

**Response to Comments Specific to Wesco Winkleman Dome WY0025232**  
**March 9, 2015**

1. Wesco commented that a review of the published Tribal Water Quality Standards (WQS) approved by EPA did not list WQS for the Wind River Reservation. Since the Wind River Environmental Quality Commission (WREQC) rules have not been published or made available, Wesco is not able to determine the basis or justification of how the standards were developed or the applicability of the standards to the draft National Pollutant Discharge Elimination System (NPDES) permit. Wesco contends that it is not reasonable for the EPA to enforce regulatory standards that have not been approved, formally adopted or finalized so that it may be reviewed by the regulated community.

***Response:** The commenter correctly notes that EPA has not approved tribal WQS for the Wind River Indian Reservation. However, EPA disagrees with the commenter's assertion that the water quality requirements adopted by the Eastern Shoshone Tribe and Northern Arapaho Tribe (the Tribes) have not been published or made available – as the Tribes held public hearings on and provided public notice of the requirements, subsequent to the Joint Business Council adoption of draft standards through Tribal Resolution #2007-9377 on October 17, 2007. At that time, the Joint Business Council announced a 45-day public notice period and scheduled three hearings. The draft Tribal standards were available to the public from October 17, 2007, through January 31, 2008, at the WREQC building in Fort Washakie, WY. The three hearings were scheduled to be held in Crowheart, WY, on January 28<sup>th</sup>; Fort Washakie, WY, on January 29, 2008; and Arapahoe, WY, on January 31, 2008. EPA staff attended the January 29, 2008 hearing. EPA therefore disagrees with the commenter's contention that the regulated community was denied the opportunity to review the tribally-adopted water quality requirements.*

*With respect to the commenter's contention that it is “not reasonable for the EPA to enforce regulatory standards that have not been approved, formally adopted, or finalized,” EPA first notes that the water quality-based effluent limitations (WQBELs) at issue in this permit were developed based on water quality requirements that have been adopted by the Tribes. To the extent that the commenter's concern is that the Tribally-adopted water quality requirements have not been formally approved by EPA, EPA relied on Clean Water Act (CWA) Section 301(b)(1)(C) and principles of tribal sovereignty in establishing WQBELs based on tribally-adopted water quality requirements.*

2. Wesco contends that the drainage in Big Horn Draw has been inaccurately classified as Class 3B as identified in the draft NPDES permit. Wesco asserts the drainage should be classified as Class 4B because, without the discharge of produced water from the Winkleman Dome field, Big Horn Draw would return to a seasonal ephemeral drainage as it existed prior to the development of the Winkleman Dome field.

**Response:** *EPA has reviewed the classifications provided in the tribally-adopted water quality requirements and, while Bighorn Draw has not been assigned a particular classification by the Tribes, EPA believes it best meets the 3B classification due to the current conditions of the waterbody, including the flow from the Wesco discharge. The following definition for Class 3B waters comes from the Tribes' water quality law:*

(ii) Class 3B. Class 3B waters are tributary waters including adjacent wetlands that are not known to support fish populations or drinking water supplies and where those uses are not attainable. Class 3B waters are intermittent and ephemeral streams with sufficient hydrology to normally support and sustain communities of aquatic life including invertebrates, amphibians, or other flora and fauna which inhabit waters of the Reservation at some stage of their life cycles. In general, 3B waters are characterized by frequent linear wetland occurrences or impoundments within or adjacent to the stream channel over its entire length. Such characteristics will be a primary indicator used in identifying Class 3B waters.

*As described in the Tribes' water quality law, Class 3B waters are characterized by frequent linear wetland occurrences or impoundments within or adjacent to the stream channel over its entire length. Currently there are a series of impoundments on the unnamed tributary to Bighorn Draw which provide wetland and riparian habitat over the length of the waterbody. These impoundments "support and sustain communities of aquatic life including invertebrates, amphibians, or other flora and fauna which inhabit waters of the Reservation at some stage of their life cycles." As a result, the receiving water for the Wesco discharge meets the definition of a Class 3B water, and EPA will continue to use that classification for purposes of developing effluent limitations for this permit.*

3. Wesco also commented that if the receiving water had been properly classified as a 4B water, whole effluent toxicity (WET) requirements in the permit should be removed.

