DEPARTMENT OF PLANNING & ENVIRONMENT

Development Assessment Systems & Approvals

SUBJECT: WELLINGTON GAS FIRED POWER STATION – MODIFICATION 2

PURPOSE

To determine a modification request by ERM Power Pty Ltd (the Proponent) for the Wellington Gas Fired Power Station known as Modification 2 (MP 06_0315 MOD 2), to extend the lapse date of the approval by five years, and commit to the 2 x 255 megawatt (MW) gas fired turbine units.

BACKGROUND

On 4 March 2009, the then Minister for Planning granted project approval for the construction and operation of a gas fired power station at Wellington. This approval included the following elements, as shown in the following **Figure 1**:

- construction and operation of four gas-fired turbines to generate a nominal total capacity of between 600 and 660 MW;
- construction and operation of a natural gas pipeline connecting the power station to the Central West Gas Pipeline near Parkes; and
- associated electricity transmission infrastructure.

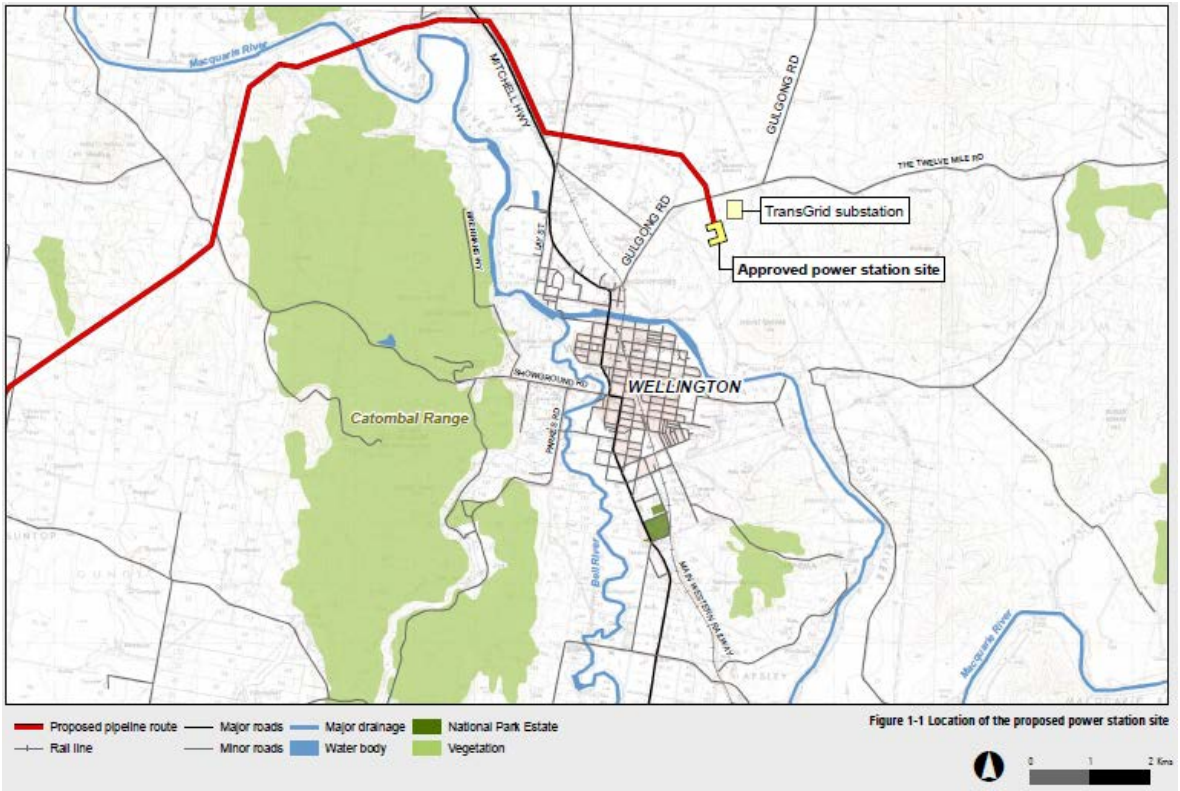


Figure 1 – Location of the approved power station site

On 7 September 2010 the Project Approval was modified to allow for greater flexibility in the selection of gas turbines and provided for the establishment of an alternative station layout comprising of either 4 x 150 MW or 2 x 225 MW gas-fired turbines. The Director Infrastructure Projects, under delegation from the Minister for Planning, granted approval of the modification to amend conditions 1.1, 1.2, 2.7 and 2.9, to allow alterations to the approved power station design and operation, to provide greater flexibility in the selection of gas turbines, and to include Nanima House in provisions for at-receiver operational noise mitigation.

