



City of Nampa

Wastewater Treatment and Disposal Upgrade

Industry Working Group

Meeting #2 Summary

February 9, 2011 ♦ 10 a.m. – 12 p.m.
Nampa Civic Center ♦ Home Federal Room
311 3rd Street South
Nampa, Idaho 83651



**Nampa Wastewater Industry Working Group
Meeting #2 Summary
Feb. 9, 2011**

Overview

The City of Nampa must implement an extensive program to upgrade its treatment and disposal of wastewater in order to meet the upcoming National Pollutant Discharge Elimination System (NPDES) permit.

City leadership recognizes the significant role industries have in the community and values their input in the decision-making process. Industry representatives were invited to participate in an Industry Working Group to provide input on upgrading Nampa's wastewater treatment and disposal system. Over the next several months, the Industry Working Group will:

- Develop an open exchange of information, ideas and technical data between industries and the City.
- Present industries' perspectives to ensure a full range of wastewater treatment and disposal options are discussed.
- Provide input to the City of Nampa about upgrading wastewater treatment and disposal facilities.

Meeting Agenda and Format

The City of Nampa hosted the second Industry Working Group meeting on Wednesday, February 9, 2011 at the Nampa Civic Center.

The meeting objectives were to:

- Provide a regulatory update.
- Review Nampa's wastewater treatment and disposal program options.
- Reviewing funding options.

Agenda:

- Welcome and thank you – Michael Fuss, Director of Public Works, City of Nampa
- Working group business – Rosemary Curtin, Facilitator, RBCI
- Regulatory update – Michael Fuss and Craig Anderson, Principal Engineer, Murray, Smith & Associates (MSA)
- Selection Criteria – Michael Fuss and Rosemary Curtin
- Treatment and disposal options – Craig Anderson (MSA) and Rick Bishop (CH2M Hill)
- Schedule and funding – Michael Fuss and Terry White, Attorney, White Peterson
- Next steps – Rosemary Curtin

The following handouts were provided:

- Agenda for Industry Working Group Meeting #2
- Comment sheet
- PowerPoint presentation
- Background information and an overview of the wastewater treatment analysis
- Alternative Detail Sheets - a general overview, a process flow diagram and preliminary life-cycle costs for each remaining alternative under consideration.

Meeting Attendees

Representatives from the largest industries in Nampa were invited to participate in the Industry Working Group. Eleven industry representatives attended the meeting.

- BHS Marketing – John Wiemer
- Boise Packaging and Newsprint – Steve Henke
- Great American Appetizer – Tim Healy
- JR Simplot Company – Burl Ackermann
- JR Simplot Company – Noel Wing
- Micron – Shane Brown
- Pepsi Bottling Ventures – Ted Comstock
- Plexus – Bill Blackburn
- Plexus – Kelli Ullman
- TASC0 (Amalgamated Sugar) – Bob Braun
- TASC0 (Amalgamated Sugar) – Glen Patrick

Staff

- Michael Fuss, Nampa Public Works
- Terry White, City Attorney
- Greg Pearce, Nampa Wastewater Superintendent
- Andy Tiller, Nampa Wastewater Division
- Craig Anderson, MSA
- Rick Bishop, CH2M Hill
- Larry Bennett, Bennett Engineering
- Rosemary Curtin, RBCI
- Kate Nice, RBCI

Summary of Presentations

Welcome and thank you – Michael Fuss, Director of Public Works, City of Nampa

Michael Fuss welcomed and thanked the Industry Working Group members for attending the meeting. He acknowledged everyone's busy schedules and appreciated all of the members attending. Michael introduced all of the staff members present.

Working group business – Rosemary Curtin, Facilitator, RBCI

- Rosemary asked each member to take a moment and introduce themselves. She reviewed all of the meeting handouts and explained that the meeting is being tape-recorded. The recording helps the process of developing the meeting summary.
- Rosemary asked members to find their comments sheets and to fill them out throughout the meeting. It is very important to the group process that member's comments are received and addressed. The comment sheet helps manage this process.
- Before turning the meeting back to Michael, Rosemary reminded the group that Nampa is also educating and involving the community in the wastewater upgrade decision. She discussed the results of the first community survey. There were a total of 90 returned surveys. The next community survey will be sent out shortly after this meeting.

