

Response to Comments
Draft NPDES Permit No. ID-002206
City of Nampa, Idaho

Background: On June 17, 1998, EPA issued a notice of proposed reissuance of a National Pollutant Discharge Elimination System (NPDES) permit for the City of Nampa, Idaho. The facility is an activated sludge wastewater treatment plant, that discharges its effluent to Indian Creek. The public review and comment period for the draft NPDES permit expired on August 3, 1998. The June 17, 1998 notice also announced the reissuance of the NPDES permits for the City of Caldwell, City of Boise - Lander Street facility, City of Boise - West Boise facility, and ConAgra (Armour Fresh Meats). All of the facilities are located in the Lower Boise Watershed.

Comments regarding the proposed permit for the Nampa facility were received from the permittee, through a letter from Larry Bledsoe, Public Works Director dated July 29, 1998, and from the city of Boise, through a letter from Robbin Finch, Water Quality Manager, dated August 3, 1998. The following summarizes and responds to each comment raised by the cities.

Comments from the City of Nampa

1. **Comment:** The effluent biochemical oxygen demand (BOD) and total suspended solids (TSS) loadings in the draft permit are based on a plant design flow of 11.8 (million gallons per day) mgd. Based on growth projections for the City, this flow could be exceeded by the year 2010. The 20 year flow projection is 14.3 mgd. The wasteload allocation through the TMDL process should provide for a municipal load allocation which will accommodate future growth. If the proposed value could be subject to revision upward after the TMDL process the city would not be concerned. However, the city is concerned that once the effluent limits are in the permit any future increase would be difficult to receive. The City requests that the load allocation for BOD be increased to match the 20 year flow projections of 14.3 mgd.

Response: The BOD and TSS loading limits in the draft permit are technology based effluent limits. EPA regulations at 40 CFR 122.45.f. require the loading limits to be based on the design flow of the facility. Since the facility is currently designed for a flow of 11.8 mgd, the loading limits for BOD and TSS, in this permit, must be based on this flow.

In the future, if the facility is upgraded to a design flow of 14.3 mgd, EPA will develop the technology based loading limits based on this new design flow of the facility as required by 40 CFR 122.45.f. If a TMDL is completed and the City of Nampa is allocated specific loads for BOD and TSS, then these load allocations will be compared to the technology based loading limits. The permit limits, in the future draft permit, will reflect

whichever loading limits (technology based or TMDL load allocation) are more stringent.

2. Comment: The City requests that the maximum daily limit for fecal coliform bacteria either be eliminated or raised. Based on past plant performance the City expects six or more violations of the maximum daily limit each year. It will be increasingly more difficult to meet the new daily limit if we also have to meet the new lower chlorine residual limits.

Response: The State of Idaho water quality standards specifies criteria that are necessary to support the beneficial use classification of each water body. One of the beneficial uses of Indian Creek is secondary contact recreation. The maximum daily limit for fecal coliform bacteria is based on the state's water quality criteria deemed necessary to support secondary contact recreation. EPA regulations at 40 CFR §122.44(d)(1) require the development of water quality-based limits (WQBELs) designed to ensure that water quality standards are met, therefore, the maximum daily limit must be retained in the final permit.

3. Comment: The City provided the following comments on the total residual chlorine limitation:

- The City has maintained fecal coliform bacteria data upstream and downstream of the facility and believes the effluent improves the quality of the stream. The data collected show that fecal coliform bacteria concentrations upstream are higher than the facility's effluent. The chlorine residual should have the beneficial effect of lowering the fecal coliform bacteria concentrations in the stream.
- The City has never noticed an adverse stream impact and routinely find salmonid fish swimming in the outfall.
- The City requests that the effluent limit for chlorine in their current permit be retained, however, if the chlorine limits must be changed then the City requests that the chlorine limits be established as either a seasonal or flow related basis.
- The City requests that the limits be established within the parameters that can be accurately measured. Current measuring instruments can not accurately and consistently measure the specified chlorine residual.
- The city requested that the new limits not take effect until at least

90 days after the beginning of the City's new fiscal year (October 1).

Response: The State of Idaho water quality standards require Indian Creek to be protected for secondary contact recreation and for aquatic life use. The fecal coliform bacteria limits proposed in the draft permit are for the protection of secondary contact recreation, and the total chlorine residual limits proposed in the draft permit are for the protection of both short term and long term impacts to aquatic life.

The City believes that their effluent is improving the water quality in Indian Creek and therefore they should be able to continue to discharge chlorine at the present levels. The data supplied by the facility shows that approximately 65 percent of the time the fecal coliform bacteria concentrations downstream of the facility are lower than the fecal coliform bacteria concentrations upstream of the facility. The data also show that Indian Creek is not meeting the water quality criteria for fecal coliform bacteria either upstream or downstream of the facility. As seen from the data, even though the facility is discharging high amounts of chlorine the fecal coliform bacteria concentration in Indian Creek still exceeds the State's standard. Having the facility discharge high amounts of chlorine into Indian Creek compounds problems already existing in Indian Creek by adding yet another pollutant that exceeds the state's water quality criterion.

