

STATE OF MISSISSIPPI AIR POLLUTION CONTROL PERMIT

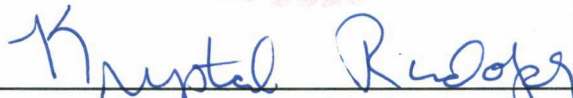
TO CONSTRUCT AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Relativity Space, Inc.
Building 4080
Stennis Space Center, Hancock County, Mississippi

has been granted permission to construct air emissions equipment to comply with the emission limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD



AUTHORIZED SIGNATURE

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: AUG 26 2019

Permit No.: 1000-00058

SECTION 1

A. GENERAL CONDITIONS

1. This permit is for air pollution control purposes only.
(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D.)

2. Any activities not identified in the application are not authorized by this permit.
(Ref.: Miss. Code Ann. 49-17-29 1.b)

3. 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 operating without a valid permit pursuant to State Law.
(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(5).)

4. It is the responsibility of the applicant / permittee to obtain all other approvals, permits, clearances, easements, agreements, etc., which may be required including, but not limited to, all required local government zoning approvals or permits.
(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D.(6).)

5. The issuance of a permit does not release the permittee from liability for constructing or operating air emissions equipment in violation of any applicable statute, rule, or regulation of state or federal environmental authorities.
(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(7).)

6. 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 the 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.
(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(15)(a).)

7. The permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. Sufficient cause for a 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 permit condition.
(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(15)(b).)

8. The permit does not convey any property rights of any sort, or any exclusive privilege.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(15)(c).)

9. The permittee shall furnish to the MDEQ within a reasonable time any information the 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 the 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 the MDEQ along with a claim of confidentiality. The permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(15)(d).)

10. *Design and Construction Requirements:* The stationary source shall be designed and constructed so as to operate without causing a violation of an Applicable Rules and Regulations, without interfering with the attainment and maintenance of State and National Ambient Air Quality Standards, and such that the emission of air toxics does not result in an ambient concentration sufficient to adversely affect human health and well-being or unreasonably and adversely affect plant or animal life beyond the stationary source boundaries.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.A.)

11. *Solids Removal:* The necessary facilities shall be constructed so that solids removed in the course of control of air emissions may 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.

(Ref.: Miss. Code Ann. 49-17-29)

12. Except as otherwise specified herein, the permittee shall be subject to the following provisions with respect to upsets, startups, and shutdowns.

(a) Upsets (as defined in 11 Miss. Admin. Code Pt. 2, R. 1.2.):

- (1) For an upset, the Commission may pursue an enforcement action for noncompliance with an emission standard or other requirement of an applicable rule, regulation, or permit. In determining whether to pursue enforcement action, and/or the appropriate enforcement action to take, the Commission may consider whether the source has demonstrated through properly signed contemporaneous operating logs or other relevant evidence the following:

- (i) An upset occurred and that the source can identify the cause(s) of the

upset;

- (ii) The source was at the time being properly operated;
 - (iii) During the upset the source took all reasonable steps to minimize levels of emissions that exceeded the emission standard or other requirement of an applicable rule, regulation, or permit;
 - (iv) That within five (5) working days of the time the upset began, the source submitted a written report to the Department describing the upset, the steps taken to mitigate excess emissions or any other noncompliance, and the corrective actions taken and;
 - (v) That as soon as practicable but no later than twenty-four (24) hours of becoming aware of an upset that caused an immediate adverse impact to human health or the environment beyond the source boundary or caused a general nuisance to the public, the source provided notification to the Department.
- (2) In any enforcement proceeding by the Commission, the source seeking to establish the occurrence of an upset has the burden of proof.
 - (3) This provision is in addition to any upset provision contained in any applicable requirement.
 - (4) These upset provisions apply only to enforcement actions by the Commission and are not intended to prohibit EPA or third-party enforcement actions.
- (b) Start-ups and Shutdowns (as defined in 11 Miss. Admin. Code Pt. 2, R. 1.2.):
- (1) Start-ups and shutdowns are part of normal source operation. Emission limitations apply during start-ups and shutdowns unless source specific emission limitations or work practice standards for start-ups and shutdowns are defined by an applicable rule, regulation, or permit.
 - (2) Where the source is unable to comply with existing emission limitations established under the State Implementation Plan (SIP) and defined in 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for start-ups and shutdowns. Source specific emission limitations or work practice standards established for start-ups and shutdowns are subject to the requirements prescribed in 11 Mississippi Administrative Code, Part 2, Chapter 1, Rule 1.10.B.(2)(a) through (e).
 - (3) Where an upset as defined in Rule 1.2 occurs during start-up or shutdown, see

