west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475 • FAX: (304) 926-0479

Jim Justice, Governor
Austin Caperton, Cabinet Secretary
www.dep.wv.gov

March 9, 2017

Mr. Richard Wolfli, COO
US Methanol LLC
400 Capitol Street, Suite 200
Charleston, WV 25301

RE: **Permit Issuance**
US Methanol LLC
Liberty One Methanol Plant
Permit No. R13-3351
Plant ID No. 039-00669

Dear Mr. Wolfli:

Your application for a permit as required by Section 5 of 45CSR13 - "Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permit, General Permit, and Procedures for Evaluation" has been approved. The enclosed permit R13-3351 is hereby issued pursuant to Subsection 5.7 of 45CSR13. Please be aware of the notification requirements in the permit which pertain to commencement of construction, modification, or relocation activities; startup of operations; and suspension of operations.

Please note, as a result of this permit, the source is a nonmajor or area source subject to 45CSR30. Therefore, the facility is not subject to the permitting requirements of 45CSR30 and is classified as a deferred source.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

Should you have any questions or comments, please contact me at (304) 926-0499, extension 1219.

Sincerely,

Joe Kessler, PE
Engineer

Enclosures

cc: richard.wolfli@usmeoh.com
PEWard@POTESTA.com

West Virginia Department of Environmental Protection
Division of Air Quality

Jim Justice
Governor

Austin Caperton
Cabinet Secretary

Permit to Construct

R13-3351

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45 C.S.R. 13 — Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the facility listed below is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

US Methanol LLC
Liberty One Methanol Plant
039-00669

William F. Durham
Director

Issued: March 9, 2017

Facility Location:	Institute, Kanawha County, West Virginia
Mailing Address:	400 Capitol Street, Suite 200, Charleston, WV 25301
Facility Description:	Methanol Plant
SIC/NAICS Code:	2869/325199
UTM Coordinates:	431.696 km Easting • 4,249.108 km Northing • Zone 17
Latitude/Longitude:	38.38766/-81.78.122
Permit Type:	Construction
Desc. of Change:	Construction of a 580 tons/day natural gas-to-methanol plant.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

As a result of this permit, the source is a nonmajor or area source subject to 45CSR30. Therefore, the facility is not subject to the permitting requirements of 45CSR30 and is classified as a deferred source.

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1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Methanol Production Units					
1S	1E	Steam Methane Natural Gas Reformer (Unit 1000) including Heater H-1101	2017	310 tons-Methanol/day 103 mmBtu/hr	None, Flare (4C)[1]
2S	2E	Auto Thermal Natural Gas Reformer (Unit 10000) including Heater H-10101	2017	270 tons-Methanol/day 3.331 mmBtu/hr	None, Flare (4C)[1]
3S	n/a	Methanol Synthesis Unit (Unit 2000)	2017	580 tons-Methanol/day	None
4S	n/a	Methanol Distillation Unit (Unit 3000)	2017	580 tons-Methanol/day	None
Storage Tanks					
5S	3E	TK1 - Rundown Tank 1 (Methanol)	2017	75,000 gallons	Scrubber (2C)
6S	3E	TK2 - Rundown Tank 2 (Methanol)	2017	75,000 gallons	Scrubber (2C)
7S	3E	TK3- Fusel Oil Tank (Fusel Oil)	2017	12,000 gallons	Scrubber (2C)
8S	3E	TK4 - Sales Tank 1 (Methanol)	2017	1,200,000 gallons	Scrubber (2C)[2]
9S	3E	TK5 - Sales Tank 2 (Methanol)	2017	1,200,000 gallons	Scrubber (2C)[2]
10S	3E	TK6 - Slop Tank (Off-grade Methanol)	2017	150,000 gallons	Scrubber (2C)
12S	4E	TK7 - Product Tank 1 (Methanol)	2017	1,200,000 gallons	Scrubber (3C)[2]
13S	4E	TK8 - Product Tank 2 (Methanol)	2017	1,200,000 gallons	Scrubber (3C)[2]
Material Loadout					
11S	3E	Truck Loading (Fusel Oil)	2017	100 gallons/minute	Scrubber (2C)
14S	4E	Barge Loading	2017	1,000 gallons/minute	Scrubber (3C)
Other Emission Units					
15S	5E	Flare	2017	2,083,000 scf/hr	None