In order to address the fecal coliform bacteria problem in Indian Creek, the creek must be listed as water quality limited for fecal coliform bacteria. Under the CWA, states are required to develop Total Maximum Daily Load (TMDL) management plans for water bodies determined to be water quality limited. A TMDL will determine the assimilative capacity of the water body and will allocate the fecal coliform bacteria load capacity to known point sources and non-point sources. The information supplied by the facility has been forwarded to the EPA Water Quality Unit and to the Idaho Division of Environmental Quality (IDEQ). It will be used in the future to list the creek as water quality limited for fecal coliform bacteria.

The City also stated that they have not noticed an adverse impact on aquatic life and routinely find salmonid fish swimming near the outfall. Impacts to fisheries cannot be assessed without comparing present populations to baseline populations (populations where it is known that fisheries have not been impacted by anthropogenic causes). Since there is no available information on baseline populations, the City's comment cannot be used to conclude that no adverse impacts have occurred. For the reasons stated above the water quality based effluent limits for chlorine

must be retained in the final permit.

The City also requested that if water quality based chlorine limits must be retained in the permit, then the limits should be based on either seasonal flow rates or actual instream flow rates. EPA has determined that the seasonal low flow values differ by only 2 cfs in Indian Creek, and therefore the limits would not change between seasons. The final permit contains effluent limits based on various instream flow rates. The limits are as follows:

TABLE 1: Total Residual Chlorine

Flow Tier	Maximum Daily Limit	Average Monthly Limit
0 cfs - <16 cfs	11.0 µg/L	8.6 µg/L
16cfs - <37cfs	13.4 µg/L	10.5 µg/L
37 cfs - <71 cfs	16.8 µg/L	13.1 µg/L
>71cfs	21.8 µg/L	17.1 µg/L

In addition, the City requested that the chlorine limits be established within parameters that can be accurately measured. EPA agrees that the water quality based effluent limits for chlorine fall below the level at which chlorine can be accurately quantified using EPA analytical test methods. The inability to measure to the necessary level of detection is addressed by establishing the Minimum Level¹ (ML) as the compliance evaluation level for use in reporting Discharge Monitoring Report (DMR) data. Effluent discharges at or below the ML would be considered in compliance with the water quality based effluent limits.

In the draft permit, EPA proposed using an ML of 20 µg/L. However, in a 1997 federal register notice (*Guidelines Establishing Test Procedures for analysis and Pollutants and National Primary Drinking Water Regulations*, March 28, 1997) EPA published an ML of 100 µg/L for chlorine. This ML value will be used to determine compliance with the chlorine effluent limitation.

Finally, the City requested that the chlorine limits not become effective

¹ Minimum Level - the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed.

until January 1, 1999. Since the NPDES permit will not be effective prior to January 1, 1999, the City's request is moot.

4. Comment: Based on the outcome of the TMDL process and the requirements of the NPDES permit there may be an opportunity for the City of Nampa to participate in pollution trading. The City requests that language be added to the permit which would allow the pollution loads to be adjusted to reflect the results of a pollution trade approved by IDEQ/EPA.

Response: This language is already in the permit (see Section IV.Q.2).

5. Comment: The City requests that language be added to the permit which would allow changes in the permit if the discharge location were changed.

Response: The final permit allows the facility to discharge effluent only from the outfall located at latitude 43° 35' 50" and longitude 116° 34' 52". The NPDES regulations at 40 CFR 122.62 allow a facility to request a modification of their permit if there are material and substantial alterations or additions to the permitted facility which occurred after permit issuance and which justify the application of permit conditions that are different or absent from the existing permit. Since the permittee already has the legal right to request a modification of their permit, a reopener clause does not need to be included in the permit.

6. Comment: The City stated that a permanent gauging station would cost \$ 30,000 to build and \$10,000 per year to operate, the City does not believe that it is necessary to continuously monitor the flow of Indian Creek, and that monthly monitoring may be adequate. The City requests that the requirement for continuous monitoring be changed to monthly monitoring.

Response: EPA has reviewed the existing flow data for Indian Creek and believes the data base is sufficient for determining various low flow conditions that can be expected to occur in the creek, therefore, continuous monitoring of the creek is not necessary. However, the City has also requested that effluent limits for chlorine and ammonia be flow based (see comment # 3 and # 7). In order to incorporate flow based effluent limitations into the permit weekly monitoring of Indian Creek is required. The final permit has been revised to require weekly monitoring of Indian Creek.

7. Comment: The City provided the following comments on the ammonia limits in the draft permit:

- Data collected by the City shows that the effluent lowers the

ammonia concentration in the creek.

- The staff often observes salmonid fish swimming near the outfall.
- The City request that the existing ammonia limit not be changed until it is determined that the current levels are having a significant effect on water quality.
- The ammonia limits were based on low flow conditions. Low flows occur during the winter. During the irrigation season the flows are substantially higher. The amount of ammonia should be allowed to be greater during the major portions of the year when the flows are much higher. The City requests that the ammonia limit be established as either a seasonal or flow related limit.

Response: The facility stated that the effluent they are discharging lowers the concentrations of ammonia in Indian Creek, and that the effluent limits in the current permit should be retained until it is shown that the current levels are affecting water quality. The facility has submitted chemical data which shows that, generally, the downstream concentration of ammonia is less than the upstream concentration. The data supports the facility's position that the effluent generally lowers the concentration of ammonia in Indian Creek. However, the data does not support the facility's position that the permit should retain the effluent limits from the facility's current permit until it is shown that the current levels of ammonia are affecting water quality.