the upset requirements above.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

13. *Fugitive Dust Emissions from Construction Activities:* The construction of the stationary source shall be performed in such a manner so as to reduce fugitive dust emissions from construction activities to a minimum.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.A.(4).)

14. *Right of Entry:* The permittee shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their representatives upon 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 emissions.

(Ref.: Miss. Code Ann. 49-17-21)

15. *Permit Modification or Revocation:* After notice and opportunity for a hearing, the Permit Board may modify the permit or revoke it in whole or in part for good cause shown including, but not limited to:

- (a) Persistent violation of any of the 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 federal, state, or local laws or regulations that require either a temporary or permanent reduction or elimination of previously authorized air emission.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.C.)

16. *Public Record and Confidential Information:* 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.

(Ref.: Miss. Code Ann. 49-17-39)

17. *Permit Transfer:* This permit shall not be transferred except upon approval of the Permit Board.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.16.B.)

18. *Severability:* The provisions of this permit are severable. If any provision of the permit, or the application of any provision of the 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.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D.(7).)

19. *Permit Expiration:* The permit to construct will expire if construction does not begin within eighteen (18) months from the date of issuance or if construction is suspended for 18 months or more.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C.(1).)

20. *Certification of Construction:* A new stationary source issued a Permit to Construct cannot begin operation until certification of construction by the permittee.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D.(3).)

21. *Beginning Operation:* Except as prohibited in Condition A.24 of Section 1, after certification of construction by the permittee, the Permit to Construct shall be deemed to satisfy the requirement for a permit to operate until the date the application for issuance or modification of the Title V Permit or the application for issuance or modification of the State Permit to Operate, whichever is applicable, is due. This provision is not applicable to a source excluded from the requirement for a permit to operate as provided by 11 Miss. Admin. Code Pt. 2, R. 2.13.G.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D.(4).)

22. *Application for a Permit to Operate:* Except as otherwise specified in Condition 24 of Section 1, the application for issuance or modification of the State Permit to Operate or the Title V Permit, whichever is applicable, is due twelve (12) months after beginning operation or such earlier date or time as specified in the Permit to Construct. The Permit Board may specify an earlier date or time for submittal of the application. Beginning operation will be assumed to occur upon certification of construction, unless the permittee specifies differently in writing.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D.(5).)

23. *Operating Under a Permit to Construct:* Except as otherwise specified in Condition A.24 of Section 1, upon submittal of a timely and complete application for issuance or modification of a State Permit to Operate or a Title V Operating Permit, whichever is applicable, the applicant may continue to operate under the terms and conditions of the Permit to Construct and in compliance with the submitted application until the Permit Board issues, modifies, or denies the Permit to Operate.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D.(6).)

24. *Application Requirements for a Permit to Operate for Moderate Modifications:* For moderate modifications that require contemporaneous enforceable emissions reductions from more than one emission point in order to “net” out of PSD / NSR, the applicable Title V Permit to Operate or State Permit to Operate must be modified prior to beginning operation of the modified facilities.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D.(7).)

25. *General Duty:* All air emission equipment shall be operated as efficiently as possible to provide the maximum reduction of air contaminants.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).)

26. *Deviation Reporting:* 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.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).)