The Proponent now seeks to modify the application to allow:

- an extension of the lapse date by five years to March 2019 (condition 1.4); and
- only the two unit configuration (condition 2.7).

PROPOSED MODIFICATION

Modification of lapse date

Request to modify condition 1.4 to accommodate the proposed extension of the lapse date by five years, from five to ten years. Condition 1.4 would therefore need to be amended as follows (text in bold is added text):

*'The project approval shall lapse ~~five~~ **ten** years after the date on which it is granted, unless the works the subject of this approval are physically commenced on or before that time'.*

Modification of power station configuration

Request to modify condition 2.7 to commit to the configuration of 2 x 225 MW gas-fired turbines and abandon the four unit design. This would reduce the noise at the nearest residences. Condition 2.7 would therefore need to be amended as follows (text in bold is added text):

'The Proponent shall design, construct, operate and maintain the project to ensure that the noise contribution from the project to the background acoustic environment do not exceed the maximum allowable noise contributions specified in Table 1, at those locations and during those periods indicated. The maximum allowable noise contributions apply under wind speeds up to 3ms-1 (measured at 10 metres above ground level), and under temperature inversion conditions of up to 3°C/100 metres).

~~The final constructed configuration of the Power Station (either 2 x 255 MW Turbines or 4 x 150 MW turbines) will determine which maximum allowable noise contribution s specified in the table below will be applied.~~

~~Table 1 – Maximum Allowable Noise Contribution~~
~~If 4 x 150 MW turbines are installed~~

~~Location~~	~~Day~~ ~~7:00am to 6:00pm Mondays to Saturdays~~ ~~8:00am to 6:00pm Sundays and public holidays~~	~~Evening~~ ~~6:00pm to 10:00pm on any day~~	~~Night~~ ~~10:00pm to 7:00am Mondays to Saturdays~~ ~~10:00pm to 8:00am Sundays and public holidays~~	
	~~$L_{Aeq(15\ minute)}$~~	~~$L_{Aeq(15\ minute)}$~~	~~$L_{Aeq(15\ minute)}$~~	~~$L_{A1\ (1\ minute)}$~~
~~Mount Nanima~~	~~39~~	~~39~~	~~39~~	~~45~~
~~Cadonia Subdivision~~	~~35~~	~~35~~	~~35~~	~~45~~
~~Keston Rose Garden Café~~	~~37~~	~~37~~	~~37~~	~~45~~
~~Mount View, Alectown~~	~~35~~	~~35~~	~~35~~	~~45~~
~~Property A (refer to Figure 3-5 of the document listed under condition 1.1b)~~	~~35~~	~~35~~	~~35~~	~~45~~

~~*Or, if*~~ ***Table 1 – Maximum Allowable Noise Contribution*** *(2 x 255MW turbines)* ~~*are installed*~~

Location	*Day* *7:00am to 6:00pm Mondays to Saturdays* *8:00am to 6:00pm Sundays and public holidays*	*Evening* *6:00pm to 10:00pm on any day*	*Night* *10:00pm to 7:00am Mondays to Saturdays* *10:00pm to 8:00am Sundays and public holidays*	
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{A1\ (1\ minute)}$
Mount Nanima	*35*	*35*	*35*	*45*
Cadonia Subdivision	*35*	*35*	*35*	*45*
Keston Rose Garden Café	*35*	*35*	*35*	*45*
Mount View, Alectown	*35*	*35*	*35*	*45*
Nanima House	*38*	*38*	*38*	*45*
Property A (refer to Figure 3-5 of the document listed under condition 1.1b)	*35*	*35*	*35*	*45*

CONSULTATION

In accordance with section 75X of the EP&A Act and clause 8G of the EP&A Regulation, the modification request was made available on the Department's website. The Department formed the opinion that there would be public interest in the proposed modification and therefore exhibited the modification application for 16 days from 26 February 2014 to 13 March 2014. The request was also referred to public agencies.

The modification application was made available to the public in the Department's information centre and at the Nature Conservation Council of NSW and Wellington Council. The Department received four submissions from public agencies and 10 public submissions.

The Office of Environment & Heritage (OEH) advised they have no specific comments to make on the modification request at this stage. However, if subsequent information indicates that the areas within the OEH's responsibility require further investigation, OEH may provide future input.

The Environment Protection Authority (EPA) provided comment regarding noise impacts and mitigation measures. This is further discussed under the heading 'Key Issues' below.

TransGrid advised that at this time they do not wish to provide specific comment in relation to the modification request.

Wellington Council advised they support the modification request, subject to specific consideration regarding noise impacts. This is further discussed in the 'Key Issues' section below.

