Hunter Water Corporation
ABN 46 228 513 446

PO Box 5171
HRMC NSW 2310
36 Honeysuckle Drive
NEWCASTLE NSW 2300
1300 657 657 (T)
(02) 4979 9468 (F)
enquiries@hunterwater.com.au
hunterwater.com.au

18 December 2019

Our Ref: HW2018-813

Energy and Resources Assessments
NSW Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Attention: Mandana Mazaheri
via email: Mandana.Mazaheri@planning.nsw.gov.au

Dear Mandana,

RE: NEWCASTLE POWER STATION (SSI-9837) - ENVIRONMENTAL IMPACT ASSESSMENT

I refer to your email requesting advice on the proposed Newcastle Power Station, a 250 MW gas-fired power station to be located at Tomago. Our advice is as follows.

Drinking Water Catchments
The Tomago Sandbeds is an unconfined coastal groundwater aquifer. The majority of the geological formation is gazetted as a special area (drinking water catchment) identified as the Tomago Sandbeds Catchment Area under *part 2 of the Hunter Water Regulation 2015*. The Tomago aquifer can supply up to 30% of the Lower Hunter region's drinking water supply and plays an important strategic function for the region as a drought or contingency supply reserve. Under the current drought situation, groundwater is being drawn from the Tomago aquifer to supply approximately 30% of the region's daily drinking water demand.

The proposed Newcastle Power Station (NPS) site is located adjacent to the Catchment Area, while the proposed gas pipeline and electricity transmission corridors are located within the Catchment Area. Further, the eastern part of the proposed gas pipeline corridors and the Newcastle Gas Storage Facility are located within the water supply draw zone for groundwater extraction wells at Station 20, as indicated in **Attachment 1**, and it is vital that development activities in this area are managed so as to not present a risk to the aquifer and source water quality. We consider that this risk should have been articulated better in the EIS given that it was identified during the consultation process.

Source water protection is paramount to maintaining a healthy drinking water system and Hunter Water expects that all development within drinking water catchments will demonstrate a Neutral or Beneficial Effect (NorBE) on source water quality as result of the construction and operation of the development. Hunter Water supports the location of the proposed power station development outside of the Catchment Area as a means of achieving NorBE. We are also satisfied that the proposed construction and operation of ancillary works to be located within the Catchment Area present a low risk to the aquifer and a neutral impact on source water quality is expected, provided they are constructed and operated as described in the EIS. We do not consider that these works warrant ongoing environmental monitoring of the aquifer, as is the case with some developments, if the works are undertaken as proposed.

In designing, constructing and operating the development, it is important that relevant management plans are prepared and implemented effectively to ensure all foreseeable risks to the aquifer are managed and, in particular, that any incidents that could potentially contaminate the aquifer are responded to promptly.

Water Supply
Should the NPS be approved, its operation is expected to consume a significant amount of potable water irrespective of the technology adopted and operating scenario (120 - 800 million litres per year) and would therefore be classed as a 'major customer' for Hunter Water.

The EIS states (in section 6.3.3):

> *Annualised water consumption based on the highest estimated water use scenario under peaking load and continuous operation would be approximately 120,000m^3 and 800,000m^3. Worst case operational water demands (continuous operation) represent a small percentage of the total water supply available in the region (0.03%) and a fractional increase on current annual water usage (0.12%).*

We note that reference to the 'total water supply available' actually refers to the total regional storage volume for all sources, some of which are not available to the project. We also note that the annualised worst case operational water demands (*800,000m^3* for continuous operation) is 0.8GL (not 0.08GL as stated in Table 6.3.2) and this represents 0.3% and 1.2% of the total regional storage volume and annual regional water usage, respectively. We acknowledge that the anticipated water usage is substantially less than the stated worst case scenario.

