From: Head, Sara
Sent: Monday, December 15, 2008 1:30 PM
To: 'Eric Solorio'
Cc: 'Stein, Kenneth'; Russell, Meg
Subject: FW: BEACON Waste Stream Quantities

Attachments: Revised Table 5.16-6.doc

Eric,

As previously noted, the disposal method for the cooling tower blowdown for the BSEP is use of evaporation ponds, a ZLD method. The reference in Table 15.6-6 to "filter press solids and dewatered sludge cake" has been removed from the attached table because the reference was in error.

The reference in the AFC (section 5.13.3.3, paragraph 2) regarding truck traffic trips specifically states: "BSEP operations will also involve truck traffic for the delivery of materials and supplies as well as for other purposes such as the offsite shipment of wastes. Approximately 38 truck trips per month are expected, with an average of between one and two truck trips per day including offsite shipments (e.g., solid waste) and deliveries of materials and supplies." The mention of waste shipment was only to give an example of materials that will be shipped off site, not to state that all shipments off site will be for the purpose of waste disposal.

Waste is estimated to be shipped off site at least monthly. In Table 5.16-6, several waste streams are listed, including classification (e.g., hazardous waste, non-hazardous waste) estimated quantities, and frequency of generation/disposal. Based on the listed volumes, types of waste, and regulatory requirements, BSEP is estimated to have the following pick up frequencies:

Monthly
- 1-truck per month for 4,200 gallons of waste oils, hydraulic fluid, and grease for recycling
- 1-truck per month for 750 pounds of waste rags & absorbents for cleaning and recycling
- 2-trucks per month for 28,300 pounds of carbon media for regeneration/recycling
- 4.3-trucks per month for solid waste disposal

Quarterly
- 1-truck per quarter for 750 gallons of oily water for recycling and miscellaneous waste (e.g., universal waste - fluorescent bulbs) for recycling
- 1-truck per quarter for 3 cubic yards of HTF contaminated soil for disposal

Annually
- 1-truck annually to dispose of 10 cubic yards of cooling tower sludge for disposal

Tri-annually
- 1-truck every three years for 500 cubic feet of spent resin for recycling

Based on the estimated volumes and anticipated regulatory requirements, approximately 2 trucks per week will be required to haul waste from BSEP. Please note that vendors delivering raw materials may also remove waste from the facility. For example, rags and absorbents delivered are expected to remove

waste rags and absorbent for cleaning and recycling. Vendors delivering lead-acid batteries are expected to pick up spent lead-acid batteries for recycling.

Please let us know if this is the information that you were looking for.

Sara

-----Original Message-----
From: Eric Solorio [mailto:ESolorio@energy.state.ca.us]
Sent: Thursday, December 11, 2008 5:07 PM
To: Stein, Kenneth
Cc: Sara.Head@aecom.com; Ellie Townsend-Hough; McCloud, Duane; Russell, Meg; Jared (Sacramento) Foster
Subject: RE: BEACON Waste Stream Quantities

Kenny,

I understand your earlier assertion that evaporation ponds are a ZLD method although the AFC description of this particular waste stream is identical to that from a "mechanized" ZLD technological process - which the CEC and the State Water Board encourages the use of. Please provide an updated table that accounts for "filter press solids and dewatered sludge cake" which is currently estimated at 2,500 pounds per hour. Aside from your statement that the project does not plan to utilize a "brine crystallizer that produces a solid waste", staff will still need to identify and reconcile the equivalent "solid" waste stream; quantity. Although staff will study the impacts of the larger number of truck trips, please provide more detail regarding the basis for AFC estimated truck trips not related to removal of solids from cooling tower blowdown. Thanks.