Of the10 public submissions received, seven submissions supported the modification request, and three submissions objected to the modification request. The key issues raised by objectors included justification for the modification of the lapse date and need for the power station, compensation and property acquisition requirements, and noise, visual and heritage impacts. These issues have been discussed further below.

Copies of the submissions received during exhibition were made available to the Proponent for consideration on 21 March 2014. The Proponent provided a response to the key issues in a Submissions Report dated May 2014 **(Tag C)**.

DELEGATED AUTHORITY

On 14 September 2011, the Minister delegated powers and functions under section 75W of the EP&A Act to Directors in the Major Projects Assessment Division in the following cases:

- where the relevant local council has not made an objection;
- a political disclosure statement has not been made; and
- there are less than 10 public submissions in the nature of objections.

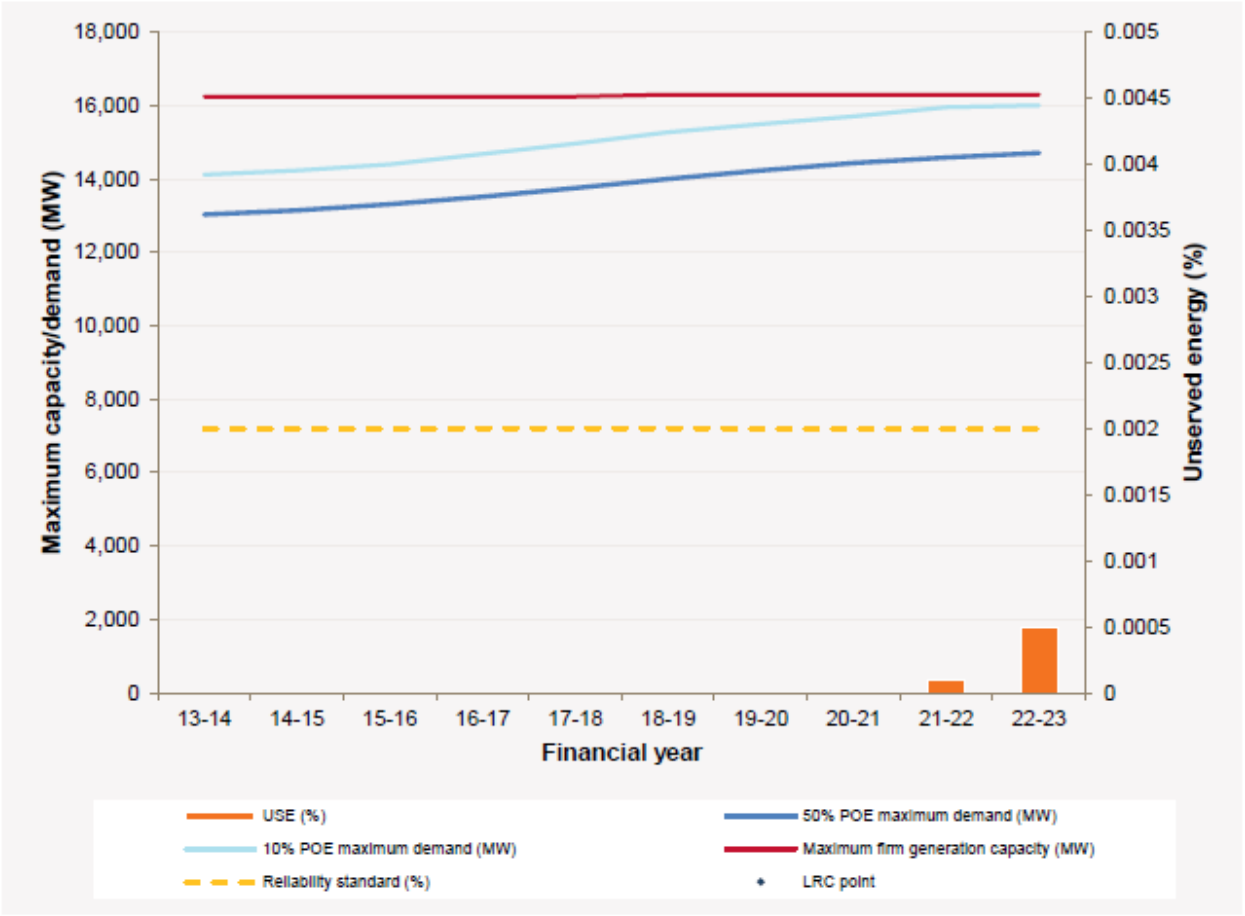
As Wellington Council supports the proposal, less than 10 public submissions were received in the nature of objections, and no political disclosure statement has been made, the Director may determine the modification request under delegated authority.