Regulatory update – Michael Fuss and Craig Anderson, Principal Engineer, Murray, Smith & Associates

Michael Fuss presented the following information:

- Nampa's NPDES permit expired six plus years ago. We anticipate a draft of Nampa's next NPDES permit on Jan. 1, 2013. Nampa is watching this date closely and is trying to be out in front of when this permit comes.

Question: When will the other facility permits come in the valley?

The City of Boise is expecting their permit in the next couple of months. The Boise permit will be a key indicator to what Nampa can expect. The permit is an internal draft between DEQ, EPA and City of Boise. We are working with Boise City on a regular basis.

Question: When you find out what is in the permit, will you pass that on?

Yes. This is why we are here today to let you know what we are looking at.

Michael Fuss turned it over to Craig Anderson. Craig presented the following information:

- There are two key issues that we know will be coming with the permit.
 1. **Phosphorus**
 - There was an implementation plan for the Lower Boise River to get to a 0.2 mg/L. That is no longer a viable option and the baseline we are now looking at is 0.07 mg/L for the irrigation season only.
 2. **Temperature**
 - We know temperature will be in the next permit. We have worked collaboratively with DEQ and XL Beef. At this point, temperature should not impact our approach in selecting a preferred alternative.

Craig discussed the following information on phosphorus trading:

- City of Boise is in the process of discussing trading with EPA. With phosphorus trading it is possible to avoid having to reduce phosphorus levels at the WWTP all the way down to <0.07 mg/l provided an alternate means of removing phosphorus from the watershed is completed. These discussions are still ongoing and EPA is considering trading as a viable option.

Craig discussed the following information on infiltration:

- Another option the city is looking into is infiltration. If a surface water discharge option is chosen, EPA will issue the permit. If a land discharge option is chosen, the DEQ will issue the permit. The surface water discharge option essentially will require treating for phosphorus, and the land discharge option will require treating for nitrogen.
- There have been preliminary discussions with DEQ on the land discharge option using direct and rapid infiltration. DEQ is open to a pre-application from the city; this is a multiple meeting process to determine if it will work before the city invests too much money.

Craig discussed the following information about temperature. (*Slide 5*)

- Per the State's water quality standards, during the summer Indian Creek is to maintain an average temperature of 19°C with no more than a 0.3°C rise due to a WWTP discharge. In addition, if the temperature is less than 19°C, the WWTP is not to increase the temperature by more than 1°C. DEQ has not historically enforced this 1°C provision, and are not likely to pursue it in the future. However, EPA could apply this provision in NPDES permits since it is a state statute.
- The worst case for temperature and the KW hours of energy per year to meet a 19°C and delta 1°C was calculated. The slide shows there is an enormous amount of cooling that would need to take place.
- At present, collaborative work with DEQ has resulted in the target average temperature in Indian Creek increasing up to 2°C.
- DEQ will likely remove the 1°C temperature rise limitation from their regulation after the legislative session ends this year.
- With an increase in the target average temperature and the removal of the 1°C rule, a significant reduction in the cooling requirements is likely.

Selection Criteria – Michael Fuss and Rosemary Curtin

- Michael asked group members to help identify the criteria that Nampa should use to evaluate options. The criteria are fundamental to determining which option is best for Nampa. Rosemary pulled together a list of possible criteria from the technical team. There is a list of eight possible criteria identified on your comment sheet. Rosemary asked members to review the list, add any that are missing and then rank the criteria.
- Craig explained that the project team would bring back a refined list of selection criteria at the next meeting. We will be asking the public to provide input on the criteria in the next community survey.

- Rosemary also took a minute and reviewed the results from the first survey. The following were important to the public.
 1. Upgrades should easily accommodate future conditions or requirements.
 2. Upgrades should ensure that water discharged from the treatment plant into Indian Creek is the highest quality.
 3. Upgrades should maintain the treatment plant's current level of minimal noise, odor and traffic in and out of the facility.
- Rosemary also stated a question on the survey asked what would be more important: cost or quality. The majority of participants indicated the quality was more important than cost.

