ADEM
Alabama Department of Environmental Management

SYNTHETIC MINOR OPERATING PERMIT

PERMITTEE: W&T OFFSHORE, INC

FACILITY NAME: NORTH CENTRAL GULF PRODUCTION PLATFORM 115C

LOCATION: SUBMERGED TRACTS 114, 115, AND 116; MOBILE COUNTY, ALABAMA

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE, OR DEVICE
503-0025-X006	C-ZAN-505 – 1,100 HP, Natural Gas Fired, Four Stroke Lean Burn (4SLB), Gas Generator Engine C-ZAN-506 – 1,100 HP, Natural Gas Fired, 4SLB, Gas Generator Engine C-ZAN-521 – 210 HP, Diesel Fired, Black Start Emergency Generator Engine

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22 28 1 to 22 28 23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22 22A 1 to 22 22A 17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: Draft

Alabama Department of Environmental Management

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events that exceed 1 hours within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred. Records of all such events, regardless of reporting requirements, shall be made and maintained for a period of five years. These records shall be available for inspection.

7. All deviations from requirements within this permit shall be reported to the Department within 48 hours of the deviation or by the next workday while providing a statement with regards to the date, time, duration, cause, and corrective actions taken to bring the sources back into compliance.

8. In case of shutdown of air pollution control equipment for scheduled maintenance for a period greater than one (1) hour, the intent to shut down shall be reported to the Air Division at least 24 hours prior to the planned shutdown, unless accompanied by the immediate shutdown of the emission source.

9. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants for a period greater than one (1) hour, the person responsible for such equipment shall notify the Air Division within an additional 24 hours and provide

a statement giving all pertinent facts, including the duration of the breakdown. The Air Division shall be notified when the breakdown has been corrected.

10. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

11. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

12. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

13. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

14. Unless otherwise stated in this permit or an applicable regulation, the Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.

    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).

    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 30 days of the actual completion of the test.

15. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

16. Records will be maintained of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the process equipment and any malfunction of the air pollution control equipment. These records will be kept in a permanent form suitable for inspection and will be retained for at least two (2) years following the date of each occurrence.

17. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

18. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

a. by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

b. by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

c. by paving;

d. by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either

exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne.

19. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

20. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

21. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

22. Facility-wide emissions shall not exceed 99 tons per rolling 12-month period for sulfur dioxides (SO_2), nitrogen oxides (NO_X), volatile organic compounds (VOC), or carbon monoxide (CO).

23. The C-ZAN-505 and C-ZAN-506 engines shall demonstrate compliance with the facility-wide emission limits in Proviso 22 by meeting the following emissions standards:

    a. CO emissions shall not exceed 8.8 lb/hr (pounds per hour).

    b. NO_X emissions shall not exceed 8.8 lb/hr.

24. The following test methods and procedures should be used to demonstrate that the C-ZAN-505 and C-ZAN-506 engines are in compliance with the emission limits in Proviso 23:

    a. Methods 7, 7A, 7B, 7C, 7D, or 7E from Appendix A to 40 CFR 60 should be used to measure NO_X emissions.

    b. Methods 10, 10A, or 10B from Appendix A to 40 CFR 60 should be used to measure CO emissions.

    c. The Environmental Protection Agency's "Conditional Test Method (CTM-034)" should be used to measure NO_X and CO emissions.

25. The following test methods and procedures should be used to test the heat (Btu) and hydrogen sulfide content (H_2S) of the fuel gas burned in the engines:

    a. Each sample shall be analyzed for its heat (Btu) content by utilizing the ASTM Analysis Method D1826-77 or an equivalent method.

    b. Each sample collected shall be analyzed for its H_2S content utilizing the Tutwiler procedures found in 40 CFR §60.648 or the chromatographic analysis procedures

found in ASTM E-260 or the stain tube procedures found in GPA 2377-86 or those provided by the stain tube manufacture.

26. The C-ZAN-505 and C-ZAN-506 engines shall demonstrate continuous compliance with the emission standards in Proviso 23 by meeting the following monitoring requirements:

a. Fuel gas heat content (Btu) and H_2S content shall be tested at least once every 12 months.

b. Fuel gas consumption shall be monitored continuously.

c. Performance tests are required for the C-ZAN-505 and C-ZAN-506 engines every 5 years. The tests should be performed using the methods in Proviso 24 and should determine the emission factors for CO and NO_X in lb/hr and pounds per million Btu (MMBtu). Each test should consist of three runs with each run lasting 1-hour or longer.

