NOTICE OF CONSTRUCTION
PRELIMINARY RECOMMENDATION TO APPROVE

Olympic Region Clean Air Agency

Issued to:	**Ascensus Specialties LLC**	**Cnty:**	**27**
Location:	**4800 State Route 12**	**Srce:**	**59**
	Elma, WA	**RC:**	**RC1**
Application #:	**19NOC1411**	**File:**	**463**
Prepared on:	**June 13, 2020**		

1. Summary of Proposal

Ascensus Specialties LLC (Ascensus) owns and operates a specialty chemical production plant in Elma, Washington that produces wet and dry products of sodium borohydride. Ascensus would like to revise their existing voluntary limit on emissions of hazardous air pollutants (HAPs) per ORCAA Rule 6.1.12 and WAC 173-400-091 in order to characterize the facility as an area source with respect to all Maximum Achievable Control Technology (MACT) standards in 40 CFR Part 63 National Emission Standards for Hazardous Air Pollutants (NESHAPs) and a minor source with respect to the Air Operating Permit program. Ascensus is proposing to continue to comply with requirements from major source MACT standards that previously applied to the facility so that emissions will not increase or "backslide". These standards will be made enforceable through the Approval Order (Order) issued for this application. Once the Order is approved, Ascensus will be withdrawn from ORCAA's Air Operating Permit program.

In addition to this action, Ascensus requested all existing Orders of Approval from past Notices of Construction be combined into a single Order to simplify compliance assurance. No new sources or modifications to existing sources are proposed as part of this action, therefore, all requirements imposed by past Notices of Construction remain valid and will be appended to the Order issued for this application.

2. Voluntary Limit on Emissions

Under ORCAA Rule 6.1.12 and WAC 173-400-091, the owner or operator of a source can request a voluntary limit on emissions of any air contaminant or contaminants. Voluntary limits are typically requested to limit emissions below a level that would trigger additional requirements, such as requesting a limit to establish a source as a minor source with respect to the Air Operating Permit or Prevention of Significant Deterioration programs. In this case, Ascensus is requesting to revise their existing voluntary limit to assure that the facility is an area source with respect to all MACT standards and a minor source with respect to the Air Operating Permit program.

Voluntary limits on emissions are issued under ORCAA Rule 6.1.12 which requires:

(a) ORCAA to issue a regulatory order that limits the source's potential to emit any air contaminant or contaminants to a level agreed to by the owner or operator and the Agency.
(b) The limit must be less than the source's otherwise allowable annual emissions of a particular contaminant under all applicable requirements of the chapter 70.94 RCW and the FCAA, including Washington State Implementation Plan.
(c) The order shall include monitoring, record keeping and reporting requirements sufficient to ensure that the source complies with any condition established under this rule. Monitoring requirements shall use terms, test methods, units, averaging periods, and other statistical conventions consistent with the requirements of WAC 173-400-105.
(d) The order shall be subject to the notice and comment procedures under Rule 6.1.3 including a formal 30-day public comment period.
(e) The terms and conditions of the regulatory order are federally enforceable. Any proposed deviation from a condition contained in an order issued under this rule shall require revision or revocation of the order.

3. Facility History and Background

Ascensus owns and operates a specialty chemical production plant in Elma, Washington that produces liquid and dry products of sodium borohydride (LSBH and DSBH), as well as intermediary products such as 70% trimethyl borate (TMB) Azeotrope, pure TMB, and sodium hydroxide. The facility has operated under the names Ventron, Morton International, Rohm & Haas, Vertellus Performance Chemicals LLC, and Ascensus Specialty Chemicals LLC.

Ascensus received unconditional approval by ORCAA to establish the Elma facility in 1974 through a Notice of Construction (NOC) approval that was issued August 19, 1974. The original plant produced LSBH and has since been modified and expanded. In 1994, Ascensus replaced the existing reformer and added an additional boiler to the plant. At that time, Ascensus also added the DSBH plant, which was conditionally approved by ORCAA under several NOC approval orders. The DSBH plant receives LSBH from the LSBH plant and further refines this feedstock into dry SBH product. In 1999, Ascensus added a potassium borohydride plant but this plant was shut down in 2010 and subsequently removed from the site.

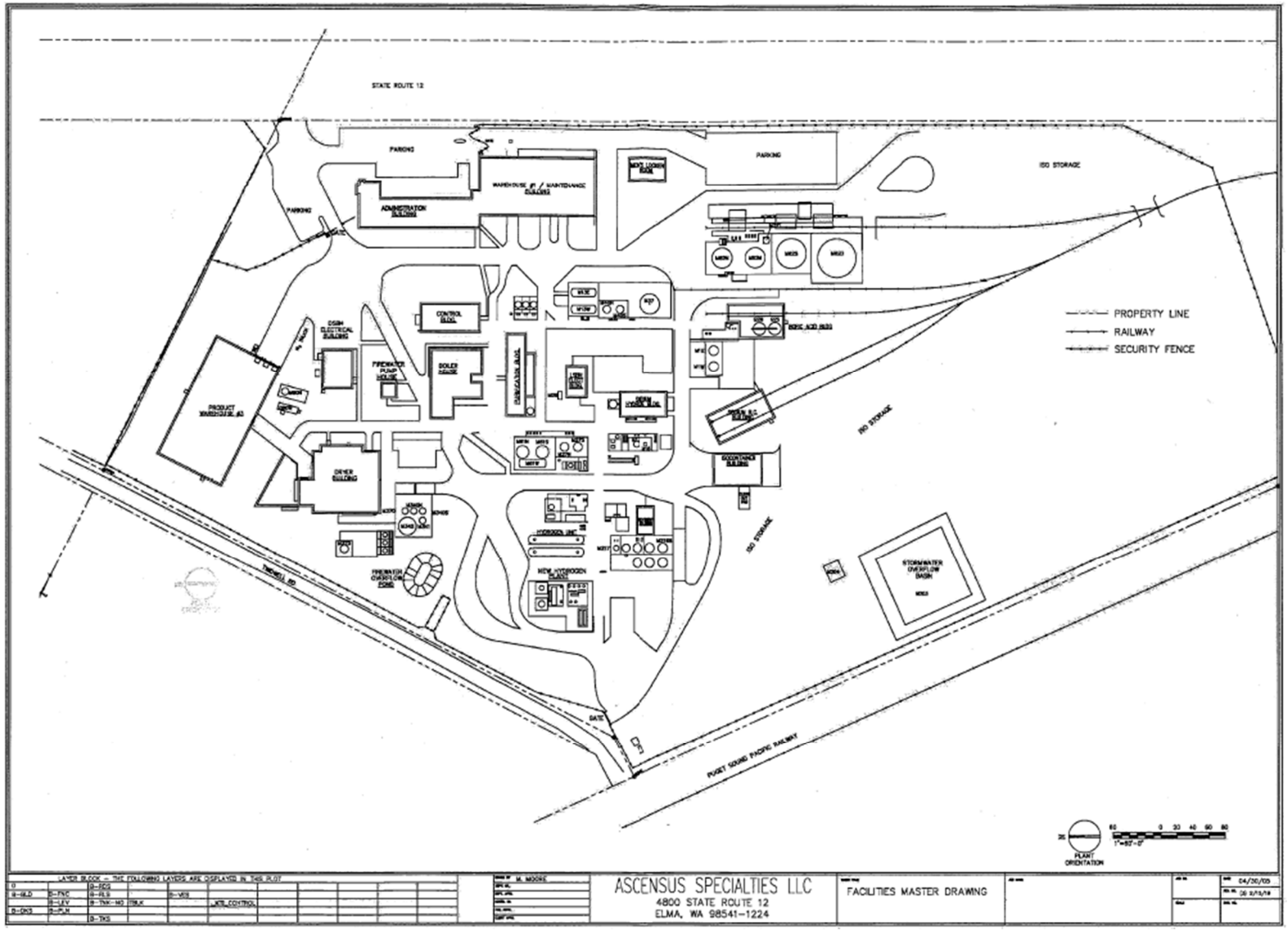
In 2011, Ascensus requested a voluntary limit on emissions of all HAPs to less than 10 tons per year of any single HAP and less than 25 tons per year of all combined HAPs.

Since 2011, Ascensus has submitted ten Notices of Intent for various small projects that were considered exempt from an air permit through ORCAA on the basis that emissions are insignificant per ORCAA Rule 6.1(c)(2).

On April 8, 2020, Ascensus received approval for a 10% increase in production above historical capacity without any equipment changes (19NOC1380).

Figure 1. Location of Ascensus Specialties, LLC in Elma, WA
[Source: NOC Application 19NOC1380]

Figure 2. Site map of Ascensus Specialties, LLC in Elma, WA
[Source: NOC Application 19NOC1380]



4. Facility Description

Liquid Sodium Borohydride Production

The liquid sodium borohydride (LSBH) plant produces liquid products of sodium borohydride, as well as intermediary products such as 70% trimethylborate (TMB) Azeotrope, pure TMB, and sodium hydroxide. The primary emissions from the plant are from methanol, a compound regulated as a volatile organic compound (VOC), federal hazardous air pollutant (HAP) and state toxic air pollutant (TAP). Other VOC/HAP/TAP compounds emitted include n-hexane, toluene, cyclohexane (VOC/TAP only), and propylene (VOC/TAP only). The plant also has a reformer, four boilers and four emergency engines that produce nitrogen oxides, carbon dioxide, and other combustion products.

> *Methanol emissions are generated throughout the LSBH plant whenever tanks and vessels containing solutions of methanol compounds vent gases and vapors. This can occur when the tank or vessel is cycled or at any time to relieve pressure. Since methanol is an intermediary compound in the production of LSBH, the facility captures most of the gases and effluent containing methanol compounds and reclaims the methanol by refining and recycling it back into the process. For this reason, all vent gases in the LSBH plant that contain methanol compounds except for the M46 tank are connected to one of two common vent systems that reclaim the methanol. After reclaiming residual methanol, vent gases are scrubbed in one of two methanol scrubbers, G53 or A12, prior to exhausting to the atmosphere.* [Excerpt, NOC application 19NO1380]

As seen in the block flow diagram in Figure 3, the trimethyl borate production process is controlled by the G53 scrubber and the hydrolysis and distillation process is controlled by the A12 scrubber. The sodium hydride and sodium borohydride reactors and their associated storage vessels are not controlled by either of the scrubber systems. Tank M46, the sodium hydride/Orex collection vessel, is associated with these processes and is vented to atmosphere uncontrolled. This tank cannot be vented to the G53 or A12 scrubbers because the tank contains compounds that would either create a violent reaction with compounds in the other streams venting to the scrubbers or foul the process as the G53 and A12 scrubber water is recycled back into the process.