KEY ISSUES

Modification of lapse date

The Proponent has identified that the recent shift in national energy policy has led to a material and sustained reduction in the demand for electricity. Approval of the power station project coincided with the start of the Global Financial Crisis that saw a significant tightening in the availability of project financing, and was followed by a major shift in national energy policy.

The Australian Energy Market Operator's 2013 Electricity Statement of Opportunities now forecasts that in NSW, new base load generation will not be needed before 2022-2023 based on a medium growth forecast (refer to **Figure 2** and **Table 1**).



Generation investment interest in New South Wales is focused on wind generation, with 27 projects, dominated by the Liverpool Range, Yass Valley, Rye Park and Sapphire proposals. The Gullen Range (166 MW), Boco Rock stage 1 (113 MW) and Taralga (107 MW) wind generation projects were recently committed.

Figure 2 – NSW supply adequacy (AEMO 2013)

Table 1 NSW supply-demand outlook summary (AEMO 2013)

Region	Low		Medium		High	
	LRC point	Reserve deficit (MW)	LRC point	Reserve deficit (MW)	LRC point	Reserve deficit (MW)
New South Wales	Beyond 2022–23	-	Beyond 2022–23	-	2021–22	53

However, there will be a need for peaking power when the demand for electricity increases. Given the requirement for additional peaking power would be expected at least two years ahead of the need for base load generation, a five year extension of the lapse date provides for a latest construction start date of 2019, and would allow for commercial operation in 2021, about two years ahead of the need for new base load.

The criteria used in the selection of Wellington as a site for the peaking power station have not changed since the Project Approval. The power station site is close to existing and future gas sources and there is an adequate and secure supply of required water from Burrendong dam. The Proponent has also advised that Wellington Council has confirmed that since the initial EIS there have been no significant changes to the surrounding land use, and no zoning changes or material amendments to local planning instruments that would be incompatible with the proposed development. Nor does there appear to be any new neighbours or developments located within the vicinity of the proposed power station site.

Seven of the submissions received, including local businesses, lodged support for the proposed modification. These submitters consider that Wellington needs the investment of the power station, as it will create jobs during construction and some ongoing jobs after completion, and be a great asset to the Wellington community.

Three submissions in the form of objections raised a number of specific concerns regarding the extension to the lapse date. These are summarised in the following **Table 2** including the Proponent's response to these concerns.

Table 2 Issues raised in objections

Issue	***Proponent's response***
Land values and appropriate compensation / acquisition • the devaluation of real estate; • private land will be impacted by the footprint of the project, with no appropriate agreement on purchase price, compensation or transfer of title for the land; and • investment opportunities for local landowners are affected due to the proposal.	• there is no evidence in the socio economic assessment undertaken for the EIS to suggest that a devaluation of property value is likely to occur as a result of the project; and • ERM confirms that the project has not and will not change any formal access arrangements to any land, and the power station layout will be designed so as not to directly impact on the footprint of adjoining land.
Environmental impacts • the heritage study does not include enough information regarding the Heritage listed properties and Mount Nanima and Nanima House; • it would be appropriate to undertake a more up to date environmental impact assessment for noise and visual impact issues given the significant time that has elapsed since the original proposal; and • the proposal is too close to the town of Wellington because of the hazard risk and emissions which are very likely to hang over Wellington for long periods.	• assessment undertaken at the time of the original application noted that, with appropriate landscape management measures to screen the power station, there would be no adverse impact on Nanima House. Statement of commitment HH3 commits to the preparation, at the appropriate time, of a Statement of Heritage Impacts for the site; • there has been no significant change to the receiver environment, nor a change to the noise (or other) guidelines that would change the outcomes of any new assessment, and it is therefore not considered necessary; and • noise and other impacts on residential receivers were assessed in the EA and subsequent modification and deemed to be acceptable provided the recommended mitigation measures are applied.
Justification • if this was truly a project of state significance, it would have proceeded by now; • demand for electricity has declined since 2005, and the supply of gas for this project is an issue as gas supplies are limited; and • the uncertainty of this project is unreasonable and extremely stressful.	• the project was determined to be of state significance by virtue of its inclusion in the State Environmental Planning Policy (Major Development) 2005. Its state significant designation is not related to the market demand of the project.
Community consultation • condition 5.1 regarding community consultation has not been complied with.	• all conditions or commitments, under the terms of the existing development consent (as modified), must be satisfied either prior to construction, prior to operation or post-operation. Given that pre-construction planning has not yet started, compliance with these conditions is not yet relevant.

