

State of Mississippi



FEDERALLY ENFORCEABLE AIR POLLUTION CONTROL PERMIT

Permit to Operate Air Emissions Equipment at a Synthetic Minor Source

THIS CERTIFIES

Tellus Operating Group LLC, Raleigh CO2 Plant 1080 Raleigh Oilfield Road, County Road 77 Raleigh, MS Smith County

has been granted permission to operate air emissions equipment in accordance with emission limitations, monitoring requirements and conditions set forth herein. This permit is issued in accordance with the Federal Clean Air Act and the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. set., Mississippi Code of 1972), the regulations and standards adopted and promulgated thereunder, and the State Implementation Plan for operating permits for synthetic minor sources.

Mississippi Environmental Quality Permit Board

Mississippi Department of Environmental Quality

Issued/Modified: JUN 0 1 2015

Expires: MAY 3 1 2020

Permit No. 2500-00087

Agency Interest # 52285

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Other Relevant Documents:

The federal regulations referenced in this permit may be found on-line at http://ecfr.gpoaccess.gov/ and the State of Mississippi regulations may be found on-line at http://www.mdeq.ms.state.us/ or a copy of the regulations may be obtained by contacting the Mississippi Department of Environmental Quality, Environmental Permitting Division, Post Office Box 2261, Jackson, Mississippi 39255, phone (601) 961-5171. The following regulations were referenced in this permit:

Mississippi Air Regulations 11 Miss. Admin. Code Pt. 2, Ch. 1, Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants

Mississippi Air Regulations 11 Miss. Admin. Code Pt. 2, Ch. 2, Permit Regulations for the Construction and/or Operation of Air Emissions Equipment

40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Internal Combustion Engines

40 CFR Part 63, Subpart HH, National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities

Tellus Operating Group LLC, Raleigh CO2 Plant Subject Item Inventory Permit Number:2500-00087 Activity ID No.: PER20130002

Subject Item Inventory:

ID	Designation	Description
AI52285	52285	Carbon Dioxide Injection for Crude Oil and Natural Gas Production Facility
AREA1	AA-000	Fugitive Emissions (Facility Description: E-35)
AREA2	AA-018	Emissions from Maintenance Operation (Facility Description: E-36)
EQPT1	AA-001	74,760 gallons (1780 barrel) Crude Oil Storage Tank (Facility Description: Tank 1)
EQPT2	AA-002	16,800 gallons (400 barrel) Crude Oil Storage Tank (Facility Description: Tank 2)
EQPT3	AA-003	16,800 gallons (400 barrel) Crude Oil Storage Tank (Facility Description: Tank 3)
EQPT4	AA-004	16,800 gallons (400 barrel) Crude Oil Storage Tank (Facility Description: Tank 4)
EQPT5	AA-005	74,760 gallons (1780 barrel) Crude Oil Storage Tank (Facility Description: Tank 5)
EQPT6	AA-006	0.5 MMBtu/hr Natural Gas Fired Heater (Facility Description: Heater Treater, E-6)
EQPT7	AA-007	0.5 MMBtu/hr Natural Gas Fired Heater (Facility Description: Heater Treater, E-7)
EQPT8	AA-008	13.5 MMBtu/hr Direct Fired Heater (Ref. E-8)
EQPT9	AA-012	1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: No. E-12)
EQPT10	AA-013	1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: No. E-13)
EQPT11	AA-014	1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: E-14)
EQPT12	AA-015	1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref. No.: E-15)
EQPT13	AA-016	16,800 gallons (400 barrel) Produced Water Storage Tank (Facility Description: E-18)
EQPT14	AA-017	16,800 gallons (400 barrel) Produced Water Storage Tank (Facility Description: E-19)
EQPT16	AA-010	Glycol Dehydration Unit (Facility Description: E-10)
EQPT17	AA-011	Amine Regenerator Vent (Facility Description: E-11)
EQPT18	AA-009	Control Flare
EQPT19	AA-019	16,800 gallon (400 barrel) Crude Oil Storage Tank. (Facility Description: EQPT 19)

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ID	Designation	Description
EQPT20	AA-020	16,800 gallon (400 barrel) Crude Oil Storage Tank (Facility Description: EQPT 20)
EQPT21	AA-021	16,800 gallon (400 barrel) Crude Oil Storage Tank (Facility Description: EQPT 21)
EQPT23	AA-022	1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref. No.: E-22)
EQPT24	AA-023	1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: No. E-23

