AIR PERMIT ROUTING/APPROVAL SLIP-Permits

7-1-14

AI No.	99407	Company	Cameron LNG LLC	Date Received	6/4/2014
Activity No.	PER20140006	Facility	Cameron LNG Facility	Permit Type	
CDS No.	0560-00184	Permit No.	PSD-LA-766(M1)	Expedited Permit	☒yes ☐no

1. Technical Review	Approved	Date rec'd	Date FW	Comments
Permit Writer	Dan		6/12/14	
Air Quality / Modeling	TN		6/24/14	
Toxics				
Technical ~~Advisor~~ Review	RMJ		6/17/14	
Supervisor				
Other				
2. Management Review (if PN req'd)	**Approved**	**Date rec'd**	**Date FW**	**Comments**
Supervisor				
Manager				
Assistant Secretary (PN)				
3. Response to Comments (if PN req'd)	**Approved**	**Date rec'd**	**Date FW**	**Comments**
Supervisor				
Manager				
Administrator				
Legal (BFD)				
4. Final Approval	**Approved**	**Date rec'd**	**Date FW**	**Comments**
Supervisor				
Manager	DVC		6/19/14	
Administrator				
Assistant Secretary				

1. Technical Review

PN of App needed	☐ yes ☑ no	Date of PN of App		Newspaper	
Fee paid	☑ yes ☐ no				
NSPS applies	☐ yes ☐ no	PSD/NNSR applies	☐ yes ☐ no	NESHAP applies	☐ yes ☐ no

2. Post-Technical Review

Company technical review	☑ yes ☐ no ☐ n/a	E-mail date	6/17/14	Remarks received	☑ yes ☐ no
Surveillance technical review	☐ yes ☐ no ☐ n/a	E-mail date		Remarks received	☐ yes ☐ no

3. Public Notice

Public Notice Required	☐yes ☑no Minor Mod				
Library					
PN newspaper 1/City	*The Advocate*/Baton Rouge	PN Date		EDMS Verification	☐ yes ☐ no
PN newspaper 2/City		PN Date			☐ yes ☐ no
Company notification letter sent	Date mailed				
EPA PN notification e-mail sent	Date e-mailed				
OES PN mailout	Date				

4. Final Review

Public comments received	☐ yes ☐ no	EPA comments rec'd	☐ yes ☐ no	Date EPA Resp. to Comments-mailed	
Company comments received	☐ yes ☐ no	PN info entered into Permit Sec VI	☐ yes ☐ no	Date EPA approved permit	
Comments					

BOBBY JINDAL
GOVERNOR

PEGGY M. HATCH
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

Certified Mail No.: 7004 2510 0006 3855 7700

Agency Interest No. 99407
Activity No.: PER20140006

Mr. Randy Oakley
Cameron LNG, LLC
Post Office Box 439
Hackberry, Louisiana 70645

RE: Prevention of Significant Deterioration (PSD) permit, PSD-LA-766(M1), Cameron LNG Facility, Cameron LNG, LLC, Hackberry, Cameron Parish, Louisiana

Dear Mr. Oakley:

Enclosed is the PSD permit for the facility. Please be advised that pursuant to provisions of the Environmental Quality Act and the Administrative Procedure Act, the Department may initiate review of a permit during its term. However, before it takes any action to modify, suspend or revoke a permit, the Department shall, in accordance with applicable statutes and regulations, notify the permittee by mail of the facts or operational conduct that warrant the intended action and provide the permittee with the opportunity to demonstrate compliance with all lawful requirements for the retention of the effective permit.

Should you have any questions concerning the permit, contact Dan Nguyen at 225-219-3395.

Sincerely,

Sam L. Phillips
Assistant Secretary

June 24, 2014
Date

SLP: DCN

c: US EPA Region 6

PSD-LA-766(M1)
AI No. 99407

AUTHORIZATION TO CONSTRUCT AND OPERATE A NEW OR MODIFIED FACILITY PURSUANT TO THE PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS IN LOUISIANA ENVIRONMENTAL REGULATORY CODE, LAC 33:III.509

In accordance with the provisions of the Louisiana Environmental Regulatory Code, LAC 33:III.509,

Cameron LNG, LLC
Post Office Box 439
Hackberry, Louisiana 70645

is authorized to continue the operations of the LNG vaporization facility and to construct and operate the natural gas liquefaction project at

301 North Main Street
Hackberry, Louisiana 70645

subject to the emissions limitations, monitoring requirements and other conditions set forth hereinafter.

This permit and authorization to construct shall expire at midnight on April 1, 2015, unless physical on site construction has begun by such date, or binding agreements or contractual obligations to undertake a program of construction of the source are entered into by such date.

Signed this 24 day of June, 2014.

Sam L. Phillips
Assistant Secretary
Office of Environmental Services

BRIEFING SHEET

CAMERON LNG FACILITY
AGENCY INTEREST NO. 99407
CAMERON LNG, LLC
HACKBERRY, CAMERON PARISH, LOUISIANA
PSD-LA-766(M1)

PURPOSE

To obtain a PSD permit modification for the Cameron LNG Facility.

RECOMMENDATION

Approval of the proposed permit.

REVIEWING AGENCY

Louisiana Department of Environmental Quality, Office of Environmental Services, Air Permits Division

PROJECT DESCRIPTION

Permits 0560-00184-V5 and PSD-LA-766 authorize Cameron LNG, LLC to construct and operate a proposed natural gas liquefaction facility which will includes six refrigeration compressor turbines, flares, emergency generators, water pumps, and associated equipment.

Cameron LNG requested a permit modification to incorporate design changes to the liquefaction facility as following: 1) remove two generators, 2) increase capacity (horsepower) of several generators and firewater pumps engines, 3) increase operating time of emergency generators and firewater pumps from 95 hours/year to 100 hours/year, 4) replace three elevated flares with a ground flare, 5) replace the large condensate tank with two smaller ones, and 6) update emissions accordingly. Permitted emissions in tons per year are as follows:

Pollutant	Before	After	Change	PSD De Minimis	PSD Review
$PM_{10}/PM_{2.5}$	72.65	168.29	+ 95.64	15/10	Yes
SO_2	13.59	11.84	- 1.75	40	No
NO_X	473.88	2,586.52	+ 2,112.64	40	Yes
CO	336.12	1,094.93	+ 758.81	100	Yes
VOC	56.97	132.48	+ 75.51	40	Yes
CO_2e	-	3,983,512	+ 3,983,512	75,000	Yes
Lead	-	0.002	+ 0.002	0.6	No

BRIEFING SHEET

CAMERON LNG FACILITY
AGENCY INTEREST NO. 99407
CAMERON LNG, LLC
HACKBERRY, CAMERON PARISH, LOUISIANA
PSD-LA-766(M1)

TYPE OF REVIEW

$PM_{10}/PM_{2.5}$, NO_X, CO, VOC, and greenhouse gas (GHG) emissions from the natural gas liquefaction project will increase more than the PSD significance levels. A netting analysis was required. There was no creditable emission reduction within the contemporaneous period. A PSD review was performed for $PM_{10}/PM_{2.5}$, NO_X, CO, VOC, and GHG emissions from the project. The PSD analysis was documented in PSD-LA-766.

This design modification will not cause emissions of any criteria pollutants to increase more than their significance levels. The modification is either removing/replacing equipment, or increasing equipment capacity, or increasing operating time. PSD review is not required. However, Permit PSD-LA-766 must be revised to incorporate the proposed changes.

Emissions	$PM_{10}/PM_{2.5}$	SO_2	NO_X	CO	VOC	GHG	Lead
Project	+ 1.30	- 0.65	+ 18.65	+ 18.68	+ 7.90	+ 24,819	-
Significant	15/10	40	40	100	40	75,000	0.6
PSD Required	No	No	No	No	No	No	No

BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

Turbines: The use of dry low NO_X (DLN) burner technology to limit maximum NO_X emissions from turbines to 15.0 ppm@15% O_2 is determined as BACT for NO_X emissions. The use of good combustion practices to limit maximum CO emissions from turbines to 0.040 lb/MM BTU is determined as BACT for CO emissions. Good combustion practices and the use of natural gas are determined as BACT for VOC and PM/PM_{10} emissions. Utilizing high thermal efficiency turbines that are fueled by natural gas in combination with good combustion/operating practices is BACT for GHG.

Water Pump and Generator Engines: Complying with requirements of 40 CFR 60 Subpart IIII is determined as BACT for NO_X, CO, VOC, and PM/PM_{10} emissions. Good combustion and proper operating practices are determined as BACT for GHG emissions.

Thermal Oxidizers: Good equipment design and proper operating practices are BACT for $PM_{10}/PM_{2.5}$, NO_X, CO, and VOC. Using natural gas as low carbon fuels and good combustion/operating practices are determined as BACT for GHG.

Flare: Proper plant operations to minimize flare gas and maintain the presence of the flame when the gas is routed to the flare - determined as BACT for $PM/PM_{10}/PM_{2.5}$, NO_X, CO, VOC, and GHG.

Storage Tanks: A closed vent and a control system that meet requirements of 40 CFR 60 Subpart Kb are BACT for VOC.

Truck Loading Operation: Vapor balanced loading in combination with good equipment design and proper operating practices are BACT for VOC emissions from truck loading.

Fugitives: All rotary pumps and compressors handling volatile organic compounds having a true vapor pressure of 1.5 psia or greater at handling conditions shall be equipped with mechanical seals or other equivalent equipment (LAC 33:III.2111) - Determined as BACT for VOC emissions. Conducting a leak detection and repair (LDAR) program is BACT for GHG.

AIR QUALITY IMPACT ANALYSIS

Prevention of Significant Deterioration (PSD) regulations require an analysis of existing air quality for those pollutants emitted in significant amounts from a proposed facility. $PM_{10}/PM_{2.5}$, NO_X, CO, VOC, and GHG were the pollutants of interest for this facility. Screen dispersion modeling indicated that $PM_{10}/PM_{2.5}$ and CO emissions from the proposed facility will be below the PSD significant impact level and monitoring exemption level. Preconstruction monitoring, refined modeling, and incremental modeling are not required for these pollutants.

Screen dispersion modeling indicated that NO_X emissions from the proposed facility will be above the PSD significant impact level and monitoring exemption level. Refined model is required. The refined model indicated that the project contribution to the impact is minimal (less than the NAAQS). Preconstruction monitoring and incremental modeling are not required. Modeling for GHG emissions is not required. An ozone analysis was performed. The project will have insignificant impacts on 8-hour ozone.

ADDITIONAL IMPACTS

Soils, vegetation, and visibility will not be adversely impacted by the proposed facility, nor will any Class I area be affected. The project will not result in any significant secondary growth effects.

PROCESSING TIME

Application:	June 2, 2014
Additional Information:	June 12, 2014
Effective Completeness:	June 23, 2014

PUBLIC NOTICE

A Public notice is not required for a minor modification.

PRELIMINARY DETERMINATION SUMMARY

CAMERON LNG FACILITY
AGENCY INTEREST NO. 99407
CAMERON LNG, LLC
HACKBERRY, CAMERON PARISH, LOUISIANA
PSD-LA-766(M1), JUNE 23, 2014

I. APPLICANT

Cameron LNG, LLC
Post Office Box 439
Hackberry, Louisiana 70645

II. LOCATION

Cameron LNG Facility is located at 301 North Main Street, Hackberry, Louisiana 70645. Approximate NAD83 UTM coordinates are 467.9 kilometers East and 3,322.1 kilometers North, zone 15.

III. PROJECT DESCRIPTION

Cameron LNG facility currently imports, stores, and re-gasifies liquefied natural gas (LNG) for the U.S. natural gas markets. LNG from ships is unloaded, stored in atmospheric storage tanks, re-gasified using ten submerged combustion vaporizers, and then injected into a sales pipeline. The facility has capacity to re-gasify 1.60 billion scf/day of natural gas.

Permits 0560-00184-V5 and PSD-LA-766 authorize Cameron LNG, LLC to construct and operate a natural gas liquefaction facility which will includes six refrigeration compressor turbines, flares, emergency generators, water pumps, and associated equipment.