27. Compliance with the emission standards in Proviso 23 shall be demonstrated by maintaining the following records:

a. The following records should be maintained for the engines:

i. Monthly fuel gas consumed in thousand standard feet per month (MScf/Month)

ii. Monthly hours of operation in hours per month

iii. Emissions of CO, NO_X, SO_2, and VOC in tons per month and tons per rolling 12-months

iv. Engine fuel heat (MMBtu/Month)

v. Records of gas analyses required by Proviso 26(a)

b. The following facility-wide records should be maintained:

i. Emissions of CO, NO_X, SO_2, and VOC in tons per month and tons per rolling 12-months

ii. The facility-wide emissions records should include emissions from the engines in Synthetic Minor Operating Permit (SMOP) No.: 503-0025-X006 and the heater and flares in SMOP No.: 503-0025-X007.

28. The C-ZAN-505, C-ZAN-506, and C-ZAN-521 engines shall not emit particulate of an opacity greater than twenty percent (20%), as determined by a six-minute average except

that, during one six-minute period in any sixty-minute period, they may emit particulate of an opacity not greater than forty percent (40%).

29. Compliance with the opacity standards for the engines shall be determined using one of the methods below:

    a. Method 9 of Appendix A-4 to 40 CFR Part 60 (Method 9).

        i. Method 9 must be conducted by an observer that is certified and familiar with Method 9 procedures.

        ii. Method 9 shall be conducted during daylight hours.

        iii. Method 9 observations should be documented using an ADEM Visible Emissions Observation Report.

    b. Method 22 of Appendix A-7 to 40 CFR Part 60 (Method 22).

        i. The observation must be done by an individual who is familiar with Method 22.

        ii. To determine compliance with the opacity standards, a violation is defined as visible emissions observed for a total of six (6) minutes in any 60-minute period.

30. Continuous compliance with the opacity standards in Proviso 28 should be demonstrated by conducting weekly visible emissions inspections of the C-ZAN-505, C-ZAN-506, and C-ZAN-521 engines when the facility is manned.

31. If visible emissions are observed and cannot be corrected within 1 hour, a visual emissions observation should be conducted using one of the methods listed in Proviso 29.

32. The following records should be maintained to demonstrate compliance with the opacity standards in Proviso 28:

    a. Records of deviations from the opacity standards in Proviso 28. This shall include the cause of the visible emissions, the corrective actions taken, records of any Method 9 or Method 22 observations performed, and the date, time, and duration of the deviation.

    b. Records of weekly visual inspections required by Proviso 30. These shall include the date, time, and result of each inspection.

33. The C-ZAN-505, C-ZAN-506, and C-ZAN-521 engines are subject to the applicable requirements of 40 CFR Part 63, Subpart ZZZZ – National Emissions Standards for

Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (MACT ZZZZ). Compliance with MACT ZZZZ shall be met as follows:

a. These engines must comply with the applicable requirements of 40 CFR 63, Subpart A, "General Provisions" as specified in Table 8 of MACT ZZZZ [40 CFR §63.6665]

b. Compliance with MACT ZZZZ for the C-ZAN-505, C-ZAN-506, and C-ZAN-521 engines shall be met by complying with the following emissions standards:

i. The facility must be in compliance with the applicable requirements of MACT ZZZZ at all times [40 CFR §63.6605(a)].

ii. At all times the facility must operate and maintain the engine, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions [40 CFR §63.6605(b)].

1. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by MACT ZZZZ have been achieved.

2. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

iii. Minimize the engines' time spent at idle and minimize the engines' time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes [40 CFR §63.6625(h)].

c. Compliance with MACT ZZZZ for the C-ZAN-505 and C-ZAN-506 engines shall be met by complying with the following requirements [40 CFR §63.6603(a), Item No. 8 of Table 2d MACT ZZZZ]:

i. The facility shall comply with the following work practice standards for the C-ZAN-505 and C-ZAN-506 engines.

1. Change oil and filter every 2,160 hours of operation or within 1 year and 30 days of the last change, whichever comes first.

a. As an alternative, the facility has the option of utilizing an oil analysis program in order to extend the specified oil

change requirement above. The oil analysis must be performed as described in 40 CFR §63.6625(j).

2. Inspect spark plugs every 2,160 hours of operation or within 1 year and 30 days of the last inspection, whichever comes first, and replace as necessary.

