

## Office of the Mayor

Office of the Independent Planning Commission of NSW  
Level 3, 201 Elizabeth Street,  
SYDNEY NSW 2000

4th August 2020

Dear Commissioners,

**Re: Concerns in Relation to Water Extraction and Underground Aquifers**

Council at its July 2020 meeting considered advice from its members as to the review being undertaken by the Commission into the Narrabri Gas Project and to the possible impacts of extracted water and contamination.

Warren Shire Council is raising its concerns as Council operates three (3) separate water supply schemes in the villages of Warren, Nevertire and Collie. Each of these utilise bore water as the only residential source of domestic water supply. Council's concerns are due to impacts that this project may have on the long-term viability of underground water and long-term contamination.

The Warren Shire community overall, is reliant on water extracted from underground reserves. Council draws water directly from the Great Artesian Basin and from the southern recharge area. The southern recharge area is also being explored as a water source for the Nyngan and Cobar water supply schemes. Similarly, rural land users draw water from the higher levels of the artesian basin for domestic and stock use whilst irrigators draw water from deeper depths. Warren Shire's supply bores are at a depth of 300 metres into the water table where the water quality is below National Drinking Water Guidelines, but suitable for domestic bathing use.

The Warren Shire is located approximately 300km to the south of the proposed coal seam gas development area. Although this would appear to be an adequate distance from the source of water extraction or potential contamination, the impacts on the water availability or contamination transfer may take years to occur and may render future water extraction from this area unviable.

It is difficult to determine the water impacts, as tracing underground water movement is relatively unpredictable over increasing distances from the source of extraction. The Great Artesian Basin water sources are not fully identified, and the impacts are not scientifically verifiable. This is shown by water management history where the NSW Government over many years addressed the falling levels of water in the artesian basin and the low ground water pressure to cause rising water. The NSW Government instigated bore capping programs and water pipelines on rural land to reduce the uncontrolled water release and to cap supplies to allow the water in the artesian basin to recover. This program has been successful and water availability, water rise and water availability through improved ground pressure has occurred.

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The development and production of Coal Seam Gas in the Narrabri area is recognised by Council as being in existence for decades. The development of a greater drilling and extraction program will significantly increase the water extraction from the shallow bores accessing the coal layers. Warren Shire Councillors have been proactive in visiting the site with the Santos representatives, looked at the water extraction and visited the rehabilitation areas.

Council is aware that the process is to extract water only to a depth of gas release from the coal and that a water balance is required to prevent greater gas releases than necessary to meet gas production demands. Further it is understood that water storage and or water transfer is at minimal estimated levels to ensure onsite or transfer capacities are viable both environmentally but also economically.

The issues for Warren Shire residents remain the cumulative volumes of water being extracted, the potential for hydrocarbon releases into the underground water flows and the longevity of the cost of this water imbalance into the long term. Insufficient evidence is available to make a prediction of low impact, as this Community is many years away from a potential ground water drop that once commenced may last for twenty or thirty years.

Many communities in the western areas rely on ground water availability for stock and domestic uses. Rural land users are impacted not only by the atmospheric conditions, but any changes to the underground water resources. As detailed above, the actions of the NSW Government to cap and secure underground water have ensured the viability of farms and communities. Impacts that should be considered, are that a drop in water levels in the basin or recharge areas will allow the increase in sodium, potassium and calcium salt formation due to the drawdown of these elements and the concentration of these to lower aquifer levels. The western communities water supplies are presently impacted by salts and the water use can only be realistically used for bathing and washing. Bore water is generally not used unless treated through reverse osmosis for any drinking purpose presently and concentration of salts will require increased State funding for small communities to retain a viable water source.

Again, Council would like a precautionary principal to be applied, to prevent any draw down of the artesian basin or recharge areas above that presently existing in the Narrabri Gas Project area.

Should the project receive consent, then it is requested that an Artesian Basin study is undertaken through the use of deep bores to ensure the flow, depth and chemical elements are measured within a radius of 300km. Many existing wells can be used for the study and this will provide long term data that is made publicly available to track and develop water models. It is understood that a company may not wish to undertake a major scientific research project over the life of the gas field yield, however, the information gained should assist future generations to develop modelling and make greater ground water predictions. Afterall, the removal of an asset owned by the State should be supported by education and knowledge for use by all Australians. The extraction and sale should not just be based on community contribution dollars or State Government royalties and profit margins.

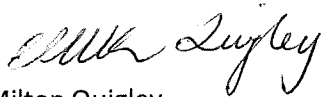
Warren Shire Council is remote from the Narrabri Gas Project, however the long-term impacts to underground water resources is of great concern to Council, its community and to many individuals who rely on water from underground resources.

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Council would like to thank the Commission for taking public submissions and in consideration of our concerns and requests.

Yours faithfully,



Milton Quigley  
**Mayor**