A review of the effluent ammonia data shows that the facility has been discharging ammonia at concentrations significantly below the limits allowed in their current permit. In fact, the concentrations of ammonia being discharged by the facility are less than the limits proposed by EPA in the draft permit. If the facility did discharge ammonia at the concentrations allowed in their current permit, the levels of ammonia downstream of the facility would significantly increase above the upstream ambient concentrations. Therefore, the ammonia data supplied by the facility does not support the facility's request to retain the ammonia limits from the current permit.

Additionally, the effluent limits for ammonia in the current permit allow the facility to discharge levels of ammonia that exceed the water quality criteria that the State of Idaho has deemed necessary to protect aquatic life. Since, federal regulations at 40 CFR 122.44 require EPA to include limitations for any pollutant that may cause or contribute to an excursion of the state water quality standard, it is not possible to retain the ammonia limits from

the City's current permit.

Finally, the City requested that the effluent limits be based on either seasonal flow or instream flow rates. Seasonal low flow conditions are very similar and the difference in effluent limits would be minuscule, therefore the effluent limits in the final permit are based on the receiving water flow rates.

8. Comment: The permit requires a number of new tests to be performed. The additional testing will cost the City over \$24,800.00 annually. It is highly unlikely that the quality of the effluent will change as it relates to the metals over a two year period. The City requests that the new testing be for a 12 month period unless a parameter is found which may cause a water quality problem and then the testing for the parameter could be extended for another year. The City also requested that the ambient testing for metals only be for a 12 month period and if after one year there is a reasonable potential of a problem, the second year of testing could be performed.

Response: EPA realizes that monitoring is costly to the facility. However, it is important to note that the more effluent data that is available the greater the certainty there is in characterizing the maximum projected effluent concentration. This is important because the maximum projected effluent concentration, after consideration of dilution, is compared to the water quality criterion to determine the potential for exceeding that criterion. If the criterion is exceeded then a water quality based effluent limit must be incorporated into the permit. The more accurately the maximum projected effluent concentration can be defined the more accurate a determination can be made as to whether or not a water quality based effluent limit is required for the effluent discharge.

EPA has reviewed the monitoring frequency and the duration of the monitoring program, and believes that 18 monthly sampling events will be adequate to characterize the effluent and the receiving stream with a sufficient degree of certainty. The final permit reflects this revision.

9. Comment: The City is aware that there has been a recent court settlement with EPA in regards to WET testing and a compliance schedule has been set which will bring about changes in the test procedure. The City requests that the WET test be eliminated from the permit until EPA has taken the actions established by the settlement document.

Response: The final settlement agreement stays any litigation until the completion of proposed studies. Therefore, the promulgated methods remain in place and

EPA must use them in permits. The conditions proposed in the draft permits (i.e., WET monitoring) are not affected by the WESTCAS settlement.

10. Comment: Many requirements in the permit start 90 days after permit issuance. It will be difficult for the City to accomplish all the requirements in the time frame allotted because many of the requirements have not been budgeted for. The City requests that the permit be revised to require compliance to start 180 days after the issuance of the permit.

Response: The final permit has been revised to require the facility to submit the Quality Assurance Plan to EPA 90 days after the permit is effective. The ambient and effluent monitoring requirements for metals and nutrients will be required to start 150 days after the permit becomes effective.

11. Comment: The City has recently completed a revision of their pretreatment ordinance, and it has been reviewed by EPA. The City requests that the requirement to reevaluate the pretreatment ordinance be deleted from the permit.

Response: This requirement has been deleted from the final permit.

12. Comment: The City has not had a history of cyanide testing in its effluent. The City requests that the cyanide testing be for a 24 month period only unless problems are found.

Response: The draft permit required influent and effluent cyanide testing requirements. These requirements are identical to the influent and effluent cyanide testing requirements in the City's current permit. Additionally, EPA cannot eliminate the cyanide testing since the data is needed to evaluate the adequacy of the City's cyanide local limit.

13. Comment: The requirement that the Nampa facility not send any municipal solid waste to a solid waste landfill is a decision that should be made locally. In the event that the City's sludge became contaminated with something that precluded its disposal on the land or if there is a major digester failure the City would like the option of taking their sludge to a municipal solid waste landfill. The City requests that the requirement to not send any sludge to the landfill be changed to prohibit the landfill as being the primary method of disposal.

Response: EPA agrees with the City, the final permit has been revised to allow the facility to dispose of their sludge at a municipal solid waste landfill. Additionally, the City has submitted a revised sludge application that

provides information on the municipal solid waste landfill where they will place their sludge.

14. Comment: The requirement that the City not receive any biosolids from other facilities is something that should be determined locally. There are times when other facilities may be experiencing an operational problem and the City has additional capacity and can help them out. The City requests that the prohibition against receiving waste from other facilities be modified to allow for special circumstances approved by IDEQ.

Response: The final permit has been revised to allow the facility to accept biosolids from other facilities, and the permit language for transferring sludge to another facility has been clarified. Additionally, the City has submitted a revised sludge application that provides information on transfer of sludge.

