

US EPA ARCHIVE DOCUMENT



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21 May 2014

Mr. Todd Robert
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

**RE: CCI Corpus Christi Condensate Splitter and Bulk Terminal Application – Response to 14 May 2014 Information Request
CCI Corpus Christi LLC - Corpus Christi, Texas**

Dear Mr. Robert:

This letter is in response to your phone conversation with Mr. Lon Morris on 14 May 2014 requesting additional information for the CCI Corpus Christi LLC (CCI) Condensate Splitter Facility located in Corpus Christi. Record of the phone conversation is provided in **Attachment 1** for documentation purposes. On behalf of CCI, Weston Solutions, Inc. (WESTON®) submits the following additional information.

- Emissions from the heaters and the boilers have been revised to represent combustion of 95% natural gas and 5% process gas. The combined fuel gas composition is 93.90% methane, 2.70% ethane, 1.80% propane, 1.20% butane, 0.2% pentane, 0.16% hexane plus, and 0.04% water. Table 1(a), 2F, D-1, and D-2 have been revised to reflect this change. Revised tables can be found in **Attachment 2**.
- The economic feasibility discussion for the carbon capture and sequestration has been revised to include the total capital cost of the project. Pages 4-4, 4-5, and 4-19 of the permit application have been revised and can be found in **Attachment 3**.

If you have any questions regarding this submittal, please contact me at (512) 651-7118 or via email at Lon.Morris@westonsolutions.com.

Very truly yours,
WESTON SOLUTIONS, INC.

A handwritten signature in blue ink that reads "Lon Morris".

Lon Morris
Project Manager

cc: Leann Plagens, CCI Corpus Christi LLC

**ATTACHMENT 1
RECORD OF COMMUNICATION**

RECORD OF COMMUNICATION	<input checked="" type="checkbox"/> PHONE CALL <input type="checkbox"/> DISCUSSION <input type="checkbox"/> FIELD TRIP <input type="checkbox"/> CONFERENCE <input type="checkbox"/> OTHER (SPECIFY)	
	<i>(Record of item checked above)</i>	
TO: Lon Morris, Weston Solutions, Inc. representing CCI, Corpus Christ, LLC	FROM: Robert Todd, USEPA, Region 6 6 PD-R	DATE: 5/14/2014
		TIME: 12:45 PM
SUMMARY OF COMMUNICATION : I called Lon to: 1) Inform him we received his letter stating CCI, Corpus Christi wished to retain EPA Region 6 as the permitting authority for PSD GHG permitting action. Lon acknowledged the information. 2) Inform him once we go to public notice on the permit CCI will need to formally withdraw their application if they want to transfer the application to TCEQ. Lon said he understood. 3) In their CO2 calculations they used the process gas factor of 59 kg CO2/MMBtu of gas burned, even though the fuel gas will be 95% natural gas. I informed him I will need to ratio the factors to get a better CO2 emissions estimate. Lon said he would provide updated CO2 emisisions data. 4) I asked Lon to provided an estimate of the total capital cost of the project that we can use in the CCS economic feasibility discussion. Lon said he would work on getting that figure to me.		
CONCLUSIONS. ACTION TAKEN OR REQUIRED Lon will provide updated CO2 emissions data. Lon will provide a capital cost of the facility for use in the State of Basis for the permit proposal. I will continue to resolve issues regarding the drafts of the statement of basis and draft permit.		
INFORMATION COPIES TO: Lon Morris, CCI, CCI GHG permit file, Jeff Robinson		

**ATTACHMENT 2
REVISED EMISSION CALCULATIONS AND TABLES**

CCI Corpus Christi LLC
Table 1(a) Emission Point Summary (Revised May 2014)

Date: 5/20/2014	Permit No.: TBD	Regulated Entity No.: TBD
Area Name: CCI Corpust Christi		Customer Reference No.: TBD