Cameron LNG requested a permit modification to incorporate design changes to the proposed liquefaction facility as following: 1) remove two generators, 2) increase capacity (horsepower) of several generators and firewater pumps engines, 3) increase operating time of emergency generators and firewater pumps from 95 hours/year to 100 hours/year, 4) replace three elevated flares with a ground flare, 5) replace the large condensate tank with two smaller ones, and 6) update emissions accordingly. Permitted emissions in tons per year are as follows:

Pollutant	Before	After	Change	PSD De Minimis	PSD Review
$PM_{10}/PM_{2.5}$	72.65	168.29	+ 95.64	15/10	Yes
SO_2	13.59	11.84	- 1.75	40	No
NO_X	473.88	2,586.52	+ 2,112.64	40	Yes
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CO_2e	-	3,983,512	+ 3,983,512	75,000	Yes
Lead	-	0.002	+ 0.002	0.6	No

$PM_{10}/PM_{2.5}$, NO_X, CO, VOC, and greenhouse gas (GHG) emissions from the natural gas liquefaction project will increase more than the PSD significance levels. A netting analysis was required. There was no creditable emission reduction within the contemporaneous period. A PSD review was performed for $PM_{10}/PM_{2.5}$, NO_X, CO, VOC, and GHG emissions from the project. The PSD analysis was documented in PSD-LA-766.

This design modification will not cause any emissions of criteria pollutants to increase more than their significance levels. The modification is either removing/replacing equipment, or increasing equipment capacity, or increasing operating time. PSD review is not required. However, Permit PSD-LA-766 must be revised to incorporate the proposed changes.

Emissions	$PM_{10}/PM_{2.5}$	SO_2	NO_X	CO	VOC	GHG	Lead
Project	+ 1.30	- 0.65	+ 18.65	+ 18.68	+ 7.90	+ 24,819	-
Significant	15/10	40	40	100	40	75,000	0.6
PSD Required	No	No	No	No	No	No	No

IV. SOURCE IMPACT ANALYSIS

A proposed net increase in the emission rate $PM_{10}/PM_{2.5}$, NO_X, CO, VOC, and greenhouse gas (GHG) above de minimis levels for new major stationary sources requires review under Prevention of Significant Deterioration regulations, LAC 33:III.509. PSD review entails the following analyses:

A. A determination of the Best Available Control Technology (BACT);

B. An analysis of the existing air quality and a determination of whether or not preconstruction or post-construction monitoring will be required;

C. An analysis of the source's impact on total air quality to ensure compliance with the National Ambient Air Quality Standards (NAAQS);

D. An analysis of the PSD increment consumption;

E. An analysis of the source related growth impacts;

F. An analysis of source related growth impacts on soils, vegetation, and visibility;

G. A Class I Area impact analysis; and

H. Toxic impacts

A. BEST AVAILABLE CONTROL TECHNOLOGY

Under current PSD regulations, an analysis of "top down" BACT is required for the control of each regulated pollutant emitted from a new major source in excess of the

specified significant emission rates. The top down approach to the BACT process involves determining the most stringent control technique available for a similar or identical source. If it can be shown that this level of control is infeasible based on technical, environmental, energy, and/or cost considerations, then it is rejected and the next most stringent level of control is determined and similarly evaluated. This process continues until a control level is arrived at which cannot be eliminated for any technical, environmental, or economic reason. A technically feasible control strategy is one that has been demonstrated to function efficiently on identical or similar processes.

Cameron LNG requested a permit modification to incorporate design changes of the proposed liquefaction section as following: 1) remove two generators, 2) increase capacity (horsepower) of several generators and firewater pumps engines, 3) increase operating time of emergency generators and firewater pumps from 95 hours/year to 100 hours/year, 4) replace three elevated flares with a ground flare, 5) replace the large condensate tank with two smaller ones, and 6) update emissions accordingly.

The proposed changes are considered as parts of the natural gas liquefaction project. Therefore, BACT and an air quality analysis must be addressed proposed equipment. BACT for un-affected equipment will not be re-evaluated.

BACT for $PM_{10}/PM_{2.5}$, NO_X, CO, and VOC emissions from IC engines

Cameron LNG proposed diesel-fired IC engines for fire water pumps, river water pumps, and emergency generators. The engines are subject to PM_{10}, NO_X, CO, and VOC standards of 40 CFR 60 (New Source Performance Standards, NSPS), Subpart IIII. The engines also comply with 40 CFR 63 (National Emissions Standards for Hazardous Air Pollutants) Subpart ZZZZ by complying with 40 CFR 60 Subpart IIII. Because the engines will be subject to the NSPS standards and each engine will not operate more than 100 hours/year, additional control will not be practical. Compliance with standards of 40 CFR 60 Subpart IIII was determined as BACT for $PM_{10}/PM_{2.5}$, NO_X, CO, and VOC emissions. Cameron LNG proposed to increase the sizes and operating times of three generators, three firewater pumps, and two river water pumps. The newly proposed engines will subject to the same regulations with the previously proposed units. Therefore, complying with 40 CFR 60 Subpart IIII is BACT for the proposed engines.

BACT for $PM_{10}/PM_{2.5}$, NO_X, CO, and VOC emissions from the flare

Proper plant operations to minimize flare gas and maintain the presence of a flame at the flare tip when the vent gas is routed to the flare were determined as BACT for $PM_{10}/PM_{2.5}$, NO_X, CO, and VOC emissions from three previously proposed flares. Cameron LNG proposed to replace these flares with a ground flare. Emissions from the ground flare will be controlled by BACT that were determined for the previously proposed flares.

BACT for VOC emissions from the condensate tanks

A closed vent system vented to a control device that meet requirements of NSPS Subpart Kb was determined as BACT for VOC emissions from the previously proposed tank. Cameron LNG proposed to replace this tank with two smaller units which will utilize the same VOC emission control technology. A closed vent system vented to a control device that meet requirements of NSPS Subpart Kb is BACT for VOC emissions from two condensate tanks.

BACT for Greenhouse Gas (GHG) Emissions

The following BACT were selected for GHG emissions from the previously proposed natural gas liquefaction facility: 1) Utilizing natural gas fired high thermal efficiency turbines in combination with good combustion/operating practices, 2) Implementing a leak detection and repair (LDAR) program to minimize methane emissions from fugitive components, 3) Proper plant operations to minimize flare gas, 4) Fueling by natural gas and good combustion / operating practices for thermal oxidizers, and 4) Good combustion/operating practices for IC engines.

The proposed changes will increase GHG emissions by 24,819 tons/year or 0.63%. With this small percentage increase, BACT determination for equipment at the natural gas liquefaction facility will not change. The BACT for GHG documented in PSD-LA-766.

B. ANALYSIS OF EXISTING AIR QUALITY

Cameron LNG conducted an air quality analysis for the initial natural gas liquefaction project. However, emissions from the proposed project were revised. The analysis was re-evaluated.

Screen dispersion modeling indicated that $PM_{10}/PM_{2.5}$ and CO emissions from the proposed facility will be below the PSD significant impact level and monitoring exemption level. Preconstruction monitoring, refined modeling, and incremental modeling are not required for these pollutants. Modeling for GHG emissions is not required.

Screen dispersion modeling indicated that NO_X emissions from the proposed facility will be above the PSD significant impact level and monitoring exemption level. Refined model is required. Preconstruction monitoring and incremental modeling are not required.

Cameron LNG proposed to construct a natural gas liquefaction facility adjacent to the existing LNG vaporization section. The liquefaction operations are in the opposite direction to the vaporization operations. Therefore, even though this permit allows Cameron LNG both to re-gasify and liquefy natural gas at the same time, Cameron LNG will most likely either re-gasify or liquefy natural gas at any given time. So, the most significant impact on ambient air will occur when the facility liquefies or re-gasifies

natural gas at full capacity. However, emissions from the re-gasification operations are below the PSD major source thresholds, an air quality analysis is not required. Therefore, emissions from the LNG vaporization section are not expected to have any significant impacts on the ambient air.

C. NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) ANALYSIS

The refined model indicated that the project contribution to the impact is minimal (less than the NAAQS). The impact of this project revision on ozone will be minimal. The ozone analysis conducted for the initial natural gas liquefaction project is detailed in the following paragraphs.

Following USEPA modeling guidance for ozone modeling of the 8-hour NAAQS, state-of-science photochemical modeling has been conducted to estimate the project impacts of the proposed Cameron LNG project impacts on 8-hr ozone air quality in the Houston/Galveston and Beaumont/Port Arthur areas. The modeling was based on the final modeling database developed by LDEQ for the Baton Rouge Re-designation plan for June 2006, a period of high ozone in the Galveston/Port Arthur region. The project impacts were evaluated both at the monitor locations and at areas removed from the monitors and an absolute basis, and using the EPA preferred relative response factor basis.

