

est unplanned cost overrun from \$2.007 million to \$2.87 million, because it would be needed to be able to continue to operate electrically powered mechanical polymer mixing apparatus and separate oculent sweep-out apparatus in at least one of the two parallel tertiary clarifier treatment trains if there is an electric utility power failure. Wicklund added that the JUC has stated in previous meetings that it wanted a bid option for the emergency generator to be proposed to potential contractors as part of the construction bidding process.

Wicklund noted the emergency generator would also provide power to one of the two existing parallel trains of aeration basins and secondary clarifiers. The activated sludge lagoons use electrical aeration blowers to sustain bacteria that digest biosolid wastes. The coupled gravity secondary clarifiers mechanically separate the biosolid sludge from the treated water. The ultraviolet disinfection building already has its own backup generator. Without the emergency generator, the plant would be in violation during a power failure, he said.

Burks replied that he thought the proposed backup generator could run the entire facility.

Wicklund said that the Tri-Lakes facility had to provide a completed design before Tetra Tech RTW asks for construction bids, including a completed emergency generator design for the bid option for installing this emergency generator. Furthermore Burks should probably have completed generator design plans from Tetra Tech RTW available for the state's review, if requested, to avoid a potential delay that could jeopardize this constituent treatment expansion's completion and certification by May 31, 2016, a restriction in the facility's \$1 million state nutrient grant contract. Wicklund also stated that completed backup generator design plans may be required by the various Clean Water Act 208 plan review committees and state reviewing agencies that may be part of a state water quality management review.

Shaffer suggested that the JUC could have Tetra Tech RTW design the backup generator and include this design plan as a bid option in the facility's bid package put out for bid, but direct Tetra Tech RTW "as a strategic move" not to include the emergency design paperwork in the final design package submitted to the state for final approval. Shaffer estimated that the generator design would probably not cost more than \$5,000. He noted that

by not designing or constructing the backup generator the JUC would be assuming a liability risk for deliberately deciding not to build it.

After further technical discussion of relative probabilities and risks for numerous contingency scenarios the JUC, by consensus, directed Burks to have Tetra Tech RTW proceed with designing the backup emergency electric generator installation.

Financial reports

During his review of the December financial reports, Burks noted a payment of \$3,778 to Green Electric. Green replaced failed timers that had operated the 25-year-old exterior lighting system for the entire facility with a photoelectric sensor and also replaced exterior halogen fixtures that had failed due to burnt-out ballasts with LED fixtures that use less electrical power. As the rest of the halogen fixtures fail, they will also be replaced with LED fixtures.

Burks said there was a payment of \$2,785 (\$1,000 under budget) to Sharpest Cut Landscaping for concrete repairs to the south Woodmoor in vent wastewater metering vault.

A typical Parshall tube, shown at the right, is an open-channel flow measuring device with a channel that is a calibrated venturi constriction. The venturi constriction causes the wastewater flow to back up into the upstream channel at the top of the photo. The greater the wastewater flow, the deeper the water is upstream of the tube's concrete constriction. The height of the flow in the upstream section is typically measured by an ultrasonic level meter that is suspended above the tube's input as seen in the upper center of the photo. The height of the raised flow is digitally converted to the flow rate through the calibrated tube. The flow is measured in millions of gallons per day (MGD). These tubes are used throughout the Tri-Lakes facility to measure in vent wastewater flows from each of the three owner districts for proportional division of operating costs for the treatment plant based on their separate total monthly flows.



Recalibration of the repaired concrete Parshall tube in this Woodmoor vault had not yet been performed on Jan. 15. Burks said the recalibration would be completed before the current low winter flows increase in the spring.

The December financial reports were unanimously accepted as presented.

Financial report format changed

The facility's accountant, Jackie Spegele of Numeric Strategies LLC, briefed the board on a change in ac-

counting standards and definitions that required her to change the title for her 2015 monthly reports to the JUC from "prepared report" to "compilation report." She also recommended deletion of the last page of the facility's monthly financial report called "Statement of Cash Flows," which is a standard accounting report designed to provide a separate format for reporting leasing agreements and loan payments, neither of which currently apply to the Tri-Lakes facility. There was JUC consensus to accept Spegele's recommendations.

Plant manager's report

Burks reported that the plant was operating effectively. He noted that one November E. coli sample had a higher result than normal, though within the discharge permit's individual maximum sample limit, due to effluent turbidity that resulted from having only one of the facility's two hourly operator positions filled. All other E. coli sampling results were normal.

The net November phosphorus in vent results for the Tri-Lake plant were 1.078 MGD and 66 ppd. The new total phosphorus chemical removal tertiary clarifier constituent treatment capacity is rated at 264 ppd by Tetra Tech RTW. The November phosphorus in vent testing results for flow (MGD), concentration in milligrams per liter (mg/l), loading in pounds per day (ppd), and percent of loading were:

- Monument – 0.192 MGD, 9.4 mg/l, 15.1 ppd, 22.8 percent
- Palmer Lake – 0.241 MGD, 5 mg/l, 10.3 ppd, 15.6 percent
- Woodmoor – 0.645 MGD, 8 mg/l, 40.6 ppd, 65.9 percent

Burks also prepared a chart of results for all three months of phosphorus testing of owner district raw wastewater in vent to date (September to November) that showed the following average loading:

- Monument – 15.3 ppd, 24.5 percent
- Palmer Lake – 10.5 ppd, 16.9 percent
- Woodmoor – 36.7 ppd, 58.6 percent

These average percentages for phosphorus loading are roughly the same as the current averages for biosolids loading for each of the owner districts.

Burks reported that Tri-Lakes had agreed to perform additional monthly sampling at additional sites for metals and E. coli for the Arkansas and Fountain Coalition for Rural/Urban River Evaluation (AF CURE) baseline being created for Monument Creek and Fountain Creek.

Because they are only a few miles apart, separated only by the Baptist Road bridge over Monument Creek, the monthly Upper Monument Creek Regional Wastewater Treatment Facility's upstream sample data will also be used as Tri-Lakes' monthly downstream data to save outsourced testing money for both facilities. Tri-Lakes will also take more monthly samples north of Monument Lake. Burks noted that the all the Tri-Lakes monthly samples taken for Chromium 6 will have to be turned into their lab near I-25 and I-70 within 24 hours.

The meeting adjourned at 12:50 p.m.

The next meeting will be held at 10 a.m. on Feb. 10 at the at the Tri-Lakes facility's conference room, 16510 Mitchell Ave. Meetings are normally held on the second Tuesday of the month. Information for these meetings is available at 481-4053.

Jim Kendrick can be reached at jimkendrick@ocn.me.

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