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA						EMISSION POINT DISCHARGE PARAMETERS										
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate		4. UTM Coordinates of Emissions Point			Source							
									7. Stack Exit Data		8. Fugitives					
(A) EPN	(B) FIN	(C) Name		(A) Pound Per Hour	(B) TPY	Zone	East (Meters)	North (Meters)	5. Building Height (Ft.)	6. Height Above Ground (Ft.)	(A) Diameter (Ft.)	(B) Velocity (FPS)	(C) Temperature (°F)	(A) Length (Ft.)	(B) Width (Ft.)	(C) Axis Degrees
H-1	340-H1	Charge Preheater 1	CO ₂	17,961.06	70,802.51	14	649,294	3,079,041	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.37	1.47											
			N ₂ O	0.04	0.17											
			CO ₂ e	17,983.00	70,888.99											
H-2	350-H1	Charge Preheater 2	CO ₂	17,961.06	70,802.51	14	649,347	3,079,000	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.37	1.47											
			N ₂ O	0.04	0.17											
			CO ₂ e	17,983.00	70,888.99											
BL-1	240-B1	Boiler 1	CO ₂	4,271.47	16,619.35	14	649,379	3,078,926	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.09	0.34											
			N ₂ O	0.01	0.04											
			CO ₂ e	4,276.68	16,639.65											
BL-2	240-B2	Boiler 2	CO ₂	4,271.47	16,619.35	14	TBD	TBD	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.09	0.34											
			N ₂ O	0.01	0.04											
			CO ₂ e	4,276.68	16,639.65											
FL-1	330-FL1	Flare	CO ₂	543.78	2,165.26	14	649,643	3,078,574	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	1.51	5.99											
			N ₂ O	<0.01	<0.01											
			CO ₂ e	581.73	2,316.36											

CCI Corpus Christi LLC
Table 1(a) Emission Point Summary (Revised May 2014)

Date:	5/20/2014	Permit No.:	TBD	Regulated Entity No.:	TBD
Area Name:	CCI Corpust Christi	Customer Reference No.:	TBD		

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AIR CONTAMINANT DATA						EMISSION POINT DISCHARGE PARAMETERS										
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate		4. UTM Coordinates of Emissions Point			Source							
(A) EPN	(B) FIN	(C) Name		(A) Pound Per Hour	(B) TPY	Zone	East (Meters)	North (Meters)	5. Building Height (Ft.)	6. Height Above Ground (Ft.)	7. Stack Exit Data			8. Fugitives		
										(A) Diameter (Ft.)	(B) Velocity (FPS)	(C) Temperature (°F)	(A) Length (Ft.)	(B) Width (Ft.)	(C) Axis Degrees	
FL-MSS	330-FL1	Flare MSS	CO ₂	54,262.77	368.11	14	649,643	3,078,574	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	4.14	0.04											
			N ₂ O	0.25	<0.01											
			CO ₂ e	54,441.98	369.29											
TK-MSS	Multiple FINS	Tank MSS (RTO emissions from degassing Tank)	CO ₂	8,988.73	36.88	14	TBD	TBD	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.36	<0.01											
			N ₂ O	0.07	<0.01											
			CO ₂ e	9,019.34	37.01											
FUGS	FUGS	Fugitives	CO ₂	-	-	14	TBD	TBD	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	3.63	15.92											
			N ₂ O	-	-											
			CO ₂ e	90.87	397.99											
MVCU	150-FL2	Marine Vapor Combustion Unit	CO ₂	23,301.13	29,022.70	14	649,252	3,078,668	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.92	1.12											
			N ₂ O	0.18	0.22											
			CO ₂ e	23,377.28	29,116.27											
EMGEN	EMGEN	Emergency Generator	CO ₂	2,446.23	122.31	14	TBD	TBD	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.10	<0.01											
			N ₂ O	0.02	<0.01											
			CO ₂ e	2,454.62	122.73											

CCI Corpus Christi LLC
Table 1(a) Emission Point Summary (Revised May 2014)

Date: 5/20/2014	Permit No.: TBD	Regulated Entity No.: TBD
Area Name: CCI Corpust Christi		Customer Reference No.: TBD

