PMSTPCOL PEmails

From: Diediker, Nona H [nona.diediker@pnl.gov]
Sent: Thursday, March 27, 2008 3:01 PM
To: Paul Kallan
Cc: James Biggins
Attachments: STP Alternative Site Visit (5).doc

This is the version of your alternative site visit summary that shows mark-ups made by me (blue) and Rajiv (red). (Thought I would save you the time digging it out of your email.) Based on our conversation this morning, you would probably also want to delete the last sentence under each site-specific discussion and may still want to rework the last paragraph. I cringed as I was reading this just now because with all of the changes, it does not flow very well from an editorial perspective. But, that can be easily remedied.

<<STP Alternative Site Visit (5).doc>>

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Recipients:
"James Biggins" <James.Biggins@nrc.gov>
Tracking Status: None
"Paul Kallan" <Paul.Kallan@nrc.gov>
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STP Alternative Site Visit

Staff conducted an alternative site visit for the STP Project during the week of March 3rd – 7th, 2008. The alternative sites reviewed by Staff were: Allen's Creek (TX), Limestone (TX) and Malakoff (TX).

Allen's Creek

Staff met with Lloyd Behm, the General Manager of Bluebonnet Groundwater Conservation District in Navasota, TX. According to Mr. Behm, the City of Houston owns 70% of the surface water and Brazos River Authority owns 30% of surface water to be stored in the proposed reservoir. Staff asked the STP representative how the site may use waters of the proposed Allens Creek Reservoir given that its current timeline for the reservoir's construction is beyond the proposed startup date of the nuclear power plants. STP responded that they could buy the land and water rights and construct the reservoir themselves, speeding the completion of the reservoir and making its waters available for cooling use. Mr. Behm mentioned that there would be enough available ground water for Allen's Creek by meansin of thethe Gulf Coast A aquifer, but that the water in the aquifer is and that contains brackish water from the Gulf. In addition, Staff met with the Austin County Commissioners and other local officials who toldindicated that the County should havehad the capacity to support the socio-economic growth in terms of infrastructure, schools, social services and housing if the two ABWR units were to be built in at the Allen's Creek site. However, they expressed concern about the ability to absorb several major projects, including the Trans-Texas Corridor project, simultaneously. Overall, Staff concluded that there appears to be was no significant problems with availability of water, access to the site or socioeconomic capabilities at the Alleproblem with availability of water, access to the site or socio-economic capabilities at the Allen's Creek site. Therefore, Staff determined that this site is a viable viable site.

Limestone

Staff met with Charles Little and Gary Mechler of NRG. Mr. Mechler is the Plant Manager of the Limestone Electric Generating Station and Mr. Little is the Operations Manager. According to Mr. Little, Limestonethe lLake is owned by the Brazos Power River Authority. Staff had concerns with the safe yields of the lake and the amount of surface water that was is being already permitted, leaving little water for cooling use for the proposed nuclear reactors? . NRG is planning to start construction in early 2009 on a third coal-fired plant at the site, which will use dry cooling due to limited water availablebecause the two existing units already consume all of their surface water allotment from in Lake Limestone. In addition, there is not enoughmay be limited ground water available at the Limestone Plant from the underlying Carrizo-Wilcox aquifer. At present, the plant uses deep wells for ground water.

The State of Texas owns all the mineral rights on the Limestone site. There are numerous natural gas wells located throughout the site. Under current state regulations, gas wells can be permitted at a density of one every 40 acres. However, the state will soon change the regulations to increase the density to one every 20 acres, and there is great support for allowing one well every ten acres. Staff determined that the natural gas wells, located around the site, would be a man man-made hazard if the nuclear plant was were to be built. This is a potential safety problem for the nuclear plants.

