aeq, (15\ minute)}$ | $L_{A, (Max)}$ |
| Receivers A, B, C, D, E, F, G, H, I and J. | 35dB(A) | 35dB(A) | 35dB(A) | 45dB(A) |

**L6.2** For the purpose of condition L6.1;

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.
- Evening is defined as the period 6pm to 10pm.
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and Public Holidays.

**L6.3** The noise limits set out in condition L6.1 apply under all meteorological conditions (including all stability class temperature inversions) except for wind speeds greater than 3 metres/second at 10 metres above ground level.

**L6.4** For the purpose of condition L6.3:

a) The data to be used for determining meteorological conditions is the data recorded by the meteorological weather station established at the site for the purposes of this Environment Protection Licence and identified as EPA Identification Point A

b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

**L6.5** For the purposes of determining the noise generated at the premises:

a) Class 1 or 2 noise monitoring equipment that is calibrated in accordance with the manufacturer's specifications must be used according to AS IEC61672.1-2004 and AS IEC61672.2-2004;

b) The noise monitoring equipment used at a location must be placed in a position that is:

i. that is, where applicable:

- approximately on a location's property boundary that is closest to the premises, where any dwelling at the location is within 30 metres of the location's property boundary that is closest to the premises; or
- within 30 metre of a dwelling façade where any dwelling at a location is situated more than 30 metres from the location's property boundary that is closest to the premises; or

ii. that is within 1 metre of a dwelling façade at a location to determine compliance with the $L_{Amax}$ noise limits in condition L6.1; and

**L6.6** For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the monitoring equipment.

**L6.7** All construction work at the premises must only be conducted between Monday to Friday 7am to 6pm; Saturday 8am to 1pm; no work on Sundays or Public Holidays.

**L6.8** The following activities may be carried out at the premises outside the hours specified in conditions L6.7:

(a) the delivery of materials as requested by Police or other authorities for safety reasons;

(b) emergency work to avoid the loss of lives, property and/or to prevent environmental harm.

**L6.9** The licensee shall prepare and implement a Construction Noise and Vibration Management Plan with reference to the guidelines contained in the Interim Construction Noise Guideline (DECCW, 2009).

**L6.10** Vibration resulting from construction and operation at the premises must not exceed the evaluation criteria presented in British Standard BS6472 for low probability of adverse comment, at any affected residential dwelling.

## M7 Monitoring Conditions

M7.1 A meteorological weather station must be established and maintained at the site so as to be capable of continuously monitoring the parameters specified in condition M7.2.

M7.2 For each monitoring point specified in the table below the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

**Point (TBA)**

| Parameter | Units of Measure | Frequency | Averaging Period | Sampling Method |
|---|---|---|---|---|
| Air temperature | °C | Continuous | 1 hour | AM-4 |
| Wind direction | ° | Continuous | 15 minute | AM-2 & AM-4 |
| Wind speed | m/s | Continuous | 15 minute | AM-2 & AM-4 |
| Sigma theta | ° | Continuous | 15 minute | AM-2 & AM-4 |
| Rainfall | Mm | Continuous | 15 minute | AM-4 |
| Relative humidity | % | Continuous | 1 hour | AM-4 |

## M8 Requirement to Monitor Noise

M8.1 To assess compliance with Condition L6.1, attended noise monitoring must be undertaken in accordance with Conditions L6.5 and:

a) at each one of the locations listed in Condition L6.1;
b) occur at least Quarterly in the first annual reporting period, any annually thereafter;
c) occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of:

- 1.5 hours during the day;
- 30 minutes during the evening; and
- 1 hour during the night.

d) occur for three consecutive operating days, and
e) must be undertaken by a suitably qualified and experienced acoustical consultant and undertaken in accordance with the NSW Industrial Noise Policy.

# Air quality

OEH has undertaken a review of the "Air Quality Impact Assessment" report prepared by URS Australia Pty Ltd dated 20 October 2009 contained at Appendix C of the EA.