15. Comment: The City stated that paragraphs 8 and 9 of the “Sludge Management Requirements” are not consistent with the 503 sludge regulations. The City believes that the 180 day notification requirement for new biosolids land application sites is unreasonable. If the City loses the use of a land application site, a substitute site would need to be found quickly. The City requests that the notification process for sludge land application sites be negotiated between IDEQ and the City and that paragraphs 8 and 9 be deleted from the final permit.

Response: In the draft permit, paragraph 9 of the “Sludge Management Requirements” required the City to request a modification of their permit if they wanted to distribute biosolids to a land application site not listed in the NPDES permit. After receiving the above comment from the City, EPA requested the City to provide additional information on land application of biosolids to new sites. The City provided the information on December 17, 1998, therefore, the final permit has been revised to allow the application of biosolids to new land application sites during the term of the permit.

Paragraph 8 of the “Sludge Management Requirements” allows distribution of Class B biosolids in crop trials of two acres or less. This activity was authorized provided the permittee notified EPA, the Idaho DEQ, and the office of Natural Resources Conservation of the U.S. Department of Agriculture. EPA believes the notification requirements can be completed in a very short time frame and are not burdensome to the permittee. This requirement will remain in the final permit.

16. Comment: The City provided the following comments on the Quality Assurance Plan (QAP):

- The City does not want to develop a plan to meet some regulation, and instead would like EPA to develop a form that the city can fill out.
- The City believes Region 10 has a history of not approving quality assurance plans. Additionally, the City does not believe that the new monitoring requirements should begin until the plan is approved.
- The City requests that the information on the laboratory being used by the facility be deleted from the quality assurance plan requirements.
- The City request to know if they change labs do they need to get approval on a new plan.

Response: The purpose of a quality assurance plan is to ensure that the quality of the final product meets the standards set and that there is confidence in the final product and data to support it. A good quality assurance program ensures that all procedures, data and decisions are well documented and that the documented procedures are followed. To that end, EPA has listed a number of reference documents that the City of Nampa can use to facilitate plan development.

Developing a quality assurance plan is a facility specific activity and cannot be developed using a generic form. For example, the QAP should address who is responsible for various aspects of the project, laboratory specific arrangements, specific field activities, rationale for sampling locations, numbers of samples, frequency of samples, and analytical methods that will be used. The QAP is the document that tells EPA how the facility has committed to operate.

It is the City's responsibility to provide quality data, therefore, the requirement that EPA review and approve the document has been removed from the final permit. The final permit requires the facility to submit the QAP to EPA. EPA may take the opportunity to provide input to the City, if it seems appropriate. However, the City does not need to seek or await EPA approval.

The requirement to provide the name(s), address(es) and telephone number(s) of the laboratories used by or proposed to be used by the permittee is not an overly burdensome requirement and has been retained in the final permit. If the facility changes laboratories, the QAP should be updated to reflect the change, and to reflect any laboratory specific arrangements that may be required.

17. Comment: The design criteria listed on page 16 need to be changed. The influent BOD should be 42,800 lbs/day and the influent TSS should be 31,500 lbs/day.
- Response: The final permit has been revised to reflect the appropriate BOD and TSS loadings.
18. Comment: The requirement on page 16 of the draft permit, which requires the permittee to complete a moving average of influent loads on a monthly basis will be a paper keeping headache. The City requests that the requirement to calculate the running 12 month average on influent loads be changed from a monthly requirement to an annual requirement.
- Response: This requirement has been incorporated into many NPDES permits for municipal wastewater treatment plants and has not proved to be an overly burdensome exercise. The requirement has been retained in the final permit.
19. Comment: In the definition section of the permit the reference to agronomic rates for phosphorus should be eliminated.
- Response: The definition in the final permit has been corrected.
20. Comment: The City is concerned with the ramifications of paragraph A under “General Requirements” (section IV of the draft permit) which could be interpreted to require notice to, and possible approval from, EPA for any major new commercial or industrial discharger. This requirement could interfere with the City’s economic activities. The City has a close working relationship with its industrial users, and on occasion the users will request temporary load variances. It seems unnecessary to notify and seek EPA approval for these variance requests. The City requests that the section on notification of change in flow characteristics be deleted or at a minimum exclude the conventional pollutants (BOD, TSS, flow and ammonia) from the “adequate notice” requirement.
- Response: The permit language in paragraph A, section IV of the draft permit only requires notice, so that EPA, as pretreatment approval authority, can be made aware of significant changes to the system as well as the existence and location of categorical users subject to federal requirements. EPA approval is not required, so there should be no hindrance or delay to actions the City needs to take in order to respond to needs of its constituents. EPA may take the opportunity to provide input to the City, if it seems appropriate. However, the City does not need to seek or await

EPA approval for such actions. Please note that the notification requirement is for significant change in the volume or quality of pollutants. By necessity, this will be the City's judgment call on what is significant.

21. Comment: The City is concerned that much of the extra monitoring will become a permanent requirement if the permit becomes administratively extended. Based on the future TMDL the City may have a seasonal nutrient limit. The City requests that a sunset clause be placed on nutrient monitoring during the irrigation period if it is determined through the TMDL that we do not have a nutrient load allocation during that period.

