RESPONSE TO COMMENTS

Public Notice Draft NPDES Permit Nos:

ID-002398-1 (West Boise) and ID-002044-3 (Lander Street)
Public Notice Issuance Date: October 7, 2002
Public Notice Expiration Date: November 7, 2002

The City of Boise submitted a request for modification on July 25, 2002. After the comment period ended as shown above, only the City and Micron submitted comments. This document responds to those comments.

1. Comment: Both commenters referred to the adoption by the State of Idaho Department of Environmental Quality (IDEQ) of reasonable potential to exceed (RPE) procedures. They believe that EPA should have used these procedures in determining whether or not the discharges from the City's wastewater treatment facilities (WWTF) would cause or contribute to an exceedance of water quality criteria (reasonable potential) instead of Region 10's own procedures. They argued that the State's procedures had been the subject of public notice and comment, while Region 10's procedures have not.

   Response: EPA provided comments to the State on its draft emergency reasonable potential rule prior to its adoption by IDEQ on August 7, 2002. EPA then re-submitted the comments to the docket during the public comment period. As EPA set forth in those comments, we do not view the procedures put forward by IDEQ as a water quality standard. These procedures are plans to apply the State's water quality standards to NPDES permits. EPA is the permitting authority for Idaho and as such is responsible for developing, issuing, and enforcing NPDES permits in Idaho. Therefore, EPA is not required to follow any implementation procedure that may be added to the State's Water Quality Standards.

   The basis for determining reasonable potential is codified in 40 CFR Part 122. In numerous fact sheets, workshops, and presentations Region 10 has described its basis for the procedures we use. We expect the State to develop either permit implementation procedures in a "permit guidance document" or in "permitting regulations" submitted as part of its primacy application package. These would be reviewed by EPA during the NPDES program authorization process. Until the State is authorized to implement the NPDES program, EPA

Region 10 will continue to follow the reasonable potential procedures it applies in all permits it issues in the region.

2. Comment: The City disagrees with the use of effluent data that includes the illegal discharge from a radiator shop. As a result of including this data, reasonable potential was indicated at West Boise for lead causing limits to be set for lead during the winter season. The City contends that this data consists of statistical outliers and the events are highly unlikely to occur in the future. The City responded to three areas of concern raised by EPA: assurance that the illegal radiator shop types of discharges will not occur in the future; a plan for monitoring of minor industrial users; and local limits assessment, development, and implementation.

2a. Assurance of no further radiator shop illegal discharges. On December 27, 2000 the City issued a letter to the radiator shop in question prohibiting the discharge of commercial wastewater. Since that time, the radiator shop has not discharged nor has it requested permission to discharge to the City's system. In addition, all the radiator shops within the WWTF service area have installed closed loop wastewater systems for metals bearing commercial wastewaters. The City does not anticipate that discharge from this type of facility will be authorized in the future because of installation of closed loop treatment systems for all radiator shop facilities.

2b. Minor industrial user (MIU) inspection and monitoring program. The City devotes significant resources to its MIU inspection and sampling program. The anticipated level of MIU inspections for fiscal year (FY) 2003 is 450 and is projected for similar levels of effort in future years. Extensive metals monitoring was conducted to fulfill the requirements of the NPDES permits associated with the Local Limits Study and the July 2002 permit modification request. The monitoring efforts conducted during the last few years provide a complete and detailed metals assessment. The City plans to sample 20 percent of the metals-bearing MIUs (n = 86) in FY 2003 so that over a permit cycle, all metals-bearing MIUs will be sampled at least once.

2c. The City has assessed the need for local limits, most recently in the February 2002 Local Limits Study. The City has assessed and developed local limits as necessary (Aircraft Rescue and Firefighting Facility, 1997, 2000; Van Waters and Rogers, 1998). The lack of local limits was not an issue in the identification or effective enforcement of the pretreatment regulations, CERCLA, or the CWA due to the illegal discharge from the radiator shop. Local limits for metals would not have prevented the illegal discharge activities that were detected and resulted in a successful enforcement action.