1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Fugitive Emission Sources					
16S	n/a	Vehicle Activity	2017	n/a	None
17S	n/a	Natural Gas System Fugitives	2017	n/a	n/a, Flare (4C)
18S	n/a	Syngas System Fugitives	2017	n/a	n/a, Flare (4C)
19S	n/a	Methanol System Fugitives	2017	n/a	n/a, Flare (4C)

(1) Both Reformers include heaters that combust natural gas during startup and syngas during normal operations and a combination of syngas and/or natural gas during normal operations. . There are no emission controls on the exhaust from these combustion units. However, raw syngas is flared during startup and shutdown operations from both Reformers.

(2) Storage Tank has an internal floating roof.

2.0. General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45 CSR § 30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NO_x**	Nitrogen Oxides
CBI	Confidential Business Information	**NSPS**	New Source Performance Standards
CEM	Continuous Emission Monitor	**PM**	Particulate Matter
CES	Certified Emission Statement	**$PM_{2.5}$**	Particulate Matter less than 2.5μm in diameter
C.F.R. *or* CFR	Code of Federal Regulations		
CO	Carbon Monoxide	**PM_{10}**	Particulate Matter less than 10μm in diameter
C.S.R. *or* CSR	Codes of State Rules		
DAQ	Division of Air Quality	**Ppb**	Pounds per Batch
DEP	Department of Environmental Protection	**pph**	Pounds per Hour
		ppm	Parts per Million
dscm	Dry Standard Cubic Meter	**Ppmv or ppmv**	Parts per million by volume
FOIA	Freedom of Information Act		
HAP	Hazardous Air Pollutant	**PSD**	Prevention of Significant Deterioration
HON	Hazardous Organic NESHAP		
HP	Horsepower	**psi**	Pounds per Square Inch
lbs/hr	Pounds per Hour	**SIC**	Standard Industrial Classification
LDAR	Leak Detection and Repair		
M	Thousand	**SIP**	State Implementation Plan
MACT	Maximum Achievable Control Technology	**SO_2**	Sulfur Dioxide
		TAP	Toxic Air Pollutant
MDHI	Maximum Design Heat Input	**TPY**	Tons per Year
MM	Million	**TRS**	Total Reduced Sulfur
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour	**TSP**	Total Suspended Particulate
		USEPA	United States Environmental Protection Agency
MMCF/hr *or* mmcf/hr	Million Cubic Feet per Hour		
NA	Not Applicable	**UTM**	Universal Transverse Mercator
NAAQS	National Ambient Air Quality Standards	**VEE**	Visual Emissions Evaluation
		VOC	Volatile Organic Compounds
NESHAPS	National Emissions Standards for Hazardous Air Pollutants	**VOL**	Volatile Organic Liquids

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Law W.Va. Code §§22-5-1 et seq. and the following Legislative Rules promulgated thereunder:

2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation.*

2.4. Term and Renewal

2.4.1. This permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any applicable legislative rule.

2.5. Duty to Comply

2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R13-3351 and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.11 and 13-10.3]

2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;

2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;

2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses and/or approvals from other agencies; i.e., local, state and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10. Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. Emergency

2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable 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.

2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.

2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. 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,

d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emission, and corrective actions taken.

2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

2.12.5. The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. **[45CSR§13-10.1]**

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]

3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45 C.S.R. 11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

3.2.1. **Emission Limit Averaging Time.** Unless otherwise specified, compliance with all annual limits shall be based on a rolling twelve month total. A rolling twelve month total shall be the sum of the measured parameter of the previous twelve calendar months. Compliance with all hourly emission limits shall be based on the applicable NAAQS averaging times or, where applicable, as given in any approved performance test method.

