

**Nampa WWTP Phase II/III Upgrades
Design Review Committee
Thursday, October 17, 2019
Nampa Public Library | 215 12th Avenue South, Nampa, ID
7:00 AM – 9:00 AM
MEETING SUMMARY**



Meeting Overview

On Thursday, October 17, 2019, the Nampa Wastewater Treatment Plant Design Review Committee (DRC) convened its eleventh meeting. The objectives of this meeting were to review the sidestream treatment options, as well as the biogas resource recovery alternatives and solar production potential. The following is a summary of topics discussed and feedback provided at the meeting. Please see meeting materials for more information.

Meeting Summary

Recycled Water Permit Update

Nate Runyan, City of Nampa, provided an update on the recycled water permit. The draft reuse permit was issued for public comment on October 15, 2019. The public comment period will be open until November 14th. The project team proactively met with a number of interested stakeholder groups to discuss the permit, and have received positive feedback from these conversations, including a letter of support sent to DEQ by the Lower Boise Watershed Council. Nate also updated participants on the status of the Project Group F Request for Qualifications, which are due by November 7th. The Bureau of Reclamation Water Smart grant application will be submitted in November.

Questions included:

- 1) Have you heard any concerns expressed by the public with regard to the draft reuse permit?
- 2) Are there any potential impacts to the City of Nampa's water rights through implementation of this permit?

Recycled Water Program Final Direction

Matt Gregg, Brown and Caldwell, provided an update on the recycled water program. Originally the facility plan assumed that recycled water production would begin in 2031 when the WWTP's temperature limits became effective. However, because the draft recycled water permit will require a higher effluent total phosphorous limit than anticipated, there is an opportunity to accelerate the recycled water program into Phase II, beginning discharge in 2026, which will reduce costs associated with meeting the lower TP limit. Please see DRC Briefing # 28 for more information.

The Project team recommended the DRC consider the accelerated timeline for the recycled water program. DRC approved moving forward with the recommendation.

Questions included:

- 1) Do the estimated savings account for inflation?
- 1) What is the phosphorous limit in the previous permit?

Sidestream Treatment Update

Matt Gregg provided an overview on the sidestream treatment analysis. Two rounds of sampling were recently conducted to determine the extent that struvite is forming on the existing equipment despite the application of chemicals. Feedback was also received during the market sounding process that there may be benefits to including the sidestream treatment design into Project Group F, as it influences overall TP removal for the plant. Please see DRC Briefing #29 for more information.

Because direct chemical application is no longer an effective struvite control option, the project team recommended to the DRC that this approach be eliminated from future considerations. It was also recommended that all other technology options be pulled into Project Group F and allow the selected progressive design-build team to evaluate viable options as part of its overall treatment approach. The DRC approved the recommendation.

Questions included:

- 1) Who might be interested in purchasing recovered struvite?
- 2) Is there a potential for a positive return on recovery costs?
- 3) What is the City of Boise doing to control struvite?
- 4) Will a potential approach for the sidestream treatment be included in the PDB team proposals?

Biogas Resource Recovery Alternatives

Matt Gregg provided an update on the biogas resource recovery options, including 1) cogeneration with internal combustion engine, 2) biogas upgrade to renewable natural gas quality for injection into pipelines, and 3) biogas upgrade to compressed natural gas for use as vehicle fuel. Both of the biogas upgrade alternatives have the potential for generating revenue from selling the gas and the renewable identification numbers (RINs). However, the market for RINs is complex and fluctuates based on federal policy. The DRC requested that more information on RINs be provided at the next DRC meeting in order to inform the DRC's decision.

Questions included:

- 1) What is IdahoPower's opinion/plan with regard to the cogeneration option?
- 2) RINs seem important but complex. Is there a market for them? How are they bought or sold?
- 3) Why has the value of RINs gone down?
- 4) Is there a chance that the bottom will fall out of the RIN market?
- 5) Is there a risk of market saturation?
- 6) How does biogas and the air quality permit correlate?

Solar Production Potential Overview

Matt Gregg provided an overview on the number of available options for generating solar power. Based on operational considerations specific to the plant, such as available space for solar panels, solar energy peak days and seasonality, and maintenance costs, it was determined that solar production is not currently a viable, cost effective option for the WWTP.

Next Steps

The next DRC meeting will be Thursday, December 19, 2019, from 7-9 a.m. at the Nampa Public Library.

Topics to discuss include:

- Procurement updates
- Design updates

DRC Meeting #11 – October 17, 2019
Responses to Questions

Recycled Water Permit Update

1) Have you heard any concerns expressed by the public with regard to the permit?