Eric

-----Original Message-----
From: Eric Solorio [mailto:ESolorio@energy.state.ca.us]
Sent: Thursday, December 11, 2008 11:59 AM
To: Stein, Kenneth
Cc: Sara.Head@aecom.com; Ellie Townsend-Hough; McCloud, Duane; Russell, Meg; Jared (Sacramento) Foster
Subject: RE: BEACON_Waste Stream Quantities

Thanks for the quick reply. I understand that "the 4th row in the table is an error" but you didn't describe whether its inclusion was an error or the estimated waste stream is an error and/or the disposal method is an error. I'll speak with our staff and follow up with you regarding reconciling the estimated waste stream (filter press solids, dewatered sludge cake) of 2,500 pounds per hour (for at least 30 years) with the 8 foot depth of the evaporation ponds. Also, I assume staff will want clarity on the truck traffic.

Eric

>>> "Stein, Kenneth" <Kenneth.Stein@fpl.com> 12/11/2008 8:18 AM >>>

Eric -

Our apologies, but the 4th row in the table is an error. The disposal method for cooling tower blowdown for the Beacon Solar Energy Project is the use of the evaporation ponds. Use of evaporation ponds is considered a ZLD method, since liquid process water does not leave the site, but Beacon will not use a brine crystallizer that produces a solid waste on a regular basis.

The discussion in AFC section 5.13.3.3 regarding truck trips only gives solid waste disposal as an example of truck activity and was not meant to imply that all of the truck trips would be related to solid waste disposal, which could include various wastes generated during operation of the project (but typically would not include solids related to the blow down). The evaporation ponds are designed to contain the waste accumulated over the 30 year life of the project, but 3 ponds are planned to allow for the solid waste to be removed in the event that the pond liner needed repair (in which case, the solid waste would be trucked to a landfill).

The design depth of the evaporation ponds would be 8 feet which incorporates:

* 2 feet of sludge build up over 30 years;

* 3 feet of operational area; and

* 2 feet of freeboard.

The ponds will be managed with a 2-foot minimum water depth as opposed to a 1-foot minimum water depth as originally recommended in the October 13 data response (see supplemental biological resources responses submitted on November 26, 2008).

Sorry for the confusion caused by the error in the Table. Please let us know if you need a revised table provided or if Staff has additional questions.

-----Original Message-----
From: Eric Solorio [mailto:ESolorio@energy.state.ca.us]
Sent: Wednesday, December 10, 2008 4:38 PM
To: Stein, Kenneth; Russell, Meg
Cc: Sara.Head@aecom.com; Ellie Townsend-Hough
Subject: BEACON_Waste Stream Quantities

Kenny,

Please provide clarification of AFC Table 5.16-6, Summary of Operation Waste Streams and Management Methods. Specifically, the portion of the table on page 5.16-14, first row, "Cooling Tower Blowdown" which lists the disposal method as Evaporation Ponds, compared with the fourth row, "Water Treatment Solids (including cooling tower waste water treatment solids)" which lists the estimated amount of waste at 2,500 pounds per hour to be disposed to waste management facility. The information in these two rows appears inconsistent. More so, the later appears to reflect a zero-liquid discharge system. Which appears to track the 2nd paragraph of AFC 5.13.3.3 regarding truck traffic trips to haul solid waste offsite. Is Beacon proposing to use ZLD? Please clarify. In light of these waste quantities, please also identify the depth of the proposed evaporation ponds. Thanks!

Respectfully,

Eric K. Solorio, Project Manager

California Energy Commission
Siting, Transmission and Environmental Protection Division
1516 Ninth Street, MS-15
Sacramento, CA 95814
(916) 651-0966

