

DOCKETED

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Project Title:	Compliance - Application for Certification for SMUD's Campbell Soup Cogeneration Project
TN #:	211263
Document Title:	Report of Conversation for site visit on April 19, 2016
Description:	N/A
Filer:	AbdelKarim Abulaban
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Siting and Environmental Protection Division

FILE: (93-AFC-3C)

		PROJECT TITLE: SPA Campbell	
<input type="checkbox"/> Telephone		<input checked="" type="checkbox"/> Meeting Location: SPAC - 3215 47 th Ave, Sacramento	
NAME:	Abdel-Karim Abulaban	DATE:	4/19/2016
WITH:	Representatives of SPAC project		
SUBJECT:	PTA to use recycled water in the cooling tower		

BACKGROUND:

Energy Commission staff, Abdel-Karim Abulaban and Paul Marshall met with representatives of the Sacramento Power Authority (SPA) at the Campbell Cogeneration Project (SPAC) to tour the project site and discuss the petition-to-amend (PTA) filed by the project owner on November 20, 2015 to replace potable water with recycled water for use in the cooling tower. Representing SPA were: John Carrier, project manager, CH2M; Ross Gould, SMUD; Rene Toledo, SMUD; Frank Miller, SPA Cogen Facility Manager, Ethos Energy; Pedro Juarez, SPA Cogen Plant Engineer, Ethos Energy; Joe Brown consultant to Ethos Energy.

The purpose of the meeting was to tour the facility and discuss why the project could not use recycled water for all industrial uses rather than just wet cooling. Staff also viewed the two alternative sites where the recycled water line would connect to SPAC. The following issues were also discussed:

1. The PTA states that SPA seeks an “option” to use recycled water. Why not a firm commitment?
2. The project will continue to use potable water for some uses that require cleaner water. Why not convert all industrial needs to recycled water?
3. There is a concern raised by the Air Resources Board regarding emission of elevated levels of Volatile Organic Compounds (VOC). Has this issue been addressed?
4. When does SPA expect to do the conversion to recycled water?

DISCUSSION:

1. SPA staff offered the following reasons as to why they cannot convert all project’s industrial water to recycled water:
 - a. The recycled water project is a collaboration between SMUD and the Sacramento Regional Sanitation District (Regional San) to build the backbone for a recycled water delivery system that will not only serve the



project but would also facilitate the development and delivery of Regional San recycled water use throughout the area. The conditions from SMUD's Board of Directors for its voluntary involvement were to make the use of recycled water at SPAC cost neutral when compared with their existing operating costs for using City potable water supplies, and for Regional San to agree to receive SPAC's wastewater discharge.

- b. The amount of water needed for the other industrial uses, such as inlet air cooling and steam cycle makeup, is a rather small fraction compared with the amount used in the cooling tower. Water used in the cooling tower makes up about 95 percent of the total industrial water needed for SPAC. The amount of water consumed for the other uses is only about 40,000 gallons per day (gpd), or about 45 acre-feet per year (AFY), while the cooling tower uses about 900 AFY. It would be economically infeasible to undertake the large capital improvement needed to treat the high-quality water needs of SPAC, especially considering the 15-fold increase between the dissolved solids in the potable water being currently used (~ 40 mg/l) and that of the recycled water (~600 mg/l). The water treatment demineralization system would have to be increased in size by a factor of 15. Use of portable trailer-mounted demineralizer treatment equipment would require about 30 trailers per day.
 - c. This project has been online for 18 years and only about 12 years of the design life remains. This is too short to justify the increased capital costs associated with improving the water quality for these small industrial uses.
 - d. SPAC is landlocked and there is no room on the project footprint to add the treatment facilities. The current equipment and facilities occupy almost the whole site up to the fence line. The project owner has tried to purchase some adjacent land for other purposes in the past (e.g., to just have a staging area for routine maintenance or repair work) but was unable to reach acceptable terms with the land owner.
 - e. The ability to attract future steam hosts associated with food processing might be diminished if recycled water is used as the source of the steam. Presently, a possible steam host is considering locating at the plant.
 - f. In addition, fluctuation in the quality of the recycled water from Regional San makes it more difficult to predict what will be delivered on any day, and thus SPA cannot know what would need to be done on any particular day to use that water.
 - g. Because Regional San cannot guarantee the reliability of its water supply, water for fire suppression will have to remain with city-supplied water.
2. The PTA is for an "option" to use recycled water, not a commitment: Staff was told that since Regional San cannot guarantee the quality of the recycled water to be



delivered to the project, nor can it guarantee the reliability of the recycled water supply, SPA wants to reserve the option to use potable water. Also, SPA wants to keep the option to use potable water in case of curtailment of the recycled water supply for any reason.

3. Staff was told that it is unknown where the small amount of VOCs get introduced to the recycled water. One speculation is that the VOCs might be introduced by the incoming wastewater flows on the way to the treatment plant. However, SPA representatives indicated that if Regional San does not dechlorinate the recycled water (i.e., allows more free chlorine to remain in the water) before it is delivered to SPAC, it should help keep the VOC levels low. SPA is in negotiation with Regional San to find ways to deal with the VOCs. Staff was also told that SPA would take a conservative approach and offset any VOC emissions from the cooling tower.
4. According to the Will-Serve letter from Regional San, construction of the recycled water main is anticipated to be completed by July 2017. However, SPAC is working on completing construction of its onsite recycled water components before the end of 2016 so that they will be ready to connect to the recycled water line as soon as it is finished.
5. Staff learned that the project owner is considering construction of an underground vault in the driveway (see Photos 1 and 3) as an option for connection to the recycled water pipeline. The other option is to locate the recycled water line to the west of the existing potable water lines (see Photo 2). Staff also learned of the possible need for a small metering building near the cooling tower. Staff mentioned that these changes may require an update to the project description and recommended that SPA discuss it with the CPM. See attached photos.

cc: Dockets (93-AFC-3C)	Signed:
	Name: Abdel-Karim Abulaban

Attachment: Photos from Site Visit



Photo 1. 47th Avenue east entrance to SPAC.



Photo 2. Western side of east entrance (shown in Photo 1), where the recycled water could be brought into the project from Regional San alongside the existing water service lines.



Photo 3. Entrance (shown in Photo 1). An option is being considered to place the recycled water line in an underground vault in the middle of this driveway.



Photo 4. Sodium hypochlorite storage tank (large tank on the right). SPA plans to replace this 2,000-gallon tank with a 3,000-gallon tank, and possibly add another 3,000-gallon tank.