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File Ref. No: FRN18/744 TRIM Ref. No: D18/30824

Independent Pricing and Regulatory Tribunal Level 15, 2-24 Rawson Place Sydney, NSW 2000

7 May 2018

Dear Sir / Madam

RE: Review of Catherine Hill Bay – Network Operator Variation

Fire & Rescue NSW (FRNSW) has reviewed the application made by the *Water Industry Competition Act 2006 (WIC Act)* licensee Catherine Hill Bay Water Utility Pty Ltd (the utility) to the Independent Pricing and Regulatory Tribunal (IPART) to vary their current Network Operator Licence No. 16_035. In relation to this matter, FRNSW understands the utility is to provide potable water, non-potable water and sewerage infrastructure to serve Stages 6 and 7 of the 'Beaches' subdivision development. Additionally, the utility proposes that any surplus to demand recycled water is to be discharged to the environment.

The legislated responsibilities detailed in the *Fire Brigades Act 1989* pertaining to the protection of life, property and the environment mean that FRNSW has significant community safety obligations. In this regard, many of these obligations are dependent on the adequate provision of water from the state's reticulated water supply networks. As such, FRNSW is a key stakeholder of the various NSW public water utilities and *WIC Act* licensees.

In formulating this response, the following documents have been considered:

- Network Operator and Retail Supplier Licence Application Form (*Water Industry Competition Act 2006 (NSW*).
- Addendum to Review of Environmental Factors. Sewerage Treatment Plant and Sewerage Reticulation Network, Catherine Hill Bay. Part *5 EPA Act 1979*.
- Surplus Recycled Water Release Preliminary Risk Assessment.
- Process Flow Diagram. Drinking Water Stage 3. Drawing Number 56-PW-PFD-ST3-1.
- Process Flow Diagram. Stage 3 Recycled Water Release. Drawing Number 56-RW-PFD-ST3-1A.

In relation to the Catherine Hill Bay development, known as the 'Beaches' subdivision, FRNSW understands that Stages 6 and 7, and the existing villages of Catherine Hill Bay and Middle Camp are to be connected to the reticulated water supply network

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operated by the utility, which currently serves Stages 1 to 5 of the subdivision. As part of this reticulated water supply network, information detailed in the process flow diagram (Drawing Number 56-PW-PFD-ST3-1) indicates that the system is served by a drinking water supply booster pump station that is characterised by the following:

- Four variable speed drive-controlled pumps to maintain the water pressure in the downstream reticulation network.
- The pressure set point of the drinking water pumps is to be maintained at 35 metres, which is five metres higher than the recycled water supply booster pumps set point.
- The pump station has a capacity of approximately 0 27 L/s @ 35 metres head.
- A standby generator with auto changeover switch is provided to ensure that the pumps can operate during power outages.

Under the provisions of Section 6 of the *Fire Brigades Act 1989*, it is the duty of the Commissioner of FRNSW to take all practicable measures for preventing and extinguishing fires and protecting and saving life and property in case of fire in any fire district.

In relation to fighting fircs in Class 1a buildings (residential homes), the National Construction Code Series (NCC), Building Code of Australia Volume 2 places no requirement on these buildings to provide private on-site fire hydrants. The provision of a reticulated water supply system that has sufficient pressure and flow for firefighting is therefore critical to extinguishing fires in these buildings and to ensure that it is done in the shortest possible time frame. Additionally, although FRNSW pumping appliances are fitted with an on-board water tank, the 2,000 litres carried only allows for initial fire brigade intervention activities and does not provide a sufficient volume of water for sustained firefighting or the protection of adjoining properties. As such, a reticulated water supply with sufficient pressure and flow would be crucial to the saving of life and property within the 'Beaches' subdivision.

Unlike Volume 2 of the NCC, Clause E1.3 of Volume 1 of the NCC requires all Class 2 to 9 buildings to be protected by a fire hydrant system complying with the requirements of AS 2419.1—2005. Depending on the class of building, the size of its largest fire compartment and the characteristics of the nearest available reticulated water supply system, these fire hydrant systems could consist of a single street fire hydrant, an on-site feed fire hydrant(s) or a system that incorporates on-site tanks with large bore suction connections, on-site pumps, a fire brigade booster assembly and many attack fire hydrants, as applicable.

In relation to the design of any on-site fire hydrant system complying with AS 2419.1, the type of on-site system provided is typically determined by the characteristics of the nearest available reticulated water supply. If the nearest available reticulated water supply can provide the pressure and flow (150 kPa @ 10 L/s) for a 'feed fire hydrant' (as defined by AS 2419.1—2005) the installation of on-site tanks can generally be avoided.

Due to the current characteristics of the Catherine Hill Bay area (and likely future characteristics of this expanding development), FRNSW believes a reticulated water supply network capable of providing appropriate firefighting pressures and flows

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across the network is the most practical and cost-effective approach to providing the community of Catherine Hill Bay with a water supply capable of addressing the likely fire risks in this area.

With consideration to the information detailed above, FRNSW recommends that when considering the proposed variation to the Network Operating Licence No. 16_035 provision is made for an ongoing community safety obligation to provide minimum pressures and flows across its reticulated water supply network to facilitate fire brigade intervention. This can most likely be achieved by ensuring the variable speed pumps within the drinking water supply pump station have sufficient capacity. FRNSW also recommends that street fire hydrants are placed at distances of not more than 120 m intervals to further facilitate fire brigade access.

Should you require any further information or clarification on this submission, please contact Station Officer Mark Porter, FRNSW Fire Safety Policy Unit, on

or at

Yours sincerely

Mark Whybro Assistant Commissioner Community Safety