Response: The permit restricts nutrient monitoring to a specific time period. Administratively extending the permit can not extend the monitoring requirement beyond the time period stated in the final permit.

22. Comment: Currently the monitoring results are required to be reported by the 10th of the following month. The City performs a BOD test that cannot be read for 5 days after the test is set up. The results are not known until the 6th day, due to holidays and staff working schedules there is not always adequate time to get the results to EPA by the 10th. The City requests that the reporting deadline be changed to the 20th of the following month.

Response: The final permit has been revised to require monitoring results to be submitted by the 20th of the following month.

Comments from the City of Boise

1. Comment: The City of Boise (hereafter referred to as Boise) is concerned that the metals data submitted by the City of Nampa (hereafter referred to as Nampa) are not reliable because data collection and sampling methods used by Nampa do not appear to comply with clean sampling and analysis guidance. Boise believes EPA should not use unreliable data to perform a reasonable potential calculation. The City recommends that the permit be revised to include monitoring conditions that provide for quality data (clean, grabs only until adequate composite techniques are developed), the appropriate form (dissolved), and number.

Response: While Boise has expressed concerns about the quality of effluent data from the Nampa facility they did not provide any technical information to support their assumption, hence, the comment cannot be evaluated. Therefore, EPA considers the data provided by Nampa as accurate.

Boise also requested that the final permit be revised to require the facility

to collect clean samples. Since no information was presented to establish that the data submitted by Nampa was contaminated, EPA will not make clean sampling a permit requirement. However, the permittee is responsible for collecting and reporting quality data on their discharge monitoring reports. The key to producing accurate quality data is to develop a good quality assurance plan (QAP), to that end, the final permit requires the permittee to develop a QAP. Additionally, EPA has developed protocols for sampling metals at trace levels. These protocols will be referenced in the final permit under the QAP requirement.

Additionally, Boise requested that only grab samples be collected until adequate composite sampling techniques are developed. EPA has developed procedures for the collection of trace metals samples with a composite sampler, therefore, the final permit retains the requirement to collect 24-hour composite samples for metals. The procedures for collecting 24-hour composite samples will be referenced in the QAP section of the permit.

Finally, Boise suggested that the monitoring conditions in the permit should require the analysis of dissolved metals. The draft permit required ambient and effluent metals monitoring to determine if, in the future, metals concentrations in the effluent would need to be regulated in order to protect aquatic life. For the protection of aquatic life the instream criterion for most metals is expressed as the dissolved form of the metal. In the draft permit EPA required metals to be measured as dissolved in the upstream receiving water, and as total recoverable in the effluent. EPA is requiring the effluent to be measured as total recoverable because the chemical conditions in ambient waters frequently differ substantially from those in the effluent, and there is no assurance that effluent particulate metal would not dissolve after discharge into the receiving water. This is important because by measuring only dissolved metals in the effluent you may be greatly underestimating the amount of dissolved metal actually being contributed to the creek by the effluent.

A metal specific “translator” can be used to account for the amount of particulate metal in the effluent that may dissolve after mixing with the ambient water. The translator would be multiplied by the total recoverable metal concentration in the effluent to determine the total amount of dissolved metal that will be contributed to the receiving water by the effluent. In future reasonable potential calculations EPA can use a translator if one is provided by the IDEQ (in the absence of a metal specific translator EPA will use a default translator of 1÷(conversion factor used for converting total recoverable criteria to dissolved criteria)).

2. Comment: Boise stated that Region 10 should use both chemical and biological tests of sufficient quality to decide whether to regulate an effluent for metals.

Response: To protect aquatic habitats EPA recommends that water quality based toxics control programs integrate chemical specific, whole effluent toxicity, and bioassessment approaches. Since each approach has unique as well as overlapping attributes, sensitivities, and program applications, no single approach for detecting impacts should be considered uniformly superior to any other approach. For example, the inability to detect receiving water impacts using a biosurvey alone is insufficient evidence to waive or relax a permit limit established using either of the other approaches. The most protective results from each assessment conducted should be used in the effluent characterization process. It is EPA's position that the results of one assessment technique should not be used to contradict or overrule the results of the other(s).

3. Comment: Boise stated that preliminary water effects ratios (WERs) for lead and copper have been conducted in the Lower Boise watershed, and that (WERs) should be used in determining whether to regulate an effluent for metals.

Response: WERs compare the bioavailability and toxicity of a specific pollutant in receiving waters and in laboratory test waters. A WER is a site specific criterion which reflects local environmental conditions. When developing a site specific criterion the boundaries of the site, where the WER will apply, must be established. Since the rationales for developing site specific criteria are usually based on potential differences in species sensitivity, physical and chemical characteristics of the water, or a combination of the two, the concept of site must be consistent with this rationale. It is highly unlikely that a WER could be applied to an entire watershed.

As with all site specific criteria, adopting a WER is optional on the part of the State. When determining if effluent limitations for metals are necessary for a discharge, EPA can use a WER provided the state has approved it. However, in the absence of a State approved WER, EPA will apply a WER of one (1).