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or 45CSR§13-5.4 as applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4 or 45CSR§13-5.4 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language;
2. The result of the test for each permit or rule condition; and,
3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. *State-Enforceable only.*]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate (however, in lieu of regular mail reports may be sent to the following e-mail account: DEPAirQualityReports@wv.gov):

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304-2345
or:
DEPAirQualityReports@wv.gov

If to the USEPA:

Associate Director
Office of Air Enforcement and Compliance
Assistance Review (3AP20)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Operating Fee.**

3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, the permittee shall submit a Certified Emissions Statement (CES) and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

3.5.4.2. In accordance with 45CSR30 – Operating Permit Program, enclosed with this permit is a Certified Emissions Statement (CES) Invoice, from the date of initial startup through the following June 30. Said invoice and the appropriate fee shall be submitted to this office no later than 30 days prior to the date of initial startup. For any startup date other than July 1, the permittee shall pay a fee or prorated fee in accordance with the Section 4.5 of 45CSR22. A copy of this schedule may be found attached to the Certified Emissions Statement (CES) Invoice.

3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. Only those emission units/sources as identified in Table 1.0, with the exception of any *de minimis* sources as identified under Table 45-13B of 45CSR13, are authorized at the permitted facility by this permit. In accordance with the information filed in Permit Application R13-3351, the emission units/sources identified under Table 1.0 of this permit shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants, shall not exceed the listed maximum design capacities, shall use the specified control devices, and comply with any other information provided under Table 1.0.

4.1.2. The production of methanol (CAS# 67-56-1) from the Liberty One Methanol Plant shall not exceed 580 tons-methanol/day or 211,700 tons per year. The Methanol Production Units, identified as 1S through 4S, shall be designed, operated, and maintained so that tail gases, offgases (including process vents used in normal operation) from these units shall not be released directly or indirectly into the atmosphere (unless in accordance with the provisions of this section). This requirement does not apply to process heater combustion exhaust, air, nitrogen, steam, or any other non-pollutant entrained gas stream introduced into unit(s) during periods when a unit is shut down as might be needed for purposes of maintenance or to purge unit(s) in preparation for startup.

4.1.3. <u>**Steam Methane Natural Gas Reformer**</u>
The Steam Methane Natural Gas Reformer (SMR), identified as 1S, shall meet the following requirements:

a. The Heater H-1101 shall not exceed an aggregate MDHI of 103.00 mmBtu/hr, shall only be fired by pipeline-quality natural gas (PNG), produced synthetic/purge gas (syngas), or a mixture of each, and shall not exceed those emission limits given in the following table during all periods of operation:

Table 4.1.3(a): SMR Heater-1101 Emission Limits(1)

Pollutant	PPH	TPY
CO	8.48	37.14
NO_x	16.00	70.08
$PM_{2.5}/PM_{10}/PM$(2)	0.77	3.37
SO_2	0.06	0.26
VOCs	0.56	2.45
HAPs	0.19	0.83

(1) These emission limits are valid for all operational scenarios: startup and steady-state operation, combustion of PNG, syngas, and the mixture of both.
(2) Includes condensables.

b. Heater H-1101 shall not generate more than 9,929 mmscf/year of flue gas;

c. During startup operations of the SMR, syngas shall be sent, via a closed system, to the flare until such time as the syngas is of sufficient quality to begin methanol synthesis;

d. **45CSR2**
The Heater H-1101 is subject to the applicable limitations and standards under 45CSR2, including the requirements as given below under (1) through (3).

(1) The permittee shall not cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from the fuel burning units which is greater than ten (10) percent opacity based on a six minute block average.
[45CSR§2-3.1]

(2) The permittee shall not cause, suffer, allow or permit the discharge of particulate matter into the open air from the fuel burning units, measured in terms of pounds per hour in excess of the amount determined as follows:

(i) The product of 0.09 and the total design heat input for the fuel burning units in million British Thermal Units (B.T.U.'s) per hour, provided however that no more than twelve hundred (1200) pounds per hour of particulate matter shall be discharged into the open air.
[45CSR§2-4.1a]

(3) The visible emission standards set forth in section 3 of 45CSR2 shall apply at all times except in periods of start-ups, shutdowns and malfunctions. Where the Director believes that start-ups and shutdowns are excessive in duration and/or frequency, the Director may require an owner or operator to provide a written report demonstrating that such frequent start-ups and shutdowns are necessary.
[45CSR§2-9.1]

e. The Heater H-1101 is subject to the applicable limitations and standards under 45CSR10, including the requirement as given below under (1) and (2).

