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Sydney Water submission to Nepean River Pump and Pipeline EIS (SSD-5225)

Dear Belinda

Thankyou for the opportunity of commenting on application SSD 5225 – Nepean River Pump and Pipeline.

Sydney Water's comments on the Environmental Impact Statement (EIS) are presented below.

St Marys AWTP and river water quality

The Nepean River Pump and Pipeline EIS states that a key reason to locate the pump below Penrith Weir is the improved river water quality in this part of the river following the operation of St Marys Advanced Water Treatment Plant (AWTP).

Sydney Water constructed the AWTP as part of the Western Sydney Recycled Water Initiative - Replacement Flows Project. It produces up to 50 ML/day of high quality reverse osmosis treated water. Water is released down Boundary Creek, downstream of Penrith Weir.

The EIS states: "The replacement flows project treats effluent to a higher level than previously, before its discharge into Boundary Ck. As a result, the water quality constraint on locating the pumping station downstream of the Weir was removed".

Sydney Water notes that the water quality rationale for moving the pump and pipe location may not be robust and assumptions about the operation of St Marys AWTP are not wholly accurate.

- Sydney Water still releases some tertiary treated effluent from Penrith Wastewater Treatment Plant (WWTP). The amount of wastewater discharged to Boundary Creek depends on inflows to all three wastewater treatment plants that contribute to the AWTP – Penrith, St Marys and Quakers Hill - and the priority in which wastewater inflows are used from contributing plants.
- Sydney Water occasionally shuts the AWTP down or reduces its capacity so maintenance can be done. Maintenance shutdowns increase the amount of tertiary treated wastewater discharged from Penrith WWTP down Boundary Creek.

- For most of the conditions in which Penrith Lakes' proposed pumping station will operate, current flow data indicates Penrith WWTP may have wet weather spills, as wet weather infiltration into the wastewater system exceeds the plant capacity.
- Urban growth in the Penrith WWTP catchment over the next 15 years will increase wastewater discharges. Even if Sydney Water maximises the transfer capacity of wastewater from Penrith WWTP at all times, discharge of tertiary treated wastewater down Boundary Creek will continue.
- Sydney Water regularly reviews the operation and effectiveness of its wastewater assets and may change their operating protocol when necessary, in consultation with relevant regulators and stakeholders. Sydney Water cannot guarantee that AWTP will always operate as it does now.

Water quality data

Penrith Lakes is only permitted to access water from the river during high flows. The EIS states that pumping may begin at 500 ML/day and must cease when river flows fall to 350 ML/day. This is approximately 5 to 10 percent of the time during a normal year.

In wet weather/ high flow conditions, water quality conditions may generally be poor.

The EIS cites river water quality data provided by Sydney Water in Table 2 and Table 21, covering the period January 2010 to March 2012.

It is not clear from the EIS if the water quality data cited only reflects the river high river flows that will be used by Penrith Lakes for extraction. Table 21 should only include water quality data obtained when the river is flowing at above 350 ML/day, to ensure water quality data reflects the conditions in which the pump will operate.

Water quality data shown in Table 2 and Table 21 extends to March 2012. Warragamba Dam spilled in March and April 2012. Wet weather and the associated high river flows generally result in poorer water quality, but this is not reflected in the data included in the EIS.

Table 22 presents results for enterococci as an indicator for bacterial pollution. It shows enterococci samples exceed the range for primary contact 59 percent of the time and secondary contact recreation 19 percent of the time. The tables include 19 samples between January 2007 and March 2012.

Sydney Water data for January 2008 to August 2013 includes 172 samples. It indicates that water was unsuitable for primary contact recreation 78 percent of the time.

Recycled water availability

Section 4.2.4 of the EIS notes that highly treated recycled water from St Marys AWTP would be “of adequate standard for use as top up in the PLS without further treatment”.

While water from St Marys AWTP is not included as an option in the current EIS, the document notes that “the development design does not preclude use of recycled water in the future through a potential future pipeline connection to the St Mary’s STP discharge pipeline (before discharge into Boundary Creek) or similar. “

However, it must be noted that the primary objective for St Marys AWTP was to replace flows captured by Warragamba Dam for drinking water. Penrith Lakes’ demand for recycled water is likely to be greatest during hot, dry periods when pumping from the river is not possible. In these conditions lake water is not likely to return to the river. Use of AWTP water in this manner would not satisfy AWTP’s original project objectives or development approval.

Penrith Lakes Development Corp. have previously noted their desire to construct a system with minimal ongoing operating costs. Purchase of recycled water, even if available, may not be consistent with this aim. As noted above, Sydney Water reviews the operation of its assets and cannot guarantee that St Marys AWTP will always operate as it does now.

Thank you for the opportunity to make this submission.

Yours sincerely

A handwritten signature in black ink that reads "Sandra Gamble". The signature is written in a cursive, flowing style.

Sandra Gamble
General Manager Business Strategy and Resilience
Sydney Water