27. *Compliance Testing:* Regarding compliance testing (if applicable):

- (a) The results of any emissions sampling and analysis shall be expressed both in units consistent with the standards set forth in any Applicable Rules and Regulations or this permit and in units of mass per time;
- (b) Compliance testing will be performed at the expense of the permittee; and
- (c) Each emission sampling and analysis report shall include but not be limited to the following:
 - (1) Detailed description of testing procedures;
 - (2) Sample calculation(s);
 - (3) Results; and

- (4) Comparison of results to all Applicable Rules and Regulations and to emission limitations in the permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.6.B.(3), (4), and (6).)

B. GENERAL NOTIFICATION REQUIREMENTS

1. Within fifteen (15) days of beginning actual construction, the permittee must notify MDEQ in writing that construction has begun.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C.(2).)

2. The permittee must notify MDEQ in writing when construction does not begin within eighteen (18) months of issuance or if construction is suspended for 18 months or more.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.C.(3).)

3. Upon the completion of construction or installation of an approved stationary source or modification, and prior to commencing operation, the applicant shall notify the Permit Board that construction or installation was performed in accordance with the approved plans and specifications on file with the Permit Board.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D.(1) and (3).)

4. The Permit Board shall be promptly notified in writing of any change in construction from the previously approved plans and specifications or permit. If the Permit Board determines the changes are substantial, it may require the submission of a new application to construct with "*as built*" plans and specifications. Notwithstanding any provision herein to the contrary, the acceptance of an "*as built*" application shall not constitute a waiver of the right to seek compliance penalties pursuant to State Law.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.5.D.(2).)

SECTION 2
EMISSION POINT DESCRIPTION

The permittee is authorized to construct and operate, upon certifying the completion of construction, air emissions equipment as described in the following table:

EMISSION POINT	DESCRIPTION
AA-000	Facility-Wide (Relativity Space, Inc.)
AA-001	Non-Assisted Flare [includes a 0.05 MMBTU / Hour Natural Gas-Fired Pilot Flame
AA-002	Natural Gas-Fired Rocket Engine Test Stand No. 1 (E-4 Cell No. 1)
AA-003	Natural Gas-Fired Rocket Engine Test Stand No. 2 (E-4 Cell No. 2)
AA-004	Natural Gas-Fired Rocket Engine Test Stand No. 3 (E-4 Cell No. 3)
AA-005	Natural Gas-Fired Rocket Engine Test Stand No. 4 (E-4 Cell No. 4)
AA-006	16,000-Gallon Liquefied Natural Gas (LNG) Above-Ground Storage Tank

SECTION 3 EMISSION LIMITATIONS AND STANDARDS

Emission Point(s)	Applicable Requirement(s)	Condition Number	Pollutant(s) / Parameter(s)	Limitation(s) / Standard(s)
AA-000	11 Miss. Admin. Code Pt. 2, R. 1.3.A.	3.1	Opacity	≤ 40%
	11 Miss. Admin. Code Pt. 2, R. 1.3.B.	3.2		
	11 Miss. Admin. Code Pt. 2, R. 1.3.D.(1).	3.3	PM	0.6 pounds / MMBTU per hour, or $E = 0.8808 (I^{-0.1667})$, or 0.19 pounds / MMBTU per hour
	11 Miss. Admin. Code Pt. 2, R. 1.4.B.(1).	3.4	SO ₂	500 ppm (by volume)
	11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).	3.5	CO	95.0 tpy
AA-001	11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).	3.6	VOCs	Operational Requirements
AA-002 through AA-005	11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).	3.7	CO	Operational Requirements (Water Deluge System)
		3.8	Fuel Restriction	Liquefied Natural Gas Only
		3.9	VOCs	Emissions Control Requirement
AA-006	11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).	3.10	VOCs	Emissions Control Requirement

3.1 For Emission Point AA-000 (Facility-Wide), unless otherwise specified herein, the permittee shall cause or allow the emission of smoke from a point source into the open air, which exceeds forty percent (40%) opacity.

Start-up operations may produce emissions, which exceed 40% opacity for up to fifteen (15) minutes per start-up in any one (1) hour and not to exceed three (3) start-ups per stack in any twenty-four (24) hour period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.A.)