Subject Item Groups:

ID	Description	Components
GRPT1	Crude Oil Storage Tanks	EQPT1 74,760 gallons (1780 barrel) Crude Oil Storage Tank (Facility Description: Tank 1)
		EQPT19 16,800 gallon (400 barrel) Crude Oil Storage Tank. (Facility Description: EQPT 19)
		EQPT2 16,800 gallons (400 barrel) Crude Oil Storage Tank (Facility Description: Tank 2)
		EQPT20 16,800 gallon (400 barrel) Crude Oil Storage Tank (Facility Description: EQPT 20)
		EQPT21 16,800 gallon (400 barrel) Crude Oil Storage Tank (Facility Description: EQPT 21)
		EQPT3 16,800 gallons (400 barrel) Crude Oil Storage Tank (Facility Description: Tank 3)
		EQPT4 16,800 gallons (400 barrel) Crude Oil Storage Tank (Facility Description: Tank 4)
		EQPT5 74,760 gallons (1780 barrel) Crude Oil Storage Tank (Facility Description: Tank 5)
GRPT2	Natural Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engines	EQPT10 1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: No. E-13)
	and the companies and	EQPT11 1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: E-14)
		EQPT12 1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref. No.: E-15)
		EQPT23 1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref. No.: E-22)
		EQPT24 1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: No. E-23
		EQPT9 1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: No. E-12)
GRPT3	Produced Water Storage Tanks	EQPT13 16,800 gallons (400 barrel) Produced Water Storage Tank (Facility Description: E-18)

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ID	Description	Components
GRPT3	Produced Water Storage Tanks	EQPT14 16,800 gallons (400 barrel) Produced Water Storage Tank (Facility Description: E-19)
GRPT4	Heaters	EQPT6 0.5 MMBtu/hr Natural Gas Fired Heater (Facility Description: Heater Treater, E-6)
		EQPT7 0.5 MMBtu/hr Natural Gas Fired Heater (Facility Description: Heater Treater, E-7)
GRPT6	Engines Equipped with Catalytic Converters (AA-012, AA-013 and AA-014)	EQPT10 1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: No. E-13)
		EQPT11 1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: E-14)
		EQPT9 1,085 bhp Natural-Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engine used as a Generator (Facility Ref.: No. E-12)

<u>KEY</u>	
ACT = Activity	AI = Agency Interest
AREA = Area	CAFO = Concentrated Animal Feeding Operation
CONT = Control Device	EQPT = Equipment
IA = Insignificant Activity	IMPD = Impoundment
MAFO = Animal Feeding Operation	PCS = PCS
RPNT = Release Point	TRMT = Treatment
WDPT = Withdrawal Point	

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AI0000052285 (52285) Carbon Dioxide Injection for Crude Oil and Natural Gas Production Facility:

Condition No.	Parameter	Condition
L-1	Carbon Monoxide	Carbon Monoxide: Facility-Wide Emission Limitations
		The permittee shall limit annual facility-wide Carbon Monixide (CO) emissions to no greater than 99.0 tons per year (tpy). [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-2	Hydrogen sulfide	Hydrogen sulfide: The permittee shall not cause or permit the emissions for any gas stream which contains hydrogen sulfide in excess of one (1) grain per 100 standard cubic feet (gr/100 scf). The permittee shall show compliance with this requirement through gas analysis. The demonstration of compliance shall be maintained and made available to the MDEQ personnel upon request. [11 Miss. Admin. Code Pt. 2, R. 4.2(b)]
L-3	Natural Gas	Natural Gas: The permittee shall only fire "natural gas" in combustion units at this facility that contains 1 grain or less of total sulfur per 100 standard cubic feet and is composed of at least 70 percent methane by volume or has a gross calorific value between 950 and 1100 Btu per standard cubic foot. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10), 11 Miss. Admin. Code Pt. 2, Ch. 1. 4.2(b)]
L-4	Nitrogen oxides	Nitrogen oxides: Facility-Wide Emissions
		The permittee shall limit annual facility-wide Nitrogen Oxide (NOx) emssions to no greater than 99.0 tons per year (tpy). [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-5	HAP	HAP: Facility-Wide Emission Limitations
		The permittee shall limit hazardous air pollutant (HAP) emissions to no more than 9.9 tons/year (TPY) of any single HAP and to no more than 24.9 TPY of total combined HAPs as determined for each rolling 12-month period. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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AI0000052285 (continued):