The Department undertook an assessment of the potential impacts of the project. This assessment included detailed review of air quality, noise, and ecological impacts, and impacts on Aboriginal heritage. The Department was satisfied that the impacts of the proposal could be mitigated and/or managed to ensure an acceptable level of environmental performance, and therefore recommended approval of the project accordingly.

As part of the Department's consideration regarding Modification 1 of the Project Approval, an assessment was undertaken of the potential impacts of two configuration scenarios, that being either 4 x 150 MW or 2 x 225 MW gas-fired turbines. This assessment included review of acoustic, flora and fauna, visual and air quality issues. The Department considered that the modification to the Project Approval for alterations to the approved power station design and operation, would be reasonable and would not pose adverse environmental impact regarding acoustics, air quality and visual impacts, to the original approved project. A summary of the Department's previous assessment for Modification 1 is included at **Tag B**.

With regards to the current Modification 2, the Department acknowledges that the delay in demand for new electricity underpins the request for an extension of the approval lapse date.

The Department considers that a 5 year extension to the approval lapse date will not change the environmental impact to the surrounding environment, to that which was identified in the Project Approval and Modification 1. The Department also notes the additional concerns of surrounding residents with regards to the prolonging of proceeding with the proposal, in particular with regards to property valuation and where it has been identified that adverse impact may occur, in particular potential noise impacts.

Impacts on land values are influenced by a variety of factors and it is the Departments role to consider amenity impacts on property as part of its assessment. In this case the Department has concluded that potential impacts generated by the power station are within acceptable limits, including operational noise and visual amenity.

In relation to noise impacts, existing condition 2.9 requires that the Proponent, at the request of the owners of Nanima House, the Mount Nanima property, or the Keston Rose Garden Café property, provide and bear the full cost of architectural acoustic treatments to the residential premises on that property. This would occur within five years from the commencement of operation to ensure appropriate noise mitigation measures are in place. Additionally, conditions 2.10 to 2.13 identify land acquisition criteria, requiring that if, after the implementation of all reasonable and feasible source controls, the noise generated by the project exceeds certain levels at Nanima House or any other location referred to under condition 2.7, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land.

The Department therefore considers that the existing Project Approval, including specific environmental conditions, environmental monitoring and auditing, compliance monitoring and tracking, environmental management, and environmental reporting requirements, are appropriate to ensure the project would be mitigated and/or managed to ensure an acceptable level of environmental performance to the surrounding environment.

Additionally, the Department notes that the matter of property acquisition for Nanima House has been an ongoing issue between the landowner and the Proponent, as identified by the landowner's submission to Modification 2. It is noted that the then Minister for Planning and Infrastructure has written both to the landowner and the Proponent, emphasising the need to continue to try and resolve the issues relating to Nanima House, at an early date. The Proponent has been instructed to resolve these issues prior to a modification to the lapse date application being made, or, as a minimum, demonstration of substantial progress in resolving these issues.

As a result of the confirmation of the two turbine configuration scenario proposed by Modification 2, it has been confirmed that noise impacts will be reduced. Existing condition 2.7 identifies maximum allowable noise contributions for surrounding sensitive receivers. This identifies a maximum 35 dBA for the majority of properties, and 38 dBA for Nanima House. The Proponent has now identified that the predicted noise level at Nanima House is 34.5 dBA, and as such the

Department has recommended that condition 2.7 be modified to reflect this. (Further detailed analysis of potential noise impacts are discussed in the following section.)

The Department notes that whilst a resolution has not been able to be reached between the landowner and the Proponent, as a result of the use of the quieter turbine model, noise limits are now within the maximum allowable noise contribution limit, thereby demonstrating that the Proponent has worked towards a resolution of the issue.

Modification of power station configuration to 2 x 225 MW turbine units

As part of Modification 1, the Proponent undertook an assessment of potential noise impacts for the operation of the 2 x 225 MW turbine units. The noise assessment had regard to acoustic levels required by the Project Approval (in particular condition 2.7) and the NSW Industrial Noise Policy. **Table 3** provides a comparison of the original 4 x 150 MW configuration and the Mod 1 (approved) 2 x 225 MW configuration predicted operational noise impacts, as provided for the Modification 1 submission. Note that predicted A-weighted noise impacts include a +5 dB low frequency noise penalty.