- 3.2 For Emission Point AA-000 (Facility-Wide), unless otherwise specified herein, the permittee shall not discharge into the ambient (from any point source) any air contaminant of such opacity as to obscure an observer's view to a degree in excess of forty percent (40%) opacity. This shall not apply to vision obscuration caused by uncombined water droplets.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.B.)

- 3.3 For Emission Point AA-000 (Facility-Wide), the permittee shall comply with the following ash / particulate matter (PM) emission limitations (as applicable):

- (a) For an emission source that utilizes fossil fuel and has a heat input of less than ten (10) million BTU (MMBTU) per hour, the permittee shall not exceed 0.6 pounds per MMBTU per hour heat input;
- (b) For an emission source that utilizes fossil fuel and has a heat input equal to / greater than 10 MMBTU per hour heat input but less than 10,000 MMBTU per hour heat input, the permittee shall not exceed an emission rate as determined by the following relationship:

$$E = 0.8808 (I^{-0.1667})$$

Where "E" is the emission rate in pounds per MMBTU per hour heat input and "I" is the heat input in MMBTU per hour;

- (c) For an emission source that utilizes fossil fuel and has a heat input equal to / greater than 10,000 MMBTU per hour heat input, the permittee shall not exceed 0.19 pounds per MMBTU per hour heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.D.(1).)

- 3.4 For Emission Point AA-000 (Facility-Wide), except as otherwise specified herein, the permittee shall not cause the emission of gas containing sulfur oxides (measured as sulfur dioxide or SO₂) from any process equipment in excess of five hundred (500) parts per million by volume (ppm_v).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.B.(1).)

- 3.5 For Emission Point AA-000 (Facility-Wide), the permittee shall limit the total emission of carbon monoxide (CO) from all applicable emission sources to no more than 95.0 tons per year (tpy) based on a rolling 12-month period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).)

- 3.6 For Emission Point AA-001, the permittee shall operate the non-assisted flare in accordance with the following specifications to achieve (at a minimum) 98% destruction efficiency of volatile organic compound (VOC) emissions:
- (a) The flare shall be operated at all times when emissions may be vented to the control device;
 - (b) The flare shall be operated and maintained according to the manufacturer's specifications and recommendations;
 - (c) The flare shall be operated as to generate no visible emissions (as determined by EPA Method 22 in Appendix A of 40 CFR Part 60), except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours; and
 - (d) The permittee shall maintain a pilot flame at all times when emissions may be vented to the flare.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).)

- 3.7 For Emission Points AA-002 through AA-005, the permittee shall operate the water deluge suppression system in accordance with the following specifications:
- (a) The deluge suppression system shall be operated at all times when an engine testing event is conducted;
 - (b) The deluge suppression system shall be operated and maintained according to the manufacturer's specifications and recommendations; and
 - (c) The permittee shall operate the suppression system in such manner as to dispense (at a minimum) two (2) pounds of water per pound of exhaust gas emitted during an engine testing event.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).)

- 3.8 For Emission Points AA-002 through AA-005, the permittee shall utilize only liquefied natural gas (LNG) as the fuel source for engine testing operations.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).)

- 3.9 For Emission Points AA-002 through AA-005, the permittee shall direct the contents of applicable fuel source piping to the flare (i.e. Emission Point AA-001) during periods of engine pre-test chill-in mode and engine post-test vent mode.

For the purpose of the permit, "*chill-in mode*" is defined as the operation of directing LNG through pipes (at a reduced flow rate) prior to an engine testing event to prevent a cold-

shock effect, and “*vent mode*” is defined as the operation of purging LNG from pipes (via nitrogen gas) after completing an engine testing event.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).)

- 3.10 For Emission Point AA-006, the permittee shall direct natural gas (in the vapor phase) from the storage tank to the flare (i.e. Emission Point AA-001) during periods of tank filling operations and idle mode.

For the purpose of this permit, “*idle mode*” is defined as the transient period in which liquefied natural gas (LNG) vaporizes due to ambient atmospheric conditions.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(10).)