Based on the discussion above, the City requests that EPA remove the effluent data from the radiator shop from the reasonable potential calculations and re-evaluate the discharge to see if lead limits are still necessary.

Response: EPA disagrees with the City. Notwithstanding the enforcement taken against the one illegal discharger, the City has not passed any kind of ordinance prohibiting discharges from radiator shops. In addition, EPA could not find either in the Pretreatment Annual Report cited by the City, or in the City's comments to the draft permit what parameters the City intends to monitor or collect through the MIU inspection and monitoring program. All that was supplied was an estimate of the number of employee hours that would be devoted to the program. EPA does agree that local limits for metals per se would not have prevented the illegal dumping by the radiator shop, but believes that knowledge that no monitoring or limits were required for lead made it attractive for the radiator shop owner to encourage the illegal dumping. Another reason for not deleting the data is because EPA, at the City's insistence, used only the data collected during 2000 - 2001 for evaluation purposes. As a result, the data set became less robust, since only 14 - 15 samples each were available seasonally for the receiving water background, and 21 - 22 samples seasonally for effluent data. EPA stands by its original analysis that the limited data collected does not allow for throwing out of any data, unless the data can be shown to be invalid (such as failing quality assurance). The City did not show that the data was invalid. The permit has not been revised to delete the data from Mac's Radiator Shop.

3. Comment: The City has two concerns with the proposed new requirement for the water effects ratio (WER) study plan to be submitted to EPA in May 2004. These concerns are the frequency of the review and the responsible agency.

3a. Frequency. The City has reviewed the 1994 and 2001 WER guidance documents and has found language that suggests "periodic" re-evaluation, but has not found the recommendation for 1-2 years as proposed in the draft permit. If the statement is factually incorrect, it should be removed from the fact sheet, or the source document and page should be cited.

3b. Responsible agency. The requirement for reassessment of the WER appears to be a permittee responsibility if the WER is information used in the calculation of the appropriate water quality criterion (e.g., National Toxics Rule or Alaska rule situations). The reassessment responsibility appears to be a state responsibility if the WER is adopted by a state as a site specific water quality standard (i.e., as part of the normal regular water quality standards review

process). The State of Idaho adopted the Lead and Copper WERs as site specific state water quality standards at the December 2002 Department of Environmental Quality Board meeting. The City has discussed this issue with IDEQ staff and agrees with the State's analysis concerning review of site specific standards being a State and not a permittee responsibility. The City requests that this requirement be removed from the permit and that EPA and IDEQ address it as part of the water quality standards review and approval process.

Response: The WER guidance document[1] recommends that the WER be reviewed periodically in order to verify that the WER is still valid. EPA Region 10 contacted one of the authors of and developers of the method, Charles Stephan[2] to ask for further clarification. He recommended that the effluent and upstream water be monitored for flow, TOC, copper, lead, hardness, pH, and alkalinity and that a new WER be determined every year or two. Based on his recommendation, EPA added the requirement that City submit a new work plan prior to expiration of the permits.

In the letter transmitting the DEQ's final determination regarding the WERs applicable to the City of Boise's discharges from the two WWTF, DEQ indicated that they do not believe that WER determinations necessarily require rule-making or approval from EPA. On November 8, 2002, EPA responded by asking for further clarification from DEQ on the process to be used for approving WERs and how the public would be involved. Since DEQ also stated that WERs could be made through the water quality certification process, EPA would need to have the information necessary to determine whether or not the relaxation in water quality standards would still insure protection of water quality standards. For these reasons, the permits have not been revised and the requirement for submittal of a new WER workplan has not been removed from the permits.

