

Atlantic Richfield Company

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Mr. Tom Dunkelman
On-Scene Coordinator
U.S. Environmental Protection Agency - Region 9
75 Hawthorne Street, SFD-8-2
San Francisco, California 94105

Subject: Responses to EPA Comments dated May 10, 2010 on the Draft Supplemental Scale Sampling and Analysis Plan (SAP) dated April 23, 2010 and Submittal of a Revised SAP dated July 30, 2010; Yerington Mine Site, Lyon County, Nevada: Administrative Order on Consent, EPA Docket No. 09-2009-0010

Dear Mr. Dunkelman:

Atlantic Richfield Company (ARC) has prepared the attached responses to comments provided by the U.S. Environmental Protection Agency - Region 9 (EPA) on May 10, 2010 for the Draft Supplemental Scale Sampling and Analysis Plan (draft SAP) dated April 23, 2010 in support of the Transite Pipe Removal Action Plan at the Yerington Mine Site (Site). The attached responses to comments and revised SAP are included as an appendix to the revised Transite Pipe Removal Action Plan (RAP - Revision 1) dated July 30, 2010, after the supplemental scale sampling and analytical work has been completed. As such, many of the responses to comments are provided in the past-tense. The Transite Pipe Removal Action is required by the Administrative Order on Consent and Settlement Agreement for Removal Action and Past Response Costs and associated Scope of Work (AOC/SOW; EPA Docket No. 09-2009-0010).

If you have any questions regarding the attached responses to comments and/or draft SAP, please feel free to contact me at (714) 228-6774 or via e-mail at jack.oman@bp.com.

Sincerely,



Jack Oman
Project Manager



Response to EPA May 10, 2010 Comments on the Draft Supplemental Scale Sampling and Analysis Plan

EPA Comment #1 (Page 1, Section 1.0, Paragraph 2):

"The objective of this SAP is to provide additional field and laboratory data necessary to determine whether transite pipe with scale or sediment in long pipe runs exceeds the revised site-specific applicable or relevant and appropriate requirement (ARAR) of 5 picoCuries per gram (pCi/g) of radium-226." This objective does not apply to only long pipe runs, it should also apply to individual, dis-articulated sections of pipe. The fact that ARC is planning to sample scale from individual sections within HA-1, demonstrates this point. Please modify this objective as follows:

"The objective of this SAP is to provide additional field and laboratory data necessary to determine whether transite pipe with scale or sediment in individual pipe sections and long pipe runs exceeds the revised Site-specific applicable or relevant and appropriate requirement (ARAR) of 5 picoCuries per gram (pCi/g) of radium-226."

ARC Response:

ARC has made the suggested change.

EPA Comment #2 Recurring comment (Page 1, Section 1, Paragraph 1):

TENORM is Technologically not Technically Enhanced Naturally Occurring Radioactive Material

ARC Response:

ARC has made this correction.

EPA Comment #3 (Page 2, Section 2.0, Paragraph 1):

"Pursuant to the NAC, point exceedances of 5 pCi/g of radium-226 are not a regulatory concern as long as the average concentrations of pipe used for the same purpose and do not exceed 5pCi/g of radium-226." EPA believes that this is not a correct interpretation of the NAC. However, it is a moot point as ARC subsequently states that "As a conservative measure, the long pipe runs will be determined to be less than the Site-specific ARAR only if all sample results are less than 5 pCi/g of radium 226. If any results are greater than 5 pCi/g of radium-226, then the pipe sections will be evaluated on a piece by piece basis."

ARC Response:

ARC agrees that this issue is presently a moot point.

EPA Comment #4 (Section 2):

It is assumed that gamma surveys will be performed by a 30-second integrated count in the scaler mode. EPA suggests taking a 60-second integrated count.

ARC Response:

ARC has modified this to 60-second counts per this comment. The built-in scalar function on the instrumentation was used to take the count.

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EPA Comment #5 (Page 3, Section 2.1, Survey and Sample Locations):

EPA will provide field oversight of all field sampling and monitoring activities related to this supplemental sampling effort. While the sampling locations proposed seem to be adequate, EPA reserves the right to require additional sampling locations, as determined by the "best professional judgment" of the EPA representative in the field.