Table 3 Comparison of 4 x 150 MW and 2 x 225 MW gas-fired turbine operations at nearest noise sensitive receivers

Location	*Received noise level (dB(A), $L_{Aeq,15min}$)*				
		Neutral conditions		*Adverse conditions*	
	Project Approval maximum allowable noise contribution	*Original 4 x 150 MW configuration*	*Mod 1 (approved) 2 x 225MW configuration*	*Original 4 x 150 MW configuration*	*Mod 1 (approved) 2 x 225MW configuration*
Mount Nanima	*39*	*36*	*29.5*	*38.5*	*32*
Cadonia Subdivision	*35*	*26.5*	*26*	*29.5*	*29*
Keston Rose Garden Café	*37*	*34.5*	*28*	*37*	*31*
Nanima House	*(not provided)*	*43*	*36*	*44.5*	*37.5*

In summary, with the exception of Nanima House, which did not have an allowable noise contribution as part of the Project Approval, operational noise impacts under neutral and adverse meteorological conditions would be compliant with Project Approval maximum allowable noise objectives. Note that condition 2.7 was amended as part of Modification 1, to include an allowable noise contribution of 38 dBA for Nanima House, for the 2 x 255 MW turbine option.

For Modification 2, the Proponent has re-run the noise model for the 2 x 225 MW turbine units for adverse meteorological conditions. Additionally, to provide information on low frequency components of the power station, noise modelling has been undertaken to determine C-weighted noise levels from the 2 x 225 MW gas turbine configuration. These results are summarised in **Table 4**. Note that predicted A- and C-weighted noise impacts are shown without any low frequency noise penalty.

Table 4 Predicted A and C weighted noise levels for 2 x 225 MW gas-fired turbines

Location	*Modification 1 maximum allowable noise contribution*	*Received noise level (dB(A), $L_{Aeq,15min}$) Adverse Conditions*	*Received noise level (dB(C), $L_{Ceq,15min}$) Adverse Conditions*	*Difference (dB)*
Mount Nanima	*35*	*30*	*46*	*16*
Cadonia Subdivision	*35*	*26.5*	*42*	*15.5*
Keston Rose Garden Café	*35*	*28*	*44*	*16*
Nanima House	*38*	*34.5*	*50.5*	*16*

Following the approach described in the NSW INP, a low frequency penalty may be applicable to the predicted noise levels at each of the nearest residential receivers where a difference between the A- and C-weighted noise levels are 15 dB or greater is anticipated. However, a more contemporary approach has been developed for the Department (Broner, 2010) to better

identify and assess low frequency noise impacts from gas fired power stations. This approach is underpinned by a study which recommended levels of 65 dB(C) for daytime and 60 dB(C) for night time and was used as the basis for setting low frequency noise goals for Dalton power station.

Predictions made for the project indicate a maximum level of less than 51 dB(C) will be experienced by the nearest receivers. Based on this level, no adverse low frequency noise impacts are expected and no low frequency noise penalty is required.

Two submissions received in support of the modification noted the benefit of the reduction in noise impact. However, the three submissions in the form of objections raised a number of specific concerns regarding the modification of the power station configuration. These are summarised in the following **Table 5**, including the Proponent's response to these concerns.

Table 5 Issues raised in objections

Issue	***Proponent's response***
The power station would have detrimental effects on those living close to the station, in particular noise.	Noise and other impacts on residential receivers were assessed in the EA and subsequent modification and deemed to be acceptable provided the recommended mitigation measures are applied.
The noise guidelines are not stringent enough to protect the community.	The noise guidelines used as the basis for the assessment were the standard EPA guidelines in force at the time of the application, and continue to be relevant. Whether or not the guidelines are stringent enough is a state-wide policy issue that is outside the scope of this assessment.
It would be appropriate to undertake a more up to date environmental impact assessment for noise impact issues given the original proposal was advocating different technology, size and number of stacks.	There has been no significant change to the receiver environment, nor a change to the noise (or other) guidelines that would change the outcomes of any new assessment, and it is therefore not considered necessary.
Require that Nanima House receive noise mitigation measures including sound proofing and an earthen wall.	Any acoustic barrier or installation of sound proofing to Nanima House, as foreshadowed by condition 2.9, would be developed in consultation with the owner in accordance with condition 2.9, to ensure that the noise mitigation measure is in place prior to the commencement of construction or operation, as required.

The EPA and Wellington Council also provided comment in relation to the potential noise impact. The Proponent noted these comments:

- The EPA provided comment, that for receivers predicted to receive noise levels above the derived Project Specific Noise Levels (PSNL), the Department is best positioned to weigh the social, economic and environmental benefits of the proposal against potential adverse noise impacts according to Chapters 8 and 9 of the Industrial Noise Policy, and to determine if noise limits above the PSNLs are justified. If the Department determines that noise limits above the PSNLs are justified, the EPA would include limits up to 5 dB above the PSNL in any Environment Protection Licence required for the activity. The EPA would not usually licence to noise levels more than 5 dB above the PSNLs.
- Wellington Council advised that they consider mitigation requirements as set out in conditions 2.9 and 2.10 of the project approval should be retained. The Proponent should identify noise abatement strategies as required by condition 2.9 to reduce the noise impact on occupants of Nanima House, as the proposed noise levels are likely to occur outside the approved limits for that location.