4. Comment: Even though no limits are called for with regard to metals, the use of Table 3-1 multipliers (set at the 99% confidence level and 99% probability basis) results in significantly overstating the maximum projected effluent concentrations. EPA guidance is ambiguous concerning the use of Table 3-1 or 3-2. Since EPA published the Technical Support Document (TSD), the agency has had significant public considerations of the issue of which

table is appropriate and in 1995 published detailed reasonable potential methods in the final Great Lakes Rule. Those methods only use 1 table which is the equivalent of Table 3-2 from the TSD. EPA allows that the states may decide if the more stringent Table 3-1 should be used.

The fact sheet does not include any indication that Idaho has requested the more stringent approach, therefore no technical or state policy basis appears to exist for EPA Region 10 permit writers to default to Table 3-1. The City recommends that Table 3-2 be used in the reasonable potential calculations for Idaho.

Response: When evaluating the effluent to determine if water quality based effluent limits are needed based on chemical specific numeric criteria, a projection of the receiving water concentration (downstream of where the effluent enters the receiving water) for each pollutant of concern is made. The chemical specific concentration of the ambient water, the maximum projected chemical specific concentration of the effluent and, if appropriate, the dilution available from the ambient water are used to project the receiving water concentration.

In the draft permit the maximum projected effluent concentration was calculated using the 95th percentile observed effluent value multiplied by the reasonable potential multiplier. The reasonable potential multiplier is a statistical approach EPA has developed which combines knowledge of effluent variability as estimated by a coefficient of variation with the uncertainty due to a limited number of data points to project an estimated maximum effluent concentration. Region 10 typically uses a 99% probability basis to determine the reasonable potential multiplier (Table 3-1 in the TSD).

Boise states that using the 99% probability basis significantly overstates the maximum projected effluent concentration and that the 95th probability basis should be used as recommended in the Great Lakes Initiative (GLI). Table 2, below, compares the maximum projected effluent concentration using method used by EPA in the draft permit, and the maximum projected effluent concentration using the GLI method (see appendix A for additional details on calculating the maximum projected effluent concentration).

TABLE 2: Maximum Projected Effluent Concentration

Parameter	Maximum Projected Effluent Concentration using GLI Method	Maximum Projected Effluent Concentration using Region 10 Method
Arsenic	12.0 µg/L	9.1 µg/L

Cadmium	1.3 µg/L	0.8 µg/L
Chromium	91 µg/L	91.9 µg/L
Copper	19.0 µg/L	10.0 µg/L
Lead	5.1 µg/L	5.8 µg/L
Nickel	7.7 µg/L	5.2 µg/L
Zinc	58.3 µg/L	63.0 µg/L

As can be seen from table 2, the method used by EPA in the draft permit did not, in fact, significantly overstate the maximum projected effluent concentration. In general, the method used by EPA resulted in slightly lower projected effluent concentrations. In this case, Boise’s statement that using the 99% probability basis significantly overstates the maximum projected effluent concentration and is overly conservative is not supported by the data. Additionally, in the future, to be conservative EPA Region 10 will use the highest effluent value (rather than the 95th percentile value) when determining if an effluent has the reasonable potential to cause of contribute to a violation of the water quality standards.

Boise also indicated that the GLI states that the 95th % probability basis should be used unless the State indicates a more restrictive method should be used. EPA agrees that the GLI does use the 95th% as the minimally acceptable level when projecting the effluent concentrations; however, the GLI also states that it applies only to the Great Lakes States. Since there is no part of Region 10 tributary to the Great Lakes, there is no requirement that Region 10 states follow the Great Lakes Initiative rules. Additionally, the method used by Region 10 is not more restrictive.

5. Comment: The reasonable potential calculations did not consider the differences in hardness of the effluent compared to the river, resulting in another overly conservative assumption. The reasonable potential analysis should incorporate effluent hardness in the analysis to more accurately determine reasonable potential.

Response: Some metals criteria vary according to the hardness of the water, as the hardness of the water increases the criteria also increases, conversely, as the hardness of the water decreased the criteria also decrease. In the draft permit, metals criteria were calculated based on the hardness of the receiving water downstream from the outfall. Using this hardness value accounts for the effluent hardness and the receiving water hardness.

In the case of Nampa, hardness data were collected upstream and

downstream of the facility; however, effluent hardness data were not collected. A review of the data indicates that the difference between upstream and downstream hardness values is not significant but downstream hardness values were usually lower than the upstream hardness values, indicating that generally the effluent hardness would be lower than the downstream receiving water hardness. This is significant because using the effluent hardness, as suggested by Boise, to determine the criteria would result in criteria more stringent than those used by EPA in the draft permit. Therefore, Boise's statement that using the receiving water hardness as being overly conservative is incorrect.

6. Comment: A two year monitoring program is proposed in the draft permit. However, a one year study may be sufficient to characterize the annual variability in the ambient waters due to the highly regulated flow conditions within the watershed.

The City recommends the permit provide flexibility to shorten the study based on review of the data, flow, and operational information at the end of the first year. Additionally, receiving stream monitoring should be coordinated on a watershed basis to maximize the efficiency of multiple data collection efforts. All monitoring activities within the watershed need to be identified to effectively coordinate monitoring activities and identify overlaps or gaps.