**Recommended Air Conditions**

**Discharges to Air**

**P1 Location of monitoring/discharge points and areas**

P1.1 The following points referred to in the table below are identified for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

| EPA Identification No | Type of Monitoring Point | Type of Discharge Point | Description of Location |
|---|---|---|---|
| 1,2,3,4,5,6 | Air emissions monitoring | Discharge to Air | Stacks Serving Turbines 1-6 |

Note: A detailed site map must be provided with any Environment Protection Licence application identifying the location of the new discharge and monitoring point.

**P2 Air**

**Stack Sampling Positions**

P2.1 The proponent must ensure that ensure that the design and construction of the facility includes sampling positions that comply with TM-1 as set out in the *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* or as otherwise agreed in writing by the EPA.

**Approved Fuels**

P2.2 Natural gas is the only fuel approved for firing of the power station turbines.

**L2 Air**

**Emission Limits**

L2.1 For each monitoring/discharge point specified in the table below the emission of a pollutant discharged at that point must not exceed the emission limits specified for that pollutant in the table.

Points

| Emission Point(s) | Pollutant | Units of measure | 100 percentile concentration limit | Reference conditions |
|---|---|---|---|---|
| 1-6 | Nitrogen dioxide ($NO_2$) or nitric oxide (NO) or both, as $NO_2$ equivalent | Milligrams per cubic metre | 51 | Dry, 273 K, 101.3 kPa, 15% oxygen ($O_2$) |

L2.2 The concentration limits prescribed in Condition L2.1 above do not apply to the emissions from an individual turbine during the following periods:

(a) a start-up period – that is, while a turbine is being brought up to normal operation following a period of inactivity; or

(b) a shutdown period – that is, while a turbine is being taken out of service from normal operation to inactivity.

- **Note 1:** While the concentration limits specified do not apply during start-up or shut down periods, the proponent is subject to the requirements of section 128 (2) of the *Protection of the Environment Operations Act* in relation to the prevention and minimisation of air pollution.
- **Note 2:** Condition L2.2 only applies to an individual turbine during a start-up or shut down period for that turbine. The concentration limits specified continue to apply to the other turbines if they are operational during these periods.
- **Note 3:** Emissions from start-up and shut-down periods must be included in Load Based Licensing assessable pollutant load calculations.

**Potentially Offensive Odour**

L2.3 The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

L2.4 No condition of this licence identifies a potentially offensive odour for the purposes of Section 129 of the Protection of the Environment Operations Act 1997.

**Dust**

O3.1 All operations and construction activities occurring at the premises must be carried out in a manner that will minimise dust at the boundary of the premises.

## L5 Load Limits

L5.1 The Project will be incorporated into the Load Based Licensing scheme under the fee based classification, *Electricity Generation – Coal and Gas.*

Note: The EPA Load Based Licensing Load Calculation Protocol lists the following assessable pollutants under this activity: air – oxides of nitrogen; water – total suspended solids and salt.

## Monitoring and Recording Conditions

### M1 Air

**Requirement to monitor concentration of pollutants discharged**

M1.1 For each monitoring/discharge point specified below, the proponent must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The proponent must use the sampling method, units of measure and sample at the frequency, specified opposite in the other columns:

| Monitoring Point(s) | Pollutant | Units of measure | Frequency | Sampling Method |
|---|---|---|---|---|
| Stacks serving turbines 1-6 | Nitrogen dioxide ($NO_2$) or nitric oxide (NO) or both, as $NO_2$ equivalent | milligrams per normalised cubic metre | Continuous | CEM-2 |
| | Carbon dioxide (CO2) | parts per million | Continuous | Other Approved Method 1 |
| | Moisture content | % | Continuous | TM-2 |
| | Oxygen (O2) | % | Continuous | CEM-3 |
| | Solid Particles | Mg/m3 | Yearly | TM-15 |
| | Sulphur dioxide | Parts per million | Yearly | TM-4 |
| | Temperature | Degrees Celsius | Continuous | TM-2 |
| | VOC's | Parts per million | Yearly | TM-34 |
| | Volumetric flow rate | Cubic metres per second | Continuous | CEM-6 |

Note: The sampling methods set out in the above table are those specified in the *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.*

**Special Conditions**

**E1 Long Term Air Emission Benchmark – Operation**

E1.1 The purpose of this condition is to ensure the long term proper and efficient operation of the turbines based on emission performance achieved in practice.