(1) The permittee shall not cause, suffer, allow or permit the discharge of sulfur dioxide into the open air from the fuel burning units measured in terms of pounds per hour, in excess of the product of 3.2 and the total design heat of the boilers in million BTU's per hour.
[45CSR§10-3.1]

(2) No person shall cause, suffer, allow or permit the combustion of any refinery process gas stream or any other process gas stream that contains hydrogen sulfide in a concentration greater than 50 grains per 100 cubic feet of gas except in the case of a person operating in compliance with an emission control and mitigation plan approved by the Director and U. S. EPA. In certain cases very small units may be considered exempt from this requirement if, in the opinion of the Director, compliance would be economically unreasonable and if the contribution of the unit to the surrounding air quality could be considered negligible.
[45CSR§10-5.1]

4.1.4. **Auto Thermal Natural Gas Reformer**
The Auto Thermal Natural Gas Reformer (ATR), identified as 2S, shall meet the following requirements:

a. The Heater H-10101 shall not exceed an aggregate MDHI of 3.331 mmBtu/hr, shall only be fired by PNG, and shall not exceed those emission limits given in the following table:

Table 4.1.4(a): ATR Heater-10101 Emission Limits

Pollutant	PPH	TPY
CO	0.27	1.20
NO_x	0.33	1.43
VOCs	0.02	0.08

b. As the annual emissions are based on 8,760 hours of operation, there is no annual limit on hours of operation or PNG combusted on an annual basis for Heater H-10101;

c. During normal operations, all syngas created in the ATR shall be either sent to the MSU or used as a fuel gas;

d. **45CSR2**
No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.
[40CSR§2-3.1]

4.1.5. <u>Storage Tanks</u>
Use of the storage tanks, identified as 5S through 13S, shall be in accordance with the following:

a. Tank size and material stored shall be limited as specified under Table 1.0 of this permit;

b. Storage Tanks 8S, 9S, 12S, and 13S shall be equipped with an internal floating roof pursuant to the applicable requirements given under 40 CFR 60, Subpart Kb and storage tanks 5S, 6S, 10S, and 11S shall be equipped with a closed vent system and scrubber pursuant to the applicable requirements given under 40 CFR 60, Subpart Kb;

c. Storage tank 7S shall be equipped with a closed vent system and scrubber pursuant to the applicable requirements given under 4.1.10 below;

d. Aggregate annual storage tank throughputs (in gallons) shall not exceed those given in the following table:

Table 4.5.1(d): Storage Tanks Operational Limits

Tank ID	Material Stored	Throughput
5S, 6S, 10S, 11S	Methanol	67,650,000
7S	Fusel Oil	225,000
8S, 9S, 12S, 13S	Methanol	123,000,000

e. The aggregate controlled emissions of methanol vapors from all storage shall not exceed 4.27 pounds/hour and 0.24 tons/year; and

f. **40 CFR 60, Subpart Kb**
Storage tanks 5S, 6S, and 8S - 13S are subject to all applicable requirements given in 40 CFR 60, Subpart Kb including the following:

(1) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:
[40 CFR§60.112b(a)]

(i) A fixed roof in combination with an internal floating roof meeting the following specifications:

(A) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.
[40 CFR§60.112b(a)(1)(i)]

(B) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
[40 CFR§60.112b(a)(1)(ii)]

(I) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(II) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(III) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(C) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
[40 CFR§60.112b(a)(1)(iii)]

(D) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.
[40 CFR§60.112b(a)(1)(iv)]

(E) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.
[40 CFR§60.112b(a)(1)(v)]

(F) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.
[40 CFR§60.112b(a)(1)(vi)]

(G) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.
[40 CFR§60.112b(a)(1)(vii)]

(H) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.
[40 CFR§60.112b(a)(1)(viii)]

(I) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
[40 CFR§60.112b(a)(1)(ix)]

(ii) A closed vent system and control device meeting the following specifications:

(A) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, §60.485(b).
[40 CFR§60.112b(a)(3)(i)]