3. Inspect all hoses and belts every 2,160 hours of operation or within 1 year and 30 days of the last inspection, whichever comes first, and replace as necessary.

ii. Compliance with MACT ZZZZ for the C-ZAN-521 engine shall be met by complying with the following requirements [40 CFR §63.6603(a), Item No. 4 of Table 2d MACT ZZZZ]:

1. The facility shall comply with the following work practice standards for the C-ZAN-521 engine:

a. Change oil and filter every 500 hours of operation or within 1 year and 30 days of the last change, whichever comes first.

i. As an alternative, the facility has the option of utilizing an oil analysis program in order to extend the specified oil change requirement above. The oil analysis must be performed as described in 40 CFR §63.6625(i).

b. Inspect air cleaner every 1,000 hours of operation or within 1 year and 30 days of the last inspection, whichever comes first and replace as necessary

c. Inspect all hoses and belts every 500 hours of operation or within 1 year and 30 days of the last inspection, whichever comes first, and replace as necessary.

2. The C-ZAN-521 engine should be operated and maintained according to the manufacturer's emission-related written instructions [40 CFR §63.6625(e) and 40 CFR §63.6625(e)(3)].

34. Continuous compliance with MACT ZZZZ for the C-ZAN-505, C-ZAN-506, and C-ZAN-521 engines shall be demonstrated by meeting the following requirements:

a. The permittee must comply with work management practices by operating and maintaining the stationary RICEs according to the manufacturer's emission-related operation and maintenance instructions or by developing and following a

maintenance plan which must provide to the extent practicable for the maintenance and operation of the engines in a manner consistent with good air pollution control practice for minimizing emissions [40 CFR §63.6640(a) and Item 9 of Table 6 to MACT ZZZZ].

35. Continuous compliance with MACT ZZZZ for the C-ZAN-505 and C-ZAN-506 engines shall be demonstrated by meeting the following requirements:

a. These engines must meet the definition of remote stationary RICE as defined in 40 CFR §63.6675. The engines' remote status must be evaluated every 12 months. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE, the permittee must comply with all of the requirements for existing non-emergency SI 4SLB stationary RICE with a site rating of more than 500 HP located at area sources of hazardous air pollutants (HAPs) that are not remote stationary RICEs within 1 year of the evaluation [40 CFR §63.6603(f)].

36. Continuous compliance with MACT ZZZZ for the C-ZAN-521 engine shall be demonstrated by meeting the following requirements:

a. This engine must have a non-resettable hour meter installed [40 CFR §63.6625(f)].

b. This engine must be operated as specified in 40 CFR §63.6640(f).

i. This engine can operate for non-emergency purposes for 50 hours per year. Operating time during an emergency is unlimited. If the engine is operated for more than 50 hours per year for non-emergency purposes, it must meet the requirements for non-emergency engines.

37. Compliance with MACT ZZZZ shall be demonstrated by keeping the following records and submitting the following reports:

a. Recordkeeping Requirements:

i. All records required by MACT ZZZZ (including reports and notifications) shall be maintained in a form suitable for inspection for a period of at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record [40 CFR §63.6660(a) through 40 CFR §63.6660(c)].

1. At a minimum, the most recent two (2) years of data shall be maintained onsite in a form suitable for inspection and be made available immediately upon request.

2. The remaining three (3) years of data may be maintained off site in a form suitable for inspection.

ii. The following records must be kept for the C-ZAN-505, C-ZAN-506, and C-ZAN-521 engines:

1. Records of the maintenance conducted on the engines must be kept in order to demonstrate that you operated and maintained the stationary RICE according to your own maintenance plan [40 CFR §63.6655(e) and 40 CFR §63.6655(e)(3)].

iii. The following records must be kept for the C-ZAN-505 and C-ZAN-506 engines:

1. Records of the initial and annual evaluations of the remote status of the C-ZAN-505 and C-ZAN-506 engines must be maintained [40 CFR §63.6603(f)].

iv. The following records must be kept for the C-ZAN-521 engine:

1. Records of the hours of operation of the C-ZAN-521 engine must be recorded through the non-resettable hour meter. The hours of emergency operation must be documented, including what classified the operation as emergency and how many hours were spent for non-emergency operation [40 CFR §63.6655(f) and 40 CFR §63.6655(f)(2)].

b. Reporting Requirements:

i. The following reports must be submitted for the C-ZAN-505, C-ZAN-506, and C-ZAN-521 engines:

1. Each instance where an emission limitation or operating limitation in Table 2d to MACT ZZZZ is not met must reported as required by 40 CFR §63.6650 [40 CFR §63.6640(b)].