Table 5.16-6 Summary of Operation Waste Streams and Management Methods

Waste Stream and Classification[1]	Origin and Composition	Estimated Amount	Estimated Frequency of Generation	Waste Management Method	
				Onsite	Offsite
Used Hydraulic Fluid, Oils and Grease – Non-RCRA Hazardous	HTF system, turbine, and other hydraulic equipment	50,000 gallons/year	Intermittent	Accumulated for <90 days	Recycle
Effluent from oily water separation system – Non-RCRA Hazardous	Plant washdown area/oily water separation system	3,000 gallons/year	Intermittent	None	Recycle
Oily rags, oil absorbent, and oil filters – Non RCRA Hazardous	Various	Five 55-gallon drums per month	Intermittent	Accumulated for <90 days	Sent offsite for recovery or disposed at Class I landfill
Spent Carbon – RCRA Hazardous	Spent activated carbon from air pollution control of HTF vent	340,000 lbs/yr	Intermittent	Contained in engineered process vessel, no accumulation outside of process	Sent offsite for regeneration at a permitted management facility
Soil contaminated with HTF (> 10,000 mg/kg – Non-RCRA Hazardous	Solar array equipment leaks	10 cubic yards per year (cy/yr)	Intermittent	Accumulated of < 90 days	Sent offsite for disposal at a Class I landfill
Soil contaminated with HTF (< 10,000 mg/kg – Nonhazardous	Solar array	750 cy/yr	Intermittent	Bioremediation unit	Dispose to waste management facility
Spent batteries – Universal Waste	Rechargeable and household	<10/month	Continuous	Accumulate for <1 year	Recycle
Spent batteries – Hazardous	Lead acid	20 every 2 years	Intermittent	Accumulated for <90 days	Recycle
Spent fluorescent bulbs – Universal Waste	Facility lighting	< 50 per year	Intermittent	Accumulate for <1 year	Recycle
Spent Demineralizer resin –Nonhazardous	Demineralizer	250 cubic feet (ft^3)	Once every 3 years	None	Recycle
Cooling Tower Blowdown – Designated Liquid Waste	Cooling tower	195,000 gallons/day	Continuous when plant is operating	Evaporation Ponds	None
Cooling Tower Basin Sludge - Nonhazardous	Cooling tower	10 tons/year	Annually	None	Dispose to waste management facility
Spent softener resin - Nonhazardous	Softener	500 ft^3	Once every 3 years	None	Recycle
Sanitary wastewater - Nonhazardous	Toilets, washrooms	2,500 gallons/day	Continuous	Septic leach field	None

[1] Classification under Title 22, CCR § 66261.20 et seq.

Deleted: Water Treatment Solids (Including cooling tower waste water treatment solids) – Nonhazardo ... [1]

Water Treatment Solids (Including cooling tower waste water treatment solids) – Nonhazardous	Filter press solids, dewatered sludge cake	2,500 pounds per hour	Continuous when plant is operating	None	Dispose to waste management facility

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE BEACON SOLAR ENERGY PROJECT	DOCKET NO. 08-AFC-2

PROOF OF SERVICE
(Revised 11/10/08)

INSTRUCTIONS: All parties shall either (1) send an original signed document plus 12 copies or (2) mail one original signed copy AND e-mail the document to the address for the docket as shown below, AND (3) all parties shall also send a printed or electronic copy of the document, which includes a proof of service declaration to each of the individuals on the proof of service list shown below:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-2
1516 Ninth Street, MS-14
Sacramento, CA 95814-5512
docket@energy.state.ca.us

Mike Argentine FPL Energy, LLC 1465 Oak Hill Way Roseville, CA 95661 Michael.argentine@fpl.com	Kenneth Stein, J.D. Duane McCloud Bill Narvaez Meg Russell FPL Energy, LLC 700 Universe Blvd., MS JES/JB Juno Beach, FL 33408 Kenneth.stein@fpl.com Guillermo.narvaez@fpl.com Duane.mccloud@fpl.com Meg.russell@fpl.com
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Eric K. Solorio, Project Manager esolorio@energy.state.ca.us	Public Adviser pao@energy.state.ca.us

DECLARATION OF SERVICE

I, Lorraine Ballew, declare that on December 16, 2008, I deposited copies of the attached **Correspondence Regarding Waste Stream Quantities** and **Revised Table 5.16-6** in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above**.**

OR

Transmission via electronic mail was consistent with the requirements of the California Code of Regulations, title 20, sections 1209, 1209.5 and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.

/s/Lorraine Ballew
Lorraine Ballew