(B) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§60.18) of the General Provisions.
[40 CFR§60.112b(a)(3)(ii)]

4.1.6. **Truck/Barge Loadout**

The truck and barge loading operations, identified as 11S and 14S, shall be in accordance with the following requirements:

a. All barge and truck loading operations shall be conducted using the submerged-fill method. The "submerged-fill method" shall, for the purposes of this permit, mean either bottom-filling or filling by extending the pipe to near the bottom of the tank, and as soon as is practicable, below the level of liquid;

b. All loading operations shall be conducted with a vapor capture system installed, maintained, and operated so as to achieve a minimum capture efficiency of displaced tank vapors of 99%. All vapors captured during loading operations shall be sent, via a closed vent system, to a scrubber pursuant to the applicable requirements given under 4.1.10 below;

c. The aggregate maximum loadout of methanol into barges shall not exceed a design capacity of 1,000 gallons/minute and shall not exceed 61,500,000 gallons/year. The aggregate maximum loadout of fusel oil shall not exceed a design capacity of 100 gallons/minute and shall not exceed 225,000 gallons/year; and

d. The aggregate emissions of methanol vapors from loading operations shall not exceed 1.96 pounds/hour and 0.86 tons/year.

4.1.7. **Flare**

The flare, identified as 15S, shall operate according to the following requirements:

a. The flare shall be non-assisted and shall be designed and operated according to the requirements specified in 40 CFR 60, Section §60.18;

b. The flare shall be designed, operated, and maintained according to good engineering practices or manufacturing recommendations so as to achieve, at a minimum, a carbon monoxide and hydrocarbon combustion rate of 98.0%;

c. The flare shall be operated with a flame present at all times, as determined by the methods specified in 4.2.2(b);

d. The flare shall be designed for and operated with no visible emissions as determined by the methods specified in 4.3.5(a) except for periods not to exceed a total of one minute during any 15 minute period, determined on a monthly basis;

e. The flare shall be operated at all times when emissions are vented to it and shall not combust in excess of 95.27 $mmft^3$ of syngas per year (any gas combusted in the pilot light does not count against this limit). Syngas shall be made up primarily of hydrogen, carbon monoxide, and methane and shall contain no detectable amounts sulfur compounds or HAPs;

f. To ensure compliance with 4.1.7(e) above, the permittee shall monitor in accordance with 4.2.2(d);

g. The permittee shall operate and maintain the flare according to the manufacturer's specifications for operating and maintenance requirements to maintain the minimum guaranteed control efficiency listed under 4.1.7(b);

h. The maximum combustion exhaust emissions from the flare shall not exceed the limits given in the following table;

Table 4.1.7(h): Flare Combustion Exhaust Emission Limits

Pollutant	PPH	TPY
CO	684.14	5.05
NO_x	150.07	1.11
$PM_{2.5}/PM_{10}/PM$	16.16	0.13
SO_2	3.88	0.06
VOCs	575.82	4.32

i. **45CSR6**
The flare is subject to 45CSR6. The requirements of 45CSR6 include but are not limited to the following:

(1) The permittee shall not cause, suffer, allow or permit particulate matter to be discharged from the flares into the open air in excess of the quantity determined by use of the following formula:

Emissions (lb/hr) = F x Incinerator Capacity (tons/hr)

Where, the factor, F, is as indicated in Table I below:

Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions

Incinerator Capacity	Factor F
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

[45CSR§6-4.1]

(2) No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater.
[45CSR6 §4.3]

(3) The provisions of paragraph (i) shall not apply to smoke which is less than forty (40%) percent opacity, for a period or periods aggregating no more than eight (8) minutes per start-up.
[45CSR6 §4.4]

(4) No person shall cause or allow the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.
[45CSR6 §4.5]

(5) Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.
[45CSR6 §4.6]

(6) Due to unavoidable malfunction of equipment, emissions exceeding those provided for in this rule may be permitted by the Director for periods not to exceed five (5) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.
[45CSR6 §8.2]

4.1.8. **Scrubbers**
The methanol scrubbers, identified as 2C and 3C, shall operate according to the following requirements:

a. The methanol scrubbers shall be packed-bed type and shall be designed, operated, and maintained according to good engineering practices or manufacturing recommendations so as to achieve, at a minimum, a hydrocarbon control percentage of 98.0%;

b. The scrubbers shall be operated at all times when vapors are vented to them; and

c. The water flow rate to the scrubbers shall be set at a rate as determined by manufacturer's recommendation or site-specific testing so as achieve the minimum hydrocarbon control percentage as given under 4.1.8(a).