**Response:** *EPA disagrees. WET monitoring and/or limitations are appropriate when necessary to ensure compliance with applicable water quality requirements.*

4. Wesco commented that the monitoring requirement for sulfide at a detection level of 0.002 mg/L (2 µg/L) is unachievable through current laboratory analytical methods. A letter from an analytical chemistry lab was attached to the comments that stated the current laboratory capabilities for analyzing sulfide as hydrogen sulfide.

**Response:** *EPA understands the permittee's concern. EPA notes that the effluent limitation in the proposed permit was expressed incorrectly as total sulfide. The references to "sulfide" in the effluent limit table in Section 1.3.1.3 and the monitoring requirement table 1.3.2 and footnote d of that table have been replaced with "sulfide (as H<sub>2</sub>S)". Since there currently is no approved analytical method for sulfide (as H<sub>2</sub>S) under 40 CFR Part 136 which can detect the pollutant at that low of a concentration, EPA added in a Reporting Level for sulfide (as H<sub>2</sub>S) in the final permit of 0.10 mg/L (100 µg/L).*

*As the laboratory indicated in their letter, it can reliably achieve a detection level of 0.04 mg/L (40 µg/L) sulfide (as H<sub>2</sub>S) with current EPA approved methods under 40 CFR Part 436. Thus, EPA has set the reporting level for this permit at 2.5 times higher than the reported detection level for the laboratory.*

5. Wesco commented that they would be unlikely to economically achieve effluent level below 100 mg/L sulfide as hydrogen sulfide. The comment further stated that any limit for a constituent previously not considered in their permit was unwarranted. In addition, Wesco commented that if a limit for sulfide was put in the permit, they were requesting an alternate compliance point be established in the Big Horn Draw.

**Response:** *EPA believes that the sulfide (as H<sub>2</sub>S) limitation of 0.002 mg/L is appropriate for protection of aquatic life and understands some treatment will be required to achieve discharge concentrations below the reporting level of 0.10 mg/L. The comment did not include any specific treatment cost or economic analysis to support the assertion that the limitations were not achievable. The new sulfide (as H<sub>2</sub>S) permit limitation is based on protection of the aquatic life designated use for the receiving water in the Tribes' water quality law. The aquatic life criterion for sulfide (as H<sub>2</sub>S), 0.002 mg/L, was adopted by the Tribes in their water quality law, and the value is equivalent to EPA's published recommended criterion for sulfide (as H<sub>2</sub>S) for protection of aquatic life. Since there is no dilution available in the receiving water, the value is to be met at the end of the pipe. EPA determined that a limit was necessary due to the level of the pollutant currently discharged by the facility as described in the Reasonable Potential (RP) discussion in the Statement of Basis. EPA also believes the compliance period of three years allowed to achieve the necessary reductions is sufficient to design and install treatment necessary to achieve compliance with the final effluent limitations. EPA has successfully worked with similar facilities to identify appropriate physical treatment methods for (as H<sub>2</sub>S) at a relatively low cost and believes the same technology can be employed for this discharge.*

*As discussed above, there is no dilution available in the receiving water and therefore, an alternate compliance point in Big Horn Draw for sulfide (as H<sub>2</sub>S) would not allow the Tribes' water quality criteria to be met from the discharge point to the drainage and in Big Horn Draw, and thus would not be consistent with 301(b)(1)(C).*

6. Wesco commented that data collected from fluoride and selenium monitoring requirements in the permit would be compared with surface water standards that are lower than drinking water standards. They contended that setting surface water standards at levels less than drinking water standards was not reasonable or practicable.

**Response:** *Effluent limitations are not established for these pollutants in the permit, and the monitoring requirement is intended to generate data to inform EPA's permit writing in future permit cycles. If that data shows that fluoride and selenium may require effluent limits, EPA will use its normal process to evaluate and, if necessary, establish appropriate effluent levels to ensure protection of all designated uses of the waterbody, including aquatic life uses. At that time, EPA will review all available standards, as the use of drinking water standards alone to set effluent limitations is not always protective of other uses such as aquatic life use. No changes will be made to the fluoride and selenium monitoring requirements in the permit.*

7. The permittee commented that the existing beneficial use of water would be jeopardized by the loss of the discharge and provided a supplemental letter from USFWS. Wesco indicates the USFWS reviewed discharge water quality reports and determined the quality was sufficient for wetland enhancement. Other comments supported the use of the discharge in providing riparian habitat and benefits to aquatic and non-aquatic life including plants, as well as domestic and wildlife uses, in an area where little or no water is available for this type of habitat or uses.

**Response:** *EPA understands that the discharge currently provides riparian meadow/wetland and open surface water habitat for waterfowl including migratory bird species. EPA evaluated appropriate water quality criteria for aquatic life and wildlife in establishing the effluent limitations for the renewal permit. The new and revised permit limitations will ensure that the discharge quality is sufficient to maintain both aquatic life and agricultural/wildlife uses in those riparian/wetland and open water areas.*

8. The permittee commented that as written, Wesco would likely lose its ability to discharge the produced water and may have to shut in producing wells once the injection capability of the field is reached.

**Response:** *Under the CWA, EPA does not typically mandate how permittees must meet their permit limits, and permittees are generally free to use whatever operational or treatment methods they choose to achieve compliance. The Wesco facility data indicates all proposed effluent limitations, with the exception of sulfide (as H<sub>2</sub>S), can currently be met without additional treatment. EPA has worked with a similar discharger on the Wind River Indian Reservation to successfully implement low cost treatment of sulfide (as H<sub>2</sub>S). Such treatment technology could be applied to the discharge from this facility, as well.*

9. One commenter stated sulfide far exceeds the chronic standard, as presented on Table 5 (chronic standard 0.002 mg/L and maximum reported level is 82 mg/L), and noted that the permit allows Wesco three (3) years to implement actual sulfide reduction. Commenter queried what intermediate steps can be taken towards reduction of sulfide in the water, noting that because the produced water is discharged to an ephemeral stream, there is little dilution that occurs. Commenter stated that this allows sulfide (and other toxics) to build up on soils. Commenter stated that monitoring should be established around large snow and flood events that would impact the sulfide concentrations in the immediate soils.

**Response:** *In the interim time towards achieving final compliance with effluent limitations for sulfide (as H<sub>2</sub>S), Wesco is required to follow the compliance schedule in Section 1.3.3 of the permit. The Section includes requirements to provide progress reports on steps taken towards achieving compliance at regular intervals during the permit term.*

*As stated in the Statement of Basis, EPA acknowledged that there is no dilution available in the receiving water. As such, the effluent limitations are established using the applicable water quality criteria at the end-of-the-pipe to ensure that the Tribes' water quality requirements are achieved in the receiving water.*

*The commenter asserts that sulfide and other toxics will build up on soils and that monitoring should be established around large snow and flood events that would affect the sulfide concentrations in the immediate soils. The comment does not present any supporting evidence for the assertion and it is not clear if the comment centers on soils around the facility or discharge location or sediments contained in the receiving water. EPA has not established water quality criteria for sediments in surface water and does not have a basis for deriving permit limitations.*

10. One commenter acknowledges that no drinking water use has been established for the receiving water, but nonetheless argues that benzene should not be discharged. EPA should not permit any level of benzene to be discharged to the ephemeral stream because of potential future impacts over the life of the permit and because assuming that benzene will be reduced by treating other pollutants is not protective enough of human health.

**Response:** *As described above, EPA can only write NPDES permit limits - including no discharge limits – using the authorities provided by CWA Sections 301 and 402. Thus, the permit writer must determine whether a pollutant may be limited by a TBEL or a WQBEL. As described in the Statements of Basis for this permit, the permit writers had limited data regarding the concentrations of benzene in the effluent. The permit writers reviewed the available literature on benzene to determine what concentration of benzene in the discharges would ensure that they are of good enough quality for livestock and wildlife watering, as required by 40 CFR Part 435, Subpart E. Neither EPA nor the Tribes have water quality criteria for benzene for livestock watering.*

*Likewise, there is very little research into the effects of benzene in drinking water on cattle. The permit writers identified a single published report by the American Petroleum Institute and based on Canadian research suggesting that benzene concentrations of 31,400 µg/L in drinking water would be protective of beef cattle. This is roughly three orders of magnitude higher than the limited concentration data available to EPA for the discharges. Without a firm scientific basis to establish a TBEL based on livestock watering, permit writers could not establish a TBEL for benzene.*

*The permit writers also considered whether a WQBEL for benzene would be necessary. There are no uses of the receiving water that implicate human health, including drinking water use or recreational uses. Thus, the only designated use for the receiving water other than livestock watering is aquatic life. While there are recommended human health criteria and a Safe Drinking Water Act (SDWA) Maximum Contaminant Level (MCL) for benzene, there are no aquatic life criteria for benzene. Without a designated use or criterion against which to develop a discharge limit, permit writers could not establish WQBELs for benzene.*

*Although the reported values of benzene in the discharge do not warrant including effluent limitations, EPA included monitoring requirements for benzene in the Toxic Pollutants Screening requirements of the permits and can re-open the permit to include a limitation for benzene in the event the level of benzene in the discharge changes.*

11. One comment stated EPA Region 8 should consider this permit a "priority permit" and initiate best practices that have been developed in support of EPA's Plan EJ 2014. Commenter stated that extending the public comment period is one tactic that can be used, but should not be the only tactic that EPA makes available in support of increased public involvement and allowing tribal members ample opportunity to participate in this permitting process.

**Response:** *EPA Region 8's EJ Implementation Plan identifies permits which are a priority for enhanced public participation. Based on the information available during permit development and the criteria for identifying priority permits in Region 8's EJ implementation plan, these permits were not identified as permits for review under EPA's Plan EJ 2014. Specifically, these permits did not fall into the following category:*

*"Non-Major" industrial NPDES permits (as defined in 40 CFR § 122.2) under the CWA that are identified by EPA on a national or regional basis as a focus area, for new sources or new dischargers, or existing sources with major modifications, including, but not limited to, a new outfall, a new or changed process that results in the discharge of new pollutants, or an increase in production that results in an increased discharge of pollutants.*

*However, prior to proposing these permits Region 8 did conduct tribal consultation in accordance with the EPA Policy on Consultation and Coordination with Indian Tribes.*

12. One comment stated EPA's federal trust responsibility should be towards the protection of human life, and not towards providing a source of drinking water for cows. Commenter stated that EPA's long, drawn-out TAS process has weakened the ability of the Tribes to protect natural resources within the exterior boundaries of the Reservation, as a function of their sovereignty. Commenter asserted that it is important that EPA respect and consider the water quality requirements established by the Tribes through their own governmental processes.

**Response:** *Consistent with the federal government's trust responsibility to federally recognized tribes, EPA implements environmental programs in Indian country to protect human health and the environment there. As described above, EPA drafted these permits using the permit process outlined in the CWA and EPA's regulations. Thus, these permits include both technology based effluent limits (TBELs) to ensure that the discharges are "of good enough quality" for livestock and wildlife watering and WQBELs to ensure protection of the tribally designated uses of the receiving waters. EPA relied on CWA Section 301(b)(1)(C) and principles of tribal sovereignty in establishing these WQBELs.*

13. The document is extremely difficult to read from a layman's perspective and raises environmental justice concerns. For instance, measurements are not consistently presented in the same manner (ug/L and µg/L), abbreviations are not defined and tables in the permit are not numbered.

**Response:** *EPA acknowledges that the permit and statement of basis contain terms and conditions not familiar to the general public. It is difficult to balance accessibility of the documents to the general public with the technical and legal precision necessary to ensure this is a technically sound and legally enforceable permit.*

#### **Specific comments on Statement of Basis:**

14. Background information: What are emulsion breaking chemicals and what are the effects of these being discharged to the environment?

**Response:** *Emulsion breaking chemicals help separate the oil and water. The permit has WET testing to determine if any chemical or mix of chemicals in the discharge is causing toxicity in the environment.*

15. Do the settling ponds only allow for skimming of oil or do they take out mercury or other constituents of concern?

**Response:** *The settling ponds allow suspended solids to settle out of the water.*

16. The map showing the location of the facility does not contain any reference points showing roads or where the produced water enters Bighorn Draw or where the Draw empties into the Little Wind River.

