

Draft Minutes of the Board of Directors Meeting on August 23, 2013.

The meeting was called to order at 9:10 am. Board members Dick Johns and Ray Tanner were present in person, and Don Nelder participated by speaker phone. The District Manager, Harry Jones, was also present, as well as Kevin Alexander of SPI and Mike Ploughe of Highland Water Resources.

The chairman noted that the only agenda item was to discuss the recent water turbidity problem apparently caused by discharges from the Cragin Reservoir into the East Verde River by Salt River Project (SRP). He noted that Mike and Kevin had each provided the Board with a very useful summary of alternative ways to address the turbidity, which are as follows:

1. Do not operate the treatment plant when Cragin water is flowing, and obtain a permit variance from the State to allow some turbidity if Cragin water has to be used to avoid a shortage.
2. Re-install the ceramic filters previously used at the treatment plant and use them when Cragin water is flowing.
3. Add a flocculation step to the treatment system.
4. Add an iron adsorption/oxidation media to the treatment system.
5. Relocate the intake pipe to a point upstream of where Cragin water is added to the river.
6. Add a membrane filtration process to the treatment system.
7. Utilize one of several strong oxidants to more rapidly form particulates that can be filtered out of the water.
8. Consider the use of magnetic or electrocoagulation as part of the treatment system.

There was then a discussion of why the treatment plant was not designed to avoid this type of problem to begin with. Essentially, according to Mike Plough and Kevin Alexander, the size and composition of the particles causing the issue (less than 0.5 microns with an iron content), is smaller and different than previously encountered so the system did not include a process to eliminate them.

According to Mike Plough and Kevin Alexander, additional testing of the water will be needed to determine which of the alternative treatments will work best. The Board asked Kevin and Mike what the cost would be to do the testing and to provide a review of the alternatives based on the results. This would be about \$8,000. If option 3 or 4 were chosen since they currently appear to be the most practical, the cost to implement either remedy would be in the range of an additional \$20,000.

There was also a discussion of whether the particles could be from a source other than the Cragin water, such as sediment. According to Mike Plough and Kevin Alexander, based on testing done at various times and locations, the source has definitely been identified as the Cragin water being added to the river by SRP. The Board members agreed that discussions should be opened with SRP to determine if they will help with the problem and/or pay for whatever solution is needed.

Each of the eight alternatives was discussed in detail. It was agreed that, to the extent possible, the treatment plant should be operated when Cragin water is not flowing. Harry Jones will explore and report back to the Board ways to have a qualified operator available when needed at critical periods on short notice to turn the plant on and off in order to take advantage of periods when the Cragin water is not being discharged into the river. In addition, even though the turbidity is only an aesthetic issue, not a health issue, a variance will be requested from the State to allow minimal turbidity in emergency situations or when water storage levels are low.

It was agreed that if the treatment plant's intake pipe can be moved above the Cragin discharge point, this would be the best solution. However, the pipe would be located on Forest Service land, and approval by the Forest Service could take several years. The Board agreed that discussions should be opened with the Forest Service focusing on expeditious ways to obtain approval, perhaps through a temporary special use permit utilizing the same land already covered by an existing easement.

(Note: The expenditure of funds was not authorized for any of the actions described in these minutes. Any expenditures will require specific prior Board approval.)

Pending the outcome of discussions with the Forest Service and Salt River Project, additional testing and studies of the technical remedies will be put on hold.

There being no further discussion, the meeting was adjourned at 11:15 am.

Submitted by Richard Johns, Chairman