4.1.9. **Fugitive Emissions**

The permittee shall mitigate the release of fugitive emissions according to the following requirements:

a. The permittee shall, within 180 days of facility startup, submit a modification or Class II Administrative Update, as applicable pursuant 45CSR13, to revise the number and type of components (valves, pump seals, connectors, etc.) in gas/vapor or light liquid (as applicable) listed in Attachment N of Permit Application R13-3351 or any amendments or revisions submitted thereto if the as-built number of components results in calculated VOC or HAP emissions in excess of those given under Attachment N;

b. The permittee shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to prevent any substantive fugitive escape of regulated air pollutants. Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for substantive fugitive emissions of regulated air pollutants shall be replaced; and

c. **40 CFR 60, Subpart VVa**

The permittee shall meet the applicable Leak Detection and Repair (LDAR) requirements for the methanol plant as given under 40 CFR 60, Subpart VVa.

4.1.10. **Closed Vent Requirements**

The permittee shall meet, where not subject to closed vent requirements under 40 CFR Part 60, the following requirements below for any closed vent system that is required by this permit:

a. The permittee shall design and operate the closed vent system as determined following the procedures under 40 CFR 60, Subpart VVa for ongoing compliance;

b. The permittee shall meet the requirements specified in (1) and (2) of this section if the closed vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device or to a process;

(1) Except as provided in paragraph (2) of this section, you must comply with either paragraph (i) or (ii) of this section for each bypass device.

(i) You must properly install, calibrate, maintain, and operate a flow indicator at the inlet to the bypass device that could divert the stream away from the control device or process to the atmosphere that sounds an alarm, or initiates notification via remote alarm to the nearest field office, when the bypass device is open such that the stream is being, or could be, diverted away from the control device or process to the atmosphere; or

(ii) You must secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using a car-seal or a lock-and-key type configuration.

(2) Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and safety devices are not subject to the requirements of paragraph (i) of this section. Pressure relief valves used to protect the fluid tanks from overpressure are not subject to this section.

4.1.11. **40 CFR 60, Subpart NNN**
Each owner or operator of any affected facility shall comply with paragraph (a), (b), or (c) of this section for each vent stream on and after the date on which the initial performance test required by §60.8 and §60.664 is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial start-up, whichever date comes first. Each owner or operator shall either:
[40 CFR§60.662]

a. Reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this paragraph, then the vent stream shall be introduced into the flame zone of the boiler or process heater; or
[40 CFR§60.662(a)]

b. Combust the emissions in a flare that meets the requirements of §60.18; or
[40 CFR§60.662(b)]

c. Maintain a TRE index value greater than 1.0 without use of VOC emission control devices.
[40 CFR§60.662(c)]

4.1.12. **40 CFR 60, Subpart RRR**
Each owner or operator of any affected facility shall comply with paragraph (a), (b), or (c) of this section for each vent stream on and after the date on which the initial performance test required by §60.8 and §60.704 is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial start-up, whichever date comes first. Each owner or operator shall either:
[40 CFR§60.702]

a. Reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this paragraph, then the vent stream shall be introduced into the flame zone of the boiler or process heater; or
[40 CFR§60.702(a)]

b. Combust the emissions in a flare that meets the requirements of §60.18; or
[40 CFR§60.702(b)]

c. Maintain a TRE index value greater than 1.0 without use of a VOC emission control device.
[40 CFR§60.702(c)]

4.1.13. The permittee shall meet all applicable requirements, including those not specified above, as given under 45CSR2, 45CSR2A, 45CSR6, 45CSR10, 40 CFR 60, Subparts Kb, NNN, and RRR. Any final revisions made to the above rules will, where applicable, supercede those specifically cited in this permit.

