Permit by Rule (PBR) Registration
Technical Review

Company:	Aegis Chemical Solutions, LLC	**Registration No.:**	174683
Nearest City:	Kilgore	**Project No.:**	366730
County:	Rusk	**Project Type:**	Initial
Project Reviewer:	Trishia McDonald	**Regulated Entity No.:**	RN111849014
Unit Name:	Aegis Kilgore Facility	**Customer Reference No.:**	CN604580399
PBR No(s).:	106.261, 106.262, 106.478	**Project Received Date:**	November 20, 2023
Physical Location:	300 West Woodlawn		

Project Overview / Process Description

This registration is to authorize operations at the Aegis Kilgore Facility located in Kilgore, Rusk County. PBR 106.478 will authorize Methanol stored in Iso Tanks ISO-15 and ISO-16 and PBRs 106.261 and 106.262 will authorize all other chemical constituents in other products (EPNs BLEND1, LOAD1, LOAD2, FUG). The construction of the other storage tanks on site (ISO-1-ISO-6, TK-7-TK-14, DT-1-DT-3) will be authorized under PBR 106.478. EPN TANKS represents all the storage tanks at site. For any given product, only one operation will occur simultaneously in any given hour, such as tank filling or loading. There will be no scheduled or planned maintenance, start up and shut down (MSS) operations at the site. If the need for an MSS operation arises in the future, Aegis will obtain the appropriate authorization in advance. Note that in addition to methanol being stored in Iso Tanks ISO-15 and ISO-16 (authorized under PBR 106.478), methanol is also a constituent of product blends (HY-2503, SC-1331, SC-1332, SC-1333, and SS-708) that is being authorized under PBRs 106.261 and 106.262.

Aegis Kilgore facility will manufacture drilling chemicals to support the oil and gas industry. The products are mainly water with some surfactants and small amounts of other chemicals. Raw materials are received via tank trucks and transferred to the Storage Tanks and Iso Tanks. Raw materials may also be received in totes and containers and are placed in designated storage areas. Raw materials are transferred from storage tanks, iso tanks, and containers to product totes and storage containers and blended therein. To minimize emissions, the totes and storage containers are filled using a stinger that fills the container from the bottom. The blended materials that are containerized, are then shipped offsite to customers. A few products are also loaded onto tanker trucks and shipped off-site to customers.

Permit by Rule Requirements - 30 TAC Chapter 106

General Requirements	
Registration Fee Reference No.:	**Application fee: 671644 / 582EA000578150** **Surcharge fee: 671645 / 582EA000578150**
Is this registration certified?	**No**
Is planned MSS included in the registration?	**No**
Are there affected NSR or Title V authorizations for the project?	**No**
If there are affected Title V authorizations, is monitoring being submitted as part of this registration?	**No**
Are there any upstream or downstream affects associated with this registration?	**No**
Are associated upstream/downstream emissions either included in the registration OR within current permitted limits with no changes to underlying air authorizations for the applicable units regarding BACT, health and environmental impacts, or other representations.	**NA**
Are emissions for each PBR authorized facility less than the § 106.4(a)(1) limits?	**Yes**
Are total emissions from all sitewide PBR authorized facilities less than the § 106.4(a)(4) limits, OR has the site been subject to public notice requirements?	**Yes**
Are there permit limits on using PBRs at the site?	**No**
Is the facility in compliance with all other applicable rules and regulations?	**Yes**
Does the registration include an appropriate PBR workbook, and has the workbook been verified?	**Yes**

Federal Applicability	
Does this project trigger a PSD or Nonattainment review?	**No**
Does the Major NSR applicability analysis include all associated upstream and/or downstream emissions?	**NA**

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Are there any applicable standards under NSPS, NESHAP, or NESHAP for source categories (MACT)? **No**

Permit by Rule Requirements - Compliance Demonstrations

PBR 106.261/262 Facilities (Emission Limitations / Emission and Distance Limitations)

- The emission point(s) associated with the facilities or changes to facilities are located at least 100 ft **(actual: 540 ft)** from the nearest off-site receptor.
- The total new or increase emissions will comply with the applicable hourly and annual emission limits as represented in the table below.
- No 106.262(a)(4) chemicals are being authorized with this project.
- There are no changes to or addition of any pollution abatement equipment.
- Visible emissions to the atmosphere, from any point or fugitive source, do not exceed 5.0 percent opacity in any six-minute period.
- This registration does not authorize construction or changes to a facility authorized under another section of this chapter or under standard permit.

PBR 106.478 Storage Tank and Change of Service

Any fixed or floating roof storage tank, or change of service in any tank, used to store chemicals or mixtures of chemicals shown in Table 478 in paragraph (8) of this section is permitted by rule, provided that all of the following conditions of this section are met:

(1) The methanol storage tanks (EPNs: ISO-15 and ISO-16) at the Aegis Kilgore facility will be located at least 500 feet away from any recreational area or residence or other structure not occupied or used by the owner/operator.

(2) The only chemical that is being authorized under this Section (106.478) is Methyl Alcohol. The true vapor pressure is less than 11.0 psia at the maximum storage temperature.

(3) The storage vessels will be less than 40,000-gal capacity and will be fixed roof, therefore, this subsection is not applicable.

(4) The storage tanks will be fixed roof and will utilize submerged fill or bottom loading.

(5) The storage tanks will be fixed roof and will be painted chalk white.

(6) Emissions were calculated by methods specified in Section 4.3 of the current edition of the United States Environmental Protection Agency Publication AP-42. This document may be obtained from the Superintendent of Documents, Washington D.C. 20402. It is Stock Number 0550000251-7, Volume I.

(7) The storage tanks will be less than 25,000 gallons capacity. Therefore, this subsection is not applicable.

(8) Mixtures of the chemicals listed in Table 478 which contain more than 1.0% by volume of all other chemicals not listed in Table 478 are being authorized under section 106.261 & 106.262.

Compliance History and Site Review

In accordance with 30 TAC Chapter 60, a compliance history report was reviewed on: **November 20, 2023**

Site rating / classification: **N/A** Company rating / classification: **Unclassified**

Has any action occurred on the basis of the compliance history or rating? **No**

106.261(a)(2) Emissions

Chemical	Criteria Pollutant Designation	CAS No. (optional input)	Emission Threshold (lb/hr)	Emission Threshold (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Meets Threshold?
Isopropyl Alcohol	VOC	67-63-0	6	10	1.44E-01	3.05E-02	Yes
Refinery Petroleum Fractions (except for pyrolysis naphthas and pyrolysis gasoline) containing less than ten volume percent benzene	VOC		6	10	4.25E+00	8.76E-02	Yes

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106.261(a)(3) Emissions

Chemical	Criteria Pollutant Designation	L Value (mg/m^3)	CAS No. (optional input)	Emission Threshold (lb/hr)	Emission Threshold (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Meets Threshold ?
2,2',2''-(1,3,5-triazinane-1,3,5-triyl)triethanol	VOC	-	4719-04-4	1	4.38	2.20E-01	1.58E-02	Yes
2-Butenedioic acid (2Z)-, polymer with sodium 2-propene-1-sulfonate (1:1)	VOC	-	68715-83-3	1	4.38	4.26E-06	1.75E-07	Yes
2-mercaptoethanol	VOC	-	60-24-2	1	4.38	8.81E-04	6.34E-05	Yes
Alkyl Pyridine Quat (APQ)	VOC	-	68607-19-2	1	4.38	1.71E-03	1.29E-04	Yes
alkyldimethylbenzylammonium chloride (ADBAC)	VOC	-	63449-41-2	1	4.38	1.25E-05	1.04E-06	Yes
Alpha Olefin Sulfonate	VOC	-	68439-57-6	1	4.38	4.03E-02	6.50E-03	Yes
cocobetaine	VOC	-	68424-94-2	1	4.38	1.52E-04	4.68E-05	Yes
copolymer	VOC	-	25133-97-5	1	4.38	1.20E-01	1.98E-02	Yes
Dodecylbenzenesulfonic acid	VOC	-	27176-87-0	1	4.38	1.15E-07	1.15E-07	Yes
EDTA 40% aq	VOC	-	6381-92-6	1	4.38	9.95E-07	5.23E-07	Yes
ethylene propylene diene terpolymer	VOC	-	25038-36-2	1	4.38	5.00E-03	1.57E-03	Yes
NP9 Sufactant	VOC	-	127087-87-0	1	4.38	1.95E-03	1.85E-04	Yes
Octadecenylsuccinic anhydride (ODSA)	VOC	-	28777-98-2	1	4.38	1.86E-05	3.00E-06	Yes
Tam-10	VOC	-	61791-26-2	1	4.38	4.11E-05	3.12E-06	Yes
Tetraethylene glycol monoethyl ether (EPG)	VOC	-	23783-42-8	1	4.38	1.24E-02	3.02E-02	Yes

106.262(a)(2) Distance

Distance to nearest off-plant receptor (feet):	540
K value:	74.6

106.262(a)(2) Emissions – 1997 ACGIH Guide

Chemical	Criteria Pollutant Designation	CAS No. (optional input)	L Value (mg/m^3)	E, maximum Hourly Emission Threshold (lb/hr)	Actual Emission Threshold (tpy)	Actual Hourly Increases (lb/hr)	Actual Annual Increase (tpy)	Meets Threshold?
Acetic acid	VOC	64-19-7	25	3.35E-01	1.47E+00	2.86E-03	1.41E-03	Yes
2-Butoxyethanol (EGBE)	VOC	111-76-2	121	1.62E+00	5.00E+00	1.07E-03	3.67E-04	Yes
Methanol	VOC	67-56-1	262	3.51E+00	5.00E+00	1.26E+00	1.30E-01	Yes
Morpholine	VOC	110-91-8	71	9.52E-01	4.17E+00	3.25E-02	2.46E-03	Yes
Thioglycolic acid	VOC	68-11-1	3.8	5.09E-02	2.23E-01	1.64E-03	5.11E-04	Yes
Toluene	VOC	108-88-3	188	2.52E+00	5.00E+00	9.74E-01	1.26E-02	Yes
Xylene (o-,m-, p-	VOC	1330-20-7	434	5.82E+00	5.00E+00	2.08E-03	2.07E-03	Yes

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Total 106.261/262 Combined Emissions

	Total Hourly Emissions (lb/hr)	Total Annual Emissions (tpy)
Total Emissions:	7.54	0.39

Note: Detailed speciation can be found in the project file.

Emission Summary

EPN / Emission Source	VOC		NOx		CO		PM		SO2		Other	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
TANKS / Storage Tanks (106.261, 106.262, 106.478)	8.55	0.21										
BLEND1 / Tote Blending / Mixing (106.261, 106.262)	1.25	0.04										
LOAD1 / Tote / Pail / Drum Loading (106.261, 106.262)	5.76	0.02										
LOAD2 / Tanker Truck Loading (106.261, 106.262)	<0.01	<0.01										
FUG / Component Fugitives (106.261, 106.262)	0.08	0.33										
TOTAL EMISSIONS (TPY):		**0.60**										
MAXIMUM OPERATING SCHEDULE: Hours/Year											8760	

Note: EPN: TANKS lbs/hr represents the maximum hourly emissions from any proposed storage tank in any given hour, which occur during the filling of Tanks ISO-15 or ISO-16 with methanol. These tanks will not be filled simultaneously; therefore, the maximum hourly rate is only the hourly emission rate from one tank being filled (8.55 lb/hr), and not both.

Trishia McDonald

December 14, 2023
Date

Ms. Trishia McDonald
Permit Reviewer
Rule Registration Section

Michael Partee

December 15, 2023
Date

Michael Partee, Manager
Rule Registrations Section
Air Permits Division
Section Manager