2. The Permittee must also report each instance in which the applicable requirements of Table 8 to MACT ZZZZ are not met [40 CFR §63.6640(e)].

38. A semi-annual report must be submitted as follows:

a. The following information should be included in each report:

i. The report shall include a summary of each deviation from any permit requirement in SMOP No.: 503-0025-X006 or SMOP No.: 503-0025-X007 that occurred during the reporting period along with the date, time, duration, cause, and corrective actions taken to bring the sources back into

compliance. When no deviations from permit conditions have occurred, the report must state that no deviations occurred during the reporting period.

ii. Facility-wide emissions records in Proviso 27(b).

b. The report shall adhere to the following schedule:

Reporting Period:	January 1 – June 30	Submitted By:	July 31
	July 1 – December 31		January 31

Draft
Date

ADEM
Alabama Department of Environmental Management

SYNTHETIC MINOR OPERATING PERMIT

PERMITTEE: W&T OFFSHORE, INC

FACILITY NAME: NORTH CENTRAL GULF PRODUCTION PLATFORM 115C

LOCATION: SUBMERGED TRACTS 114, 115, AND 116; MOBILE COUNTY, ALABAMA

PERMIT NUMBER	DESCRIPTION OF EQUIPMENT, ARTICLE, OR DEVICE
503-0025-X007	C-ZZZ-503 – High Pressure Flare
	C-ZZZ-514 – Low Pressure Flare
	C-EAL-601 – 5 MMBtu/hr Process Heater
	Triethylene Glycol Dehydration System (TEG)

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, Ala. Code §§ 22 28 1 to 22 28 23, as amended, the Alabama Environmental Management Act, Ala. Code §§ 22 22A 1 to 22 22A 17, as amended, and rules and regulations adopted there under, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

ISSUANCE DATE: Draft

Alabama Department of Environmental Management

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. The permittee shall keep this permit under file or on display at all times at the site where the facility for which the permit is issued is located and shall make the permit readily available for inspection by any or all persons who may request to see it.

5. Each point of emission, which requires testing, will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

6. All air pollution control equipment shall be operated at all times while this process is operational. In the event of scheduled maintenance, unscheduled maintenance, or a breakdown of the pollution control equipment, the process shall be shut down as expeditiously as possible (unless this act and subsequent re-start would clearly cause greater emissions than continuing operations of the process for a short period). The Department shall be notified of all such events that exceed 1 hours within 24 hours. The notification shall include all pertinent facts, including the duration of the process operating without the control device and the level of excess emissions which have occurred. Records of all such events, regardless of reporting requirements, shall be made and maintained for a period of five years. These records shall be available for inspection.

7. All deviations from requirements within this permit shall be reported to the Department within 48 hours of the deviation or by the next workday while providing a statement with regards to the date, time, duration, cause, and corrective actions taken to bring the sources back into compliance.

8. In case of shutdown of air pollution control equipment for scheduled maintenance for a period greater than one (1) hour, the intent to shut down shall be reported to the Air Division at least 24 hours prior to the planned shutdown, unless accompanied by the immediate shutdown of the emission source.

9. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants for a period greater than one (1) hour, the person responsible for such equipment shall notify the Air Division within an additional 24 hours and provide

a statement giving all pertinent facts, including the duration of the breakdown. The Air Division shall be notified when the breakdown has been corrected.

10. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

11. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

12. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

13. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued thereunder.

14. Unless otherwise stated in this permit or an applicable regulation, the Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.

    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).

    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

All test reports must be submitted to the Air Division within 30 days of the actual completion of the test.

15. Any performance tests required shall be conducted and data reduced in accordance with the test methods and procedures contained in each specific permit condition unless the Director (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, or (3) approves the use of an alternative method, the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

16. Records will be maintained of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the process equipment and any malfunction of the air pollution control equipment. These records will be kept in a permanent form suitable for inspection and will be retained for at least two (2) years following the date of each occurrence.

17. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

18. Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.

Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:

a. by the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic;

b. by reducing the speed of vehicular traffic to a point below that at which dust emissions are created;

c. by paving;

d. by the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions;

Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either

exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne.

19. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

20. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

21. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

22. Facility-wide emissions shall not exceed 99 tons per rolling 12-month period for sulfur dioxides (SO_2), nitrogen oxides (NO_X), volatile organic compounds (VOC), or carbon monoxide (CO).