4.1.14. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0

and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]

4.2. Monitoring, Compliance Demonstration, Recording and Reporting Requirements

4.2.1. For the purposes of demonstrating compliance with maximum production, throughputs, and combustion limits given under in 4.1 of the permit, the permittee shall monitor and record the monthly and rolling twelve month total of the following:

Table 4.2.1: Facility Quantities Monitored/Recorded

Quantity Monitored/Recorded	Emission Unit(s)	Measured Units
Methanol Production	Facility Wide	Tons(1)
Methanol Production	Facility Wide	Hours of Operation(2)
Flue Gas Produced	H-1101	ft^3(3)
Syngas Combusted	Flare	ft^3
Methanol Throughput	Storage Tanks 5S, 6S, 10S	Gallons
Fusel Oil	Storage Tank 7S	Gallons(4)
Methanol Throughput	Storage Tanks 8S, 9S, 12S, 13S	Gallons
Methanol Loaded Out	Barge Loading	Gallons
Fusel Oil Loaded Out	Truck Loading	Gallons(4)

(1) Compliance with the daily methanol production limit shall be determined by dividing the monthly production rate by the hours of operation for that same month and then multiplying the result by 24.
(2) There is no hours of operation limit, this data is used to calculate the average daily methanol production rate as described under footnote (1).
(3) Upon approval of the Director, if a relationship can be established between syngas combusted and flue gas produced, USM may monitor fuel gas combusted instead.
(4) Compliance with the fusel oil storage tank throughput limit may be shown by monitoring and recording the amount of fusel oil loaded out into trucks.

4.2.2. **Flare**
The permittee shall meet the following Monitoring, Compliance Demonstration, Recording and Reporting Requirements for the flare:

a. To demonstrate compliance with 4.1.7(b), the permittee shall maintain records of the manufacturer's specifications for operating and maintenance requirements to maintain the minimum control efficiency;

b. To demonstrate compliance with the flame requirements of 4.1.7(c), the presence of a pilot flame shall be continuously monitored using a thermocouple or any other equivalent device to detect the presence of a flame when emissions are vented to it. The pilot shall be equipped such that it sounds an alarm, or initiates notification via remote alarm to the nearest field office, when the pilot light is out;

c. For any absence of pilot flame, or other indication of smoking or improper equipment operation, the permittee must ensure the equipment is returned to proper operation as soon as practicable after the event occurs. At a minimum, the permittee must: (1) Check the air vent for obstruction. If an obstruction is observed, you must clear the obstruction as soon as practicable. (2) Check for liquid reaching the flare;

d. For the purpose of demonstrating compliance with the continuous pilot flame requirements in 4.1.7(c), the permittee shall maintain records of the times and duration of all periods when the pilot flame was not present and vapors were vented to the device. The permittee shall maintain records of any inspections made pursuant to 4.2.2(c); and

e. Any bypass event of a flare must be reported in writing to the Director of the DAQ as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the date of the bypass, the estimate of VOC emissions released to the atmosphere as a result of the bypass, the cause or suspected cause of the bypass, and any corrective measures taken or planned; and

f. Any time the flare is not operating when emissions are vented to it, shall be reported in writing to the Director of the DAQ as soon as practicable, but within ten (10) calendar days of the discovery.

4.2.3. **Closed Vent Requirements**

To demonstrate compliance with the closed vent system requirements of 4.1.10, the permittee shall:

a. **Initial requirements.** The permittee shall follow the procedures in 40 CFR 60, Subpart VVa. The initial inspection shall include the bypass inspection, conducted according to paragraph (b) of this section.

b. **Bypass inspection.** Visually inspect the bypass valve during the initial inspection for the presence of the car seal or lock-and-key type configuration to verify that the valve is maintained in the non-diverting position to ensure that the vent stream is not diverted through the bypass device. If an alternative method is used, conduct the inspection of the bypass as described in the operating procedures.

c. **Unsafe to inspect requirements.** You may designate any parts of the closed vent system as unsafe to inspect if the requirements in paragraphs (1) and (2) of this section are met. Unsafe to inspect parts are exempt from the inspection requirements of paragraphs (a) and (b) of this section.