NRG does not own the mineral rights to the gas wells. The acreage ofIf the Limestone Plant site is small to supportwere to host two proposed ABWR units, they would have to be sited on

NRG-owned land that is in Freestone County, as opposed to the coal-fired plants, including proposed Unit 3, which are in Limestone County. Overall, Staff concluded that there ~~was~~ may not be enough surface water or ground water available to support the two proposed ABWR water ~~cooling~~ cooled units. ~~NRG does not own the mineral rights on the land they own. Also, NRG not owning the mineral rights of the gas wells is a problem as well as a man made hazard if the nuclear plant was to be built.~~ Staff met with ~~the~~ Limestone County Commissioners and additional local representatives who felt~~mentioned~~ that the County was too small and would not have the capabilities to support the socio-economic growth (schools, roads, hospitals or housing) of two ABWR units. Due to the reasons mentioned above, Staff has concluded that this is not a viable site.

Malakoff

Staff met with Monty Shank of the Upper Neches River Authority. According to Mr. Shank, ~~there is~~ Cedar Creek Reservoir, Richland Chambers Reservoir, Lake Palestine, and the Naches River ~~that is~~are in close proximity to the Malakoff site. Cedar Creek ~~reservoir~~ Reservoir is presently being used by the City of Fort Worth for their potable water supply. ~~Richland Chambers Reservoir is being used by ??? . Staff found that since both these reservoirs are at their limits, they do not have the capacity to support two ABWR units.~~ Lake Palestine is being used by the ~~City~~ Cities of Dallas, Tyler, and Palestine. The excess capacity in Lake Palestine is~~of~~ 18,000 ~~area~~ acre feet, which would not be ~~is not~~ sufficient to support two ABWR units. The ~~Naches~~ Neches River feeds Lake Palestine ~~and does not have sufficient surface water capacity to support the two ABWR units~~. Another lake, Lake Fastrill, is recommended by the state for construction by the year 2050, downstream of Lake Palestine on the Neches River. Dallas-Fort Worth may use waters of Lake Fastrill by pumping it up to Lake Palestine and on to Cedar Creek Reservoir using a newly constructed pipeline from Lake Palestine to Cedar Creek Reservoir. Future construction of Lake Fastrill may also be subject to permission from US Fish and Wildlife Service that has designated the land where the lake is supposed to be located~~,~~ as a ~~reservation~~wildlife refuge.

~~Also, according to~~Groundwater permitting in the region is controlled by the ~~Naches~~ Neches and Trinity ~~Vallies~~ Valleys Groundwater Conservation District, located in Jacksonville, ~~Ile,~~ ~~(TX)~~Texas. ~~,~~ ~~t~~There ~~is~~ may not be sufficient ground water available in the underlying Carrizo-Wilcox aquifer to support the two proposed ABWR units. Staff met with the Athens County Commissioners and other local officials who ~~mentioned that had~~generally felt the area has the capacity to support the socio-economic growth in terms of infrastructure, schools, social services and housing if the two ABWR units were to be built at the Malakoff site. The current road infrastructure is not conducive to site access, but could be improved through upgrades and potentially a bypass around the City of Malakoff. In conclusion, while the County can support the socio-economic growth if the two proposed ABWR units were to be built at the Malakoff site, Staff determined that thi~~s is~~s may not be a viable site as there does not appear to be ~~is not~~ sufficient surface or ground water for the two cooling water ABWR units.

Conclusion

Staff has determined that only one out of the three alternative sites proposed by STPNOC is an apparent viable site~~s~~. Allen~~'~~s Creek is being considered by Staff as a viable site due to the availability of surface and ground water. In addition, the County can support the socio-economic growth if the two ABWR units were to be built. The Limestone ~~and Malakoff~~ site~~s~~ is~~are~~ not a viable site~~s~~ as Staff has determined that there ~~is~~ may not be sufficient surface or

ground water available to support the two ~~cooling~~ water-cooled ABWR units. Limestone can not support the socio-economic growth and is subject to safety issues due to the natural gas wells in the area. ~~while~~ Malakoff can apparently support the growth. However, water availability is uncertain at this time and thus the viability of Malakoff is currently undetermined. ~~still not a viable site without the~~due to limited ~~availability of water.~~ Viability of the Malakoff site should be determined by the end of the RAI process.