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA						EMISSION POINT DISCHARGE PARAMETERS										
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate		4. UTM Coordinates of Emissions Point			Source							
									7. Stack Exit Data		8. Fugitives					
(A) EPN	(B) FIN	(C) Name		(A) Pound Per Hour	(B) TPY	Zone	East (Meters)	North (Meters)	5. Building Height (Ft.)	6. Height Above Ground (Ft.)	(A) Diameter (Ft.)	(B) Velocity (FPS)	(C) Temperature (°F)	(A) Length (Ft.)	(B) Width (Ft.)	(C) Axis Degrees
FW-1	FW-1	Firewater Pump 1	CO ₂	815.41	40.77	14	TBD	TBD	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.03	<0.01											
			N ₂ O	0.01	<0.01											
			CO ₂ e	818.21	40.91											
FW-2	FW-2	Firewater Pump 2	CO ₂	815.41	40.77	14	TBD	TBD	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.03	<0.01											
			N ₂ O	0.01	<0.01											
			CO ₂ e	818.21	40.91											
CWT	240-CT1	Cooling Tower	CO ₂	-	-	14	TBD	TBD	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	0.42	1.84											
			N ₂ O	-	-											
			CO ₂ e	10.50	45.99											
WWTP	190-T30	Wastewater Treatment Plant	CO ₂	-	-	14	TBD	TBD	--	TBD	TBD	TBD	TBD	--	--	--
			CH ₄	4.56	9.04											
			N ₂ O	-	-											
			CO ₂ e	114.06	226.02											

EPN = EMISSION POINT NUMBER

FIN = FACILITY IDENTIFICATION NUMBER

This form designed to correspond with TCEQ - 10153 (Revised 04/08) Table 1(a).

**TABLE 2F (Revised May 2014)
PROJECT EMISSION INCREASE**

Pollutant ⁽¹⁾ : CO ₂ e			Permit: TBD							
Baseline Period: Not applicable (proposed new stationary source)										
Affected or Modified Facilities ⁽²⁾			Permit No.	A		B		Difference (B-A) ⁽⁶⁾	Correction ⁽⁷⁾	Project Increase ⁽⁸⁾
FIN	EPN	Actual Emissions ⁽³⁾		Baseline Emissions ⁽⁴⁾	Proposed Emissions ⁽⁵⁾	Projected Actual Emissions				
1	H-1	340-H1	TBD	-	-	70,888.99	-	70,888.99		70,888.99
2	H-2	350-H1	TBD	-	-	70,888.99	-	70,888.99		70,888.99
3	BL-1	240-B1	TBD	-	-	16,639.65	-	16,639.65		16,639.65
4	BL-2	240-B2	TBD	-	-	16,639.65	-	16,639.65		16,639.65
5	FL-1	330-FL1	TBD	-	-	2,316.36	-	2,316.36		2,316.36
6	FL-MSS	330-FL1	TBD	-	-	369.29	-	369.29		369.29
7	TK-MSS	Multiple FINS	TBD	-	-	37.01	-	37.01		37.01
8	FUGS	FUGS	TBD	-	-	397.99	-	397.99		397.99
9	MVCU	150-FL2	TBD	-	-	29,116.27	-	29,116.27		29,116.27
10	EMGEN	EMGEN	TBD	-	-	122.73	-	122.73		122.73
11	FW-1	FW-1	TBD	-	-	40.91	-	40.91		40.91
12	FW-2	FW-2	TBD	-	-	40.91	-	40.91		40.91
13	CWT	240-CT1	TBD	-	-	45.99	-	45.99		45.99
14	WWTP	190-T30	TBD	-	-	226.02	-	226.02		226.02
Page Subtotal⁽⁹⁾									0.00	207,770.74

All emissions must be listed in tons per year (tpy). The same baseline period must apply for all facilities for a given NSR pollutant.