**Response:** *The map is from the permit application which only requires the map to show a 1-mile radius around the facility in accordance with 40 CFR § 122.21(f)(7). The permit includes coordinates of the discharge point for individuals seeking to identify its location on a map.*

17. The abbreviations on this map [the flow diagram] need to be defined. The individual stations along the flow diagram need to be defined. More information needs to be provided on the treatment ponds. Is the discharge located upstream or downstream of the Northern Arapaho Utilities? Where is their diversion for the community water system?

**Response:** *The flow diagram contains the information required by 40 CFR § 122.21(g)(2), and the map showing the location of the discharge point contains the information required by 40 CFR § 122.21(f)(7). The permit includes coordinates of the discharge point for individuals seeking more information concerning its location.*

18. No discussion is provided about the importance of ephemeral streams in an arid area, especially the benefits provided.

**Response:** *The statement of basis does not discuss the importance of ephemeral streams; however, EPA considered the Tribal water quality requirements and developed permit conditions to protect the uses of these streams.*

19. There is no discussion of groundwater impacts. The Water Code of the Northern Arapaho and Eastern Shoshone Tribes recognizes the interconnection of surface and groundwater and that water is a unitary resource.

**Response:** *These permits are for discharges to surface water. NPDES permits protect the uses of surface waters; the CWA does not directly regulate impacts to groundwater. EPA based the effluent limits in this permit on the water quality requirements adopted by the Tribes and principles of tribal sovereignty.*

20. One commenter notes that Tribal water quality requirements indicate that traditional use plants are located in the area of the discharge from Wesco's Winkleman Dome facility. Noting that tribal members harvest plants for traditional use, the commenter asks if additional wetlands couldn't be created and fenced in to act as a buffer to the existing wetlands, presumably to reduce the perceived impact to human health.

**Response:** *NPDES permits include terms and conditions necessary to protect water quality uses and meet TBEL requirements. EPA does not generally specify what treatment technology or best management practices must be used to meet those terms and conditions. In this case, EPA developed effluent limits for the discharge which should protect all of the uses identified by the Tribes in the water quality requirements.*



21. There is no discussion of the outcome of EPA's inspections and Wesco's response other than mentioning photographs in the inspection records. How does the public access these records? EPA should provide more information about the inspections and Wesco's response.

**Response:** *EPA finds that the compliance information provided in the statement of basis is adequate for summarizing Wesco's compliance history and explaining decisions made in the permit on that basis. General compliance information for individual facilities can be accessed online at EPA's Envirofacts database at <http://www.epa.gov/enviro/index.html>. The public can also access a facility's inspection records by sending a Freedom of Information Act request to the U.S. EPA Region 8 or by visiting our office during business hours at 1595 Wynkoop St Denver, CO 80202. For anyone wishing to visit to access records, please call EPA in advance so that we can arrange to have someone available to help pull the files and make copies.*

22. Please define the difference between acute and chronic standards in Table 1.

**Response:** *Water quality criteria for aquatic life contain two expressions of allowable magnitude: maximum concentration to protect against acute (short-term) effects; and a continuous concentration to protect against chronic (long-term) effects. Acute criteria are established to protect against lethality or immobilization in a short time frame. Chronic criteria are established to protect against longer term (often greater than 28-day) harms, such as impacts to an aquatic species' survival, growth, or reproduction.*

23. Comments from the Bureau of Indian Affairs suggested that the existing quality, while aesthetically unsightly, rapidly increases as the water drops in elevation from the last production pond and provides beneficial habitat for aquatic species and plants as it travels downstream through a series of manmade ponds. They also assert that loss of the water, though it is unsightly and appears unclean, would be a detriment to the natural resources it enhances under the current conditions. Loss of riparian zones, erosion, sedimentation, gully washes and downsizing/downcutting would occur. Loss of water for livestock and many wildlife species would also occur.

**Response:** *Under the CWA, EPA does not typically mandate how permittees must meet their permit limits, and permittees are generally free to use whatever operational and or treatment methods they choose to achieve compliance with WQBELs.*