4. Comment: EPA did not provide enough information or description of how the key inputs (e.g., what mixed hardness values were used) to the reasonable potential calculations were established. It appears that EPA may have used hardness, CV, and 95th percentile effluent data from the entire (i.e., not seasonal) 1994 to

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1 ***EPA Interim Guidance on Determination and Use of Water-Effect Ratios for Metals*, EPA-823-B-94-001, February 1994.**

2 **Email from Charles Stephan, Duluth Lab, to Madonna Narvaez, permit writer, September 27, 2002.**

present data set in the development of criteria and limitations for the West Boise winter season lead limitation, contrary to statements in the Fact Sheet and Appendices that the analysis is based on current or 2000 - 2001 data. The City suggests that EPA identify all values used in the derivation of the criteria and proposed permit limits, the sources of and the timeframes for which the data were collected in the Fact Sheet and allow interested stakeholders sufficient information to review and check the proposed limitations. EPA should also incorporate all data and information necessary for calculation of criteria and proposed limitations, including sources and timeframes in all Fact Sheets developed for future permits in the future to provide the state, the permittee, and interested stakeholders sufficient information to review the basis of any proposed limitations. Finally, EPA should make the appropriate corrections (i.e., use the criteria and relevant parameters included in the City's modification request) in the calculations of the West Boise winter lead limit, if a lead limit is still proposed.

Response: All the information requested by the City was included in the fact sheet for West Boise, with the exception of the hardness used in calculating the aquatic life criteria. Table 1 of Appendix A should be revised as shown below. Region 10 used the entire data set of hardness, comprising samples collected from 1990 to 2001, determined seasonally. The City had requested that only the new data be used without providing any compelling explanation why a less robust data set should be used. Using the entire set of hardness data resulted in 83 values for summer and 54 values for winter. If only the new data had been used, the number of values for summer and winter would be 43 and 40, respectively. EPA agreed to use only the new data for effluent and receiving water background data for copper and lead because of the refinement in analytical methods used by the City. The method for analyzing hardness, however, is not dependent upon whether or not clean techniques are used. If however, the method used for determining hardness had changed since the permits were first issued in 1999, then the City should have notified EPA. As a result, EPA did not revise the permit to recalculate criteria. The criteria remain as shown in the table below.

The City also disputed statements made in the fact sheets (Table 3, "Reasonable Potential Inputs," Appendix A, both permits) regarding the data used for reasonable potential and effluent limitations calculations. Table 3 lists all the inputs used, including the number of samples used in the seasonal calculations. In reviewing the spreadsheets, however, EPA discovered that for the values less than detect which EPA set equal to zero, the zero values were not included in calculating relevant statistics such as averages, standard

deviations, and 95th percentile effluent concentrations. When the zeros were added back in, the 95th percentile effluent concentration of lead at West Boise was reduced to 1.59 from 2.03 ug/L (summer) and in the winter was reduced to 3.91 from 4.06 ug/L. The averages were also reduced. The coefficient of variation (CV), was increased because of the increased variability of values ranging from 0 to 4.30 ug/L. The increased CV caused the reasonable potential multiplier to increase to 3.33 from 2.65. In addition, the increased CV means that, for the winter discharge of lead from the West Boise WWTF, the limits have been reduced to 5.78 ug/L average monthly limit (AML) and increased to 14.6 ug/L maximum daily limit (MDL). Increased variability means that the AML needs to be reduced in order to assure that the wasteload allocation does not exceed criteria. The permit has been revised to include these more stringent limits for lead from the West Boise WWTF during the winter.

In summary, EPA used all the available seasonal hardness data in calculating seasonal aquatic life criteria. For all other calculations involving metals data, as previously described in Table 3 of Appendix A of the fact sheet, EPA used only the data submitted with the 2002 modification request, including the data from the illegal discharge from Mac's Radiator Shop. Attached to this document are copies of all the relevant spreadsheets used in evaluating the City's modification request.

TABLE 1 **WERs and Adjusted Aquatic Life Criteria for Boise River at West Boise WWTF**

Metal	WER	Season	Criteria w/o WER		Adjusted	
			Acute Criterion	Chronic Criterion	Acute Criterion	Chronic Criterion
Copper	2.578	Apr - Sept	14.0	8.69	36.0	22.4
		Oct - March	14.6	9.78	37.6	25.2
Lead	2.049	Apr - Sept	51.2	1.76	105	3.6
		Oct - March	54.2	2.1	111	4.3
Mixed Hardness, at edge of mixing zone		Apr - Sept	81	73		
		Oct - March	85	84		

Note: Entire data set from 1990 - 2001 used in determining hardness.