Response: The draft permit required a two year monitoring program for metals and nutrients. As discussed previously (see Comments from the City of Nampa, comment #8), the more limited the amount of test data available, the larger the uncertainty and the lower the precision of the methodology for characterizing the maximum effluent concentration. EPA has reviewed the sampling requirements for metals and believes that 18 monthly sampling events will be adequate to characterize the effluent and the receiving stream with a sufficient degree of certainty. The final permit reflects this revision. The nutrient monitoring requirements were incorporated into the draft permit at the request of IDEQ, the State's response to this issue is summarized in Comment #3 under "State Issues."

Finally, EPA agrees that it would be helpful to have monitoring coordinated on a watershed basis and strongly encourages this approach. However it is beyond EPA's regulatory authority to require the permittees to coordinate their monitoring programs.

7. Comment: EPA has approved a proposed final settlement agreement in the WESTCAS WET litigation. The settlement agreement includes numerous

EPA actions on test method revision, guidance development and rulemaking to establish a more defensible WET program. Consequently, the presently imposed conditions may not be appropriate and should be reviewed in light of the recent settlement agreement. The City recommends that EPA revisit and revise the proposed WET requirements based on WESTCAS litigation and schedule of compliance issues.

Response: The final settlement agreement stays any litigation until the completion of proposed studies. Therefore, the promulgated methods remain in place and EPA must use them in permits. The conditions proposed in the draft permits (i.e., WET monitoring) are not affected by the WESTCAS settlement.

8. Comment: The draft permit proposes effluent samples for metals should be collected as 24-hour composite samples. Composite sampling for metals is inconsistent with EPA guidance for the collection of metals at concentrations below 1 part per million. The City recommends that effluent monitoring be grab samples until EPA approved 24-hour composite techniques are developed and the technology is available.

Response: EPA has been unable to find statements in the EPA guidance documents cited by the commenter that state composite sampling should not be used for metals below 1 part per million. Additionally, recommended protocols for collecting trace metal samples using composite samplers have been developed by EPA and are documented in a video entitled *U.S. Environmental Protection Agency, Sampling Ambient and Effluent Waters for Trace Metals*, EPA-821-V-97-001. Therefore, the final permit requires 24-hour composite samples to be collected for metals.

9. Comment: The City is concerned that specific requirements (e.g. selection of a single pathogen reduction mechanism with burdensome and lengthy process to change to the other 503 approved method) appear in the draft permit that unnecessarily remove operational flexibility and impose constraints beyond those necessary to fully comply with 40 CFR 503. The City recommends that the permit language be consistent with 40 CFR 503 and not go beyond 503 unless site specific or other special conditions warrant.

Response: EPA has considered the comments received on biosolids from the municipalities whose permits have recently been public noticed. The final permit allows the use of any of the pathogen and/or vector reduction options. The 90-day notification period has also been reduced to 30 days in accordance with EPA 503 Implementation Guidance.

State Issues

Some of the requirements in the draft permit were incorporated at the request of IDEQ. Several comments were received on these proposed permit conditions. The following is a summary of the comments and the IDEQ response as found in the 401 state certification.

1. Comment: The City of Nampa stated that since temperature is only a water quality concern during the hot time of the year, there is no reason for taking continuous temperature measurement during the cooler time of the year. The temperature changes that occur seasonally could be determined for one year only and if there is an area of concern additional data can be developed. The City requests that the 24-hour temperature monitoring only be required for a 12 month period and that continuous monitoring only be conducted during the summer months and during the rest of the year the temperature be taken at times coinciding with other ambient monitoring.

Response: In the State's 401 certification of the permit, the State confirmed that the temperature monitoring requirements in the draft permit were required. Therefore the final permit will remain unchanged.

2. Comment: Both the City of Nampa and the City of Boise commented on the nutrient monitoring plan for algae in the proposed permit. The City of Nampa stated that they do not understand all that needs to be done for the plan and are concerned about the cost of the plan. The nutrient issue is something that needs to be considered on a watershed basis and not on a point source basis. The City requests that the requirement for a nutrient plan be removed from the permit until after the TMDL on the lower Boise River has been completed.

The City of Boise stated that there is already nutrient assessment monitoring being conducted within the watershed by the Lower Boise Watershed group which includes all municipal permittees and nonpoint sources. This requirement would be a duplication of effort. The City recommends the nutrient monitoring requirements be removed from the permit with the understanding that watershed based monitoring for nutrients will be accomplished through the ongoing Lower Boise Watershed group monitoring activities or through development and modifications of Memorandum of Understanding between appropriate parties.

Response: At the request of the State, the draft permits included a nutrient monitoring plan to analyze the effect of nutrients on aquatic plant growth downstream

from the effluent discharge. The plan was to address phytoplankton and periphytic algae and rooted aquatic macrophytes. Discussions with the permittees and state staff resulted in the removal of the Nutrient Monitoring Plan from the individual permits. The State's 401 certification verified that the State was no longer requiring a nutrient monitoring plan as part of its certification.

3. Comment: The City of Boise recommended that the permit provide flexibility to shorten the 2 year monitoring program for nutrients proposed in the draft permit.