It is noted that the two proposed technology options for the NPS have substantially different water requirements, with the gas turbine using more than four times as much water as a reciprocating engine. We note that peak electricity demand often occurs during hot, dry weather, which is when water storages are challenged and customer demand increases, meaning that water use at the power station would coincide with periods of high customer demand generally, high evaporative loss rates in storages, and conditions where storage levels are potentially low due to lack of rainfall, as is currently the case with the drought.

While the EIS refers to the NSW Climate Impact Profile (DECCW, 2010), which predicted increased rainfall in summer, spring and autumn, more recent advice by the Office of Environment and Heritage suggests that rainfall in spring and summer in Hunter Water's area of operations, which are periods of high water demand, is expected to decrease compared to historical levels by 5 – 10%.

We acknowledge that AGL has consulted Hunter Water extensively during the project planning and EIS preparation phase in relation to water servicing requirements and, after considering a range of water supply options and associated factors, has elected to proceed with a project design that includes consumption of a significant volume of potable supply. Hunter Water has advised AGL that there is sufficient capacity within the water supply system to meet the anticipated NPS demand. We would nevertheless encourage AGL to incorporate water saving features, including adoption of the most water efficient technology, into the design and operation of the NPS wherever possible and recommend this be added to commitments given in section 6.3.4 of the EIS.

We should also note that under the current drought circumstances we are working with all major customers to develop and implement Water Efficiency Management Plans to help achieve reductions in water demand and improvements in water use efficiency.

Wastewater Services
AGL has consulted Hunter Water extensively during the project planning and EIS preparation in relation to wastewater servicing requirements. As identified in the EIS the NPS site is not

serviced by the reticulated sewer network and there are no current plans to extend the network to include this area.

While detailed wastewater management arrangements are still to be determined, Hunter Water has advised AGL that, based on the information provided, suitable facilities are available and there is sufficient capacity within the current wastewater treatment system to accept the wastewater stream that is expected to be generated by the NPS. This would be undertaken under a Trade Waste Agreement, the process and requirements for which are available on Hunter Water's website. In that regard Hunter Water supports the proposed wastewater management approach for the NPS described in the EIS.

We note that section 16.4.3 of the EIS *Potential Impacts - Operation* (page 275, paragraph 3) states:

> *HWC has indicated that they are able to accept and treat the wastewater generated by the Proposal at their existing wastewater treatment facilities in the Hunter region or would create additional capacity should this be required.*

The second part of this statement is incorrect; Hunter Water has not indicated any intention to create additional wastewater treatment capacity to accommodate the NPS development. However, given the first part is correct it should not make a material difference to the assessment.

Stormwater
Hunter Water is satisfied that the proposed stormwater management system will not adversely impact the Tomago Sandbeds Catchment Area or other receiving waters.

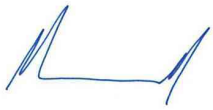
We support opportunities to incorporate the reuse of stormwater in the site's operational management where feasible.

Biodiversity
Hunter Water owns a large tract of land to the north of the project area. Hunter Water also co-manages the Tilligerry State Conservation Area further to the north-east with the National Parks and Wildlife Service. Together, the areas comprise a significant part of the Tomago Sandbeds Catchment Area, which is recognised as having significant biodiversity values, has good connectivity to the NPS project area and comprises an integral part of the Lower Hunter biodiversity corridor that extends from the Watagan Ranges to Port Stephens.
The maintenance of these values is also an important means of assisting the protection of source water in the catchment area.

Hunter Water supports and encourages good biodiversity management. The biodiversity assessment for the NPS project appears to be adequate and Hunter Water supports biodiversity management outcomes that would result in local benefits.

If you require further advice or clarification regarding any of the matters in this submission please contact me on (02) 4979 9545.

Yours sincerely,



Matthew Russell
Account Manager Major Development

ATTACHMENT 1

Location of proposed Newcastle Power Station and existing Newcastle Gas Storage Facility in relation to the gazetted Tomago Sandbeds Catchment Area (red line) and Station 20 groundwater draw zone (green line).