5. Comment: Because the City is already in compliance with the draft modified final water quality-based effluent limitations for lead, EPA should remove the interim limits and the requirements for semiannual progress reports.

Response: EPA agrees that since the new, less stringent limits will go into effect prior to the February 12, 2003 deadline, that interim limits are no longer necessary.

6. Comment: While the City is generally supportive of EPA Region 10's consideration of both dissolved and total recoverable data collected by the City for the reasonable potential evaluations for copper and lead, the City believes that reasonable potential evaluations should be based on a dissolved methodology. The City believes that its monitoring and sampling has gone beyond the minimum requirements of dissolved only metals for receiving water and total recoverable only metals for effluents. This not only allowed site-specific chemical translators to be developed but also provided opportunity for a more direct analysis of reasonable potential in relation to Idaho's dissolved metals criteria. This is a technically sound step in the right direction and bodes well for future permit considerations in Idaho related to metals with dissolved criteria.

Response: Using only dissolved effluent data to calculate reasonable potential or to calculate an effluent limit is unacceptable. The chemical conditions in receiving waters can 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, one could seriously underestimate the amount of dissolved metal actually being contributed to the receiving water by the effluent.

It should be noted that total recoverable metals measure dissolved metals plus that portion of solid metals that can be dissolved under ambient conditions. Idaho's own guidance for implementing dissolved metals criteria specifies a methodology to derive a metal-specific "translator" that can be used to account for the amount of particulate metal in the effluent that may dissolve after mixing with receiving water. The translator developed under that guidance is then multiplied by the total recoverable concentration of metal in the effluent to determine the amount of dissolved metal that will contributed to the receiving water by the effluent. EPA does not believe that the extra expense taken by the City to measure both total and dissolved metals concentrations in effluent is needed. EPA specified that receiving water metals analyses be for dissolved metals because the state water quality criteria for metals are expressed as dissolved. Performing both dissolved and total recoverable analyses of receiving water is beneficial to the City if it is interested in revising site specific

metals translators. Otherwise, measuring dissolved metals is sufficient in receiving water is sufficient. The permits have not been revised. Effluent metals must be analyzed and reported as total recoverable; only dissolved is required for receiving water.

On January 10, 2003, the Idaho Department of Environmental Quality certified the permits under section 401(c) of the Act. In their certification letter, they asked that the requirement for the City to submit a WER workplan be replaced with a requirement to submit a report reevaluating water quality characteristics of the effluents and receiving waters relevant to the WER determination. The permits were revised to include the report and to require that it be submitted to both EPA and IDEQ. The State further commented on the reasonable potential procedures used by EPA (i.e., the data set for hardness used to calculate criteria and the data from the illegal discharge of effluent from Mac's Radiator Shop). No changes to the permits were made based on the State's comment, for the reasons discussed above (responses to Comments No. 2 and 4).

Attachment 1
Hardness Data Used in Evaluating West Boise WWTF Discharge

Boise City Draft NPDES Permit Evaluation				
Hardness & Flow				
			These values used for permit calculations	
Entire Data Set, non-seasonal			Apr - Sept	Oct - March
Boise River at Glenwood Bridge			Boise River at Glenwood Bridge	Boise River at Glenwood Bridge
	mg/L	Date	mg/L	mg/L
08/08/90	51	08/08/90	51	
08/09	32	08/09	32	
08/10	35	08/10	35	
09/28	38	09/28	38	
10/30	53	10/30		53
11/06	46	11/06		46
11/07	45	11/07		45
11/08	44	11/08		44
11/09	46	11/09		46
12/19	46	12/19		46
01/07/91	46	01/07/91		46
01/08	45	01/08		45
01/09	44	01/09		44
01/10	44	01/10		44
02/20	47	02/20		47
03/20	47	03/20		47
04/17	38	04/17	38	
05/20	37	05/20	37	
05/21	38	05/21	38	
05/22	37	05/22	37	
05/23	37	05/23	37	
06/16	29	06/16	29	
07/17	26	07/17	26	
08/05	31	08/05	31	
08/06	30	08/06	30	
08/07	30	08/07	30	
08/08	30	08/08	30	
11/06	41	11/06		41
01/15/92	50	01/15/92		50
05/07	39	05/07	39	
08/05	39	08/05	39	
11/04	57	11/04		57
01/06/93	64	01/06/93		64
05/05	34	05/05	34	
08/04	24	08/04	24	
11/10	42	11/10		42
01/12/94	42	01/12/94		42
05/04	35	05/04	35	