On a relative basis at the ozone monitors the project impact is estimated to change the 8-hour design value by a maximum of 0.2 ppb at three monitors in Calcasieu Parris and at two monitors in Jefferson County, Texas. On the relative basis at areas removed from the monitors the maximum impact the model does not impact any areas greater than 1 ppb either on-land or off-shore.

Using the Region VI suggested absolute basis metrics the project is estimated to impact on-land grid cells greater than 2.0 ppb at limited areas on a single episode day with the majority of the impact restricted to a very limited area close to the project site on Lake Calcasieu in Cameron Parish. Depending on the metric, the Project emissions are estimated to increase the metric in the Beaumont/Port Arthur area between 0.0% and 2.7%. In Houston/Galveston the Actual emissions are estimated to increase the metrics by between 0.2% and 0.8%.

D. PSD INCREMENT ANALYSIS

Incremental modeling is not required.

E. SOURCE RELATED GROWTH IMPACTS

Secondary growth effects are minimal. The natural gas liquefaction project will create approximate 100 – 200 permanent jobs and average of 1800 jobs during the four years of construction.

F. SOILS, VEGETATION, AND VISIBILITY IMPACTS

There will be no significant impact on soils, vegetation, and visibility.

G. CLASS I AREA IMPACTS

Breton National Wildlife Area, the nearest Class I area, is more than 100 miles from the site, precluding any significant impact.

H. TOXIC IMPACT

The selection of control technology based on the BACT analysis included consideration of control of toxic emissions.

V. CONCLUSION

The Louisiana Department of Environmental Quality, Office of Environmental Services, has made a preliminary determination to approve the PSD permit (PSD-LA-766(M1)) for the Cameron LNG Facility near Hackberry, in Cameron Parish, Louisiana, subject to the attached specific and general conditions. In the event of a discrepancy in the provisions found in the application and those in this Preliminary Determination Summary, the Preliminary Determination Summary shall prevail.

SPECIFIC CONDITIONS

CAMERON LNG FACILITY
AGENCY INTEREST NO. 99407
CAMERON LNG, LLC
HACKBERRY, CAMERON PARISH, LOUISIANA
PSD-LA-766(M1)

1. The permittee is authorized to operate in conformity with the specifications submitted to the Louisiana Department of Environmental Quality (LDEQ) as analyzed in LDEQ's document entitled "Preliminary Determination Summary" dated June 23, 2014 and subject to the BACT determinations listed in Table III, and emission limitations listed in Table IV. Specifications submitted are contained in the application dated June 2, 2014 as well as additional information dated June 12, 2014.

2. Permittee shall comply with the Louisiana General Conditions as set forth in LAC 33:III.537.

3. To ensure compliance with permitted emission limits, permittee shall test PM and CO emissions from compressor turbines (EQT0068 through EQT0073), using specified methods and procedures from New Source Performance Standards, 40 CFR 60, Appendix A: Method 5 - Determination of particulate matter emissions from stationary sources and Method 10 - Determination of Carbon Monoxide Emissions from Stationary. Use alternate stack test methods only with the prior approval of the Office of Environmental Services.

4. To maintain impacts of NO_X and CO emissions below the National Ambient Air Quality Standards (NAAQS), Permittee shall not operate or test (excluding operations during emergency situations) more than two emergency IC engines (generators or fire water pumps) at the same time.

CAMERON LNG FACILITY
AGENCY INTEREST NO. 99407
CAMERON LNG, LLC
HACKBERRY, CAMERON PARISH, LOUISIANA
PSD-LA-766(M1)

TABLE I: BACT COST SUMMARY

Control Alternatives For NOX		Availability/ Feasibility	Negative Impacts (a)	Control Efficiency (%)	Emissions Reduction (TPY)	Capital Cost ($)	Annualized Cost ($/yr)	Cost Effectiveness ($/ton)	Notes
(NA)									
Notes: a) Negative impacts: 1) economic, 2) environmental, 3) energy, 4) safety									

CAMERON LNG FACILITY
AGENCY INTEREST NO. 99407
CAMERON LNG, LLC
HACKBERRY, CAMERON PARISH, LOUISIANA
PSD-LA-766(M1)

TABLE II: AIR QUALITY ANALYSIS SUMMARY ($\mu g/m^3$)