23. The following test methods and procedures should be used to test the molecular weight, heat (Btu) content, VOC content, and hydrogen sulfide content (H_2S) of the fuel gas burned in the heater and flares:

    a. Each sample collected shall be analyzed for its H_2S content utilizing the Tutwiler procedures found in 40 CFR §60.648 or the chromatographic analysis procedures found in ASTM E-260 or the stain tube procedures found in GPA 2377-86 or those provided by the stain tube manufacture.

    b. The VOC mole percent, molecular weight, and heat (Btu) content of fuel gas shall be determined with the chromatographic analysis producers in 40 CFR Part 60, Appendix A, Method 18, Method 25A, ATSM Method D1826-77, or equivalent methods or procedures.

24. The heater and flares shall demonstrate continuous compliance with the facility-wide emission limits in Proviso 22 by meeting the following monitoring requirements:

    a. The H_2S content, heat content, VOC content, and molecular weight of the gas stream from each producing well and of the gas streams exiting the produced liquids flash tank shall be tested at least once every 12 months in accordance with the test methods in Proviso 23.

25. Compliance with the facility-wide emissions standards in Proviso 22 shall be demonstrated by maintaining the following records:

a. The following records must be kept for the high pressure flare, low pressure flare, and 5 MMBtu/hr heater:

i. Monthly fuel gas burned in thousand standard feet per month (MScf/Month)

ii. Monthly hours of operation in hours per month

iii. Monthly emissions of CO, NO_X, SO_2, and VOC in tons per month and tons per rolling 12-months

iv. Fuel gas heat (MMBtu/Month)

v. Records of gas analyses described in Proviso 23

b. The following facility-wide records must be kept:

i. Monthly records of the facility-wide emissions of SO_2, NO_X, VOC, and CO should be maintained in tons per month and tons per rolling 12-months.

ii. The facility-wide emissions records should include emissions from the engines in Synthetic Minor Operating Permit (SMOP) No.: 503-0025-X006 and the heater and flares in SMOP No.: 503-0025-X007.

26. The 5 MMBtu/hr heater and flares shall not emit particulate of an opacity greater than twenty percent (20%), as determined by a six-minute average except that, during one six-minute period in any sixty-minute period, the 5 MMBtu/hr heater and flares may emit particulate of an opacity not greater than forty percent (40%).

27. Compliance with the opacity standards for the heater and flares shall be determined using one of the methods below:

a. Method 9 of Appendix A-4 to 40 CFR Part 60 (Method 9).

i. Method 9 must be conducted by an observer that is certified and familiar with Method 9 procedures.

ii. Method 9 shall be conducted during daylight hours.

iii. Method 9 observations should be documented using an ADEM Visible Emissions Observation Report.

b. Method 22 of Appendix A-7 to 40 CFR Part 60 (Method 22).

i. The observation must be done by an individual who is familiar with Method 22.

ii. To determine compliance with the opacity standards, a violation is defined as visible emissions observed for a total of six (6) minutes in any 60-minute period.

28. Continuous compliance with the opacity standards in Proviso 26 should be demonstrated by conducting weekly visible emissions inspections of the heater and flares when facility personnel are present.

29. If visible emissions are observed and cannot be corrected within 1 hour, a visual emissions observation should be conducted using one of the methods listed in Proviso 27.

30. The following records should be maintained to demonstrate compliance with the opacity standards in Proviso 26:

a. Records of deviations from the opacity standards in Proviso 26. This shall include the cause of the visible emissions, the corrective actions taken, records of any Method 9 or Method 22 observations required, and the date, time, and duration of the deviation.

b. Records of weekly visual inspections required by Proviso 28. These shall include the date, time, and result of each inspection.

31. Facilities that handle natural gas that contains more than 0.10 grains per standard cubic feet (gr/scf) of hydrogen sulfide (H_2S) shall not cause or permit the emission of a process gas stream containing more than 0.10 gr/scf into the atmosphere unless it is properly burned to maintain the ground level concentrations of hydrogen sulfide to less than twenty (20) parts per billion beyond plant property limits, averaged over a thirty (30) minute period.

a. The H_2S feed rate to each flare shall not exceed 1,072 lb/hr.

b. Each process gas stream that has to be vented to the atmosphere shall be captured and recycled to the process or the flare so that it can be burned.

c. If vessels or equipment are being de-pressured and/or emptied and the reduced pressure will not allow flow of the process gas stream to the combustion device, then venting to the atmosphere of any gas stream shall be allowed, for a duration not to exceed fifteen (15) continuous minutes.