Treatment and disposal options – Craig Anderson (MSA) and Rick Bishop (CH2M Hill)

- Craig discussed the alternative tree. The alternative tree organizes the treatment alternatives first by the discharge options (land or water), and then by the various *treatment level* and *treatment types*. The alternative tree was developed initially to include all treatment alternatives that were evaluated in the Facility Plan Update and subsequent studies. For simplicity, the version distributed does not show previous alternatives that were considered not feasible.
- Craig discussed whether or not there is a mutual benefit for industrial pretreatment. When looking at this option, which industrial customer does Nampa pick to do pretreatment? Instead of picking one industrial customer, for academic analysis it was assumed that all flow that comes into the plant is at residential strength.
- The city has narrowed the alternatives in the tree down to four basic options: two land and two water. (Slide 22)
 - Land discharge options include: Class A direct infiltration or Class C rapid infiltration
 - Surface water discharge options include: Treat all the way to what EPA wants or treat and trade.

Question: Did you factor in the cost of the industrial pretreatment option?

No, similar to trading we didn't try to figure out the cost of the industrial pretreatment but what the cost would be to the city if waste was pretreated.

Question: Trade with whom? What does that mean?

Trade can mean a number of things. The City of Boise is looking at the Dixie Drain and building a facility for an agricultural drain and treat the phosphorus coming in and out. EPA doesn't want a pound for pound trade. They want to show a net decrease in phosphorus. This is still not determined.

- Larry Bennett with Bennett Engineering asked the group members if they are comfortable with what has been done so far and if there were any initial comments from the group.

- Burl Ackerman with Simplot stated, from their side they are going to look into industrial pretreatment. He explained industrial pretreatment still could benefit them and could also be a cost share benefit for Nampa.
- Craig explained that pretreatment would have an impact on the cost analysis.
- Michael expressed to the group the reason for these meetings are to keep the communication open. Every company will make their own decisions on their economic needs. If you plan to do pretreatment the city would appreciate you letting us know.
- Michael explained we are looking at a long-range process and designing for 26 mgd and then we will work backwards.

Question: Looking at the build out population of 279,500, are we looking at the cost options at that level?

Everyone in the valley has already made decisions on their wastewater facilities. Nampa is behind every community in the valley. City of Nampa has not made that decision at this point. If Nampa chooses land, we treat nitrogen and if the option is water we treat for phosphorus. At this point we need to make the ultimate decision (based on this build-out population number) and cost out initial phases before more exact costs can be generated.

Question: One of the options that I am still aware of that has been looked at is low phosphorus detergent. Have you looked at that at all?

It has been looked at but removing all the soap will not even come close to removing all the phosphorus. In fact, the phosphorus that it will remove is unfortunately the phosphorus that is easiest to remove.

Question: Do we think there are projects out there to get enough to trade?

Yes. The Dixie Drain and several others show a lot of promise. The bigger question is if EPA will allow trading in a way that still allows it to be economically feasible.

Question: Are there any limitations on where you can trade? Does it have to be in the Boise water basin or the Snake River Basin?

This is a difficult issue because the Boise River is considered impaired. The city of Nampa could do something on the Mason drain. The rules are not 100% defined. The actual details are not in writing. I am not sure if the Snake River is not an option. I don't think it is. We will probably have to submit something get feedback and resubmit, etc.

- The city of Kuna did get a permit fairly quickly. They submitted a proposal to treat to 0.07 mg/L for year around and received a permit. The city of Nampa is not taking that route and we want to look at all of the details and the long term. We have met with DEQ regularly. Nampa has yet to meet with EPA and we will not meet with them until we have something to show them. We have not looked at all of the trading options. It is on the schedule and I will go over that shortly.

- Rick discussed the design criteria (slide 23) used to make sure all of the alternatives started with a common platform. The wastewater facilities plan was used as a basis to get started.
- Rick reviewed the cost estimates assumptions for each of the four alternatives. He discussed the best and worst case of each alternative. Each of the costs is broken out into capital costs, operating costs and then life-cycle costs.

Question: When you say ultimate you really don't have a time-frame?

It is based on the rate of growth and a demographic study the city conducted in 2007. All of the city's master plans are based off of the same demographic study. This is also based on the physical limitations of the site. There is only so much space you can have at a wastewater site.

- Rick stated the project team had defined each of the four alternatives in more depth since the first industry working group meeting. Rick discussed his alternative overview handout. The handout explains capital cost comparison criteria and life-cycle cost comparison criteria.
- Rick explained to group members that they received an e-mail with all of the alternative overview handouts. Each handout goes through the following alternatives:
 - 1a, 1 b, 1c, 1d
 - 2a, 2b, 2c, 2d
 - 3a, 3b, 3c
- With each alternative explanation there is a corresponding flow diagram. Rick stated that he will not go into the details of each alternative but would discuss each alternative in detail at the meeting on Feb. 17.
- Craig discussed the cost estimates. He explained that there is a lot of numbers and the intent is not to go into detail of all of these numbers. Each of the diagrams goes through the best and worst case scenarios.
- Craig discussed the costs of the two options for land and two options for water. (slides 24-32) He explained that the costs are very large and group members need to remember that these costs are for the "big decision" based on the 2007 demographic study and are not the costs of what is needed initially.

Question: Does this include the cost of trading?

It does not include trading cost.

Question: Will trade cost be more than \$5-10 million?

This is very rough. I talked to the City of Boise the other day and their present worth analysis is running \$150,000-200,000 per pound of phosphorus per day. I can't speak for their present worth analysis and the analysis may not be the same methodology as used for Nampa. It is hard to equate, but is likely roughly \$10 to \$20 million. That is also

at 1:1 phosphorus trading ratio. Please take these numbers with a grain of salt. This does appear to show potential. Both land and trade show a level of potential savings.

Question: On the water discharge of the \$77 million and \$140 million, is that just filters?

Yes. The filtration system is the big difference in the capital costs between the series “2” alternatives and the “1” alternatives.

- Craig discussed the difference of the series of alternatives:
 - 1 series is treat and trade
 - 2 series is treat to EPA <0.07
 - 3 series is both direct and rapid filtration

- Craig discussed analysis of the impact on the WWTP estimated improvements costs if all industrial users pretreated to residential levels (*slides 33-34*). Craig explained that this analysis only looked at biological phosphorus removal alternatives (2a and 1a) and does not include the costs for industry to pretreat to the residential levels. When treating down to TP<0.07mg/l at the WWTP, the cost difference is \$6 million and \$16 million on a capital and life cycle basis (seasonal TP limit assumed), respectively. Interestingly, if the City implements phosphorus trading and only has to treat down to TP<1 mg/l at the WWTP, the City savings from industrial pretreatment increases to \$12.5 million and \$24 million on a capital and life cycle basis, respectively.

- Craig explained the general trends. There is some potential with infiltration and trading for lower costs. Not only in capital but as well as overall life cycle. If we treat to <0.07 and it is our baseline, it is easy and we can start on the designs tomorrow. However, Nampa is looking into the future and either option (land or water) will take a level of investment. If we do nothing for a few years, there will be no time and ability to work with ratepayers.

- Industrial pretreatment has some cost benefit. We consider this benefit to be fairly marginal if the treatment plant is treating down to <0.07. There is an increased benefit with treat and trade. To be fair, we have not yet completed an estimate of the industrial pretreatment cost impact to the infiltration options. That is something we could do but it would probably take some input from the group to see how realistic that is.

Question: When I look at the first bullet and I look at the costs table, I don't see rapid infiltration.

The reason is, rapid infiltration is still being looked at and could change things. There is a potential federal grant through Bureau of Reclamation. Brown and Caldwell will help us with the grant. It has the potential to be less overall expensive if we get a significant grant. We need to continue to develop a proposal with the other least cost options.

Regulatory uncertainty is not addressed when you look at dollars. If we continue to pursue new alternatives, can we get a decision and get DEQ, EPA and the other agencies to agree with us and give us a permit. If we can't we have wasted a lot of time and effort. We are trying to get the right decision for the city of Nampa.