Response: The nutrient monitoring program was incorporated into the draft permit at the request of the IDEQ. In the State's 401 certification of the permit the State is requiring the facility to monitor nutrients weekly for one year. After one year of monitoring, the permittee may:

1. monitor nutrients on a bi-weekly basis if, using a Student's t-test for equality of means, no statistically significant difference can be demonstrated between the arithmetic average of the weekly data during the first year and the arithmetic average of a bi-weekly subset (representing all twelve months) of the data collected during the first year, or

2. monitor nutrients on a monthly basis if, using a Student's t-test for equality of means, no statistically significant difference can be demonstrated between the arithmetic average of the weekly data during the first year and the arithmetic average of a monthly subset (representing all twelve months) of the data collected during the first year.

APPENDIX A
Maximum Projected Effluent Concentration

The following describes the method used by EPA Region 10 to calculate the maximum projected effluent concentrations, and the method recommended by the Great Lakes Initiative.

Region 10 Method

The maximum projected effluent concentration was calculated by multiplying the 95th percentile observed effluent concentration by the 99 % probability basis reasonable potential multiplier (Table 3-1 of the *Technical Support Document for Water Quality Based Toxics Control*, March 1991). To determine the reasonable potential multiplier the coefficient of variation of the effluent data must be calculated. The coefficient of variation is equal to the standard deviation ÷ mean of the effluent data set. When calculating the coefficient of variation the following assumptions were used 1) if the effluent value was greater than the method detection level the reported effluent value was used, and 2) if the effluent value was less than the method detection level than a default value equal to the method detection level was used. Table 1 shows the coefficient of variation, the reasonable potential multiplier, the 95th percentile observed effluent value, and the maximum projected effluent concentration.

TABLE 1

Parameter	Coefficient of Variation	99% Reasonable Potential Multiplier	95th percentile effluent value	Projected Effluent Concentration using 99%
Arsenic	0.15	1.3	7.0	9.1 µg/L
Cadmium	0.16	1.3	0.64	0.8 µg/L
Chromium	0.62	2.9	31.7	91.9 µg/L
Copper	NA	1.0	10.0	10.0 µg/L
Lead	0.33	1.8	3.2	5.8 µg/L
Nickel	0.13	1.3	4.0	5.2 µg/L
Zinc	0.07	1.2	52.5	63.0 µg/L

Great Lakes Initiative (GLI) Method

When calculating the maximum projected effluent concentration the highest observed effluent concentration is multiplied by the 95 % probability basis reasonable potential multiplier (Table 3-2 of the *Technical Support Document for Water Quality Based Toxics Control*, March 1991). The coefficient of variation was calculated using the approach recommended by EPA in the *Water Quality Guidance for the Great Lakes System: Supplementary Information Document* March, 1995. This approach recommends that the actual effluent value be used in calculations when the effluent value was greater than the quantitation level, when data was not detectable, a default value of ½ the method detection level was used, or when data was between the detection level and the quantitation level a default value of ½ the quantitation level was used. Table 2 shows the coefficient of variation, the reasonable potential multiplier, the highest observed effluent value, and the maximum projected effluent concentration.

TABLE 2

Parameter	Coefficient of Variation	95% Reasonable Potential Multiplier	Highest effluent value	Projected Effluent Concentration using 95%
Arsenic	0.5	1.5	8.0	12.0 µg/L
Cadmium	0.6	1.6	0.8	1.3 µg/L
Chromium	1.5	2.6	35.0	91.0 µg/L
Copper	0.2	1.2	15.9	19.0 µg/L
Lead	0.56	1.6	3.18	5.1 µg/L
Nickel	0.56	1.6	4.8	7.7 µg/L
Zinc	.07	1.1	53.0	58.3 µg/L

APPENDIX B

Effluent Limits for Ammonia and Chlorine

The effluent limits for total ammonia and total residual chlorine are based on the flows in Indian Creek upstream of the Nampa wastewater treatment facility. The effluent limits will be based on four flow tiers. The flow tiers were established using data from April 14, 1982 through September 30, 1996. The flow tiers are as follows:

Tier 1= 0 cfs - <16 cfs
Tier 2= 16cfs - <37cfs
Tier 3= 37 cfs - <71 cfs
Tier 4= >71cfs

16 cfs represents the 10th percentile of the flow data, 37 cfs represents the 50th percentile of the flow data and 71 cfs represent the 90th percentile of the flow data. The effluent limits in each flow tier were established using the low flow in each tier. Using the low flow ensures that water quality standards will not be exceeded. The derivation of effluent limits was explained in detail the Fact Sheet and will not be repeated here. A summary of the total residual chlorine limits and total ammonia limits are in Table 1 and Table 2 respectively.

TABLE 1: Total Residual Chlorine

Flow	Maximum Daily Limit	Average Monthly Limit
0 cfs - <16 cfs	11.0 µg/L	8.6 µg/L
16cfs - <37cfs	13.4 µg/L	10.5 µg/L
37 cfs - <71 cfs	16.8 µg/L	13.1 µg/L
>71cfs	21.8 µg/L	17.1 µg/L

TABLE 2: Total Ammonia

Flow	Maximum Daily Limit	Average Monthly Limit
0 cfs - <16 cfs	1.8 mg/L	0.8 mg/L
16cfs - <37cfs	2.0 mg/L	0.9 mg/L
37 cfs - <71 cfs	2.3 mg/L	1.0 mg/L
>71cfs	2.8 mg/L	1.2 mg/L