32. The following records must be kept for each flare to demonstrate compliance with the Monthly H_2S Feed Rate limit in Proviso 31(a):

a. Volume of gas burned in standard cubic feet (scf)

b. Amount of time gas was flared each month in hours per month

c. H_2S content of each stream flared from the gas analyses as required by Proviso 24

d. The H_2S feed rate for each flaring event calculated as described in Equation 1:

Equation 1: $H_2S \text{ Feed Rate} = [VB] \times [\frac{1 \text{ mole}}{380 \text{ scf}}] \times [H_2S \text{ Mass Fraction}] \times [\frac{34 \text{ Pounds of } H_2S}{\text{Mole of } H_2S}]$

Value	Description	Units
H_2S Feed Rate	Pounds of H_2S sent to flare during each flaring event in pounds per event	Pounds per event
VB	Volume of gas burned during each flaring event in standard cubic feet (scf)	Scf per event
H_2S Mass Fraction	Mass fraction of H_2S in the gas that was flared during each event	Unitless

e. The Monthly H_2S Feed Rate should be calculated each month as described in Equation 2:

Equation 2: $\text{Monthly } H_2S \text{ Feed Rate} = \frac{[\text{Sum of } H_2S \text{ Feed Rates For the Month}]}{[\text{Monthly Flaring Time}]}$

Value	Description	Units
Sum of H_2S Feed Rates For the Month	Sum of all H_2S feed rates for a given month calculated as required by Proviso 32(d).	Pounds of H_2S per month
Monthly Flaring Time	Amount of time gas was flared for a given month	Hours per Month

33. The TEG is subject to the applicable requirements of 40 CFR Part 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities (MACT HH). Compliance shall be met as follows:

a. This facility shall comply with the applicable requirements of 40 CFR 63, Subpart A, "General Provisions" as specified in Table 2 to MACT HH [40 CFR §63.764(a), 40 CFR §63.774(a), 40 CFR §63.775(a)]

b. Compliance with the MACT HH requirements for the TEG shall be met by complying with the following emissions standards:

i. The emission standards in MACT HH shall apply at all times [40 CFR §63.760(i)]

ii. At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, review of operation and maintenance

procedures, review of operation and maintenance records, and inspection of the source [40 CFR §63.764(j)].

iii. The TEG must be operated so that the optimum glycol recirculation rate is not exceeded [40 CFR §63.764(d)(2)(ii)].

1. W&T has determined the optimum glycol recirculation rate is 437 gallons per hour.

2. The optimum recirculation rate can be changed as described in 40 CFR §63.764(d)(2)(ii).

34. Compliance with the MACT HH requirements for the TEG shall be demonstrated by keeping the following records and submitting the following reports:

a. Recordkeeping Requirements:

i. The records from Part 63 Subpart A that must be kept are listed in Table 2 to Subpart HH [40 CFR §63.774(a)].

ii. Maintain records of the determination of the optimum glycol recirculation rate [40 CFR §63.764(d)(2)(iii)].

iii. Maintain records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control equipment and monitoring equipment. The owner or operator shall maintain records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR §63.764(j), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation [40 CFR §63.774(g)].

b. Reporting Requirements:

i. The reports from Part 63 Subpart A that must be submitted are listed in Table 2 to MACT HH [40 CFR §63.775(a)].

ii. Whenever a process change is made, or a change in any of the information submitted in the Notification of Compliance Status Report, the owner or operator shall submit a report within 180 days after the process change is made. The report shall include the information in 40 CFR §63.775(f)(1) through in 40 CFR §63.775(f)(4) [40 CFR §63.775(f)].

iii. All reports required by MACT HH not subject to the requirements in 40 CFR §63.775(g)(1) must be sent to the Department at the appropriate address listed in §63.13. The Department may request a report in any form

suitable for the specific case (e.g., by commonly used electronic media such as Excel spreadsheet, on CD or hard copy) [40 CFR §63.775(g)(2)].

35. A semi-annual report must be submitted as follows:

a. The following information should be included in each report:

i. The report shall include a summary of each deviation from any permit requirement in SMOP No.: 503-0025-X006 or SMOP No.: 503-0025-X007 that occurred during the reporting period along with corrective actions taken. When no deviations of parameters have occurred, the report must state that no deviations occurred during the reporting period.

ii. Facility-wide emissions records in Proviso 25(b)

b. The report shall adhere to the following schedule:

Reporting Period:	January 1 – June 30	Submitted By:	July 31
	July 1 – December 31		January 31

Draft
Date