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PERISHER BLUE IMPROVES WASTEWATER TREATMENT

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Every winter thousands of holiday-makers visit the snowfields in New South Wales. Many skiers choose to park at the Perisher Ski Tube terminal and catch the train up to their favourite ski resort such as Perisher Blue or Blue Cow. Then every afternoon they return on the train back to the Ski Tube car park.

Oblivious to the excited skiers are the Perisher staff working behind the scenes to treat the sudden inflows of wastewater from the various toilet amenities and keep their sewage plants (Figure 1) operating at maximum efficiency.

Our intermittently decanted extended aeration (IDEA) treatment plant is unusual in that we have to feed the plant in summer, as we only have a handful of maintenance staff on-site. As we enter the ski season, we receive peak flows and loadings just as our temperature drops in our aeration tank. It's not uncommon to go for 12–14 weeks with temperatures of 7°C or below.

The plant has a small sludge digester of only 12kL capacity, and this used to require pumping out and disposal off-site every two to three weeks during the ski season and a couple of times in the summer as well. The cost of this was constantly rising, and it was becoming increasingly difficult to find someone to accept the waste, usually being tanker-trucked from Jindabyne up to Goulburn.

An opportunity arose to trial *For Earth Bio* additive to help break down the sludge in our digester. This proved to be very successful and we now pump out once per year, and only in summer, when we schedule in routine maintenance and drop all the tanks for annual cleaning and inspections. Based on this success we have continued to use the product now for three years.

The supernatant from the digester is pumped back to an inlet well and then into the aerated balance tank. While most is clear liquor, there is some light, thin sludge that does get returned to the head of the works. This has actually worked out to be a benefit, as it seeds the influent with fresh bacteria, which in turn has kept ammonia levels in the balance tank to around 40mg/L, compared to readings prior to dosing the additive of 60+mg/L, and peaks of over 80mg/L. This has reduced the ammonia loading on the aeration tank.

Another way the *For Earth Bio* product is utilised is for seeding the plant in the lead-in to the ski season. Previously, two loads of sludge from another treatment plant in the area would be brought in. This incurred the cost of having a tanker truck pick up and deliver the sludge. We now wait until the opening weekend of the ski season and dose up the aeration tank with the additive. This has worked very well, and it is cheaper and safer than relying on an outside contractor.

The vast majority of our influent comes from toilet blocks and there is very little domestic waste flowing to the plant. This, combined with extreme cold temperatures in the aeration tank, has meant that in the past there have been problems with ammonia levels not reducing sufficiently. Dosing with *For Earth Bio* over the aeration tank during the air-on period has been of great benefit. If there are spikes in the ammonia levels, usually 1–2L dosed over the treatment tank is enough, and on testing the next day there is normally a significant drop in the reading. Sometimes it may require ongoing dosing over a few days, or an increase in the amount dosed to get the level right down to satisfactory levels.

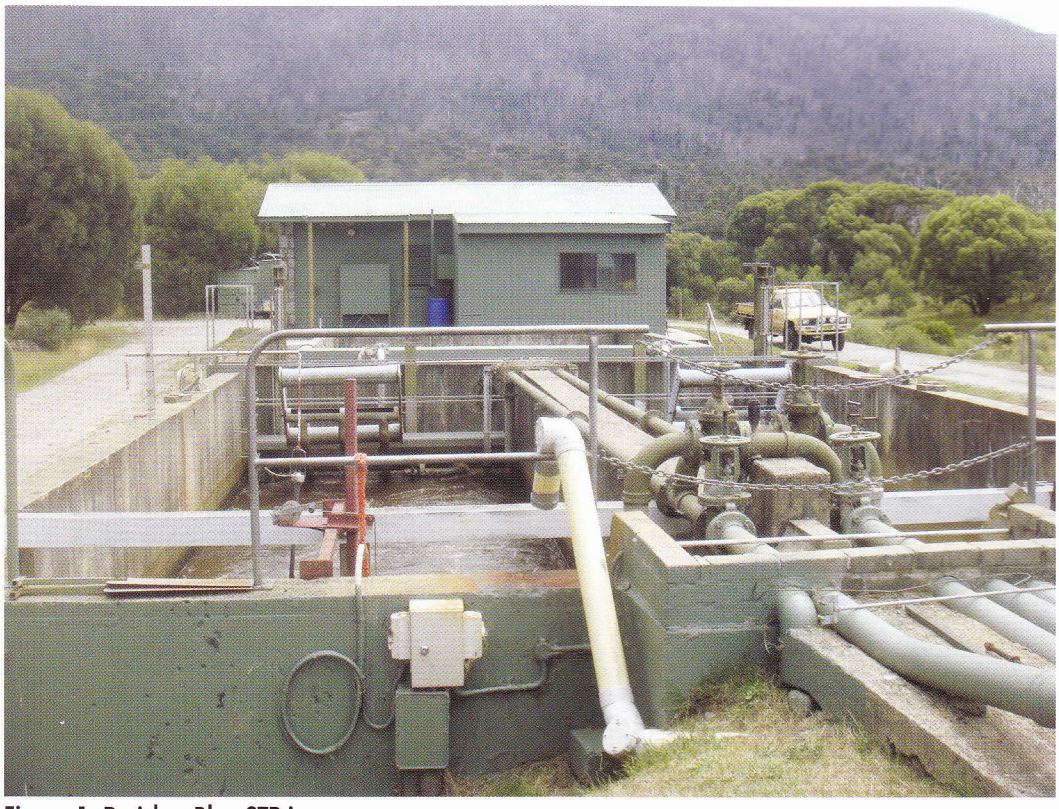

Figure 1. Perisher Blue STP in summer.

The Author

Michael O'Rance was a Waste Water Treatment Plant Supervisor at Ski Tube, Perisher Blue, at the time of the trial.