ARC Response:

The revised SAP reflects adjustments to the sampling effort that were made in the field. During the 2010 field activities, location HA-2-03 (from the 2009 characterization work) was chosen based on mutual concurrence between ARC and EPA representatives in the field (this location was surveyed but no sample was collected).

EPA Comment #6 (Page 6, Last Paragraph):

"The locations at which to make the local comparison value counts will be determined in the field based upon best professional judgment of the health physicist(s) in attendance, **with concurrence of the EPA representative in the field.**"

ARC Response:

Local comparison value counts were performed under the observation of the EPA representative, Mr. Tom Dunkelman. There was no dissent with the locations chosen by ARC.

EPA Comment #7 (Page 7, Paragraph 1):

"Determination of the impacted portion of the interior pipe wall will be made based upon best profession judgment, **with concurrence of the EPA representative in the field**, during sample collection.

ARC Response:

Sample locations were selected in concert with EPA's representative, Mr. Tom Dunkelman.

EPA Comment #8 (Page 7, Second Bullet):

"Scale mixed with portions of pipe wall that cannot be readily separated (i.e., degraded pipe wall which is presumed to have been impacted by ore beneficiation solutions)." As discussed during recent meetings, EPA will require that only the portion of pipe contaminated be sampled, not the entire thickness which may include uncontaminated pipe wall.

ARC Response:

ARC agrees with this statement.

EPA Comment #9 (Page 8, Paragraph 2):

There is an inconsistency in the decision tree with regard to individual pipe sections. "Only isolated pipe sections and pipe runs identified to contain scale samples greater than 5 pCi/g of radium-226 will require field gamma surveys during the removal action to determine if the pipe will be sent off-site for disposal." First of all this statement is inconsistent with the objective identified in paragraph 2 on p. 1. This objective should be amended to include individual pipe sections.

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Secondly, the decision tree is also inconsistent with this statement. The downward vertical line extending from the "individual pipe sections" box should point towards the "no scale observed or all representative scale samples from run or individual section < 5pCi/g of radium 226" box, rather than pointing to the "disposition of pipe determined section by section" box.

ARC Response:

Given that visual inspections of transite pipe will be the basis for decisions regarding on- or off-Site disposal, as mutually agreed to by EPA and ARC, the decision tree has been deleted from this SAP.

EPA Comment #10 (Page 8, Paragraph 1):

EPA still has concerns regarding the ability of ARC to identify a mathematical correlation of radium-226 concentrations with gamma count rates. The final RAP to be submitted should discuss such a correlation in depth. Failing an adequate correlation, as determined by EPA, ARC should be prepared to conduct offsite disposal of all transite pipe sections containing scale potentially exceeding 5 pCi/g radium-226. The final RAP should include costs estimates for offsite disposal of these pipe sections. EPA continues to believe that the additional step of internal pipe gamma surveys identified in the decision tree is neither cost nor time effective. In no case will EPA allow pipe sections exceeding 5 pCi/g to remain onsite for a significant amount of time.

ARC Response:

Comment noted. Please see the response to Comment # 9. Pipe containing sediment or scale that cannot be removed by the proposed cleaning methods in the RAP will be sent for off-site disposal. Only pipe that is observed to be free of internal scale and/or sediment will be disposed of on-site.

EPA Comment #11:

As discussed with ARC on numerous occasions, EPA will require leachability testing of scale samples in order to determine whether onsite disposal of transite pipe would be "unlikely to produce pollutants or contaminants that may degrade waters of the State," as required by the Class III waiver for Mine Site Landfills and by NAC 444.731 – Class III Landfill. Either ARC can conduct leachability testing as part of this Supplemental Sampling effort or EPA will conduct the leachability testing.

ARC Response:

ARC has conducted leachability testing of scale material collected from the pipe interior at locations where sufficient sample can be retrieved. A modified Meteoric Water Mobility Procedure (MWMP) was applied to the samples using a bottle roll method in place of the standard column leach method due to the limited sample size expected to be collected.