1. Individual Table 2Fs should be used to summarize the project emission increase for each criteria pollutant
2. Emission Point Number as designated in NSR Permit or Emissions Inventory
3. All records and calculations for these values must be available upon request
4. Correct actual emissions for currently applicable rule or permit requirements, and periods of non-compliance. These corrections, as well as any MSS previously demonstrated under 30 TAC 101, should be explained in the Table 2F supplement.
5. If projected actual emission is used it must be noted in the next column and the basis for the projection identified in the Table 2F supplement
6. Proposed Emissions (column B) minus Baseline Emissions (column A).
7. Correction made to emission increase for what portion could have been accommodated during the baseline period. The justification and basis for this estimate must be provided in the Table 2 supplement.
8. Obtained by subtracting the correction from the difference. Must be a positive number
9. Sum all values for this page.
10. Type of note. Generally would be baseline adjustment, basis for projected actual, or basis for correction (what could have been accommodated)

Table D-1 (Revised May 2014)
Summary of Potential to Emit
CCI Corpus Christi LLC

A. Annual Potential to Emit (PTE) Summary

Emission Source Description	Potential Annual Emissions (tons/year) ⁽¹⁾				Reference Table
	CO ₂	CH ₄	N ₂ O	CO ₂ e	
Charge Heater (H-1)	70,802.51	1.47	0.17	70,888.99	D-2
Charge Heater (H-2)	70,802.51	1.47	0.17	70,888.99	D-2
Boiler (BL-1)	16,619.35	0.34	0.04	16,639.65	D-2
Boiler (BL-2)	16,619.35	0.34	0.04	16,639.65	D-2
Flare (FL-1)	2,165.26	5.99	<0.01	2,316.36	D-3
Flare-MSS (FL-MSS)	368.11	0.04	<0.01	369.29	D-4 & D-5
Temporary Control Device (TK-MSS)	36.88	<0.01	<0.01	37.01	D-6
Fugitives (FUGS)	-	15.92	-	397.99	D-7
Marine Vapor Combustion Unit (MVCU)	29,022.70	1.12	0.22	29,116.27	D-8
Emergency Generator (EMGEN)	122.31	<0.01	<0.01	122.73	D-9
Fire Water Pump (FW-1)	40.77	<0.01	<0.01	40.91	D-9
Fire Water Pump (FW-2)	40.77	<0.01	<0.01	40.91	D-9
Cooling Tower (CWT)	-	1.84	-	45.99	D-10
Wastewater Treatment Plant (WWTP)	-	9.04	-	226.02	D-11
Total Proposed PTE	206,640.51	37.58	0.64	207,770.74	
Major Source Threshold	NA	NA	NA	75,000	
Triggers Major Source Permitting?	NA	NA	NA	Yes	

Notes:

(1) All sources associated with this project are new sources; therefore, baseline emissions are zero and the total emissions increases for purposes of federal applicability are equal to the PTEs.

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Table D-1 (Revised May 2014)
Summary of Potential to Emit
CCI Corpus Christi LLC

B. Hourly Potential To Emit (PTE) Summary

Emission Source Description	Potential Hourly Emissions (lb/hour)				Reference Table
	CO ₂	CH ₄	N ₂ O	CO ₂ e	
Charge Heater (H-1)	17,961.06	0.37	0.04	17,983.00	D-2
Charge Heater (H-2)	17,961.06	0.37	0.04	17,983.00	D-2
Boiler (BL-1)	4,271.47	0.09	0.01	4,276.68	D-2
Boiler (BL-2)	4,271.47	0.09	0.01	4,276.68	D-2
Flare (FL-1)	543.78	1.51	<0.01	581.73	D-3
Flare-MSS (FL-MSS)	54,262.77	4.14	0.25	54,441.98	D-4 & D-5
Temporary Control Device (TK-MSS)	8,988.73	0.36	0.07	9,019.34	D-6
Fugitives (FUGS)	-	3.63	-	90.87	D-7
Marine Vapor Combustion Unit (MVCU)	23,301.13	0.92	0.18	23,377.28	D-8
Emergency Generator (EMGEN)	2,446.23	0.10	0.02	2,454.62	D-9
Fire Water Pump (FW-1)	815.41	0.03	0.01	818.21	D-9
Fire Water Pump (FW-2)	815.41	0.03	0.01	818.21	D-9
Cooling Tower (CWT)	-	0.42	-	10.50	D-10
Wastewater Treatment Plant (WWTP)	-	4.56	-	114.06	D-11
Total Proposed PTE	135,638.52	16.63	0.64	136,246.16	