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1		The permittee shall conduct semi-annual analysis of the natural gas combusted in the combustion units at this facility to verify that the natural gas meets the specification of "natural gas" in this permit. This analysis must include methane content, calorific value and sulfur content.
		A record of these analysis shall be made available upon request by the MDEQ personnel. For any gas analysis that indicates that the natural gas produced at the facility does not meet the specification of "natural gas" in this permit, the permittee must notify the MDEQ. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

Record-Keeping Requirements:

Condition No.	Condition
R-1	Records of semi-annual natural gas analysis shall be maintained by the permittee and made available to the MDEQ personnel upon request. The permittee shall report to MDEQ within 30 days of the analysis date when the natural gas does not meet the specifications in this permit. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]
R-2	For each storage tank at the facility, the permittee shall record the actual vapor pressure and the temperature at which the vapor pressure is measured during each month. In addition, the permittee shall record the product throughput for each tank, during the previous month. [APC-S-2 II.B(11)]
R-3	The permittee shall keep records of the following;
	Monthly and 12-month rolling total CO and NOx emission rate for the facility
	Monthly and 12-month rolling total hours of operation on each of the six (6) 1085 HP engines
	Monthly and 12-month rolling total of each individual HAP and total combined HAP emissions. [11 Miss. Admin. Code Pt. 2, R. 2.2 .B(10)]

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AI0000052285 (continued):

Submittal/Action Requirements:

Condition No.	Condition
S-1	Within fifteen (15) days of the permit issuance date, the permittee must notify DEQ in writing of the dates that each emission point represented in the permit were constructed. This notification shall include a statement verifying that construction commenced according to the permit application representation for each emissions point. Any deviation from the permit application must be reported. [11 Miss. Admin. Code Pt. 2, R. 2.5.C(2)]
S-2	The permittee shall submit to the MDEQ by January 31st of each year, the following information:
	Monthly and 12-month rolling total of CO emissions for the facility to demonstrate compliance with the 99.0 tpy limit
	Monthly and 12-month rolling total of NOx emissions for the facility to demonstrate compliance with the 99.0 tpy limit
	Monthly and 12-month rolling total of individual HAP and total combined HAP emission rate to demonstrate compliance with the 9.9 tpy limit for sinlge HAPs and the 24.9 tpy limit for total HAPs
	Semiannual gas analysis, demonstrating compliance with the natural gas specifications in this permit. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(11)]
S-3	General Condition: Except as otherwise specified herein, the permittee shall report all deviations from permit requirements, including those attributable to upsets, the probable cause of such deviations, and any corrective actions or preventive measures taken. Said report shall be made within five (5) working days of the time the deviation began. [11 Miss. Admin.Code Pt. 2, R.2.2.B(10).]
S-4	Except as otherwise specified herein, the permittee shall Submit a certified annual synthetic minor monitoring report: Due annually, by the 31st of January for preceding calendar year. This report shall address any required monitoring specified in the permit. [11 Miss. Admin.Code Pt. 2, R.2.2.B(11).]

Condition No.	Condition
T-1	General Condition: Any activities not identified in the application are not authorized by this permit. [Miss. Code Ann. 49-17-29 1.b]

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AI0000052285 (continued):

Condition No.	Condition
T-2	General Condition: The permittee shall at all times maintain in good working order and operate as efficiently as possible all air pollution control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. [11 Miss. Admin. Code Pt. 2, R. 2.5.A.]
T-3	General Condition: Solids removed in the course of control of air emissions shall be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering state waters without the proper environmental permits. [Miss. Code Ann. 49-17-29 1.a(i and ii)]
T-4	General Condition: Any diversion from or bypass of collection and control facilities is prohibited except as provided for in 11 Miss. Admin. Code Pt.2, R. 1.10, "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants", [11 Miss. Admin.Code Pt. 2, R.1.10.]
T-5	General Condition: Should the Executive Director of the Mississippi Department of Environmental Quality declare an Air Pollution Emergency Episode, the permittee will be required to operate in accordance with the permittee's previously approved Emissions Reduction Schedule. [11 Miss. Admin.Code Pt. 2, R.2.10.]
T-6	General Condition: The permittee shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their authorized representatives, upon the presentation of credentials: (a) To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit, and (b) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any air emission. [Miss. Code Ann. 49-17-21]
T-7	General Condition: After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to: (a) Violation of any terms or conditions of this permit (b) Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or (c) A change in any condition that required either a temporary or permanent reduction or elimination of authorized air emissions. [11 Miss. Admin.Code Pt. 2, R. 2.2.C.]
T-8	General Condition: This permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. Sufficient cause for this permit to be reopened shall exist when an air emissions stationary source becomes subject to Title V. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of the permit. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(b).]