Pollutant	Averaging Period	Preliminary Screening	Significant Monitoring	Level of Significant Impact	At Monitoring Station		Background	Maximum Modeled	Modeled + Background	NAAQS	Modeled PSD Increment Consumption	Allowable Class II PSD Increment
					Monitored Values	Modeling Results						
$PM_{2.5}$	24-hour	0.99	4	1.2						35		9
	Annual	0.05		0.3						15		12
NO_2	1-hour	35.37		7.5					(*) 3113	188		
	Annual	0.86	14	1						100		25
CO	1-hour	109.15		2000						40,000		
	8-hour	45.33	575	500						10,000		

NAAQS = National Ambient Air Quality Standards
(*) Project's maximum contribution to an exceedance of the NAAQS is 3.68 $\mu g/m^3$. Project's maximum contribution to the maximum concentration of 3113 $\mu g/m^3$ is 0.00014 $\mu g/m^3$.

CAMERON LNG FACILITY
AGENCY INTEREST NO. 99407
CAMERON LNG, LLC
HACKBERRY, CAMERON PARISH, LOUISIANA
PSD-LA-766(M1)
TABLE III. BACT SELECTION

Equipment	$PM_{10}/PM_{2.5}$	NO_X	CO	VOC	GHG
Turbines	Good combustion practices Fueled by natural gas	DLN & good combustion practices 15 ppmv @ 15% O_2	Good combustion practices and fueled by natural gas 0.040 lb/MM BTU	Good combustion practices and fueled by natural gas	Fueled by natural gas Use high thermal efficiency turbines Good combustion / operating practices
Water Pump & Generator Engines	40 CFR 60 Subpart IIII	40 CFR 60 Subpart IIII	40 CFR 60 Subpart IIII	40 CFR 60 Subpart IIII	Good combustion / operating practices
Thermal Oxidizers	Good equipment design and proper operating practices Natural gas fuel	Good equipment design and proper operating practices	Good equipment design and proper operating practices Natural gas fuel	Good equipment design and proper operating practices Natural gas fuel	Fueled by natural gas good combustion / operating practices
Flare	Proper plant operations and maintain the presence of the flame at the flare tips when vent gas is routed to the flares				
Condensate Tanks				Closed vent and control device that meet 40 CFR 60 Subpart Kb	
Loading Operations				Vapor balanced loading Good equipment design and proper operating practices	
Fugitives				LAC 33:III.2111	LDAR

LAC 33:III.2111: All rotary pumps and compressors handling volatile organic compounds having a true vapor pressure of 1.5 psia or greater at handling conditions shall be equipped with mechanical seals or other equivalent equipment

CAMERON LNG FACILITY
AGENCY INTEREST NO. 99407
CAMERON LNG, LLC
HACKBERRY, CAMERON PARISH, LOUISIANA
PSD-LA-766(M1)

TABLE IV - MAXIMUM ALLOWABLE EMISSION RATES

EQT No.	Description	$PM_{10}/PM_{2.5}$		NO_x		CO		VOC		CO_2e
		lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	tons/yr
EQT0044 - EQT0046 (a)	Emergency Fire Water Pumps	0.15	0.01	2.99	0.15	2.62	0.13	2.99	0.15	. 26
EQT0049 - EQT0050 (a)	Emergency River Water Pumps	0.15	0.01	2.99	0.15	2.62	0.13	2.99	0.15	26
EQT0051 - EQT0053 (a)	Emergency Generators	1.10	0.06	35.26	1.76	19.28	0.96	35.26	1.76	192
EQT0056	Thermal Oxidizer	0.29	1.25	3.74	16.38	3.13	13.70	2.67	11.70	485,670
EQT0057	Thermal Oxidizer (Spare)	0.29		3.74		3.13		2.67		
EQT0068 - EQT0073 (a)	Turbines	6.00	21.90	105.60	385.44	37.20	135.78	2.15	7.85	489,968
EQT0077, EQT0080	Condensate Storage Tank							(b)	(b)	
EQT0078	Condensate Loading Leaks (c)							3.65	1.33	
EQT0079	Ground Flare	0.05	0.22	0.47	2.04	2.54	11.11	0.04	0.16	4,040
FUG0001	Fugitive Emissions								36.68	

(a) Emission limits are for each engine or turbine.
(b) Emissions are routed to the Thermal Oxidizers.
(c) Condensate loading is vapor balanced.