SECTION 4
WORK PRACTICE STANDARDS

THIS SECTION WAS INTENTIONALLY LEFT BLANK BECAUSE NO WORK PRACTICE
STANDARDS APPLY TO THIS PERMIT ACTION

SECTION 5 MONITORING AND RECORDKEEPING REQUIREMENTS

Emission Point(s)	Applicable Requirement(s)	Condition Number	Pollutant(s) / Parameter(s)	Monitoring / Recordkeeping Requirement(s)
AA-000	11 Miss. Admin. Code Pt. 2, R. 2.9.	5.1	Recordkeeping	Maintain Records for a Minimum of Five (5) Years
	11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).	5.2	CO	Calculate and Record Emissions (Monthly and Rolling 12-Month Period)
AA-001	11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).	5.3	Gas Flow Rate	Install, Calibrate, Monitor, Operate, and Inspect Continuous Monitoring / Recording System for Operating Parameter
		5.4	VOCs	Continuously Monitor and Record the Presence of the Flare Pilot Flame
		5.5	Opacity	Conduct and Record Visible Emissions Test (Monthly)
AA-002 through AA-005	11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).	5.6	Water Flow Rate Fuel Throughput	Install, Calibrate, Monitor, Operate, and Inspect Continuous Monitoring / Recording System for Operating Parameters
		5.7	“Deluge Water: Engine Exhaust” Mass Ratio	Compliance Demonstration Specifications

5.1 Except as otherwise specified or limited herein, the permittee shall retain all required records, monitoring data, supporting information, and reports for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records, all original strip-chart recordings or other data from continuous monitoring instrumentation, and copies of all reports required by this permit. Copies of such records shall be submitted to the MDEQ as required by “Applicable Rules and Regulations” or this permit upon request.

(Ref.: 11 Miss. Admin. Code, Pt. 2, R. 2.9.)

5.2 For Emission Point AA-000 (Facility-Wide), the permittee shall calculate and record the total emission of carbon monoxide (CO) from all applicable emission sources in tons, both monthly and on a rolling 12-month period.

Unless otherwise specified herein, the permittee shall include all reference data utilized to validate the calculated emissions (operational data, applicable emission factors, engineering judgement determinations, etc.).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).)

- 5.3 For Emission Point AA-001, the permittee shall install, operate, calibrate, maintain, and inspect a continuous monitoring and recording system for the flow rate of liquefied natural gas (LNG) directed to the flare in accordance with the manufacturer's recommendations.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).)

- 5.4 For Emission Point AA-001, the permittee shall continuously monitor and record the presence of the flare pilot flame by use of a thermocouple or any other equivalent heat-sensing device to detect the presence of a flame.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).)

- 5.5 For Emission Point AA-001, the permittee shall demonstrate compliance with the opacity limitation specified in Condition 3.6(c) by conducting and recording a visible emissions test in accordance with Section 11 of EPA Test Method 22 (found in Appendix of 40 CFR Part 60) and the following specifications:

- (a) The permittee shall conduct the visible emission test while emissions are being vented to the flare;
- (b) The permittee shall conduct visible emission test at least once every calendar month, separated by at least fifteen (15) days between each test event;
- (c) The observation period for a visible emission test event shall be at least 15 consecutive minutes; and
- (d) The permittee shall monitor and maintain the gas flow rate to the flare during a visible emissions test.

If during any testing event, visible emissions are detected for a period exceeding one (1) minute, the permittee shall return the flare to compliant operation by either following the manufacturer's repair instructions or best combustion engineering practices. All repairs and maintenance activities conducted on the flare shall be recorded in a "*Maintenance and Repair*" log.

Immediately following a return to operation from maintenance or repair activity, the permittee shall conduct a follow-up visible emissions test on the flare in accordance with the provisions outlined in this condition.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).)

5.6 For Emission Points AA-002 through AA-005, the permittee shall install, operate, calibrate, maintain, and inspect, in accordance with the manufacturer's recommendations, a continuous monitoring and recording system for the operating parameter specified for each of the following process equipment:

- (a) *Water Deluge Suppression System* – Water flow rate (in gallons per minute); and
- (b) *Natural Gas-Fired Rocket Engine Test Stand* – Throughput of liquefied natural gas (LNG) and liquid oxygen (in pounds per minute or gallons per minute).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).)