The Department notes comments raised by the EPA and Wellington Council. The Department has assessed the proposed modification on its merits, looking at social, economic and environmental impacts and the benefits gained by proceeding with the project.

As part of the Department's consideration regarding Modification 1, an assessment was undertaken of the potential impacts of two configuration scenarios, that being either 4 x 150 MW or 2 x 225 MW gas-fired turbines. This assessment included review of acoustic, flora and fauna, visual and air quality issues. The Department considered that the modification for alterations to the approved power station design and operation, would be reasonable and would not pose adverse environmental impact regarding acoustics, air quality and visual impacts, to the original approved project. A summary of the Department's previous assessment is included at **Tag B**.

With regards to the current Modification 2, whilst the 2 x 225 MW turbine option has been approved as part of Modification 1, the Department notes that the Proponent has now identified that the predicted noise level at Nanima House is 34.5 dBA, as a +5 dB penalty for low frequency noise is no longer being applied. As such, the Department has recommended that condition 2.7 be modified to reflect this, so that maximum allowable noise limits for all sensitive receivers are 35 dBA. The Department therefore considers that the existing and modified conditions 2.5 to 2.10 are adequate to ensure that noise amenity is managed at each property. In particular, specific operational noise requirements and at-receiver noise mitigation, as well as land acquisition criteria for properties still experiencing excessive noise after the implementation of reasonable and feasible source controls.

With regards to low frequency noise, which has not previously been considered, the Department notes that the predicted noise impact is lower than that required of a similar proposal, and is therefore considered to be appropriate. Notwithstanding, the Department has recommended an additional condition of approval to include low frequency noise limits and noise modifying factors, to ensure that low frequency noise is managed to intended limits.

The Department considers that as the use of the 2 x 225 MW turbines has already been assessed and approved, and is shown to be quieter than the 4 x 150 MW turbine option, it is appropriate to modify the Project Approval to solely commit to the 2 x 225 MW turbine option.

RECOMMENDATION

It is therefore RECOMMENDED that the Director:

- note the information provided in this briefing;
- approve the modification request, subject to conditions; and
- sign the attached modifying instrument (**Tag A**).

Prepared by:

Diane Sarkies
Senior Planner, Energy

Approved by:

Karen Jones
Director, Infrastructure Projects

ATTACHMENT B – SUMMARY OF ASSESSMENT OF MODIFICATION 1

Acoustic

- The Proponent provided a revised Noise Impact Assessment report for the proposed alternative configuration of 2 x 255 MW turbines, based on the acoustic levels approved in the Project Approval and the NSW Industrial Noise Policy. The Report found that the alternative configuration would reduce noise levels at each of the key receivers from that of the approved levels.
- The Proponent provided additional detail stating that the noise assessment was undertaken in accordance with DECCW's "Industrial Noise Policy", based on an assessment of the worst case noise levels in any 15 minute period, with an aim of not exceeding the background noise levels by more than 5dB(A) at the nearest receptors.
- The Proponent also noted that whilst the predicted noise impacts associated with the proposed modification exceed the noise goals at Nanima House by 2.5 to 4.5 dB(A) (neutral – adverse), this level is an improvement compared to the predicted noise impacts under the approved development which exceed the noise goals by 8 to 9.5 dB(A).
- DECCW recommended that the noise limit conditions for the proposed alternative configuration should reflect the overall lower predicted noise levels at each receiver location, and that the alternative limits should be included as a condition to reflect whichever configuration is adopted. DECCW also recommended that Nanima House, with a predicted level of 38 dB(A), be included as a receiver location for the alternative 2 turbine approach.
- DECCW noted that intrusive limits below 35 dB(A) ($L_{Aeq,\ 15\ minute}$) are not usually specified and recommended that the alternative threshold limits be adopted.
- The predicted noise contribution at Nanima House (38 dB(A)) is below the assigned "Acquisition Rights" threshold (40 dB(A) at any time and 45dB(A) of an evening) as specified in condition 2.10 of the approval whereby, an exceedance would trigger acquisition rights. It would therefore be appropriate that Nanima House be assigned the same Architectural Treatment rights granted to the Mount Nanima and Keston Rose Garden Cafe properties as specified in condition 2.9.
- It is important to note that whilst the operational times of the power station will increase, the overall noise threshold levels are lower and the mitigation measures will be undertaken to protect affected properties.
- The Department therefore proposed that conditions 2.7 and 2.9 be modified as follows (**with modifications shown in bold text**):

Operation Noise

2.7 *The Proponent shall design, construct, operate and maintain the project to ensure that the noise contributions from the project to the background acoustic environment do not exceed the maximum allowable noise contributions specified in 1, at those locations and during those periods indicated. The maximum allowable noise contributions apply under wind speeds up to 3 ms^{-1} (measured at 10 metres above ground level), and under temperature inversion conditions of up to 3 ºC/ 100 metres.*

The final constructed configuration of the Power Station (either 2 x 255 MW Turbines or 4 x 155MW turbines) will determine which maximum allowable noise contribution as specified in the table below will be applied.