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AI0000052285 (continued):

Condition No.	Condition	
T-9	General Condition: Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality Office of Pollution Control. [Miss. Code Ann. 49-17-39]	
T-10	General Condition: The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations. [11 Miss. Admin.Code Pt. 2, R. 2.2.B(15)(c).]	
T-11	General Condition: Nothing herein contained shall be construed as releasing the permittee from any liability for damage to persons or property by reason of the installation, maintenance, or operation of the air cleaning facility, or from compliance with the applicable statutes of the State, or with local laws, regulations, or ordinances. [11 Miss. Admin.Code Pt. 2, R. 2.2.B(7).]	
T-12	General Condition: This permit may only be transferred upon approval of the Mississippi Environmental Quality Permit Board. [11 Miss. Admin. Code Pt. 2, R. 2.16.B.]	
T-13	General Condition: This permit is for air pollution control purposes only. [11 Miss. Admin.Code Pt. 2, R. 2.1.D(1).]	
T-14	General Condition: This permit is a Federally-approved permit to operate a synthetic minor source as described in 11 Miss. Admin. Code Pt. 2, R. 2.4.D [11 Miss. Admin.Code Pt. 2, R. 2.4.D.]	
T-15	General Condition: The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby. [11 Miss. Admin.Code Pt. 2, R. 2.1.D(7).]	
T-16	General Condition: The permittee shall furnish to MDEQ within a reasonable time any information MDEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to MDEQ copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee shall furnish such records to MDEQ along with a claim of confidentiality. [11 Miss. Admin.Code Pt. 2, R. 2.2.B(15)(d).]	

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AI0000052285 (continued):

Condition No.	Condition
T-17	General Condition: This permit does not authorize a modification as defined in 11 Miss. Admin. Code Pt. 2, Ch. 2 "Permit Regulations for the Construction and/or Operation of Air Emissions Equipment". Modification is defined as "Any physical change in or change in the method of operation of a facility which increases actual emissions or potential uncontrolled emissions of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act into the atmosphere not previously emitted. A physical change or change in the method of operation shall not include: (a) routine maintenance, repair, and replacement; (b) use of an alternative fuel or raw material by reason of an order under Sections 2(a) and (b) of the Federal Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act; (c) use of an alternative fuel by reason of an order or rule under Section 125 of the Federal Act; (d) use of an alternative fuel or raw material by a stationary source which: (i) the source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166; or (ii) the source is approved to use under any permit issued under 40 CFR 52.51 or under regulations approved pursuant to 40 CFR 51.166; or (ii) the source is approved to use under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.51, or under regulations approved pursuant to Subpart I or 40 CFR 51.166; or (f) any change in ownership of the stati
T-18	General Condition: It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit unless halting or reducing activity would create an imminent and substantial endangerment threatening the public health and safety of the lives and property of the people of this state. [11 Miss. Admin.Code Pt. 2, R.2.2.B(15)(a).]
T-19	General Condition: The permittee shall retain all required records, monitoring data, supported information and reports for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings or other data for continuous monitoring instrumentation, and copies of all reports required by this permit. Copies of such records shall be submitted to MDEQ as required by Applicable Rules and Regulations or this permit upon request. [11 Miss. Admin.Code Pt. 2, R.2.9.]
T-20	General Condition: The knowing submittal of a permit application with false information may serve as the basis for the Permit Board to void the permit issued pursuant thereto or subject the applicant to penalties for constructing or operating without a valid permit. [11 Miss. Admin.Code Pt. 2, R.2.2.B(5).]

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AI0000052285 (continued):

Narrative Requirements:

Condition No.	Condition
T-21	General Condition: Emergencies (a) Except as otherwise specified herein, an emergency means any situation arising from sudden and reasonably unforseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

(c) The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs, or other relevant evidence as follows:

(b) An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions

- (i) an emergency occurred and that the permittee can identify the cause(s) of the emergency; (ii) the permitted facility was at the time being properly operated;
- (iii) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and (iv) the permittee submitted notice of the emergency to MDEQ within two (2) working days of the time when emission limitations were exceeded due to the emergency which contained a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- (d) In any enforcement proceeding, the permittee seeking to establish the occurrence of any emergency has the burden of proof.
- (e) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein [11 Miss. Admin.Code Pt. 2, R.2.2.B(10).]