E1.2 After 12 months from the end of commissioning of Stage 1, but not longer than 24 months, the proponent must submit a report to the EPA proposing an annual average nitrogen oxides emission benchmark for the turbine stack(s) per the table below. The annual average emission benchmark will reflect the average performance of the power station during normal operation and the proper and efficient operation of the turbines. The benchmark will also:

i. be derived using $NO_x$ emission data from the Continuous Emissions Monitoring Systems for the turbine stack(s);
ii. be determined following the collection of a $NO_x$ concentration dataset that is sufficient to represent the likely longer term operating patterns of the power plant;
iii. take into account the variation of $NO_x$ concentrations at different generating loads;
iv. recognise that generating load patterns may vary from year to year due to differences in electricity market demands and include an appropriate allowance for this variation; and
v. include provision for the probable increase in $NO_x$ emissions with time due to reasonable wear and tear of the power plant.

| Emission Point(s) | Pollutant | Units of measure | Emission Benchmark | Averaging Period (note 1) | Reference conditions |
|---|---|---|---|---|---|
| Stacks serving turbines 1-6 | Nitrogen dioxide ($NO_2$) or nitric oxide (NO) or both, as $NO_2$ equivalent | milligrams per cubic metre | TBD (note 2) | Annual Average | Dry, 273 K, 101.3 kPa, 15% oxygen ($O_2$) |

Note 1: The annual average benchmark applies over each reporting period as defined in the Environment Protection Licence.

Note 2: If the emission benchmark in the table above is exceeded, the proponent must provide an initial report to EPA within 1 month and an action plan within 3 months of the exceedence. The action plan will include:

i. a review of all practicable measures to reduce NOx emissions,

ii. an evaluation of the marginal cost of incremental NOx reductions and;

iii. proposed modifications to plant / operation that produce NOx reductions consistent with i and ii above.

## E2 Notification of Commissioning Schedule

E2.1 Prior the commencement of commissioning the proponent must notify the EPA in writing of the proposed timing of commissioning the Power Station and how all plant and equipment will be brought on line to ensure compliance with all relevant environment protection requirements.

## E3 Air Quality Verification

E3.1 Within three months following the end of commissioning the Proponent must submit an Air Quality Verification Report which includes, but need not be limited to, air emissions monitoring results (including test methods and full results) to confirm that the emissions performance of each turbine is consistent with the emissions used in air quality modelling for Environmental Assessment of the power station. The monitoring required by this condition is set out in the following table:

| Monitoring Point(s) | Pollutant | Units of measure | Sampling Method |
|---|---|---|---|
| Stacks serving turbines 1-6 | Carbon monoxide (CO) | milligrams per normalised cubic metre | TM-32 |
| | Dry gas density | kilograms per cubic metre | TM-23 |
| | Fine particles ($PM_{10}$) | milligrams per normalised cubic metre | OM-5 |
| | Moisture content | percent | TM-22 |
| | Molecular weight of stack gases | grams per gram mole | TM-23 |
| | Nitrogen dioxide ($NO_2$) or nitric oxide (NO) or both, as $NO_2$ equivalent | milligrams per normalised cubic metre | TM-11 |
| | Oxygen ($O_2$) | percent | TM-25 |
| | Speciated volatile organic compounds | milligrams per normalised cubic metre | TM-34 |
| | Sulfur dioxide ($SO_2$) | milligrams per normalised cubic metre | TM-4 |
| | Temperature | degrees Celsius | TM-2 |
| | Velocity | metres per second | TM-2 |
| | Volumetric flowrate | cubic metres per second | TM-2 |

Note: The sampling methods set out in the above table are those specified in the *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*.