Fugitive emissions of methanol also occur throughout the process from pumps, flanges, and other connections. Ascensus conducts a leak detection and repair (LDAR) program to monitor and repair any leaks.

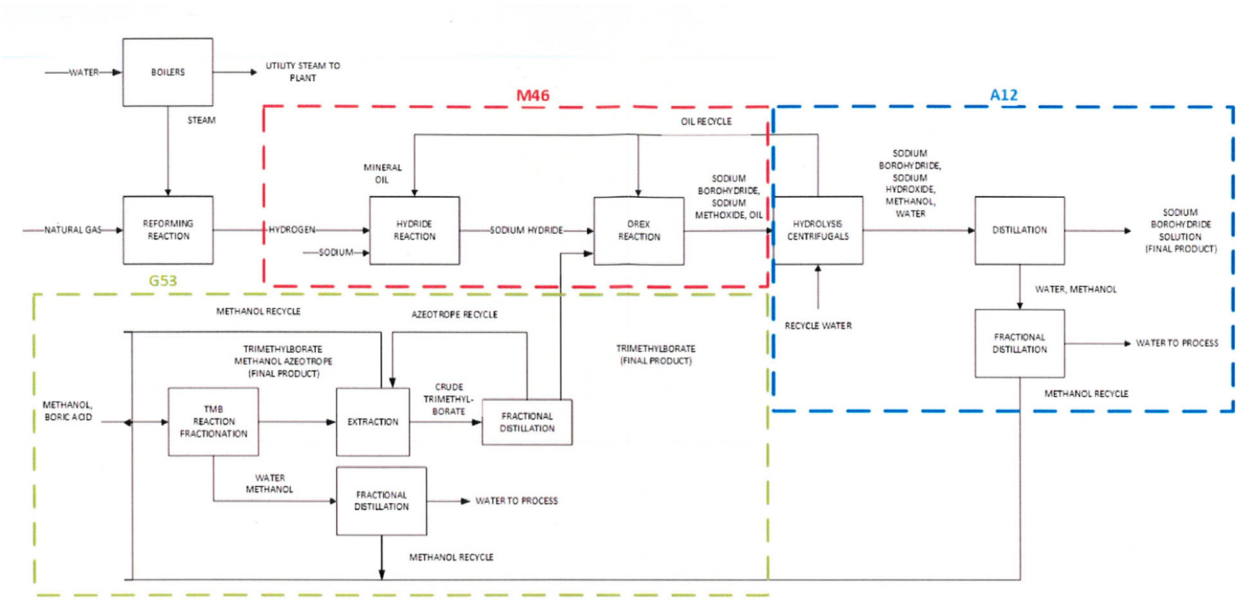
Dry Sodium Borohydride Production

Liquid sodium borohydride is further refined to make dry sodium borohydride (DSBH) using extraction, evaporation, crystallization, and drying. Isopropylamine is used in the extraction process to concentrate the LSBH solution and Ascensus recycles a majority of the isopropylamine back into the process. All equipment in the DSBH vents to the isopropylamine vent scrubber (A-309). Isopropylamine was previously listed as a toxic air pollutant in Chapter

173-460 WAC and ORCAA established an emission limit and associated monitoring in the previous NOCs for the dry sodium borohydride plant.

Particulate matter is also emitted from the DSBH plant in the dry sodium borohydride compaction and packaging system. Particulate matter emissions from this system are controlled by a baghouse.

Figure 3. Block Flow Diagram of Liquid Sodium Borohydride Plant at Ascensus Specialties, LLC in Elma, WA
[Source: NOC Application 19NOC1380]



Combustion Units
The Ascensus facility has various combustion units including 4 boilers, a hydrogen reformer, three emergency engines and a diesel fire pump. The boilers are used to provide process heat to the LSBH and DSBH plants. The reformer produces hydrogen for use in the sodium hydride reactor. The emergency engines and diesel fire pump are used for power generation and fire suppression and, except for maintenance and testing purposes, are used for emergency use only.

Table 1: Emission Units

EU#	Emission Unit	Description	Control Measures
EU1	Trimethyl borate (TMB) Manufacturing Process	All process equipment used in the manufacturing of trimethyl borate from methanol and boric acid including, but not limited to: -storage tanks -process tanks -reaction columns -recovery columns -overhead condensers -receivers -surge control vessels -concentrators -purification columns -coolers -transfer racks -drum loading	**All vented units vent through a closed vent system to G53 Scrubber** Manufacturer: Keane Metal Fabricators 4-inch low-energy venturi scrubber 13.5-gpm recirculating flow Spray nozzle in stack to provide freshwater makeup
			Leak detection and repair (LDAR) program
			Heat exchange system (HES) monitoring (quarterly)
			Closed Vent System Inspection and Monitoring
EU2	Sodium hydride production	All process equipment used in the production of sodium hydride from hydrogen and sodium including, but not limited to: -product storage tanks -process heaters -reactors *-Note: Methanol emissions from recycle oil used in these units*	Enclosed system vents to M46 tank which vents to atmosphere through a stack
EU3	Sodium borohydride production	All process equipment used in the production of sodium borohydride from sodium hydride and trimethyl borate including, but not limited to: -product storage tanks -process heaters -reactors -heat exchangers *Note: Methanol emissions from recycle oil as well as from sodium methoxide in M26 vent (will hydrolyze to methanol on contact with water in M46)*	

EU4	Sodium borohydride purification process	All process equipment used in the purification of sodium borohydride through hydrolysis and distillation to produce stabilized pure liquid sodium borohydride including, but not limited to: -storage tanks -process tanks -reactors -overhead condensers -receivers -purification/stripping columns -coolers -centrifuges -compressors -vacuum pumps The process does not include finished product storage tanks or new oil storage tanks.	**All vented units vent through a closed vent system to A12 Scrubber** Manufacturer: Cellcote/Air Pollution Control Max. capacity: 127 scfm, water flow 3.5 gpm Counter-current scrubber
			Leak detection and repair (LDAR) program
			Heat exchange system (HES) monitoring (quarterly)
			Closed Vent System Inspection and Monitoring
EU5	Effluent Treatment and Process Water Storage	Equipment in use for process water, wastewater, maintenance wastewater, stormwater, and used oil that are not part of EU1-EU4 including, but not limited to: -storage tanks -feed tanks -collection sumps and basins -lift stations -equipment washout tanks	
EU6	Dry Sodium Borohydride Plant	DSBH production – extraction, evaporation, crystallization and drying	**A309 Scrubber:** Otto-York Company of NJ Three stage, packed tower scrubber
		DSBH compaction and packaging system	M332 Baghouse (material transport lines) – 120 ACFM
			F359 Baghouse (rotary press) – 200 ACFM
			G393 Baghouse (drum filling) – 3,750 ACFM
			Small dust filters on equipment (vent inside)
EU7	G23M Boiler	Manufacturer: Cleaver Brooks Type: water tube Model #: D34H Serial #: 57266 Heat Input: 26.1 MMBTU/hr	Natural gas as primary fuel. Ultra-low sulfur diesel used only during natural gas curtailment.

EU8	G23E Boiler	Manufacturer: Cleaver Brooks Type: water tube Model #: D34 RH Serial #: 57267 Heat Input: 26.1 MMBTU/hr	Economizer. Natural gas only.
EU9	G27 Boiler	Manufacturer: Kewanee Type: Scotch Marine Firetube Model #: H35-200-K60 Classic III Serial #: 94338 Heat Input: 8.4 MMBTU/hr	Natural gas as primary fuel. Ultra-low sulfur diesel used only during natural gas curtailment.
EU10	Reformer	Manufacturer: Zeeco Inc., Tulsa OK Type: reformer with heat recovery steam generator Model #: Hydrochem Processing, Inc. Serial #: Job #110 Heat Input: 10.5 MMBTU/hr	Natural gas only.
EU11	G23W Boiler	Manufacturer: Cleaver Brooks Type: water-tube Model #: D-34 Serial #: WG3728 Heat Input: 24.2 MMBTU/hr	Induced flue gas recirculation Natural gas as primary fuel. Ultra-low sulfur diesel used only during natural gas curtailment.
IEU1	LSBH storage	Storage tanks for liquid sodium borohydride vent to atmosphere	
IEU2	G49S emergency generator	G49S generator Caterpillar, 375 hp, 4-stroke compression ignition	Ultra-low sulfur diesel
IEU3	G49N emergency generator	Cummins, 350 hp, 4-stroke compression ignition	Ultra-low sulfur diesel
IEU4	G49E emergency generator	Detroit Diesel, 415 hp, 2-stroke compression ignition	Ultra-low sulfur diesel
IEU5	P80 fire water pump	Detroit Diesel, 85 hp, 2-stroke compression ignition	Ultra-low sulfur diesel
IEU6	Lab	Solvent usage: acetone	Solvent is HAP, TAP, and VOC-free
	Potassium borohydride plant	*Shutdown 2010* *Removed from site 2014-2015*	

5. Emissions

The Ascensus facility is a source of volatile organic compounds (VOC), some of which are classified as hazardous air pollutants (HAP) and combustion products such as nitrogen oxides and carbon monoxide.

The facility-wide potential to emit summarized in Table 2 was calculated in conjunction with a recent permitting action (NOC# 19NOC1380) assuming the facility operates 8760 hours per year, all units operate at maximum capacity, and all applicable requirements, including the recommended conditions of approval in Section 12 are met. To be conservative, emissions from the G53 and A12 scrubbers were calculated based on 98% control efficiency for methanol, which is less than their tested control efficiency of greater than 99.9%.