Schedule and funding – Michael Fuss and Terry White, Attorney, White Peterson

- Michael began the discussion on schedule (*slide 36*). One question you might ask yourself is: Why do I care today if we aren't seeing anything to happen in 2013. Our goal is to have the NPDES negotiation to start the first quarter of 2013.
- Every number you see is more money than the City has. By the end of this fiscal year, the city will have only \$2 million in the bank. Each of these options is about \$200 million over the 20-25 year schedule. That is roughly \$10 million each year.
- Once we make a decision on which option, Nampa will have to move on that option. By 2013, we will have roughly 5 years to implement. We know that <0.07 mg/L will be in our permit but we are not sure on the time line of when we will have to get to <0.07 mg/L.
- If we go to land discharge infiltration, we won't care what is in the permit because we will no longer have to work with EPA. I want to come up with the right and best decision for Nampa.
- In this process, we are going to have to raise rates. We need to decide if we take on debt. I have heard from a number of folks in this group that we should take on debt. It is not as easy to go to the bank and ask for \$100 million.
- There are two options regarding debt.
 1. **Go to a judge**
 - The city has to prove it is ordinary and necessary to take on debt. There is a new rule that you have to prove it is an emergency situation to take on this debt. This was an additional rule that was added about a year ago. The city does not believe this is an emergency situation since we have known several years in advance.
 2. **Go to the public for vote**
 - There are only two dates we can take this to the public. One is in May and the other is in November. We still have to prove the same thing to the public. We need to be able to convince the public to vote yes on raising their sewer bill. If we have a public vote we need to get 50% plus one.
 - If we have a public vote and we didn't get approval, then I am not exactly sure what we would do. We would be sitting in a situation where we cannot take on debt.
 - We can't go back to the judge and ask for the money. It takes roughly 200 days to get through a process of a vote. The soonest we could start would be 2012. You are well under way in 2013 and we would already be under the gun and we have spent all of our time chasing down debt.
- We are continuing to look at is how to finance the improvements using revenues from rates? Can we argue our permit over a long enough time where we can systematically make these improvements and do a levelized investment? We will need \$10 million per year. That is one question that has come up in this group. It is not as simple as working with a bank and getting money.

- We are hoping to make a decision by the end of the year and then work with the regulatory agencies to get it into our permit. We are going to have to develop our first project starting the third quarter in 2012 to begin in 2013.
- Terry White of White Peterson is the attorney for the City of Nampa. He handed out an article from a publication called the "Advocate." The article is an analysis of where we are in long-term debt financing. This will give you a basic understanding of what we are dealing with.
- Michael explained that we have explored all debt options. Last year the city went out for \$6 million in a LID public bond. That came in almost 6-7% interest, which is not a good rate. The rates are not favorable for public debt.
- Michael reiterated that we are not at the table too soon and that we might be a bit behind.

Question: Where are we in the process of determining the range of rate increases?

We have to reach the decision first. We can't determine the rates until we identify the first project. Hopefully we will know what the first project is in 150 plus days. Then we will have to do a cost service study.

Craig explained that the rate methodology has already been done and established. The hard part is determining what is the best alternative for Nampa and then what projects and when they will hit and looking at the cash flow.

Question: Projects will be at a different scale and slightly different mgd of service, correct?

This analysis will be part of the schedule (line 46). The WWTP capacity today is 18 mgd and we are planning for 26 mgd and that is not two to three times more, it is 50% more. I don't envision us building larger tanks. It will be more tanks.

- There seems to be a common first project, however the city still needs to make the decision between land discharge and surface water discharge. Since there may be federal money available, it is difficult to make a decision between discharge to land and discharge to surface water. We need to make a decision by the end of the year and stick with it.
- From an industry perspective, one of the industrial representatives stated that treat and trade is at the top the list. Infiltration is difficult to answer. If it is \$30 to \$40 million pot of federal grant money, then that option is still too expensive. As far as the decision between surface water discharge and land discharge, I agree that you are always better to have local control. However, what I have seen is that EPA is always over stepping their bounds. Michael expressed his appreciation for that information.

Next steps – Rosemary Curtin

- Rosemary reminded group members
 - Fill out their comment sheets.
 - Survey #2 will be coming out shortly.
 - If the meeting on Feb. 17 does not work for your schedules. Please mark that on your comment sheet and we will set up a separate meeting.

- Rosemary thanked everyone for their time.