T-22 General Condition: Upsets

specified in (c) following are met.

- (a) The occurrence of an upset constitutes an affirmative defense to an enforcement action brought for noncompliance with emission standards or other requirements of Applicable Rules and Regulations or any applicable permit if the permittee demonstrates through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows: (i) an upset occurred and that the permittee can identify the cause(s) of the upset; (ii) the source was at the time being properly operated; (iii) during the upset the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements of Applicable Rules and Regulations or any applicable permit; (iv) the permittee submitted notice of the upset to the DEQ within five (5) working days of the time the upset began which contained a description of the upset, any steps taken to mitigate emissions, and corrective actions taken.
- (b) In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.
- (c) This provision is in addition to any upset provision contained in any applicable requirement. [11 Miss. Admin.Code Pt. 2, R.1.10.]

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AI0000052285 (continued):

Narrative Requirements:

[11 Miss. Admin.Code Pt. 2, R.2.8.]

Condition No.	Condition
T-23	General Condition: Startups and Shutdowns (a) Startups and shutdowns are part of normal source operation. Emissions limitations applicable to normal operation apply during startups and shutdowns except as follows: (i) when sudden, unavoidable breakdowns occur during a startup or shutdown, the event may be classified as an upset subject to the requirements above; (ii) when a startup or shutdown is infrequent, the duration of excess emissions is brief in each event, and the design of the source is such that the period of excess emissions cannot be avoided without causing damage to equipment or persons; or (iii) when the emissions standards applicable during a startup or shutdown are defined by other requirements of Applicable Rules and Regulations or any applicable permit. (b) In any enforcement proceeding, the permittee seeking to establish the applicability of any exception during a startup or shutdown has the burden of proof. (c) In the event this startup and shutdown provision conflicts with another applicable requirement, the more stringent requirement shall apply. [11 Miss. Admin.Code Pt. 2, R.1.10.]
T-24	General Condition: Maintenance (a) Maintenance should be performed during planned shutdown or repair of process equipment such that excess emissions are avoided. Unavoidable maintenance that results in brief periods of excess emissions and that is necessary to prevent or minimize emergency conditions or equipment malfunctions constitutes an affirmative defense to an enforcement action brought for noncompliance with emission standards, or other regulatory requirements if the permittee can demonstrate the following: (i) the permittee can identify the need for the maintenance; (ii) the source was at the time being properly operated; (iii) during the maintenance the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements of Applicable Rules and Regulations or any applicable permit; (iv) the permittee submitted notice of the maintenance to MDEQ within five (5) working days of the time the maintenance began or such other times as allowed by MDEQ, which contained a description of the maintenance, any steps taken to mitigate emissions, and corrective actions taken. (b) In any enforcement proceeding, the permittee seeking to establish the applicability of this section has the burden of proof. (c) In the event this maintenance provision conflicts with another applicable requirement, the more stringent requirement shall apply. [11 Miss. Admin.Code Pt. 2, R.1.10.]
T-25	General Condition: For renewal of this permit the applicant shall make application not less than one-hundred eighty (180) days prior to the expiration date of the permit substantiated with current emissions data, test results or reports or other data as deemed necessary by the Mississippi Environmental Quality Permit Board.

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EQPT000000008 (AA-008) 13.5 MMBtu/hr Direct Fired Heater (Ref. E-8):

Condition	Domonoston	Condition
No.	Parameter	Condition
L-1		For Emission Point AA-008, the permittee shall have emissions of opacity less than or equal to 40% as determined by EPA Test Method 9, 40 CFR 60, Appendix A. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-2		For Emission Point AA-008, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]
L-3		Benzene emissions from this emission point shall be below 1 tpy. Any emissions in excess of 1 tpy shall be reported to MDEQ. The permittee shall report an exceedance of benzene emissions orally within 24 hours and must submitt a written notification of exceedance within 7 days of the event. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-4		Such air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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EQPT000000016 (AA-010) Glycol Dehydration Unit (Facility Description: E-10):

Limitation Requirements:

Condition No.	Parameter	Condition
L-1		The facility is subject to and shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Plants, as described in 40 CFR 63, Subpart HH. [40 CFR 63_SUBPART HH]
L-2		For Emission Point AA-010, the exhaust from the glycol dehydration unit shall comply with the control device requirements in 40 CFR 63.771 (f). [40 CFR 63.771(f)]
L-3		For Emission Point AA-010, the control device shall be one of the control devices specified in paragraphs (d)(1)(i) through (iii) of 40 CFR 63.771, as follows: (i) An enclosed combustion device (e.g., thermal vapor incinerator, catalytic vapor incinerator, boiler, or process heater) that is designed and operated in accordance with the specified performance requirements; (ii) a vapor recovery device (e.g., carbon adsorption system or condenser) or other non-destructive control device that is designed and operated to reduce the mass content of either TOC or total HAP in the gases vented to the device by 95.0 percent by weight or greater as determined in accordance with the requirements of 63.772(e); or (iii) A flare, as defined in 63.761, that is designed and operated in accordance with the requirement of 63.11 (b). [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

Record-Keeping Requirements:

Condition No.	Condition
R-1	For the glycol dehydration unit, the permittee shall maintain records of the actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with 40 CFR 63.772(b)(2) from the glycol unit venting to the control device. The permittee shall show, during an inspection by MDEQ, a demonstration that all emissions are routed to one of the allowable control devices for combustion and that benzene emissions exhausted from the respective device(s) are below one ton per year (1 tpy). Any bypass of the approved routing of exhaust from the glycol dehydration unis is prohibited. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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EQPT0000000016 (continued):

Submittal/Action Requirements:

Condition No.	Condition
S-1	The permittee shall report a bypass to the MDEQ orally within 24 hours and submit written notice of bypass within 7 days of the event. [40 CFR 63_SUBPART HH, 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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$EQPT0000000017\ (AA-011)\ Amine\ Regenerator\ Vent\ (Facility\ Description:\ E-11):$

Condition No.	Parameter	Condition
L-1		Such air emissions equipment shall be managed as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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EQPT0000000018 (AA-009) Control Flare:

Condition No.	Parameter	Condition
NO.	r ai ailietei	Condition
L-1		Emission Point AA-009, the flare, shall be operated with a flame present at all times. [40 CFR 63.11(b)(5)]
L-2		Emission Point AA-009, the flare, shall be designed and operated as specified in 40 CFR 63.11 (b). [40 CFR 63.771(d)(1)iii]
L-3		Flares shall be designed and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 condecutive hours. Test method 22 in appendix A of 40 CFR 60 shall be used to determine the compliance of flares with the visible emission provisions. The observation period is 2 hours and shall be used according to Method 22. [40 CFR 63.11(b)(4)]
L-4		Flares shall be steam-assisted, air-assisted, or non-assisted. [40 CFR 63.11(b)(2)]
L-5		Flares shall be operated at all times when emissions may be vented to them. [40 CFR 63.11(b)(2)]
L-6		The permittee shall comply with the heat content specifications in 40 CFR 63. 11 (b)(6) and the maximum tip velocity specifications in 40 CFR 63.11 (b)(7) or (b)(8). [40 CFR 63.11(b)(6)]
L-7		Such air emissions equipment shall be managed as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10)]
Monitori	ng Requirements:	

Condition No.	Parameter	Condition
M-1		The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [40 CFR 63.b(5)]
M-2		The permittee shall perform visual observation for a period of two (2) hours using EPA Method 22 to demonstrate compliance with the visible emissions limitation, quarterly. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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EQPT000000018 (continued):

Monitoring Requirements:

Condition No.	Parameter	Condition
M-3		The permittee shall monitor the flare to assure that it is operated and maintained in conformance with its design. [40 CFR 63.11(b)]

Record-Keeping Requirements:

Condition No.	Condition
R-1	The permittee shall keep records of all maintenance performed on the flare in order to operate in a manner consistent with good air pollution control practices to minimize emissions and shall make said records available upon request during an inspection visit by the MDEQ personnel. All records shall be maintained by the permittee for a period of (5) years following the date of such record. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
R-2	The permittee shall maintain a record and/or log documenting all visual observation/test, the nature and cause of any visible emissions, any corrective action(s) taken to prevent or minimize the emissions, the date and time when visible observations were conducted and the date and time when corrective actions were taken. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

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GRPT000000001 (Crude Oil Tank Group) Crude Oil Storage Tanks:

Condition No.	Parameter	Condition
L-1		Such are emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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GRPT0000000002 (Reciprocating Internal Combustion Engines) Natural Gas Fired Four Stroke Lean Burn Reciprocating Internal Combustion Engines:

Condition	on	
No.	Parameter	Condition
L-1		For Emissions Points AA-012, AA-013, AA-014, AA-015, AA-022 and AA-023, the permittee shall comply with the requirement to only fire natural gas meeting the specifications for "natural gas" as defined in this permit. [11 Miss. Admin. Code Pt. 2, Ch. 2. II.B(10)]
L-2		For this combustion engine, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]
L-3		For Emission Points AA-012, AA-013, AA-014, AA-015, AA-022 and AA-023, the permittee shall comply with emissions of opacity less than or equal to 40% as determined by EPA Test Method 9, 40 CFR 60, Appendix A. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
L-4		Emission Points AA-012, AA-013, AA-014, AA-015, AA-022 and AA-023 are subject to and shall comply with 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) for existing four stroke lean burn (4SLB) non-emergency stationary RICE with a rating greater than 500 HP located at an area source of HAP emissions. [40 CFR 63.6590]
L-5		Emission Points AA-012, AA-013, AA-014, AA-015, AA-022 and AA-023 are 4 stroke lean burn spark ignition reciprocating internal combustion engines that meet the defintion of Remote Stationary RICE in 40 CFR 63.6675. [40 CFR 63.6675]
L-6		For Emission Points AA-012, AA-013, AA-014, AA-015, AA-022 and AA-023, the permittee shall:
		A. Change oil & filter every 2,160 hours of operation or annually, whichever comes first; B. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, & replace as necessary C. Inspect all hoses & belts every 2,160 hours of operation of annually, whichever comes first & replace as necessary. the permitee may use the optional oil analysis to extend the specified oil change requirements. [40 CFR 63.Table 2d(Item 8)]

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GRPT0000000002 (continued):

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Condition No.	Parameter	Condition
	Turumeter	Condition
L-7		For Emission Points AA-012, AA-013, AA-014, AA-015, AA-022 and AA-023, the permittee shall operate & maintain the stationary RICE & aftertreatment control device (if any) according to the manufacturer's emission-related written instructions or develop their own maintenance plan, which must provide to the extent practicable for the maintenance & operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.Table 6(Item 9)]
L-8		For Emission Points AA-012, AA-013, AA-014, AA-015, AA-022 and AA-023, the permittee shall conduct a review of the surrounding area every 12 months to determine if the nearby population has changed. If the engine no longer meets the criteria for a sparsely populated area, must comply within 1 year with the emission standards specified for populated areas. [40 CFR 63.6603(f)]
L-9		Such air emissions equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [APC-S-2 II.B(10)]

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GRPT000000003 (Produced Water Tank Group) Produced Water Storage Tanks:

Condition No.	Parameter	Condition
L-1		Such are emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]

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GRPT0000000004 (Heaters) Heaters:

Condition	Condition			
No.	Parameter	Condition		
L-1		For Emission Point AA-006 and AA-007, the permittee shall have emissions of opacity less than or equal to 40% as determined by EPA Test Method 9, 40 CFR 60, Appendix A. [11 Miss. Admin. Code Pt. 2, R. 1.3.A]		
L-2		For Emission Point AA-006 and AA-007, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. [11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)a]		
L-3		Such air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]		

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GRPT0000000006 (Engines Equipped with Catalytic Converters) Engines Equipped with Catalytic Converters (AA-012, AA-013 and AA-014):

Limitation Requirements:

M-5

M-6

Condition	on	
No.	Parameter	Condition
L-1		The permittee shall operate Emission Points AA-012, AA-013 and AA-014 with emissions controlled by an oxidation catalyst. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(10)]
Monito	oring Requirements:	
Condition	on	
No.	Parameter	Condition
M-1	Carbon Monoxide	Carbon Monoxide: For Emission Points AA-012, AA-013 and AA-014, the permittee shall conduct an initial performance for carbon monoxicde (CO) in accordance with EPA Reference Method 7, or an approved equivalent. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
M-2	Formaldehyde	Formaldehyde: For Emission Points AA-012, AA-013 and AA-014, the permittee shall conduct an initial performance test for Formaldehyde in accordance with EPA Reference Method 323, or an approved equivalent. [11 Miss. Admin. Code Pt. 2, Ch. 1. 2.2.B(11)]
M-3	Nitrogen oxides	Nitrogen oxides: For Emission Points AA-012, AA-013 and AA-014, the permittee shall conduct an initial performance test for NOx in accordance with EPA Reference Method 7, or an approved equivalent. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
M-4	VOC	VOC: For Emission Points AA-012, AA-013 and AA-014, the permittee shall conduct an inital performance test for VOC in accordance with EPA Reference Method 18, or an approved equivalent. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