Table 2: Facility-wide Potential to Emit in Tons/Year (HAPs in lbs/year)

Pollutant	**LSBH**	**DSBH**	**Combustion Units [1,2]**	**Facility-wide**	**Facility-wide**
	Potential To Emit				Actuals 2019[3]
PM	0	0.2	6.9	7.1	0.1
PM10	0	0.2	5.0	5.2	0.1
PM2.5	0	0.2	3.6	3.8	0.1
NOx	0	0	54.8	54.8	13.3
CO	0	0	34.5	34.5	13.0
SO2	0	0	1.2	1.2	0.1
VOC	15.7	0.1	2.9	18.7	15.5
Total HAPs	9.3	0	0.8	10.1	4.1
Individual HAPs (Lbs/Year)					
Acetaldehyde	-	-	3.3	3.3	*NA[3]*
Acrolein	-	-	0.4	0.4	*NA[3]*
Benzene	1.5	-	5.7	7.2	1
1,3-Butadiene	-	-	0.2	0.2	*NA[3]*
Chloromethane	3.9	-	-	3.9	1
Dichlorobenzene	-	-	0.9	0.9	*NA[3]*
Ethylbenzene	-	-	0.2	0.2	*NA[3]*
Formaldehyde	-	-	151	151	*NA[3]*
Hexane	958	-	1,336	2,294	805
Methanol	17,607	-	-	17,607	7,461
Propylene	199	-	11.2	211	172
1,1,1-Trichloroethane	-	-	0.9	0.9	*NA[3]*
Toluene	3.7	-	26.0	29.7	3
Xylenes	-	-	1.6	1.6	*NA[3]*
POM[4] – Total	-	-	5.4	5.4	*NA[3]*
Metals - Total	-	-	32	32	*NA[3]*

Notes:

1. *Combustion units include four boilers, one natural gas reformer, and four small diesel emergency engines. Emission rates differ from NOC# 19NOC1380 as PTE above is calculated for AOP applicability, not NSR. Emergency engine emissions were not calculated for NOC# 19NOC1380 as the engines are too small to trigger NSR. Emergency engines operation assumed to be 500 hours/year per EPA guidance.*
2. *Three of the boilers are permitted to use diesel fuel for backup. There is no limit on diesel usage, although Ascensus only uses diesel when natural gas is curtailed so that the boilers are not subject to the 40 CFR Part 63 Subpart JJJJJJ. ORCAA calculated emissions from diesel combustion for these three units and used the maximum emission rate for each pollutant from each boiler in determining potential to emit.*

3. *As reported in their 2019 Annual Emission Inventory. Ascensus has not been required to calculate HAP emissions from its combustion units for their annual emission inventory. Therefore, reported HAPs are for LSBH only.*
4. *POM is Polycyclic Organic Matter*

6. Air Operating Permit (AOP) Program

The State of Washington Air Operating Permit program pursuant to Title V of the Federal Clean Air Act is governed under Chapter 173-401 WAC, the Washington Operating Permit Program. Chapter 173-401 WAC requires existing major stationary sources to operate in compliance with an approved Air Operating Permit (AOP). Major stationary sources are those stationary sources with a potential to emit which is greater than 100 tons per year of any criteria pollutant, greater than 10 tons per year of any hazardous air pollutants (HAP), and/or greater than 25 tons per year of any combination of HAP. In addition, any source that is major under a Maximum Achievable Control Technology (MACT) standard (40 CFR Part 63 NESHAPs) is also major for Title V (Section 501(2) of the Federal Clean Air Act) and requires an Air Operating Permit.

On May 16, 1995, EPA issued guidance that if a source wanted to take a voluntary limit to be considered an area source under a MACT standard, they had to do so <u>before</u> the initial compliance date of the standard or else the source would remain subject to the standard even if they took a voluntary limit in the future (a.k.a. "once-in, always-in")[1]. Therefore, a source that was a major source at the initial compliance date of a MACT standard would always remain subject to that standard and would require an Air Operating Permit.

On January 25, 2018, EPA issued a new guidance document[2] on this subject reversing the Once-in Always-in document described above. The new guidance document states EPA's revised opinion that a source can take a voluntary limit on emissions <u>at any time</u> to become a minor source with respect to a MACT standard and the Air Operating Permit program. Voluntary limits should be sufficient to prevent so called "backsliding," which is a situation where emissions increase above levels allowed by the MACT standard, but still remain below their voluntary limit.

Review and Determination of AOP Applicability

Ascensus Specialties LLC was issued its first Air Operating Permit on August 15, 2000 (as Morton International Inc) as actual emissions of methanol (a HAP) emissions were calculated to be over 10 tons per year. Ascensus' AOP was renewed on December 6, 2006 and again on December 1, 2011. Ascensus submitted a timely and complete renewal application on November 4, 2015 ensuring that their current AOP (AOP# 11AOP850) would remain in effect until ORCAA issues a renewal.

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[1] *Potential to Emit for MACT Standards – Guidance on Timing Issues*, John Seitz, Director, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, May 16, 1995

[2] *Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act*, William L. Wehrun, Assistance Administrator, U.S. Environmental Protection Agency, January 18, 2018.

In 2008, Ascensus began conducting source testing and research into methanol reactions and ultimately discovered that the mass balance approach they had been using to calculate methanol emissions was overestimating emissions. Ascensus discovered that some of the methanol was being converted to dimethyl ether in the LiCl extraction process. In addition, conditions in the ORex reactors were promoting sodium methoxide thermal decomposition, therefore, not all the sodium methoxide created in the ORex reactor reaches the hydrolysis centrifugals to be hydrolyzed into methanol. Based on these discoveries, Ascensus modified their emission calculation methods and discovered that emissions were lower than previously reported.

On November 29, 2011 Ascensus received a voluntary limit on emissions to limit methanol emissions to less than 10 tons per year (Order of Approval #11MOD860) so that they could be considered an area source with respect to MACT standards with a future initial compliance date (see EPA's "once-in always-in" policy above). As Ascensus was considered a major source with respect to 40 CFR Part 63 Subpart FFFF at the compliance date of the standard and the Once-In Always-in policy was in effect, they continued to be subject to the MACT and were required to keep their Air Operating Permit.

Based on EPA's new guidance document and their November 29, 2011 voluntary limit, Ascensus has submitted a request to ORCAA to rescind its Air Operating Permit. To address the issue of backsliding, as part of their voluntary limits, Ascensus will continue to comply with the substantive requirements of 40 CFR Part 63 Subparts UU, EEEE, and FFFF that they were subject to as a major source.

When the Order for this permitting action is issued and the Air Operating Permit for Ascensus is rescinded, Ascensus will still be required to comply with WAC 173-401-300(7)(c) requiring annual certification by the responsible official containing the information required in WAC 173-401-300(7)(a) that its potential to emit is less than that which would require the source to obtain an Air Operating Permit. This will be facilitated through Condition 7 in the Order issued for this permitting action.

Review of Other AOP Applicability Criteria

In addition to applying to major sources as defined in WAC 173-401-200, the Air Operating Permit program also applies to the following sources listed in Table 3.

Table 3: Other AOP Applicability Criteria

Applicability Criteria	Description	Applicability Determination
WAC 173-401-300(1)(a)(ii)	Any source, including an area source, subject to a standard, limitation, or other requirement under section 111 (Standards of Performance for New Stationary Sources) of the FCAA.	Nonmajors are exempt under WAC 173-401-300(2)(a))

WAC 173-401-300(1)(a)(iii)	Any source, including an area source, subject to a standard or other requirement under section 112 of the FCAA, except for section 112(r).	Nonmajors are exempt under WAC 173-401-300(2)(a))
WAC 173-401-300(1)(a)(iv)	Any solid waste incineration units required to obtain permits under section 129 of the FCAA.	Not applicable. No solid waste incineration units on-site.
WAC 173-401-300(1)(a)(v)	Any "affected source" regulated under Title IV (Acid Deposition Control) of the FCAA.	Ascensus is not an affected source under Title IV.
WAC 173-401-300(1)(a)(iv)	Any source in a source category designated by the EPA pursuant to 40 C.F.R. Part 70, as amended through April 7, 1993.	Nonmajors are exempt under WAC 173-401-300(2)(a))
WAC 173-401-300(1)(b)	Any source that the permitting authority determines may cause or contribute to air pollution in such quantity as to create a threat to the public health or welfare under RCW 70.94.161(4) using the procedures in subsection (5) of this section.	See determination below.
WAC 173-401-300(1)(c)	Any other source which chooses to apply for a permit.	Not applicable. Ascensus has requested to have their AOP rescinded.
WAC 173-401-300(1)(d)	A municipal solid waste landfill constructed, reconstructed or modified before May 30, 1991, and regulated under WAC 173-400-070(9).	Not applicable. Ascensus is not a municipal solid waste landfill.

WAC 173-401-300(1)(b) Threat to Public Health or Welfare Determination

Any source that the permitting authority determines may cause or contribute to air pollution in such quantity as to create a threat to public health or welfare under RCW 70.94.161(4) using the procedures in WAC 173-401-300(5). The following criteria shall be used to identify sources that are a threat to public health or welfare:

a. The source may cause or contribute to air pollution in such quantity as to create a violation of any ambient air quality standard as demonstrated by a dispersion modeling analysis performed in accordance with EPA's dispersion modeling guidelines, monitoring, or other appropriate methods; or

b. The source may cause or contribute to air pollution in such quantity as to create a significant ambient level of any toxic air pollutant contained in chapter 173-460 WAC as demonstrated by a dispersion modeling analysis done in accordance with EPA's dispersion modeling guidelines, monitoring, or other appropriate methods.
c. Small business stationary sources otherwise covered under (a) and (b) of this subsection are exempt unless they meet all the criteria in WAC 173-401-300(5)(c).

Criteria A – Ambient Air Quality Standards

Ambient Air Quality Standards (AAQS) that apply in Grays Harbor County include both the National Ambient Air Quality Standards (NAAQS) and Washington Ambient Air Quality Standards (WAAQS). Before new sources of air pollution can be constructed or modified in Grays Harbor County, they must be reviewed and approved by ORCAA. One of the criteria of approval requires demonstration that the new or modified source of air pollution not delay the attainment date for an area not in attainment, or cause or contribute to a violation of any AAQS. This is typically accomplished through an Ambient Air Quality Impacts Analysis (Impacts Analysis). Typically, an Impacts Analyses requires use of air dispersion models to predict concentrations of air pollutants at the fence line of a facility and beyond. Air dispersion models consider the air pollutant emissions rate of the new source being evaluated, characteristics of the new source, topography and local meteorological data, and use this information to predict the maximum concentrations of pollutants outside the property line of the facility.

The Ascensus facility was established in Elma in 1974 with approval from ORCAA. Each new stationary source or modification has been reviewed by ORCAA and determined that it would not cause or contribute to the violation of any ambient air quality standard. Therefore, the Ascensus facility is not likely to cause or contribute to air pollution in such quantity as to create a threat to the public health or welfare under the criteria in WAC 173-401-300(5)(a).

Criteria B – Significant Ambient Level of Toxic Air Pollutants

WAC 173-401-300(5)(b) states that a source may be a threat to public health or welfare if it causes or contributes to air pollution in such quantity as to create a significant ambient level of any toxic air pollutant (TAP) contained in chapter 173-460 WAC. The term “significant ambient level” is not defined in Chapter 173-401 WAC or Chapter 173-460 WAC.

Chapter 173-460 WAC or *Controls for New Sources of Toxic Air Pollutants* applies to new or modified stationary sources of toxic air pollutants (TAPs). Before new sources of air pollution can be constructed or modified in Grays Harbor County, they must be reviewed and approved by ORCAA. One of the criteria of approval requires demonstration that emissions from TAPs from the new source or increases in emissions from the modified source are below Acceptable Source Impact Levels (ASILs). This can be demonstrated by demonstrating the emissions rate (or increase in emission rate) is less than the Small Quantity Emission Rate (SQER) for each TAP or using an ambient air quality model to predict ambient concentrations of the pollutant to demonstrate ambient concentrations are below the ASIL. If any of the modeled ambient concentrations exceed the ASILs, the project is required to submit a Health Impacts Assessment (also known as a Tier 2 review). This review requires including TAP emissions from all other

stationary sources within 1.5 kilometers (including other sources on-site) and can be approved if the increase in emissions of TAPs is not likely to result in an increased cancer risk of more than one in one hundred thousand and ecology determines that the noncancer hazard is found to be acceptable.

Although the Ascensus facility has undergone review for each new stationary source and modification, Chapter 173-460 WAC did not become effective until September 18, 1991. As several emission units were constructed prior to that date, not all emission units at the facility have been reviewed under that rule. In addition, the facility-wide impacts to ambient air of each TAP have not been assessed as Washington State does not have ambient standards for toxic air pollutants.

Although the ASILs and their associated SQERs were established for evaluating emission increases from actions triggering New Source Review, ORCAA began their evaluation of facility-wide TAP ambient levels by calculating the facility-wide potential to emit for each TAP using the TAP-specific averaging time in Chapter 173-460 WAC for comparison with the SQERs. The SQERs are conservative screening levels used to quickly evaluate projects through the New Source Review process that pose little risk to public health without the requirement to conduct dispersion modeling.

Almost all of TAPs emitted by Ascensus were below the SQERs and <u>all</u> the TAPs associated with the chemical manufacturing process were below the SQERs. The four TAPs that were above the SQERs were associated with Ascensus' combustion units.

One of the four TAPs was associated only with the emergency engines. As all four of the emergency engines on-site are below 500 horsepower (hp) their emissions are considered insignificant and ORCAA exempts units of this size from New Source Review under ORCAA Rule 6.1. In addition, Ecology has conducted a toxics analysis on emergency engines less than 2000 hp and determined that emissions would not cause a risk to public health if the engines used ultra-low sulfur diesel and operation for maintenance and testing did not exceed 50 hours per year. Data from ORCAA's inspection show that Ascensus uses ultra-low sulfur diesel and total engine usage (including emergency use) has not exceeded 50 hours per year for at least the past 5 years. Therefore, additional oversight through an Air Operating Permit is not necessary for assuring compliance.

The other three TAPs were associated only with combustion emissions from the four boilers and the reformer. Based on the magnitude of the emissions, the location of these units to the fence line, and the dispersion effects of the stacks, modeled emissions are expected to be below the ASILs. Furthermore, as the boilers and reformer do not have add-on controls and combust natural gas only (unless curtailed when they may use ultra-low sulfur diesel), additional oversight through an Air Operating Permit is not necessary for assuring compliance.

Therefore, ORCAA concludes that Ascensus does not cause or contribute to air pollution in such quantity as to create a significant ambient level of any toxic air pollutant contained in chapter 173-460 WAC and further analysis through dispersion modeling is not necessary.

7. Voluntary Limit Revisions

Although Ascensus currently has a voluntary limit on HAP emissions, at the time the limit was written the Miscellaneous Organic Chemical Manufacturing NESHAP (MON) (40 CFR Part 63 Subpart FFFF) applied to the facility due to the once-in-always-in policy being in effect. The applicable requirements from the MON and their associated monitoring, recordkeeping and reporting requirements are necessary to assure compliance with the voluntary limits. Therefore, in order to establish Ascensus as an area source with respect to the MACT standards and to avoid backsliding, Ascensus requested ORCAA revise the existing voluntary limit to incorporate the substantive MON requirements from 40 CFR Part 63 Subpart FFFF as well as 40 CFR Part 63 Subpart UU (as referenced by the MON). In addition, the existing voluntary limit will be revised as follows:

1. The voluntary limit on cumulative HAP will be revised to a limit specifically on methanol only because methanol is the only HAP with a potential for emissions over 10 tons per year; and,
2. The limit will be decreased from 10 tons per year to 8.9 tons per year which is the current potential to emit of the facility based upon the most recent source test emission factors approved by ORCAA and implementing all the requirements of the MON. Establishment of the limit is necessary to confirm the source's status as an area source of emissions due to variability in emissions from uncontrolled units, avoid backsliding, and requiring monitoring and recordkeeping requirements.

As detailed below, ORCAA incorporated requirements from the MON including requirements for equipment leaks under 40 CFR Part 63 Subpart UU into the Recommended Conditions of Approval (See Section 12) to assure that reclassifying Ascensus as an area source with respect to the MACTs will not result in backsliding nor affect Ascensus' ability to comply with their voluntary limit on emissions.

40 CFR Part 63, Subpart FFFF: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing (MON)

The MON applies to miscellaneous organic chemical manufacturing process units located at a major stationary source of hazardous air pollutants (HAP) emissions. Ascensus's liquid sodium borohydride plant produces methanol as an isolated intermediate (listed in 1987 SIC code 286) and at the first compliance date of this MACT standard, Ascensus was a major source of HAPs. Ascensus' dry sodium borohydride operation produces only inorganic chemicals under NAICS 325188 and are exempted from Subpart FFFF per 63.2435(c)(5).

The miscellaneous organic chemical manufacturing (MON) affected source is the facility-wide collection of miscellaneous organic chemical manufacturing process units (MCPU) and heat exchange systems, wastewater, and waste management units that are associated with manufacturing materials described in §63.2435(b)(1). An MCPU also includes any assigned

storage tanks and transfer racks; equipment in open systems that is used to convey or store water having the same concentration and flow characteristics as wastewater; and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems.

Ascensus has identified equipment in two processes in the liquid sodium borohydride manufacturing process that are considered MCPUs: the trimethyl borate (TMB) manufacturing process (EU1) and the sodium borohydride purification process (EU4). In addition to equipment necessary to operate the MCPU, equipment in these two processes that are included as part of the affected source are: assigned storage tanks and transfer racks, heat exchange systems, maintenance wastewater units, and components such as pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, and instrumentation systems.

The MON was written to cover all the different types of processes and control measures of the miscellaneous organic chemical manufacturing industry. The MON requirements specific to Ascensus' affected source are listed in Table 4 along with the Recommended Conditions of Approval that incorporates the requirement.

40 CFR Part 63, Subpart UU: National Emission Standards for Equipment Leaks – Control Level 2 Standards

Ascensus chose to comply with 40 CFR Part 63 Subpart UU to comply with the equipment leaks provisions in the MON (§63.2480). These provisions were added to the Recommended Conditions of Approval as indicated in Table 4. <u>In addition, ORCAA required that Ascensus implement a leak detection and repair program that complies with 40 CFR Part 63 Subpart UU as BACT in NOC# 19NOC1380.</u>

40 CFR Part 63, Subpart EEEE: National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) (OLD)

Subpart EEEE applies to organic liquids distribution practices at major sources of hazardous air pollutants (HAPs). At the first compliance date of this MACT standard, Ascensus was a major source of HAPs. Subpart EEEE affects all storage tanks storing organic liquids, all transfer racks at which organic liquids are loaded into or unloaded out of transport vehicles and/or containers, and all equipment leaks associated with these storage tanks and transfer racks (including transfer pipes, etc.)

Because all these units associated with the liquid sodium borohydride manufacturing plant were also part of the affected source under the MON, they were excluded from the affected source under Subpart EEEE (§63.2338(c)(1)). The dry sodium borohydride plant does not include any storage tanks or transfer tanks that contain any organic liquids as defined in Subpart EEEE.

Table 4. MON Requirements and Recommended Conditions of Approval

MON Requirement – Brief Description	MON Requirements incorporated through Condition 6 that references…
Reduce emissions of total organic HAP by ≥ 98% by weight by venting emissions through a closed-vent system to any combination of control devices	Conditions 12 and 13
Closed vent systems must meet the requirements of 63.982(c)	Conditions 16 and 17
Performance test conducted at hypothetical worst-case conditions.	Conditions 20 and 21
Continuous parameter monitoring system in 63 Subpart SS and record results of calibration check and all maintenance performed on the CPMS Establish operating limits based on performance test and other supplementary information (provide rationale)	Condition 18
Compliance Reports	Condition 24 Compliance staff has stated that based on compliance history, routine reporting is not necessary. However, Condition 24 allows ORCAA to request a report of any required monitoring at any time.
Heat Exchange System Monitoring	Condition 15
Requirements for Equipment Leaks (40 CFR Part 63 Subpart UU)	Condition 14
Maintenance Wastewater Stream	Condition 6b
Recordkeeping	Conditions 22 and 23

8. Performance Standards

As previously stated, Ascensus requested all existing Orders of Approval from past Notices of Construction be combined into one Order. In addition to requirements from past issued Orders, Ascensus is required to comply with applicable state, federal and local performance standards for air emissions including emission standards adopted under chapter 70.94 of the Revised Code of Washington (RCW), emissions standards of ORCAA, and federal emission standards including new source performance standards (NSPS), national emission standards for hazardous air pollutants (NESHAP), national emission standards for hazardous air pollutants for source categories (MACT standards). These requirements are currently incorporated into Ascensus' Air Operating Permit. The following table includes a comprehensive list of applicable air regulations and standards as well as regulations that required an applicability determination.

Table 5. Relevant Standards and Applicability for Ascensus Specialties LLC

The air regulations and standards that apply to Ascensus include, but are not limited to, the list below. There may be additional air regulations and standards that apply that are not listed. The list is for informational purposes only. Please refer to the regulations cited for the exact requirement text.

Regulation Title ***Citation (as of 5/21/2020)***	**Description**	**Applies to:**
FACILITY-WIDE REQUIREMENTS		
Annual Registration *WAC 173-400-101* *ORCAA Rule 4.1, 4.3(h)*	Requires annual registration, reporting of annual emissions, and payment of annual registration fees. Registration Category: RC1	Facility-wide
Air Operating Permit *WAC 173-401-300(7)(c)*	Requires annual certification by the responsible official containing the information required in WAC 173-401-300(7)(a) that its potential to emit is less than that which would require the source to obtain an Air Operating Permit.	
New Source Review (NSR) Requirements *ORCAA Rule 6* *WAC 173-400-110;* *WAC 173-400-114;* *Chapter 173-460 WAC*	Approval by ORCAA through a NOC application is required prior to establishing or constructing any new source of emissions or modifying an existing source. This includes removal of a control device or substantial modification of an existing control device.	
State Greenhouse Gas Reporting *Chapter 173-441 WAC*	Requires annual reporting of Greenhouse Gas emissions to Ecology.	
Concealment and Masking *WAC 173-400-040(7);* *ORCAA Rule 7.5*	Prohibits the installation or use of any device or use of any method to conceal or mask an emission of an air contaminant that would otherwise violate any requirement pursuant to Chapter 70.94 RCW, ORCAA's Regulations or Title 40 CFR Part 63.	
Control Equipment Maintenance and Repair *ORCAA Rule 8.8*	Requires all air contaminant sources to keep any process and/or air pollution control equipment in good operation and repair.	
Demolition and Asbestos Requirements *ORCAA Rule 6.3*	Requires notification prior to certain demolition or asbestos projects as well as requirements for asbestos projects and disposal.	
Emission Inventory *WAC 173-400-105(1);* *ORCAA Rule 4.3*	Requires maintenance of records relating to air pollutant emissions and submittal of an annual emissions inventory.	
Emissions Detrimental to Persons or Property *WAC 173-400-040(6);* *ORCAA Rule 7.6*	Prohibits the emission of any air contaminant from any source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business.	
Excess Emissions *WAC 173-400-107;* *ORCAA Rule 8.7*	Requires source operators to demonstrate that excess emissions were unavoidable in order to obtain relief in an enforcement action.	
Fallout Prohibition *WAC 173-400-040(3);* *ORCAA Rule 8.3(e)*	Prohibits particulate emissions from any source to be deposited, beyond the property under direct control of the owner or operator of the source, in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material was deposited.	

Fugitive Dust Sources *WAC 173-400-040(9)* *ORCAA 8.3(c)*	Requires reasonable precautions be taken to prevent fugitive dust from becoming airborne.	
Fugitive Emissions Control *WAC 173-400-040(4)(a)*	Requires that reasonable precautions be taken for controlling fugitive emissions.	
Maximum Visual Emissions *WAC 173-400-040(2);* *ORCAA Rule 8.2*	(a) In equipment or facilities, regardless of their date of installation, no person shall cause or allow the emission to the outdoor atmosphere, for more than 3 minutes in any 1-hour, of a gas stream containing air contaminants that exhibit greater than 20% opacity. (b) Observations shall be made by trained and certified observers or by LIDAR instrumentation. (c) The exceptions to the opacity standard stated in (a) above are as follows: i. When the owner or operator of a source supplies valid data to show that the presence of uncombined water is the only reason for the opacity to exceed 20%.	
Odor Control (State) *WAC 173-400-040(5)*	Any person who causes or allows generation of any odor that unreasonably interferes with use and enjoyment of another person's property must use recognized good practice and procedures to reduce these odors to a reasonable minimum.	
Odor Control (ORCAA) *ORCAA Rule 8.5(a)*	Reasonably available control technology (RACT) shall be installed and operated to mitigate odor-bearing gases emitted into the atmosphere to a minimum, or, so as not to create air pollution.	
Operation and Maintenance (O&M) Plan *ORCAA Rule 4.3(g)*	Requires owners or operators to develop, implement, and update when necessary an O&M Plan to assure continuous compliance with applicable air regulation and standards. At a minimum the plan shall include: i. Periodic inspection of emission units and associated control devices to evaluate air contaminant control effectiveness and compliance with applicable emissions limits; ii. Measures for monitoring and recording of all emissions unit and control device performance when required by regulation or an approval order; iii. Procedures for facilitating prompt repair of any defective equipment or control device associated with air contaminant emissions; iv. A system for logging all actions required by the plan; v. Standard procedures for responding to air quality related complaints received by the facility where the stationary source is located; and, vi. General policy and measures for minimizing dust emissions and odors.	
Particulate Standards for Process units *WAC 173-400-060* *ORCAA Rule 8.3(a)*	Prohibits emissions from any process unit in excess of 0.1 grain/dscf. EPA test methods from 40 CFR Appendix A shall be used should demonstration of compliance be required.	

Reasonably Available Control Technology (RACT) *WAC 173-400-040(1)(c)* *ORCAA Rule 8.3*	All emissions units are required to use RACT. Where current controls are determined to be less than RACT, the permitting authority shall define RACT for each source or source category and issue a rule or regulatory order requiring the installation of RACT.	
Record Keeping and Reporting *ORCAA Rule 8.11*	Requires the following: 1. Maintenance of records on the nature and amounts of emissions and other related information as deemed necessary by ORCAA; 2. Reporting of emissions to ORCAA upon request.	
Unreasonable Odors *ORCAA Rule 8.5(c)*	No person shall cause or allow the emission or generation of any odor from any source that unreasonably interferes with another person's use and enjoyment of their property.	
EQUIPMENT-SPECIFIC REQUIREMENTS		
Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (NSPS) *40 CFR Part 60 Subpart Dc*	Requires compliance with SO2 standard (alternatively, sulfur content limit of fuel) when combusting diesel, and associated recordkeeping, and reporting requirements.	G23W Boiler (EU11)
Standards of Performance for Equipment Leaks of VOC in SOCMI *40 CFR Part 60 Subpart VV*	Requires compliance with standards of performance for equipment leaks of VOC in the synthetic organic chemicals manufacturing industry (SOCMI) for which construction, reconstruction, or modification commenced after 1/5/81 and on or before 11/7/06.	Portion of purification process in EU4 (see below)
Standards of Performance for VOC Emissions from SOCMI Distillation Operations *40 CFR Part 60 Subpart NNN*	Requires compliance with standards of performance for VOC emissions from SOCMI distillation operations constructed, modified, or reconstructed after 12/30/83.	A2 West Distillation unit in EU1 (See below)
NESHAP: Reciprocating ICE *Title 40 CFR Part 63, Subpart ZZZZ*	Implementing the FCAA, this standard may apply to existing stationary RICE with a site rating of less than or equal to 500 hp located at major sources, and existing stationary RICE of any site rating located at area sources.	Emergency generator engines (IEU2-IEU5) (See below)
Particulate Standards for Combustion Units *WAC 173-400-050(1)* *ORCAA Rule 8.3(a)*	Prohibits emissions from any combustion unit in excess of 0.1 grain/dscf. EPA test methods from 40 CFR Part 60 Appendix A shall be used should demonstration of compliance be required.	Combustion units
Sulfur Dioxide *WAC 173-400-040(7)*	Prohibits emissions of sulfur dioxide from any emissions unit in excess of 1000 ppm of sulfur dioxide on a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of sixty consecutive minutes.	
INAPPLICABLE REQUIREMENTS		**Discussion**
Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (NSPS) *40 CFR Part 60, Subpart Dc*	Requires compliance with SO2 standard (alternatively, sulfur content limit of fuel) when combusting diesel, and associated recordkeeping, and reporting requirements.	Does not apply to boilers G23M, G23E, G27 and the reformer. (See below)
NESHAP: Organic Liquids Distribution *40 CFR Part 63, Subpart EEEE*	Subpart EEEE affects all storage tanks storing organic liquids, all transfer racks at which organic liquids are loaded into or unloaded out of transport vehicles and/or containers, and all equipment leaks associated with these	Does not apply. (See Section 7)

	storage tanks and transfer racks (including transfer pipes, etc.)	
NESHAP: Miscellaneous Organic Chemical Manufacturing (MON) *Title 40 CFR Part 63, Subpart FFFF*	Includes requirements for the facility-wide collection of miscellaneous organic chemical manufacturing process units (MCPU) and heat exchange systems, wastewater, and waste management units that are associated with manufacturing materials described in §63.2435(b)(1)	Does not apply. (See Section 7)
NESHAP: Industrial, Commercial, and Institutional Boilers and Process Heaters *Title 40 CFR Part 63, Subpart DDDDD*	Includes requirements for facilities that are major sources of hazardous air pollutants and operate boilers or process heaters will be subject to this subpart.	Does not apply. (See below)
NESHAP for Area Sources: Industrial, Commercial, and Institutional Boilers *Title 40 CFR Part 63, Subpart JJJJJJ*	Includes requirements for boilers that combust coal, biomass, or oil located at area sources of hazardous air pollutants.	Does not apply. (See below)
NESHAP for Chemical Manufacturing Area Sources *Title 40 CFR Part 63, Subpart VVVVVV*	Includes requirements for chemical manufacturing process units (CMPU) that have specific HAPs present and are located at area sources of hazardous air pollutants.	Does not apply. (See below)

40 CFR Part 60, Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Subpart Dc applies to steam generating units with a heat input capacity between 10 and 100 MMBtu/hr which commenced construction, modification or reconstruction after June 9, 1989. Boilers G23M and G23E were constructed prior to the effective date of this regulation and have not been modified since being constructed except for minor repairs, replacements and alterations. Boiler G27 and the reformer both have a heat input capacity less than the minimum sized threshold for this regulation. Therefore, Boilers G23M, G23E, G27, and the reformer are not required to comply with Subpart Dc.

Boiler G23W has a heat input capacity of 24.2 MMBtu/hr and was constructed after June 9, 1989. Therefore, it is required to comply with Subpart Dc. Boiler G23W primarily combusts natural gas but uses diesel fuel during periods of gas curtailment.

40 CFR Part 60, Subpart VV: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (SOCMI)

Subpart VV applies to equipment in the SOCMI for which construction, reconstruction, or modification commenced after January 5, 1981 and on or before November 7, 2006. According to Ascensus, Subpart VV applies to a portion of the purification process in EU1.

Previously, Ascensus elected to comply with the provisions of 40 CFR Part 63 Subpart FFFF for all equipment as allowed by §63.2535(k). <u>As the Ascensus facility is no longer an affected source subject to Subpart FFFF, §63.2535(k) no longer applies and Ascensus must comply with applicable requirements in 40 CFR Part 60 Subpart VV.</u>

40 CFR Part 60, Subpart NNN: Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations

Subpart NNN applies to distillation operations constructed, modified, or reconstructed after December 30, 1983. The A2 West Distillation column in EU1 is the only column constructed after this date. The A2 West distillation unit previously met the low flow exemption provided in §60.660(c)(6).

However, per Ascensus' letter on 11/30/12, a nitrogen seal was added to a single seal pump which causes the exemption to no longer apply. At that time Ascensus complied with Subpart NNN by complying with 40 CFR Part 63 Subpart FFFF as allowed by §63.2535(h). <u>As the Ascensus facility is no longer an affected source subject to Subpart FFFF, §63.2535(h) no longer applies and Ascensus must comply with applicable requirements in 40 CFR Part 60 Subpart NNN.</u>

40 CFR Part 63, Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources for HAP emissions. As Ascensus has had a voluntary limit on emissions since November 29, 2011, Ascensus has always been considered an area source with respect to this standard. All four stationary RICE listed in Table 1 are subject to the requirements in Subpart ZZZZ that apply to existing emergency compression ignition (CI) stationary RICE.

40 CFR Part 63, Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

According to § 63.7485, facilities that are major sources of hazardous air pollutants and operate boilers or process heaters will be subject to this subpart. As Ascensus has had a voluntary limit on emissions since November 29, 2011, Ascensus has always been considered an area source with respect to this standard. Therefore, Subpart DDDDD does not apply.

40 CFR Part 63, Subpart JJJJJJ: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

Subpart JJJJJJ applies to boilers that combust coal, biomass, or oil located at area sources of hazardous air pollutants. Ascensus operates four boilers and a reformer at its facility, which is an area source of hazardous air pollutants as a result of a voluntary limit on emissions.

EU3 (G23E boiler) and EU5 (reformer) and are only capable of burning natural gas and are therefore not subject to the requirements of Subpart JJJJJJ per §63.11195(e).

EU2 (G23M boiler), EU4 (G27 boiler), and EU6 (G23W) are capable of burning both natural gas and diesel fuels. However, the definition of *gas-fired boiler* in this subpart includes boiler that "burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic

testing on liquid fuel." Ascensus has stated that they will only burn natural gas in these boilers unless they are curtailed. Therefore, the units are also exempt under §63.11195(e).

40 CFR Part 63, Subpart VVVVVV: National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

Subpart VVVVVV applies to chemical manufacturing process units (CMPU) that have specific HAPs present and are located at area sources of hazardous air pollutants. Per Documentation of Negative Applicability made by Ascensus on August 28, 2014 (and a subsequent email on April 14, 2015), chromium and nickel are the only two listed HAPs that are present in the process. Chromium and nickel are present in the catalysts, which are exempt per §63.11494(c)(6) as they meet the definition of an article. Therefore, Subpart VVVVVV does not apply.

9. Public Involvement

As required by ORCAA Rule 6.1.12, the order is subject to the notice and comment procedures under Rule 6.1.3 including a formal 30-day public comment period. Because Ascensus is also requesting ORCAA rescind its Air Operating Permit, ORCAA is also requiring this action comply with the public involvement procedures in WAC 173-401-800.

Although not specifically required by ORCAA 6.1.3(a) because this application requires a mandatory public comment period, public notice of ORCAA's receipt of the NOC application was published on ORCAA's website on November 18, 2019. ORCAA did not receive any written or verbal communications expressing interest in this application.

This Preliminary Recommendation is being noticed for a 30-day public comment period in accordance with ORCAA Rule 6.1.3(c) and WAC 173-401-800. In addition to noticing the 30-day public comment period on our website and in the local daily paper, ORCAA will notify affected states, our interested parties list, and EPA Region 10 according to the procedures in WAC 173-401-800. If significant public interest is expressed during the public comment period, a public hearing will be scheduled by ORCAA and the public comment period will be extended through the hearing date.

WAC 173-401-300(7)(d) also requires notice of issuance of any order or permit which limits a source's potential to emit to be published in the permit register pursuant to WAC 173-401-805(2)(e).

10. SEPA Review

Enacted by the Washington Legislature in 1971, the State Environmental Policy Act (SEPA) helps state and local agencies in Washington identify possible environmental impacts that could result from governmental decisions such as issuing permits for private projects, adopting regulations, policies, or plans, or constructing public facilities such as new schools or highways. The SEPA review process helps agency decision-makers, applicants, and the public understand how the project proposal will affect the environment. In this case, ORCAA staff determined the project is exempt from SEPA requirements per WAC 197-11-800(13)(i) since it involves "the

renewal or reissuance of a license regulating any present activity or structure so long as no material changes are involved."

11. Superseding Previous Orders of Approval

As requested by Ascensus, the Order of Approval for this permitting action, when issued, will supersede all previously issued Orders of Approval for this facility as discussed below. See the Appendix for condition-by-condition detail.

Unnumbered, 395, 461 (Initial plant, unconditional approval)

Early approvals for initial construction of the plant and modifications were approved between 1974 and 1992. As these approvals were unconditional, there are no conditions to incorporate into the proposed revised Order of Approval.

556, 558, 559, 05MOD446, 06MOD503 (Dry sodium borohydride plant, Conditions 41-52)

One Order of Approval was issued for these three applications all related to construction of the dry sodium borohydride plant on April 14, 1994. In 2006, two applications were approved to modify conditions in this Order of Approval. A new Order of Approval was not issued. All the conditions from this Order of Approval (and their modifications as addressed in 05MOD446 and 06MOD503) are addressed by conditions 40-51 in the proposed Order of Approval.

557, 00NOC104, 01MOD190 (G23W Boiler, Conditions 31-40)

The G23W boiler was initially approved for construction on April 12, 1994 under the Order of Approval for NOC# 557. This order was superseded by the Order of Approval for NOC# 00NOC104 on January 12, 2001 for approval to combust diesel as a back fuel. On December 10, 2003, the order was superseded by the Order of Approval for NOC#10MOD190 to change the timing of installation of sampling ports. All the conditions from this Order of Approval are addressed by conditions 31-40 in the proposed Order of Approval.

574, 01MOD189, 11MOD860 (Reformer, Conditions 25-30)

These Order of Approvals issued on May 19, 1994 and December 10, 2002 were for replacement of the reformer and a modification to that approval related to testing ports. When Ascensus requested a voluntary limit on methanol, the Order of Approval for NOC#01MOD189 was superseded as it contained a methanol limit. The conditions related to the reformer in Order of Approval for NOC# 11MOD860 are addressed by Conditions 25-30 in the proposed Order of Approval.

99NOC032 (Boric acid unloading system, modified to be a closed system)

The Order of Approval for NOC# 99NOC032 was for conditional approval of a pneumatic boric acid unloading system. Ascensus modified this system in 2011 so that the air from the baghouse is recirculated back to the pneumatic system creating a closed system. Two balance chambers were added (one inside the building and one outside after the baghouse). Ascensus monitored the outside balance chamber for opacity until it was removed in early 2012. As there are no longer any external exhaust points, the boric acid unloading system is no longer an emissions unit.

99NOC081, 00MOD099, 02NOC235, 03MOD294 (Potassium borohydride plant, REMOVED)
These Order of Approvals related to the approval and modification of the potassium borohydride plant. This plant was permanently shut down in 2010 and subsequently removed from the site.

11MOD860 (Voluntary Limit on Emissions, Conditions 1-5)
Ascensus received approval for a voluntary limit on HAP emissions on November 29, 2011. The Order of Approval superseded the Order of Approval for NOC# 01MOD189 as it contained a methanol limit that needed to be removed. Conditions related to the voluntary limit have been modified as requested in the current application and as detailed in the Recommended Conditions of Approval in Section 12. The Order of Approval also contains conditions related to the reformer (see above).

As detailed in Section 7, the voluntary limit has decreased and been changed from a HAP limit to a methanol limit. As Ascensus has already developed a HAP Inventory Plan that includes methanol (required under 19NOC1380), ORCAA removed this condition and referenced the existing HAP plan in the monitoring condition. Other conditions related to monitoring, recordkeeping and reporting in relation to the voluntary methanol limit were revised and updated as needed.

19NOC1380 (Production Increase, Conditions 8-24)
Ascensus received approval for a 10% increase in production above the historical capacity of the plant on April 8, 2020. Some of the conditions imposed during this review are also necessary for Ascensus to comply with its voluntary HAP limit. All the conditions from this Order of Approval are addressed by conditions 8-24 in the proposed Order of Approval.

12. Recommended Conditions of Approval

The following conditions of approval are recommended to be included in the Order of Approval (Order) issued by ORCAA for approving this NOC application. Once approved, conditions in the Order become applicable requirements that are enforceable and may be subject to enforcement actions including penalties if compliance is not maintained. Ascensus has also requested that all existing Order of Approvals be combined so that only one Order of Approval will exist for the facility. Therefore, the following conditions will supersede the conditions in all previously issued Orders of Approval.

Voluntary Limit

1. **Methanol Limit:** Facility-wide emissions of methanol shall be less than 8.9 tons per consecutive 12-month period.

[Regulatory Basis: WAC 173-400-091; ORCAA 6.1.12]

2. **Methanol Limit Monitoring:** Within 30 days of the end of each month, the owner or operator shall determine compliance with Condition 1 by calculating actual emissions of methanol for the previous month and preceding consecutive 12-month period, according to the HAP Inventory Plan required by Condition 11.

[Regulatory Basis: WAC 173-400-091(3); ORCAA 6.1.12(c)]

3. **Methanol Limit Recordkeeping.** The owner or operator shall keep records of monitoring data required under Condition 2 and any other data used in performing the emission calculations. These records shall be maintained on-site for at least five years and shall be made available for inspection by ORCAA upon request.

[Regulatory Basis: WAC 173-400-091(3); ORCAA 6.1.12(c); ORCAA 8.11]

4. **Methanol Limit Reporting:** The owner or operator shall submit periodic reports to ORCAA as follows:
   a. Notify ORCAA within 30 days of discovery if methanol emissions for the previous 12-month period exceeded 8.0 tons; and
   b. On an annual basis, submit an inventory of the actual amount of methanol emitted during the previous calendar year. The inventory shall be submitted to ORCAA within 30 days of receipt of the standard inventory reporting forms, and shall be accompanied by associated calculations, data or other information used in calculating the reported emissions.

[Regulatory Basis: WAC 173-400-091(3); ORCAA 6.1.12(c); ORCAA 8.11]

5. **Methanol Source Testing.** The owner or operator shall conduct source tests to establish methanol emission factors as follows:
   a. A source test shall be required whenever scrubber performance testing is required by Condition 20.
   b. Testing shall be conducted on the A12 scrubber stack, G53 scrubber stacks, and M46 tank stack.
   c. Testing shall be conducted when the liquid sodium borohydride plant is operating at maximum representative operating conditions.
   a. Testing of all stacks shall be conducted concurrently and shall be sufficient to establish emission factors for the tested stacks.
   b. The source test shall meet all source testing requirements for methodology, notifications, test plans, and test reports as required by Condition 21.

[Regulatory Basis: WAC 173-400-091(3); ORCAA 6.1.12(c); ORCAA 1.5(i]]

6. **MON Requirement:** At all times, the owner or operator shall operate the facility in compliance with the requirements in 40 CFR Part 63 Subpart FFFF, the Miscellaneous Organic Chemical Manufacturing National Emission Standards for Hazardous Air Pollutants (MON) applicable to major sources. The facility may meet this requirement by complying with the following:
    - **a.** Comply with Conditions 12-18 and 20-24 of this Order to meet emission limits, work practice standards, and compliance requirements for continuous and batch process vents, storage tanks, transfer racks, equipment leaks, and heat exchange systems; and
    - **b.** Comply with the following requirements for maintenance wastewater streams as defined by §63.2550:
        - i. The owner or operator shall prepare a description of maintenance procedures for management of wastewaters generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (i.e., a maintenance-turnaround) and during periods which are not shutdowns (i.e., routine maintenance). The descriptions shall:
            1. Specify the process equipment or maintenance tasks that are anticipated to create wastewater during maintenance activities.
            2. Specify the procedures that will be followed to properly manage the wastewater and control organic HAP emissions to the atmosphere; and
            3. Specify the procedures to be followed when clearing materials from process equipment.
        - ii. The owner or operator shall modify and update the information required by paragraph (i) of this section as needed following each maintenance procedure based on the actions taken and the wastewaters generated in the preceding maintenance procedure.

[Regulatory Basis: WAC 173-400-091(3); ORCAA 6.1.12(c)]

7. **Annual Certification.** The owner or operator shall annually certify that its potential to emit is less than that which would require the source to obtain an Air Operating Permit. The document shall be certified by a responsible official as required by WAC 173-401-520 and shall contain emissions measurement and monitoring data, location of monitoring records, and other information necessary to support the source's emission calculations. The certification shall be submitted to ORCAA with the annual emission inventory required by Condition 4b.

[Regulatory Basis: WAC 173-401-300(7)(c)]

The following conditions 8-24 apply only to the equipment listed in Condition 8 as originally approved under NOC# 19NOC1380:

8. **Approved Equipment Specifications.** The stationary sources of air pollutant emissions as described in the following table, and further described in Notice of Construction

#19NOC1380 are approved for operation at Ascensus Specialties LLC located at 4800 State Route 12 in Elma, subject to ~~condition~~ Conditions 8 through Condition 24 in this Order of Approval (Order). Deviations from equipment and operating specifications of approved stationary sources, whether stated in NOC# 19NOC1380, this Order of Approval or past NOC applications submitted by Ascensus, may constitute a violation of this condition and ORCAA Regulations, unless prior approval is granted by ORCAA.

EU#	Description	Air Pollution Controls
EU1 Trimethyl borate (TMB) Manufacturing Process	All process equipment used in the manufacturing of trimethyl borate from methanol and boric acid including, but not limited to: -reaction columns -storage tanks -recovery columns -process tanks -overhead condensers -receivers -surge control vessels -coolers -concentrators -transfer racks -purification columns -drum loading	**All vented units vent through a closed vent system to G53 Scrubber with minimum 98% control efficiency** G53 Scrubber Manufacturer: Keane Metal Fabricators 4-inch low-energy venturi scrubber
EU2 Sodium hydride production	All process equipment used in the production of sodium hydride from hydrogen and sodium including, but not limited to: -product storage tanks -process heaters -reactors	Enclosed system vents to M46 tank which vents to atmosphere through a stack
EU3 Sodium borohydride production	All process equipment used in the production of sodium borohydride from sodium hydride and trimethyl borate including, but not limited to: -product storage tanks -process heaters -reactors -heat exchangers	
EU4 Sodium borohydride purification process	All process equipment used in the purification of sodium borohydride through hydrolysis and distillation to produce stabilized pure liquid sodium borohydride including, but not limited to: -reactors -storage tanks -overhead condensers -process tanks -centrifuges -receivers -compressors -coolers -vacuum pumps -purification/stripping columns *The process does not include finished product storage tanks or new oil storage tanks.*	**All vented units vent through a closed vent system to A12 Scrubber with minimum 98% control efficiency** A12 Scrubber Manufacturer: Cellcote/Air Pollution Control Counter-current scrubber

EU5 Effluent Treatment and Process Water Storage	Equipment in use for process water, wastewater, maintenance wastewater, stormwater, and used oil that are not part of EU1-EU4 including, but not limited to: -storage tanks -feed tanks -collection sumps and basins -lift stations -equipment washout tanks	None

[Regulatory Basis: ORCAA 6.1.2(l)]

9. **Liquid Sodium Borohydride Plant Emission Limits.** As of April 8, 2020, the following pollutant-specific emission limitations shall apply to total emissions of the indicated pollutants from the liquid sodium borohydride plant (EU1-EU5).
    a. Emissions of volatile organic compounds shall not exceed 17 tons per consecutive 12-month period.
    b. Emissions of methanol shall not exceed 8.9 tons per consecutive 12-month period.

[Regulatory Basis: ORCAA 6.1.2(l)]

10. **Emission Limit Monitoring.** Compliance with the emission limits in Condition 9 shall be monitored at least monthly by computing the actual amount of emissions over the previous month and 12-consecutive month period. Emissions shall be calculated according to the HAP Inventory Plan required by Condition 11.

[Regulatory Basis: ORCAA 6.1.2(l)]

11. **HAP Inventory Plan:** The owner or operator shall have and implement a HAP Inventory Plan. The plan shall include a description of the method used to calculate emissions of all HAPs from each emission point in the facility, including stacks, vents, and fugitive emission points. The plan shall be revised, as needed, and resubmitted to ORCAA for review.

[Regulatory Basis: ORCAA 6.1.2(l)]

12. **Trimethyl borate Manufacturing Process BACT.**
    a. All continuous process vents, batch process vents, and vents from other associated emissions points in the trimethyl borate manufacturing process (EU1) shall be vented through one or more closed vent systems to a scrubber at all times.
    b. The scrubber shall be operated to reduce uncontrolled methanol emissions by at least 98% by weight whenever methanol emissions are being generated by the trimethyl borate manufacturing process.
    c. Opening a safety device, as defined in §63.2550, is allowed at any time conditions require it to avoid unsafe conditions.

[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]

13. **Sodium Borohydride Purification Process BACT.**

a. All continuous process vents, batch process vents, and vents from other associated emissions points in the sodium borohydride purification process (EU4) shall be vented through one or more closed vent systems to a scrubber at all times.
b. The scrubber shall be operated to reduce uncontrolled methanol emissions by at least 98% by weight whenever methanol emissions are being generated by the sodium borohydride purification process.
c. Opening a safety device, as defined in §63.2550, is allowed at any time conditions require it to avoid unsafe conditions.

[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]

14. **Leak Detection and Repair Program**. The owner or operator shall implement a leak detection and repair program to identify and repair equipment leaks from the trimethyl borate manufacturing process (EU1) and sodium borohydride purification process (EU4). The equipment monitored shall include all valves, pumps, connectors, agitators, pressure relief devices, compressors, sampling connection systems, open-ended valves or lines, and closed vent systems that are in contact with a fluid (liquid or gas) that is at least five percent (5%) by weight methanol as determined by §63.180(d). The leak detection and repair program shall comply with the requirements of 40 CFR Part 63 Subpart UU except for reporting requirements in 40 CFR §63.1039.