E3.2 The monitoring required by Condition E3.1 must be undertaken at such time(s) as is necessary to provide an adequate characterisation of the emissions from each turbine during normal operation.

# Water

## Recommended Water Conditions

### L1 Water

L1.1 Except as expressly provided by an Environment Protection Licence for the project, the Proponent shall comply with Section 120 of the Protection of the Environment Operations Act 1997 which prohibits the pollution of waters.

L1.2 Process wastewater; wastewater generated from equipment washing, cleaning, domestic sources or maintenance; or contaminated water from bunded areas must not be discharged to the environment unless permitted by an Environment Protection Licence or otherwise agreed in writing by the EPA.

L1.3 Any process water or wastewater storage dams constructed as part of the project must be lined with an appropriate High Density Polyethylene (HDPE) liner so as to achieve a permeability of less than $k= 1 \times 10^{-9}$ m/sec.

L1.4 Prior to the commencement of construction a Construction Soil and Water Management Plan must be prepared by the proponent. The Plan must include, but need not be limited to:

i. details on how soil erosion and sediment pollution will be managed following the guidelines and recommendations in Volume 1 of *Managing Urban Stormwater: Soils and Construction* (the Blue Book) during the construction phase;
ii. plan drawings showing the locations for sediment and erosion measures in accordance with (i) for the construction site during all construction stages;
iii. details on the installation, monitoring and maintenance requirements for each of the recommended measures for erosion and sediment control;
iv. detailed drawings of any engineering structures such as sediment and evaporation ponds, including design standards and management regimes.

# Flora and Fauna Assessment

### Mechanism for Conservation of Biodiversity Offset

OEH has reviewed the "Flora and Fauna Assessment" report prepared by URS (July 2011). Neither the Assessment or the EA give any guidance as to how the proponent will protect the proposed Biodiversity Offset in perpetuity. It appears that the proponent has made the commitment to offset the predicted impacts of the project on biodiversity by offering an appropriate option for a biodiversity offset to be secured on the project lands.

Whilst the proponent has agreed in-principle to protect the proposed biodiversity offset land, it has not agreed to a method to ensure this land is conserved in perpetuity and in accordance with the "DECCW Principles for the use of biodiversity offsets in NSW" which states that "13. Offsets and their actions must be enforceable through development consent conditions, licence conditions, conservation agreements or a contract."

Recommendation

*Before clearance of vegetation commences, the conservation mechanism for the proposed offset must finalised in a Biodiversity Offset Strategy. Protection must be afforded to the land proposed in the EA as a Biodiversity Offset in perpetuity and OEH recommends that the mechanism be chosen from the following list: Biobanking Agreement (under the Threatened Species Conservation Act 1995), Dedication of land to the public reserve system, Conservation Agreement (under the National Parks & Wildlife Act 1974), Trust Agreement with the Nature Conservation Trust, Voluntary Planning Agreement (under the Environmental Planning and Assessment Act 1979) or a Conservation Property Vegetation Plan (under the Native Vegetation Act 2003.)*

### Threatened Species Surveys and Impacts

As identified in OEH's adequacy assessment of the draft EA, a number of threatened species which could potentially occur at the proposed development site have not been surveyed for in accordance with OEH's published survey requirements. It is also not clear about what might occur if the promised future survey for the Golden Sun Moth (or any other future surveys) detects this species (or other threatened species) within the development footprint. The survey window for the Striped Legless Lizard *Delma impar* has already closed for this year (tiles needed to have been in place by August 2011) and the optimum survey period for the Pink Tailed Worm Lizard *Aprasia parapulchella* is at the present time.

Recommendations

- *OEH considers that the lack of spring surveys for grassland reptile species is insufficient to properly determine the impacts of the project on certain threatened species. Additional surveys for* Aprasia parapulchella *and* Delma impar *(the latter in accordance with the EPBC referral guidelines - http://www.environment.gov.au/epbc/publications/pubs/striped-legless-lizard-referral-guidelines.pdf) be undertaken during spring prior to commencement of construction.*
- *OEH notes the commitment to undertake additional surveys for the Golden Sun Moth within the appropriate season. We have concerns however, that the Environmental Assessment does not adequately assess the impacts on the project on this species (or the reptiles discussed above) if it is detected prior to vegetation clearance or during pre-clearance surveys. We recommend that if threatened species are detected within the development footprint or proposed offset prior to construction that OEH and the Commonwealth (SEWPaC) be consulted to determine appropriate actions.*

### Consultation on Plans

Recommendation

*All plans relevant to the management of Biodiversity proposed in the EA and Statement of Commitments (particularly the Flora and Fauna Management and Complementary Planting and Rehabilitation Plans) should be developed in consultation with OEH and SEWPaC before clearing commences.*

### Management actions in the Biodiversity Offset area

The Flora and Fauna Assessment states that the no vegetation will be cleared during the management of the biodiversity offset and existing fencelines will be used. It is not clear to OEH, based on aerial imagery of the development site, how this might be achieved. Therefore, the following condition should be included in order to avoid any doubt.

Recommendation

*During creation of the biodiversity offset no vegetation, particularly of the two Endangered Ecological Communities present on the site, is to be cleared as part of management requirements (such as fencing and tracks) for the establishment of the biodiversity offset.*

# Cultural Heritage

OEH has completed a review of the report titled "*Dalton Peaking Power Plant - Cultural Heritage Assessment*" (June 2009) and "*Dalton Peaking Power Plant – Gas Pipeline Archaeological Assessment*" (February 2011) prepared by Navin Officer Heritage Consultants Pty Ltd. The reports meet the OEH's requirements to assess the likely impact to Aboriginal Cultural Heritage by the proposal.

- OEH is satisfied that the Aboriginal consultation process for the Dalton Power Project is consistent with the "Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation" (DEC, July 2005).
- OEH concurs with the recommendations in the above reports and the management actions recommended in the reports and replicated in the draft Statement of Commitments.

# General Conditions

**Administrative Conditions**

**A1 Information supplied to the EPA**

**A1.1** Except as expressly provided by these recommended conditions of approval, works and activities must be carried out in accordance with the proposal contained in:

1. Project application and accompanying Environmental Assessment AGL Dalton Power Project, Project Application Number MP10_0035.

**Bunding**

**O1** All liquid chemicals, fuels and oils must be stored in containers inside suitable bund(s). Bund(s) are to be designed, constructed and maintained in accordance with EPA Technical Guidelines "Bunding and Spill Management".

**Waste**

**O2** All wastes generated or stored at the premises must be assessed, classified and managed in accordance with the *Protection of the Environment Operations Act* 1997 and the *DECC Waste Classification Guidelines*, as in force from time to time.

** As a general note any reference to the Department of Environment, Climate Change and Water (or DECCW) should be read as a reference to the Office of Environment and Heritage (or OEH as applicable), except where reference is made to a publication published prior to 4 April 2011.

**Australian Government**
**Civil Aviation Safety Authority**

AIRSPACE AND AERODROME REGULATION
*File Ref: GI11/1175*

PCU026458

23 September 2011

Department of Planning
Received
28 SEP 2011
Scanning Room

Mr Toby Philp
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Mr Philp

**Re: Exhibition of Environmental Assessment for Dalton Power Project (MP10_0035)**

Thank you for your letter concerning the Exhibition of Environmental Assessment for Dalton Power Project (MP10_0035)

The Dalton plume rise proposal has been assessed in accordance with the CASA Plume Rise Advisory Circular 139-05(0)2004.

The assessment indicates that the plume would require mitigation by the establishment of a Danger Area of dimensions one nautical mile radius from the surface to 6700FT AMSL.

However, because the Advisory Circular (AC) referred to above is under review we have not yet passed this information to Airservices Australia for their assessment of possible impact upon air routes, lowest safe altitudes and instrument approaches. We believe the revision of the AC is likely to result in a reduced upper limit and, given this probability, the Office of Airspace Regulation (OAR) suggests the proposal be reviewed six months prior to the commencement of operations to ensure the most up to date information is available for application.

I trust this process meets with your requirements.

Yours sincerely

for
Graeme Rogers
Manager Operations
Office of Airspace Regulation

**Katrina Hodgkinson** MP

PCU026664

Ref: 11P050/SS
(in reply please quote)

Mr Toby Philp
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2000





Dear Mr Philp,

On behalf of my constituents I am submitting comments to the Department of Planning and Infrastructure regarding AGL Energy Limited's Environmental Assessment for the Dalton Power Project.

I thank you and the Department of Planning and Infrastructure for this opportunity.

This submission includes correspondence from three local families living within a 20 kilometre radius of the proposed power plant at Dalton.

Each letter notes concerns about various elements of AGL's Environmental Assessment including road traffic and noise, air quality, water supply and effect on flora and fauna.

While I support development and investment within the Burrinjuck electorate, after reviewing constituent letters, AGL Energy Limited's Environmental Assessment (EA) and meeting with an AGL representative there are some elements of the EA that need further clarification.

- **Air quality** – AGL can only give a vague estimation of air quality for people living around the plant. Air quality monitoring needs to be done in and around Dalton. The health of people living in the area should not be compromised by this plant.
- **Road traffic** – Local roads including the Loop Road and the Gunning – Dalton Road need to be upgraded in order to handle

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the weight and frequency of traffic required for the plant during construction and normal operation. In addition the railway Bridge at Gunning on the Dalton Road will need upgrading to allow for initial transportation of gas turbines to the proposed site and on an on-going basis to account for increased traffic flow to and from the site. Can AGL inform the communities of Gunning and Dalton what route traffic will take when travelling through town and at what times? I urge AGL to tailor the time of day when traffic flows through town, so as to cause minimum disruption to people living in the area.

- **Water** – AGL Energy Limited has not finalised where water for the power plant will come from. This is likely to have an impact on surrounding primary producer's ability to water stock and crops as well as local water supply for the towns of Gunning and Dalton. I would strongly urge AGL to make a significant capital contribution to the proposed augmentation and upgrade of the Gunning-Dalton water supply infrastructure.
- **Pipeline/transmission infrastructure** – AGL needs to closely consult with landowners with respect to obtaining any easements for the augmentation of existing gas pipelines and high voltage electricity transmission infrastructure to the proposed power station. AGL also needs to mitigate the productive and environmental impacts of any such upgrades.
- **Noise** – Local residents are concerned about the noise associated with construction and operation of the plant. I would ask that the concerns raised by residents to other gas-fired power stations <u>located in rural areas</u> (namely Origin Energy's Uranquinty Power Station) are considered, specifically the propagation of low frequency noise under varying climatic conditions. While the proposed development is for a peaking open cycle gas-fired power station, I would ask that approved operating hours are developed in conjunction with local stakeholders. Any proposal to amend/expand the power station should trigger new consents and approvals.
- **Flora and Fauna** – Neighbours to the proposed plant site, Mr and Mrs J Walsh believe investigations into the stated impact on flora and fauna within the EA are inadequate. A number of birds, amphibians, reptiles, mammals and weeds known to the local area fail to have been addressed in the assessment.
- **Community investment** – AGL needs to clearly outline what contribution it will make to the local community via an ongoing community investment fund over the operational life of the power station. It is generally accepted that a percentage of the overall capital cost of the project is ascribed to a community investment fund.

I bring these issues to your attention for your closest consideration.

Thank you again for the opportunity to contribute to the proposed development of gas power plant at Dalton and I wish you well in the task.

Yours sincerely,

**KATRINA HODGKINSON MP**
Member for Burrinjuck
Minister for Primary Industries
Minister for Small Business

15 SEP 2011