

Buckman Direct Diversion Project, List of Concerns

Citizen Concerns	Regulated Parameters	Unregulated Parameters	Questions	Recommendations	<u>Priority</u>
If ozonation is omitted, and chlorination is to be used as the primary disinfectant, then this may result in very high levels of disinfection by-products. River water has high levels of organic matter, and these levels are highly variable. Disinfection by-products may frequently exceed the USEPA MCLs.	Trihalomethanes (80 ug/L), require quarterly monitoring. Haloacetic acids (60 ug/L), quarterly monitoring. These are carcinogens and can cause liver, kidney, and central nervous system problems.	Dichloroacetonitrile and several hundred different disinfection by-products		The BDP project MUST keep the ozonation treatment of the proposed treatment process. A chlorination disinfection system will not be able to disinfect the river water without resulting in high levels of disinfection by-products.	High Priority 1
Should ozone be utilized for the disinfection of river water. The river could at times have significant levels of bromide. This may result in the creation of bromate. Also, this is the first time the water system will use ozone to treat surface water; there will be a learning curve for the treatment plant operators and technicians	Bromate (10 ug/L), monitored monthly. It is a potent carcinogen.			That the BDP water system operators test for bromate every six days during the first 90 days of river water treatment plant operation, then twice monthly for the next 9 months. If the BDP operators can demonstrate that bromate does not present a problem, then it may return to monthly monitoring.	Priority 2
Ozone may accidentally fail to be de-activated after the ozonation process and as a result destroy the any activated carbon filtration that may be used in the filtration process.	Regulated organic pollutants may break through.	Unregulated organic pollutants may break through.	How is the ozone gas de-activated? What safeguards are in place to ensure that high levels of residual ozone does not reach the carbon filtration?	That the BDP water system operators test for a wide array of organics in addition to the USEPA regulated organic pollutants. This should not created an extra burden on the BDP operations if mass spectrometric methodologies are utilized.	Priority 3
Chlorination (in the form of hypochlorite) will be used as the post-treatment disinfection. This may result in high levels of disinfection by-products.	Trihalomethanes (80 ug/L), quarterly monitoring. Haloacetic acids (60 ug/L), quarterly monitoring. These are carcinogens and can cause liver, kidney, and central nervous system problems.	Dichloroacetonitrile	What will the BDP treatment plant do if these MCLs are exceeded?	That the BDP water system operators monitor for these disinfection by-products once or twice monthly for the first 12 months of BDP treatment plant operation. If the BDP operators can demonstrate that THMs and HAAs do not present problem, then it may return to quarterly monitoring.	Priority 2

<p>Plutonium from upriver sources. Contaminated sites are known to exist in canyons near LANL. These canyons are part of the Espanola Basin and Aquifer system.</p>	<p>Gross alpha radiation (15 pCi/L). Increased risk of cancer.</p>	<p>Plutonium is exceedingly toxic and the current SDWA MCL of gross alpha emission of 15 pCi/L may not be adequate.</p>	<p>Will the BDP treatment plant operator monitor for plutonium at the standard of 0.15 pCi/L? What does the City of Santa Fe think of Governor Bill Richardson's endorsement to the USEPA to adopt this recommended standard for plutonium and other trans-uranic radionuclides? Will the City Councilors and County Commissioners follow his endorsed standards?</p>	<p>That the BDP water system operators monitor for plutonium quarterly at the 0.15 pCi/L level during the first three years of the plant's operation, then semi-annually after that. The months in which monitoring is performed should rotate to cover the river's many different flow rates throughout the year. This is important in the monitoring process to ensure quality measurements.</p>	<p>Priority 2</p>
<p>River water contains high levels of alpha and beta emitters. Flocculation and coagulations may not always capture and precipitate out these radionuclides.</p>	<p>Gross alpha radiation (15 pCi/L), Gross beta radiation (4 mrem/year), Radium-226 and Radium-228 (5 pCi/L), and Uranium (30ug/L). There is an increased risk of cancer and chemical toxicity.</p>			<p>The BDP project MUST keep all components of the pre-treatment design of the proposed treatment process. The treatment process could even be enhanced and engineered to specifically target the removal of uranium and radium.</p>	<p>High Priority 1</p>
<p>Pharmaceuticals in the river water from upriver wastewater effluent. The chemicals may exist in part per trillion levels and may not be detectable by standard analytical methods.</p>		<p>Hormones, antibiotics, and other drugs,</p>	<p>Will the BDP treatment plant operators monitor for pharmaceuticals?</p>	<p>That the City of Santa Fe and the BDP water system operators monitor for the presence of the compounds acetaminophen, caffeine, cholesterol, or ibuprofen in the treated water to indicate if other pharmaceuticals are not being removed in treatment.</p>	<p>Priority 3</p>

<p>The river water was once held in lakes and reservoirs where motorboats and jet skis are used. Gasoline and diesel have likely contaminated these surface waters.</p>	<p>Benzene (5 ug/L), Ethylbenzene (700 ug/L), Toluene (1000 ug/L), Total Xylenes (10000 ug/L) Collectively known as BTEX. Increased risk of cancer, anemia, liver, kidney, and central nervous system problems.</p>	<p>MTBE (Methyl tert-Butyl Ether, a fuel additive), Isooctane and other branched hydrocarbons</p>	<p>Is there any known source that accounts for this contaminant? If so, is it currently under remediation? If there is no known polluted site that explains the detects for the toluene and the xylene (isomer unknown), then is anyone at all investigating it? Was there any confirmation or follow up samples taken when the toluene and xylene (isomer unknown) was detected? Possible that results are false positives, NO follow up as to the methods used, whether a travel bank analysis was with this sample by lab.</p>	<p>That the BDP water system operators test for MTBE in addition to the regulated BTEX pollutants.</p>	<p>Priority 3</p>
<p>Perchlorate. This chemical is an emerging pollutant in many communities through the country. It is usually an oxidizer for rocket fuel and explosives. It is a know LANL contaminant.</p>		<p>Perchlorate.</p>		<p>That the BDP water system operators test for perchlorate and use a de facto MCL as the states of California and Massachusetts do. A target MCL of 2 ug/L for perchlorate should be utilized.</p>	<p>Priority 3</p>
<p>Easy access to testing data for citizens to make their own assessments. Access to the original lab data/results is preferred in addition to the typical summary format of results as found in the Consumer Confidence Reports</p>			<p>Will the City of Santa Fe post laboratory results on an easy to access website? Will the City of Santa Fe also include Method Detection Limits and SDWA Maximum Contamination Levels for Regulated Contaminants?</p>	<p>Create a website posting of testing data and results. This website should be user-friendly.</p>	<p>Priority 2</p>