Table 1 - Maximum Allowable Noise Contribution

If 4 x 155MW turbines are installed

Location	***Day*** *7:00am to 6:00pm Mondays to Saturdays* *8:00am to 6:00pm Sundays and public holidays*	***Evening*** *6:00pm to 10:00pm on any day*	***Night*** *10:00pm to 7:00am Mondays to Saturdays* *10:00pm to 8:00am Sundays and public holidays*	
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{A1\ (1\ minute)}$
Mount Nanima	*39*	*39*	*39*	*45*
Cadonia Subdivision	*35*	*35*	*35*	*45*
Keston Rose Garden Café	*37*	*37*	*37*	*45*
Mount View, Alectown	*35*	*35*	*35*	*45*
Property A (refer to Figure 3-5 of the document listed under condition 1.1b)	*35*	*35*	*35*	*45*

Or, if 2 x 255 MW Turbines are installed

Location	***Day*** ***7:00am to 6:00pm Mondays to Saturdays*** ***8:00am to 6:00pm Sundays and public holidays***	***Evening*** ***6:00pm to 10:00pm on any day***	***Night*** ***10:00pm to 7:00am Mondays to Saturdays*** ***10:00pm to 8:00am Sundays and public holidays***	
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{A1\ (1\ minute)}$
Mount Nanima	***35***	***35***	***35***	***45***
Cadonia Subdivision	***35***	***35***	***35***	***45***
Keston Rose Garden Café	***35***	***35***	***35***	***45***
Mount View, Alectown	***35***	***35***	***35***	***45***
Nanima House	***38***	***38***	***38***	***45***
Property A (refer to Figure 3-5 of the document listed under condition 1.1b)	***35***	***35***	***35***	***45***

At-Receiver Noise Mitigation

2.9 *The Proponent shall, at the request of the owner of* ***Nanima House****, the Mount Nanima property or the Keston Rose Garden Café property, provide and bear the full cost of architectural acoustic treatments (such as, but not necessarily limited to, double-glazing) to the residential premises on that property. Such a request may be made in writing by the owner of* ***Nanima House****, the Mount Nanima property or the Keston Rose Garden Café property within five years from the commencement of operation, and architectural acoustic treatments agreed between the parties must be implemented and completed with 12 months of such an agreement. Should the parties not be able to reach agreement on the scope of architectural acoustic treatments, then either party may refer the matter to the Director-General for resolution. The Director-General's decision on such a referral shall be final and binding on the parties.*

Flora and Fauna

- The Proponent advised that the modified configuration is expected to result in the clearing of up to an additional 9 trees, with the exact extent of the clearing to be finalised when the exact footprint of the site is confirmed. This final calculation would be included in the offset strategy (required under condition 2.28 of Project Approval) to be submitted to DECCW for approval prior to commencement of construction.

Visual impacts

- Concerns regarding the visual impact of the proposed modification were raised during exhibition.
- In response, the Proponent advised that the modification proposes an alternative smaller power station comprising of 2 x 255MW units, the bulk and scale of these units is similar to the approved 150MW units, and the approved maximum stack height is retained. Overall, the proposed modification will either reduce or result in negligible changes to the visual impact of the approved project.

Air Quality

- An emissions assessment, which analysed the potential changes in air quality as a result of the proposed modification, was submitted with the application. The assessment concluded that emissions for both normal and start-up scenarios for the proposed alternative 4000F gas turbines will not adversely affect any sensitive receptors. The report also found that with the exception of SO_2, all modelled parameters were either lower or of similar magnitude to the predicted concentrations in the approved EA.
- The Proponent has advised that the air quality impacts have been assessed in accordance with DECCW's Guidelines which require an assessment of emissions over 1 hour, 24 hours and annual periods. The studies were based on units operating continuously over the subject period and predicted that the emissions from the 2 x 255MW units would generally be less than for the approved development. It was also noted, that although the SO_2 levels for the 2 x 255MW units (2.38 ug/m^3 per 1 hour period) are higher than the approved EA configuration (2.10 ug/m^3), the level remains well below the emission limits (570 ug/m^3) set by DECCW.