The City of Nampa Public Works Department has met with a variety of interest groups including the following organizations: Association of Idaho Cities, Idaho Conservation League, Boise River Enhancement Network, Trout Unlimited, the Concerned Citizens of Canyon County, and others. All have offered their support for the Recycled Water Permit. We are not aware of any major concerns about the permit.

2) Are there any potential impacts to the City of Nampa's water rights through implementation of this permit?

The 2012 Idaho State Legislature passed House Bill 608 stating, "a municipality... shall not be required to obtain a water right for the collection, treatment, storage or disposal of effluent from a publicly owned treatment works or other system for the collection of sewage or stormwater where such collection, treatment, storage or disposal, including land application is employed in response to state or federal regulatory requirements." The recycled water program is being enacted to respond to regulatory requirements in Indian Creek, thus the City has the right to use the recycled water.

Recycled Water Program Final Direction

1) Do the estimated savings account for inflation?

No, the stated savings of \$17M do not account for inflation.

2) What is the phosphorous limit in the previous permit?

The City is currently operating under NPDES Permit ID0022063 effective from November 1, 2016 to October 31, 2021. The phosphorus limit in this permit is a requirement to report influent and effluent phosphorus levels. Effluent phosphorus from May to September has a limit of 15 lb/day and 52.6 lb/day from October to April. This equates to a summer concentration of 0.1 mg/L and a winter concentration of 0.35 mg/L.

Due to the strict nature of these permit limits, interim seasonal phosphorus limits were permitted into the permit. The Nampa WWTP is required to report phosphorus effluent levels for the duration of the permit but is not required to meet the limits until the interim limits take effect in 2020. Summer limits will take effect on May 1, 2020 and be effective until the final limit, specified above, is achieved. The interim summer average monthly phosphorus limit is 75 lb/day, a concentration of 0.50 mg/L. Winter limits will take effect October 1, 2020 until the final limit, specified above is achieved. The interim winter seasonal average phosphorus limit is 225 lb/day, 1.5 mg/L.

Sidestream Treatment Update

1) Who might be interested in purchasing recovered struvite?

Recovered struvite could be purchased by a third-party. In many cases the equipment supplier also serves as the buyer for produced struvite, which is then sold for fertilizer production.

2) Is there the potential for a positive return on recovery costs?

During basis of design, the Technical Team concluded that recovering struvite did not demonstrate a positive return on investment.

3) What is the City of Boise doing to control struvite?

The City of Boise addresses struvite different ways at its two treatment plants. The West Boise Water Renewal Facility addresses struvite through a Pearl FX (previously Multiform) harvest system. Struvite is recovered and sold back to the technology provider (Ostara) who handles the product as a kind of third party broker. The Lander St. Water Renewal Facility addresses struvite through chemical mitigation.

4) Will a potential approach for the sidestream treatment be included in the PDB team proposals?

Yes, it is anticipated that the approach for sidestream treatment will be a consideration in the PDB team proposals.

Biogas Resource Recovery Alternatives

1) What is Idaho Power's opinion/plan with regard to the cogeneration option?

Idaho Power reviews and approves cogeneration projects. They have an existing framework for this process that the Nampa WWTP would be required to adhere to. There are several Idaho Power tariffs that apply to a cogeneration project. Idaho Power will require Nampa to comply with these tariffs.

2) RINs seem important but complex. Is there a market for them? How are they bought or sold?

RINs exist as part of the Renewable Fuel Standard (RFS) Program which established a market for RINs. The Renewable Fuel Standard (Energy Policy Act of 2005; Energy Security and Independence Act of 2007) established Obligated Parties which are required to purchase RINs. Obligated Parties include refineries and fuel importers that are required to blend renewable fuels into the US fuel supply.

3) Why has the value of RINs gone down?

The value of RINs has gone down because there is less demand. Demand for RINs is tied to federal policy from the Environmental Protection Agency (EPA). The EPA mandates certain companies and industries acquire RINs. The current administration has minimized the types of companies and industries that are required to purchase RINs resulting in a decreased demand.

4) Is there a chance that the bottom will fall out of the RIN market?

The RIN market is heavily tied to public policy. Depending on what entities are defined as Obligated Parties and how many entities produce RINs, the cost is variable.

5) Is there a risk of market saturation?

Supply and demand are the traditional drivers of a market economy. RINs exist in a market economy that contain a third factor- the concept of Obligated Parties. Obligated Parties contribute to a steady demand for RINs. There is a possibility of market saturation but it is dependent on the demand pressure from Obligated Parties and the policy that affect what entities are classified as such.

6) How does biogas and the air quality permit correlate?

Any point source for emissions, such as a cogeneration engine's exhaust stack, or the thermal oxidizer for the RNG/CNG upgrade, would require an air permit or would need to be added to the existing plant wide air permit.