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Table D-2 (Revised May 2014)
Charge Heaters and Boilers - Potential Emissions
CCI Corpus Christi LLC

A. Emission Factors and Global Warming Potential (GWP) Equivalency Factors

GHG Pollutant	Natural Gas Emission Factor ⁽¹⁾	Fuel Gas Emission Factor ⁽¹⁾	GWP Equivalency Factor ⁽²⁾
	kg/MMBtu	kg/MMBtu	tons of CO ₂ equivalent
CO ₂	53.06	59.00	1
CH ₄	0.001	0.003	25
N ₂ O	0.0001	0.0006	298

B. Emission Calculations

Emission Source	Design Firing Rate ⁽³⁾		CO ₂ Emissions ^(4,5)		CH ₄ Emissions ^(4,5)		N ₂ O Emissions ^(4,5)		CO ₂ e Emissions ⁽⁶⁾	
	Maximum MMBtu/hr	Average MMBtu/hr	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Charge Heater (H-1)	152.6	137.4	17,961	70,803	0.37	1.47	0.04	0.17	17,983	70,889
Charge Heater (H-2)	152.6	137.4	17,961	70,803	0.37	1.47	0.04	0.17	17,983	70,889
Boiler (BL-1)	36.3	32.2	4,271	16,619	0.09	0.34	0.01	0.04	4,277	16,640
Boiler (BL-2)	36.3	32.2	4,271	16,619	0.09	0.34	0.01	0.04	4,277	16,640
Total			44,465	174,844	0.92	3.62	0.11	0.41	44,519	175,057

Notes:

(1) Emission factors are based on 40 CFR Part 98 Subpart C. CO₂ emission factor is based on Table C-1, CH₄ and N₂O emission factors are based on Table C-2 for fuel gas and natural gas.

(2) Global warming potential factors are based on the November 2013 revised Table A-1 of 40 CFR Part 98 Subpart A.

(3) Maximum and average heating values are fuel heat input values as fired on a higher heating value (HHV) basis.

(4) Fuel combusted in the boilers and heaters is 95% natural gas and 5% fuel gas.

(5) Hourly and annual emission rates are based on:

▪ lb/hr = Max. hourly firing rate * [(NG Emission factor * 2.205 lb/kg * 95%) + (FG Emission factor * 2.205 lb/kg * 5%)]

▪ TPY = Avg. hourly firing rate * [(NG Emission factor * 2.205 lb/kg * 95%) + (FG Emission factor * 2.205 lb/kg * 5%)] * 8,760hrs/yr / 2,000lb/ton

(6) CO₂e emissions are based on the sum of the CO₂, CH₄, and N₂O emissions times their respective GWP factors.

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**ATTACHMENT 3
REVISED PAGES OF PERMIT APPLICATION**

**APPLICATION FOR A
U.S. ENVIRONMENTAL PROTECTION AGENCY
GREENHOUSE GAS AIR QUALITY PERMIT
FOR A NEW CONDENSATE SPLITTER FACILITY**

Prepared for

CCI Corpus Christi LLC
Corpus Christi, Texas

Prepared by

WESTON SOLUTIONS, INC.
2705 Bee Cave Road, Suite 100
Austin, Texas 78746
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Revised May 2014



Step 3 – Ranking of Remaining Technologies Based on Control Effectiveness

The economic reasonableness assessment is based on a 90% capture efficiency of the following CO₂-emitting sources at the site:

- Two Charge Heaters (EPNs: H-1 and H-2);
- Auxiliary Boilers (EPNs: BL-1 and BL-2);
- Flare (FL-1); and
- Marine Vapor Control Unit (EPN: MVCU)

These sources contribute more than 95% of the total CO₂e emissions. A CCS system for these sources would be the most effective method of controlling site-wide CO₂ emissions, however CCS is not considered a technically feasible control option for these sources as demonstrated in Step 2

Step 4 – Evaluate Control Technologies for Cost-Effectiveness, Energy, and Environmental Impacts

Although CCS is demonstrated to be technically infeasible in Step 2, further evidence supports the conclusion that CCS is also economically unviable. Theoretically, post-combustion capture of CO₂ from heater and boiler exhaust streams can be absorbed in an amine solvent, concentrated in the amine regenerator vent stream, dried, compressed and transported via pipeline for EOR or storage in geologic formations. Based on 90% capture efficiency, CCS could reduce CO₂ emissions from the charge heaters, auxiliary boilers, flare, and the marine vapor combustor unit up to 20,603 tons per year. The additional process equipment required to separate, cool, and compress the CO₂ would require significant additional energy expenditure. The results of the cost of construction and operation of the CCS are presented in **Table 4-1**.