(1) You determine that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with the requirements.

(2) You have a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

d. To demonstrate compliance with the closed vent monitoring requirements given under paragraphs (a) through (c) above, the following records shall be maintained:

(1) The initial compliance requirements;

(2) If you are subject to the bypass requirements, the following records shall also be maintained:

(i) Each inspection or each time the key is checked out or a record each time the alarm is sounded;

(ii) Each occurrence that the control device was bypassed. If the device was bypassed, the records shall include the date, time, and duration of the event and shall provide the reason that the event occurred. The record shall also include the estimate of emissions that were released to the environment as a result of the bypass.

(3) Any part of the system that has been designated as "unsafe to inspect" in accordance with 4.2.7(c).

4.3. Performance Testing Requirements

4.3.1. At such reasonable time(s) as the Secretary may designate, in accordance with the provisions of 3.3 of this permit, the permittee shall conduct or have conducted test(s) to determine compliance with the emission limitations established in this permit and/or applicable regulations.

4.3.2. **SMR Heater H-1101 Emissions Testing**
Within 60 days after achieving the maximum methanol production rate at which the facility will be operated, but not later than 180 days after initial startup, the permittee shall conduct, or have conducted, in accordance with a protocol submitted pursuant to 3.3.1(c), a performance test on the SMR Heater H-1101 to determine compliance with the NO_x emission limit given in Table 4.1.3(a).

4.3.3. **Syngas Testing**
In order to show compliance with 4.1.7(e), within 60 days after achieving the maximum methanol production rate at which the facility will be operated, but not later than 180 days after initial startup, the permittee shall conduct, or have conducted, in accordance with a protocol submitted pursuant to 3.3.1.c., a test on the syngas that is representative of the syngas that would be sent to the flare during shutdown and sent to the flare from the Pressure Relief Valves to determine if there is any detectable sulfur compounds or HAPs in the syngas.

4.3.4. **45CSR2 Visible Emissions Testing**
Upon request by the Secretary, compliance with the visible emission requirements of 4.1.3(d)(1) and 4.1.4(d) shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Secretary. The Secretary may require the installation, calibration, maintenance and operation of continuous opacity monitoring systems and may establish policies for the evaluation of continuous opacity monitoring results and the determination of compliance with the visible emission requirements of 4.1.3(d). Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.
[40CSR§2-3.2]

4.3.5. **Flare Visible Emissions Testing**
To demonstrate compliance with the visible emissions requirements of 4.1.7(i), the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for the flare.

a. The visible emission check shall determine the presence or absence of visible emissions. The observations shall be conducted according to Section 11 of EPA Method 22. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40CFR Part 60, Appendix A, Method 9 certification course. The observation period shall be:

(i) a minimum of two (2) hours at initial commissioning;
(ii) a minimum of two (2) hours during periods of annual testing; and
(iii) a minimum of 15 minutes each time the flare is manually started.

b. The visible emission check shall be conducted initially within 180 days of start-up and thereafter at a minimum of at least once per each period of 12 months. Additionally, a visible emission check shall be conducted each time the flare is manually started.

4.4. Additional Recordkeeping Requirements

4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

4.4.4. For the purpose of demonstrating compliance with the visible emissions and opacity requirements, the permittee shall maintain records of the visible emission opacity tests and checks. The permittee shall maintain records of all monitoring data required by 4.3.4 and 4.3.5 documenting the date and time of each visible emission check, the emission point or equipment/ source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6-10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the requirements of Method 9. For an emission unit out of service during the evaluation, the record of observation may note "out of service" (O/S) or equivalent.

4.5. Additional Reporting Requirements

4.5.1. Any deviation of the allowable visible emission requirement for any emission source discovered during observation using 40CFR Part 60, Appendix A, Method 9 per 4.3.4 or 4.3.5 must be reported in writing to the Director of the DAQ as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature[1] _____ _____
(please use blue ink) Responsible Official or Authorized Representative Date

Name and Title _____ _____
(please print or type) Name Title

Telephone No. _____ Fax No. _____

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[1] This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(I) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

(ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of USEPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.