Submission No 24

COGENERATION AND TRIGENERATION IN NEW SOUTH WALES

Organisation: Deniliquin Council

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Date Received: 4/09/2013

Inquiry into cogeneration and trigeneration in New South Wales

Terms of Reference

The Deniliquin Council has a connection with the Bennett/Clayton trigeneration installation at Superannuation House, 76 Berry Street, North Sydney and can draw on that experience for the following submission comments and recommendations -

i) Whether the current regulatory framework can adequately support the utilisation of cogeneration/trigeneration precinct development.

The current regulatory framework makes licenses for power generation over 10 kw extremely expensive for trigeneration systems that return power to the grid. The system at Berry Street North Sydney is independent of the grid and the engines must instantly adjust power up and down to match building demand. This is a much more complex system and also reduces engine life. If the engines fed power back into the grid, the grid would act as a buffer for the building demands and the engines could have an easier job resulting in greater efficiencies.

ii) The operation of cogeneration/trigeneration technology in other jurisdictions and the applicability of the technology to New South Wales.

We would recommend using multiple (up to 5) engines instead of one big one, as this creates multiple demand points of maximum efficiency, whereas one big engine is only efficient at 80% of full demand. At low demand the large engines are less efficient than grid power. Five small engines can stop and start as building demand fluctuates up and down. This is much more efficient.

iii) The economic viability of cogeneration/trigeneration technology in New South Wales including the impact of future gas prices on the running costs of cogeneration/trigeneration systems.

Looking at future gas and electricity prices (prepared by PME Consulting) the trend is for electricity prices to rise much quicker than gas prices. This will improve viability of gas powered trigeneration systems.

iv) Any financial, public safety and/or other risks to prospective cogeneration/trigeneration customers.

All gas and electricity systems must comply with stringent safety regulations and controlled preventative maintenance schedules and practices and as such are a very low safety risk.

Trigeneration systems are only a financial risk if the engine is too large for the load demand. Multiple engine systems for variable load or single engine “correctly sized” systems for constant power demand can usually supply power at half grid prices.

v) *Any supply and reliability issues associated with cogeneration/trigeneration, especially for residential customers of these systems.*

"Supply Security" can be assured by using multi engine systems which incorporate one or two spare engines.

An instant "grid reconnect" can also be used as a backup.

vi) *The ability of existing regulatory arrangements at the New South Wales and national level to address issues which may be identified*

We are not immediately aware of any other problems with regulations, apart from the one in reply (i) above. However, Marcus Clayton of Bennett/Clayton [redacted] has said there are areas in which gas and electricity regulations clash to create installation problems. He may be contacted directly if further information on this area of conflict are sought.

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