5.7 For Emission Points AA-002 through AA-005, the permittee shall demonstrate compliance with the minimum mass ratio requirement specified in Condition 3.7(c) by calculating and recording the mass ratio of the deluge water dispensed to engine exhaust gas emitted for each rocket engine testing event in accordance with the following provisions:

- (a) The permittee shall monitor and record the total volume (in gallons) of water dispensed from the water deluge suppression system;
- (b) The permittee shall monitor and record the total quantity (in pounds) or total volume (in gallons) of liquid oxygen and liquefied natural gas (LNG) combusted; and
- (c) The permittee shall calculate and record the total quantity (in pounds) of engine exhaust gas generated by utilizing the applicable chemical mass balance equations [which shall include carbon dioxide (CO₂), carbon monoxide (CO), water (H₂O), hydrogen (H₂), and any other miscellaneous trace compounds].

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).)

SECTION 6 REPORTING REQUIREMENTS

Emission Point(s)	Applicable Requirement(s)	Condition Number	Reporting Requirement(s)
AA-000	11 Miss. Admin. Code, Pt. 2, R. 2.9.	6.1	Submit Documents Certified by a Responsible Official or Duly Authorized Representative
		6.2	Submit Notification of Initial Start-Up Date
	11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).	6.3	Submit Annual Summary of CO Emissions
AA-001	11 Miss. Admin. Code, Pt. 2, R. 2.9.	6.4	Submit Annual Certification for Continuous Flare Pilot Flame Presence
		6.5	Submit Annual Summary of Visible Emissions Excursions
AA-002 through AA-005	11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).	6.6	Submit Annual Summary of Rocket Engine Testing Operational Data

6.1 For Emission Point AA-000 (Facility-Wide), any document required to be submitted to the MDEQ by this permit shall contain a certification signed by a responsible official or duly authorized representative stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

(Ref.: 11 Miss. Admin. Code, Pt. 2, R. 2.9.)

6.2 For Emission Point AA-000 (Facility-Wide), the permittee shall notify the MDEQ in writing of the initial start-up of on-site operations no later than fifteen (15) days after the actual start-up date.

(Ref.: 11 Miss. Admin. Code, Pt. 2, R. 2.9.)

6.3 For Emission Point AA-000 (Facility-Wide), the permittee shall submit an annual report no later than January 31st of each calendar year for the preceding calendar year that details the total emission of carbon monoxide (CO) from all applicable emission sources in tons both monthly and on a rolling 12-month period (including supporting calculations / information).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).)

- 6.4 For Emission Point AA-001, the permittee shall submit an annual certification no later than January 31st of each calendar year for the preceding calendar year that acknowledges the continuous presence of a flare pilot flame.

If the intermittent presence of a flare pilot flame has been determined during a reporting period, the permittee shall include, with the certification information that details the number of excursions experienced within the calendar year, the duration of each excursion experienced, and the corrective action taken to return to compliant operation.

(Ref.: 11 Miss. Admin. Code, Pt. 2, R. 2.9.)

- 6.5 For Emission Point AA-001, the permittee shall submit an annual report no later than January 31st of each calendar year for the preceding calendar year that details any event in which visible emissions were detected in excess of one (1) minute and the corrective actions (i.e. maintenance, repairs, and/or best engineering practices) instituted to return the flare to compliant operation.

(Ref.: 11 Miss. Admin. Code, Pt. 2, R. 2.9.)

- 6.6 For Emission Points AA-002 through AA-005, the permittee shall submit an annual report no later than January 31st of each calendar year for the preceding calendar year that details the following information:

- (a) The total volume (in gallons) of water dispensed from the deluge suppression system monthly;
- (b) The total quantity (in pounds) of exhaust gas emitted from rocket engine testing operations monthly (including supporting calculations); and
- (c) The number of rocket engine testing events conducted monthly.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B.(11).)