

From: Gary Beers
To: Kast, George
Date: 5/19/2010 5:00 PM
Subject: March 2009 - Permit Application for Produced Water Facility near Rifle, CO

George,

Your March 30 email to Erin Scott, confirmed that Produced Water Solutions wants the application for the Rifle facility to be for certificate coverage under the general permit for produced water discharges (COG-840000).

I have started on the preparation of this certification and need additional information before the work can be completed.

(1) Under Item 18 - Detailed Process Description (Outfall #001), paragraph 8 notes that RO permeate may be discharged to the Colorado River and additional chemicals (i.e., calcium chloride, sodium bicarbonate) may be added to adjust this water to a more natural state. We need to know exactly what this means, especially in terms of what is the natural state that will be used to decide on these additions.

Is the end-point passing the WET test and/or achieving a specific ionic balance ?

How will the treatment process be operated/managed to sustain this compliance ?

Will your build-up of salts in the permeate prior to discharge increase the TDS to levels that may exceed the load allowed under the Salinity Control regulations ? (This was a problem encountered by another operator, Craig, who was using specific ion exchange to reduce the high sodium levels - and high SAR levels.)

Do you foresee any potential local reuse of the "clean" produced water you expect to discharge ? The subsequent use of this industrial process water will be subject to our permitting, where there is the opportunity for reaching surface or ground waters during or after use. While I will need to seek additional legal clarification, the reuse in oil/gas exploration processes where the water may reach waters of the state is under our jurisdiction and not under the Oil Gas Conservation Commission.

(2) Your application mentions variability of discharge flow to the river and need to likely seek permit amendments to change this parameter.

The limitations placed in the certification are not based on volume of flow; that is, they are end-of-pipe limits (technology and water-quality based limits). No specific EPA ELGs now apply. Therefore, we may just include the maximum flow that you expect during the next five years and avoid amendments.

(3) The basis of the proposed facility is that various sources of produced water can be treated, under various mixes, with an RO-based system and a consistent high quality permeate will be generated. Before we issue the certification, we will need to be convinced that this will occur since we can not issue a permit that can not meet the requirements from the first day of discharge.

Your application is insufficient in this area and additional information is needed. The application included chemical analyses for a "blackwater" sample, which is assumed to be a sample of untreated produced

water. We need further descriptions of the types of produced waters that will be the influent to the treatment process in order to ascertain the potential pollutants of concern. Next, we need supporting information that the treatment process will remove these pollutants. This can be from actual bench testing and/or design/performance information from manufacturer of treatment equipment. Also, we need to know the type and extent of trained operators that will control your facility.

Finally, I think it would be useful for us to meet (at WQCD offices) to develop a fuller understanding of your proposed facility and to discuss the remaining steps, with information needs, to finish the development of the certification. If you will provide 2 or 3 candidate dates and times (I think 2 hours si enough time), then I can see which one works on our end and set a date.

Thanks and I look forward to finally meeting you.

Gary Beers
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