Table 4-1
Approximate Cost of Construction/Operation of Post-Combustion CCS System

CCS System Component	Cost (\$/ton of CO ₂ Controlled)	Tons of CO ₂ Controlled/year	Total Annual Cost
Capture and Compression of CO ₂	\$104.72	185,428.50	\$19,417,794.52
Transport of the Captured CO ₂	\$3.31	185,428.50	\$408,795.67
Storage of CO ₂	\$6.61	185,428.50	\$1,226,387.02
Total CCS system Cost	\$114.64	-	\$21,257,375.05
Proposed Plant Cost	Total Capital Cost	Capitol Recovery Factor	Annualized Capital Cost
Cost of Proposed Facility without CCS	\$500,000,000	0.0944	\$47,196,462.87

The cost in dollars per ton of CO₂ is based on the Report of the Interagency Task Force on Carbon Capture (August, 2010). This report provides a range of costs in dollar per tonne (1 tonne is equal to 1.1023 tons) for transport and storage facilities; the lower end of the range was conservatively used in this CCS cost analysis. Cost of capture and compression of CO₂ is estimated at \$95 to \$114 per tonne. The Denbury pipeline is approximately 300 km from the proposed facility; the cost of transport of the captured CO₂ is estimated to be \$1 to \$3 per tonne per 100 km of pipeline, which equates to \$3.31 per ton of CO₂ for 300 km of transport within the pipeline. Long-term cost of storage is estimated at \$6 to \$20/tonne. Total tons of CO₂ captured is based on 90% capture of CO₂ emissions from the charge heaters, auxiliary boilers, flare and the marine vapor combustor unit. It is estimated that the capture, transport, and storage of the CO₂ will approximately cost \$21,257,375.05 per year. However, this total cost does not take into account the capital cost of constructing 300 km of pipeline in order to connect to the Denbury system. The best estimate of the total capital cost of the proposed facility including phase I and Phase II is \$500,000,000. Based on a 7% interest rate, and 20 year equipment life, this cost equates to an annualized cost of about \$47,196,462.87. The annualize cost of CCS is estimated to be 45% of the total project cost. As such, CCS should be considered as economically unviable for the condensate splitter.

Step 4 – Evaluate Control Technologies for Cost-Effectiveness, Energy, and Environmental Impacts

There are no negative economic, energy, or environmental impacts associated with the cooling water tower LDAR program.

Step 5 – Selection of BACT

CCI proposes that BACT for the cooling tower is implementation of a structured cooling water tower LDAR program. The program will be based on the monitoring and repair requirements specified in 40 CFR Part 63, Subpart F. In order to detect GHG emissions, total organic compounds will be monitored in lieu of HAPs.

4.9 WASTEWATER TREATMENT PLANT

The CSFP wastewater treatment plant removes volatiles and cleans the water before discharge to the Tule Lake Turning Basin. The proposed design of the wastewater system minimizes any VOC emissions. Following are key aspects of the wastewater design that establish BACT:

- All process wastewater sewers will be enclosed (e.g., no trenches or other open conveyance).
- Each process drain will be equipped with a water seal, cap, or plug as appropriate based on the intended nature and frequency of use for each drain.
- Manholes, lift stations, and other junction boxes will be equipped with sealed covers, and any associated vent pipes will be designed consistent with 40 CFR Part 63 Subpart G standards.
- The oil-water separator will be enclosed, and the enclosure vent will be routed to an activated carbon system with two carbon canisters in series.
- All other pre-treatment units will be enclosed, such that the first unenclosed treatment unit to receive process wastewater will be aerobic biological treatment tanks.