Admin. Code Pt. 2, R. 2.2.B(11)]

R. 2.2.B(11)]

For Emission Points AA-012, AA-013 and AA-014, performance testing for NOx, CO, VOC, and Formaldehyde shall be

performed on the engines simultaneously and while the engine is operating within 90% of peak load conditions. [11 Miss.

For Emission Points AA-012, AA-013 and AA-014, the permittee shall maintain the temperature of the engines exhaust so that

the catalyst inlet temperature is greater than or equal to 400 °F and less than or equal to 1350° F. [11 Miss. Admin. Code Pt. 2,

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GRPT0000000006 (continued):

Record-Keeping Requirements:

Condition No.	Condition
R-1	For Emission Points AA-012, AA-013 and AA-014, the permittee shall record the catalyst inlet temperature, weekly to ensure that the engine is being operated in the specified temperature range. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
R-2	For Emission Points AA-012, AA-013 and AA-014, the permittee shall conduct an annual inspection to determine if the catalyst is fouled or damaged. Records of any damage or fouling, including any corrective action and/or maintenance shall be kept on-site and reported to MDEQ in the annual synthetic minor air operating compliance report. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
R-3	For Emission Points AA-012, AA-013 and AA-014, the permittee shall operate the engine and the control device according to manufacturer's recommendations. A copy of the manufacturer's recommended operating procedures shall be kept on-site and made available to MDEQ personnel during an inspection. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]

Submittal/Action Requirements:

Condition No.	Condition
S-1	The permittee shall submit a copy of each performance test within 60 days after the test has been completed. [11 Miss. Admin. Code Pt. 2, R. 2.2.B(11)]
S-2	For stack testing, the permittee shall submit a test protocol at least thirty (30) days prior to the scheduled test date to ensure that all test methods and procedures are acceptable to the MDEQ. The MDEQ must be notified at least ten (10) days prior to the scheduled test date so taht an observer may be scheduled to witness the test)s). [11 Miss. Admin. Code Pt. 2, R. 2.2 .B(11)]

GENERAL INFORMATION

Tellus Operating Group LLC, Raleigh CO2 Plant 1080 Raleigh Oilfield Road, County Road 77 Raleigh, MS Smith County

Alternate/Historic Identifiers

ID	Alternate/Historic Name	User Group	Start Date	End Date
52285	Tellus Operating Group, LLC	Official Site Name	7/28/2014	
250000087	TreeTop Midstream Services LLC, Raleigh CO2 Plant	Air-Construction	10/28/2010	10/28/2014
2812900087	Tellus Operating Group, LLC	Air-AIRS AFS	1/4/2010	
52285	TreeTop Midstream Services, LLC	Historic Site Name	1/4/2010	7/28/2014
250000087	Tellus Operating Group LLC, Raleigh CO2 Plant	Air-Construction	10/28/2014	
250000087	Tellus Operating Group LLC, Raleigh CO2 Plant	Air-Synthetic Minor Operating	6/1/2015	5/31/2020

Basin: Pascagoula River Basin

Location Description:

GENERAL INFORMATION

Relevant Documents:

The federal regulations referenced in this permit may be found on-line at http://ecfr.gpoaccess.gov/ and the State of Mississippi regulations may be found on-line at http://www.mdeq.ms.state.us/ or a copy of the regulations may be obtained by contacting the Mississippi Department of Environmental Quality, Environmental Permitting Division, Post Office Box 2261, Jackson, Mississippi 39255, phone (601) 961-5171. The following regulations were referenced in this permit:

Mississippi Air Regulations 11 Miss. Admin. Code Pt. 2, Ch. 1, Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants

Mississippi Air Regulations 11 Miss. Admin. Code Pt. 2, Ch. 2, Permit Regulations for the Construction and/or Operation of Air Emissions Equipment

40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Internal Combustion Engines

40 CFR Part 63, Subpart HH, National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities