

From: Shiers, Paul
Sent: Thursday, November 16, 2006 6:31 AM
To: Ellis, H. Gene
Subject: RE: RSA - WQ Section

Gene:

Who made the determination that the HR and NR proposed upgrades would be adequate to meet standards?

This is news to me.
Sorry for the confusion.

PE is finding this is far more difficult than they initially assumed based on their testing program. Last Greg and I heard was we would do upgrades at HR and NR and that was all we would do. Commitment to comply with standards was not discussed.

No response needed.

Paul

-----Original Message-----

From: Ellis, H. Gene
Sent: Wednesday, November 15, 2006 11:18 AM
To: Shiers, Paul; Ott, Gregory J.
Cc: BLEYLVA; Steve Padula (E-mail); Benn, Randall (LLGM); Williamson, Shirley; Polk, B. Julian
Subject: RE: RSA - WQ Section

Paul, I have responded to your comments in red, below. Gene

From: Shiers, Paul
Sent: Tuesday, November 14, 2006 12:07 PM
To: Ellis, H. Gene; Ott, Gregory J.
Cc: BLEYLVA; Steve Padula (E-mail); Benn, Randall (LLGM); Williamson, Shirley; Polk, B. Julian
Subject: RSA - WQ Section

Gene:

Read through again this morning.

Falls units have two different types of runners, Francis and Kaplan.
We could do runner work on unit 1 for DO if time were available.
This may affect proper order of units selected for aeration, if needed.
May want to consider doing unit 1 third at Falls.
Aeration valves cannot be installed at Falls.

Table should be revised. I don't think the table needs to be revised as it says "or other appropriate technology" and the information in the table has been fully covered with Parenti. Also, I think this wording is the same or consistent with wording in prior versions of this table dating back for some time now. If we change the wording now, DWQ will wonder if we know what we are doing.

Based on the info in the table, it is not clear that we could do anything with the Tuckertown units to solve DO problem as discussed yesterday, although Dave indicated he could advance schedule.
It takes two years from start to get the first unit engineered, designed, fabricated, and installed and the third unit at HR is not installed until end of 2012.
Minimum of one year monitoring at Tuckertown with all three units upgraded is end of 2013 [plan calls for two years, could be an abnormal year].
Four years would be needed to do upgrade of all three Tuckertown units, not in time to complete by 2016.
In this case we would also have two units down at the same time for three years [Falls and Tuckertown] which

has added impacts on system/economics.

As I read RSA commitment, we would need to go with external air injection means at Tuckertown as previously discussed. Completing DO enhancements at Tuckertown by 2016, if needed, was key to getting agreement from DWQ on the extended schedule. Parenti said he can work with this. The risk associated with this commitment is understood, but without this commitment DWQ will not issue a 401.

As written, this indicates if DO monitoring shows we do not meet standards at Tuckertown and Falls, we will prepare a plan and implement to meet standards at these two locations by the end of 2015 and 2016 respectively. If the same studies show we do not meet standards at High Rock and Narrows, we will be allowed to continue to operate this way at Narrows from 2010 through 2017 and High Rock from 2012 through 2017. As written, if after completing all DO upgrades at Narrows and 2 years of monitoring it is determined that DO enhancement is needed at Falls, the DO enhancements at Falls would have to be done in 2014 (Unit 1), 2015 (Unit 2) and 2016 (Unit3). This is the same Narrows/Falls schedule approved internally and that we have been discussing with DWQ for quite some time. If after completing all DO enhancements at HR and 2 years of monitoring it is determined that DO enhancement is needed at Tuckertown, all DO enhancements at Tuckertown (whether or not they are tied to individual units) have to be completed by the end of 2016. As noted earlier, the commitment to complete TT DO enhancements by 2016 was required in order to get DWQ sign-off on the schedule. 2016 was DWQ's bottom line for Tuckertown.

Also, if reason we do not meet standards at TT and FL is we are still below standards still at HR and TT, it may be more cost effective to put DO investment there, have these locations meet standards, and minimize cost if any at TT and FL. As drafted, table commits to installing aeration technology at Falls Units 1-3 to resolve problem and same for Tuckertown units which we may need to overcompensate for low DO out of HR and NR that would still need to be resolved sometime in the future. Getting DWQ's agreement on the extended schedule required we demonstrate confidence that the DO enhancements planned for Narrows and High Rock will allow those tailwaters to meet state standards. If we even begin to suggest to DWQ that the enhancements proposed by APGI for Narrows and High Rock may not allow those tailwaters to meet state standards, DWQ can't issue us a 401. APGI must stand by its conviction that what it has planned at HR and Narrows will allow those tailwaters to meet state standards. If it turns out that those tailwaters do not meet state standards, then it might be time to talk to DWQ about next steps at that time, and if necessary to seek an amendment to the 401 conditions or schedule.

We can discuss further on Friday at Voith meeting.

Paul