Boise City Draft NPDES Permit Evaluation				
Hardness & Flow				
			These values used for permit calculations	
Entire Data Set, non-seasonal			Apr - Sept	Oct - March
Boise River at Glenwood Bridge			Boise River at Glenwood Bridge	Boise River at Glenwood Bridge
	mg/L	Date	mg/L	mg/L
08/10	40	08/10	40	
11/09	48	11/09		48
01/11/95	50	01/11/95		50
05/10	33	05/10	33	
08/09	28	08/09	28	
11/08	36	11/08		36
01/10/96	36	01/10/96		36
05/08	28	05/08	28	
08/07	26	08/07	26	
11/06	36	11/06		36
01/08/97	36	01/08/97		36
05/07	26	05/07	26	
08/06/97	25	08/06/97	25	
11/05	46.6	11/05		46.6
01/07/98	48	01/07/98		48
05/06	34	05/06	34	
00/09/05	36	00/09/05	36	
00/09/19	33	00/09/19	33	
00/10/03	35	00/10/03		35
00/10/17	41	00/10/17		41
00/10/31	45	00/10/31		45
00/11/14	45	00/11/14		45
00/12/05	41	00/12/05		41
00/12/12	47	00/12/12		47
01/01/09	46	**01/01/09**		46
01/01/23	47	01/01/23		47
01/02/06	45	01/02/06		45
01/02/20	50	01/02/20		50
01/03/06	52	01/03/06		52
01/03/20	51	01/03/20		51
01/03/25	49	01/03/25		49
01/04/03	45	01/04/03	45	
01/04/11	43	01/04/11	43	
01/04/17	41	01/04/17	41	
01/05/01	38	01/05/01	38	
01/05/15	38	01/05/15	38	
01/05/20	40	01/05/20	40	
01/06/05	38	01/06/05	38	
01/06/19	36	01/06/19	36	
01/07/10	38	01/07/10	38	
01/07/24	35	01/07/24	35	
01/08/07	35	01/08/07	35	
01/08/21	33	01/08/21	33	
01/09/11	39	01/09/11	39	

Boise City Draft NPDES Permit Evaluation				
Hardness & Flow				
			These values used for permit calculations	
Entire Data Set, non-seasonal			Apr - Sept	Oct - March
Boise River at Glenwood Bridge			Boise River at Glenwood Bridge	Boise River at Glenwood Bridge
	mg/L	Date	mg/L	mg/L
01/12/04	52	01/12/04		52
		Note: New data begins in 2000		
Count	83		43	40
Maximum	64		51	64
95th%ile	52		43	53
Geometric Mean	39		34	45
Minimum	24		24	35
5th %ile	26		26	36

Attachment 2
Hardness Calculations for City of Boise WWTF Discharges

Attachment 3
Metals Criteria Calculations

Attachment 4
Receiving Water Metals Data Used in City of Boise Modification Request

Attachment 5
Effluent Lead Data Used in Evaluating West Boise WWTF Discharge

Attachment 6
Flows Used in Evaluating West Boise WWTF Discharges

Attachment 7
Reasonable Potential Multiplier Calculations

Attachment 8
Reasonable Potential Calculations for West Boise WWTF Lead Discharges

Attachment 9
Calculations for Lead Limits, Winter, for West Boise WWTF