[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]

15. Heat Exchange System Monitoring Program. The owner or operator shall monitor each heat exchange system in EU1 and EU4 for leaks by the methods in 40 CFR 63.104(b) or (c). All leaks detected during monitoring shall be repaired according to the schedule in 40 CFR 63.104(d) and (e). For purposes of this condition, a heat exchange system is defined as any cooling tower system or once-through cooling water system (e.g., river or pond water). A heat exchange system can include more than one heat exchanger and can include an entire recirculating or once-through cooling system. Heat exchange systems that meet the requirements of at least one of the conditions in 40 CFR 63.104(a)(1)-(6) do not need to comply with this condition.

[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]

16. **Closed Vent System Requirements**. The closed vent systems required in Conditions 12 and 13 shall meet the following requirements:
    a. Each closed vent system shall be designed and operated to collect the methanol vapors from each emission point and route the collected vapors to a scrubber.
    b. Closed vent systems shall be operated at all times when emissions are vented to, or collected by, them.
    c. Except for equipment needed for safety purposes such as pressure relief devices, low leg drains, high point bleeds, analyzer vents, and open-ended valves or lines, the owner or operator shall comply with the provisions of either paragraphs (i) or (ii) for

each closed vent system that contains bypass lines that could divert a vent stream to the atmosphere.

i. Properly install, maintain, and operate a flow indicator that is capable of continuously monitoring and recording flow through the bypass. The flow indicator shall be installed at the entrance to any bypass line.

ii. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration.

[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]

17. Closed Vent System Inspection and Monitoring. The closed vent systems required in Conditions 12 and 13 shall be inspected and monitored as follows:

a. Except for any closed vent systems that are designated as unsafe or difficult to inspect as provided in paragraphs 40 CFR 63.983(b)(2) and (3), each closed vent system shall be inspected as specified in Condition 17(a)(i) or (a)(ii).

i. If the closed vent system is constructed of hard-piping, the owner or operator shall conduct annual inspections for visible, audible, or olfactory indications of leaks. If there are any visible, audible, or olfactory indications of leaks during the annual inspection, the owner or operator shall either eliminate the leak or monitor the leaks according to the procedures in 40 CFR 63.983(c).

ii. If the closed vent system is constructed of ductwork, the owner or operator shall conduct an annual inspection according to the procedures in 40 CFR 63.983(c).

b. Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practical as described below.

i. A first attempt at repair shall be made no later than 5 days after the leak is detected.

ii. Except as provided in Condition 17(b)(iii), repairs shall be completed no later than 15 days after the leak is detected or at the beginning of the next introduction of vapors to the system, whichever is later.

iii. Delay of repair of a closed vent system for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible or unsafe without a closed vent system shutdown, as defined in 40 CFR 63.981, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed as soon as practical, but not later than the end of the next closed vent system shutdown.

c. For each bypass line as described in Condition 16(c), the owner or operator shall comply with Condition 17(c)(i) or (c)(ii):

i. If a flow indicator is used, take a reading at least once every 15 minutes.

ii. If the bypass line valve is secured in the non-diverting position, visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the non-diverting position, and the vent stream is not diverted through the bypass line.

[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); ORCAA 8.8; WAC 173-400-113(2); WAC 173-460-040(3)(a)]

18. **Scrubber Continuous Parameter Monitoring System Plan.** The owner or operator shall develop and implement a continuous parametric monitoring system plan for each scrubber in the liquid sodium borohydride plant. The plan shall be revised as needed, but at a minimum after each scrubber performance test, and submitted to ORCAA for review. The parametric operating limits shall be based on the parameter values measured during the most recent performance test and may be supplemented by engineering assessments, manufacturer's recommendations and/or data from the interim monitoring required in Condition 19. The plan shall include:

a. Identify of the scrubber parameter(s) that will be monitored and the rationale to for selection of these parameter(s) as scrubber performance indicators.
b. The operating limit for each parameter and the rationale to support how these limits demonstrate the control device is operating properly.
c. Monitoring frequency, data collection procedures and frequency, and averaging period for each parameter.
d. Quality assurance and control practices for each monitoring device (i.e. procedures for calibration and maintenance).
e. The plan should include procedures for maintaining and calibrating all monitoring equipment.

[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]

19. Scrubber Control Efficiency Interim Monitoring. The owner or operator shall monitor the control efficiency of the scrubbers whenever the boric acid (G53 scrubber) and/or sodium feed (A12 scrubber) rates exceed the maximum levels established in the April 30, 2015 source test ("2015 source test levels"). This condition shall cease to apply when the owner or operator has received results from the initial stack test required by Condition 20 showing compliance with Conditions 12 and 13. The owner or operator shall develop a monitoring plan which shall be revised and submitted to ORCAA for review as needed. At a minimum the plan shall include:

a. Method that will be used for sampling including identification of the specific equipment that will be used (Draeger tubes and their measuring range for each sampling location, type of sampling pump used, etc);
b. How frequently sampling will be conducted;
c. Written sampling procedures including how to use sampling equipment, sampling duration, how to conduct simultaneous sampling of inlet and outlet(s), how to read the results, and identification of staff that have been trained to conduct sampling (for the purposes of this monitoring, simultaneously means within 5 minutes);

d. Procedures for calculating scrubber efficiency including equations and timing after sampling is completed; and
e. Written procedures that will be followed if the results indicate scrubber control efficiency does not meet the requirements of Conditions 12 and 13.

[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]

20. **Scrubber Performance Testing Required.** The owner or operator shall conduct performance tests to determine compliance with control efficiency requirements in Conditions 12 and 13. Testing shall be conducted as follows:
    a. An initial performance test of the A12 and G53 scrubbers shall be conducted no later than October 20, 2021.
    b. Testing shall be conducted when the liquid sodium borohydride plant is operating at maximum representative operating conditions.
    c. Following the test required in (a), the owner or operator shall conduct a performance test of the A12 and G53 scrubbers at least once every 61 months, or whenever required by ORCAA.
    d. The performance test shall meet all source testing requirements for methodology, notifications, test plans, and test reports as required by Condition 21.

[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); ORCAA 1.5(i); WAC 173-400-113(2); WAC 173-460-040(3)(a)]

21. **Performance Testing Requirements.** Whenever performance testing is required:
    a. The owner or operator shall submit a notification of the intent to conduct a performance test and site-specific test plan to ORCAA at least 30 calendar days before the scheduled date of a source test. The test plan shall describe the proposed source test methods, operational conditions proposed for the test, and provisions for monitoring source operation during the test.
    b. Testing shall be conducted using approved EPA methods from 40 CFR parts 51, 60, 61 and 63 or other method as approved by ORCAA.
    c. The owner or operator shall monitor boric acid feed rates, sodium feed rates, parameters identified in their Scrubber Continuous Parameter Monitoring System Plan, and any other process parameters necessary to document the operation of the liquid sodium borohydride plant during stack testing.
    d. The owner or operator shall submit a performance test report to ORCAA no later than 60 days after completion of the test. The performance test shall be certified as true and accurate by responsible officials from the testing contractor and the owner or operator. At a minimum, the performance test report shall contain the following information:
        i. A description of the source and sampling location;
        ii. The date and time of each test;
        iii. A summary of test results reported in units and averaging period appropriate to the applicable limit;
        iv. A description of the test methods and quality assurance procedures used;

v. Operating parameters of the emission units and control equipment during each test;
vi. Raw field data and sample calculations; and
vii. Deviations from approved test plans.

[Regulatory Basis: ORCAA 8.11; ORCAA 1.5(d)&(i)]

22. **Recordkeeping**. The following records shall be maintained for at least five years from the date the record originated, or as specified, and made available for inspection upon request. Monitoring records shall include:
    a. Records of maintenance conducted on the equipment listed in Condition 8.
    b. Records of material usage, composition data, and any other data used to calculate emissions.
    c. Records of monthly and 12-month rolling totals of emissions as required by Condition 10.
    d. Records of all leak detection monitoring and repairs conducted as required by Condition 14.
    e. Records of all heat exchange system monitoring and repairs required by Condition 15.
    f. Records of all closed vent system inspections and leak repairs required by Condition 17(a)-(b).
    g. Records of closed vent system bypass monitoring required by Condition 17(c) as described below:
        i. For flow indicators installed per Condition 16(c)(i), hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.
        ii. For seal mechanisms installer per Condition 16(c)(ii), records of monthly visual inspection of the seals or closure mechanisms, records of the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has been broken.
    h. A copy of the Scrubber Continuous Parameter Monitoring System Plan as required by Condition 18 and a record of all monitoring conducted as required by the plan.
    i. A copy of the Scrubber Control Efficiency Interim Monitoring Plan required by Condition 19 and a record of all monitoring conducted per Condition 19.
    j. Copies of all tests plans and reports.

[Regulatory Basis: ORCAA 8.11]

23. **Monitoring Records.** Monitoring records required by Condition 22 shall include, where applicable, the following:
    a. The date, location, and time of sampling or measurement;
    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 analyses; and
f. The operating conditions existing at the time of sampling or measurement.

[Regulatory Basis: ORCAA 8.11]

24. **Reporting.** When required by ORCAA, the owner or operator must prepare and submit a report of any required monitoring required by this Order of Approval.

[Regulatory Basis: ORCAA 8.11]

The following conditions 25-30 apply only to the reformer as originally approved under NOC# 574 and revised and superseded by NOC# 01MOD189 and 11MOD860:

25. The owner or operator shall notify ORCAA in writing of compliance source testing dates at least 30 days prior to conducting the tests.

26. The owner or operator shall develop and implement an Operations and Maintenance Plan for purposes of maintaining the reformer furnace and achieving continuous compliance with applicable regulations. The maintenance plan shall contain all measures identified by the furnace manufacturer as necessary for proper maintenance of the furnace.

27. The owner or operator shall monitor and maintain records of natural gas and process gas combustion by the reformer. Annual criteria pollutant emissions from the reformer shall be based on total gas combustion records and emission factors based on Good Engineering Practice.

28. A file containing the following items shall be maintained and made available at the site:
    a. A copy of this Approval Order
    b. The Operations and Maintenance Manual
    c. HAP Inventory Plan.

29. Permanent sampling ports shall be installed on the reformer exhaust stacks prior to performing required source testing. The sampling ports shall meet the requirements of 40 CFR Part 60, Appendix A, Method 1. Adequate and safe access to sampling ports shall be provided for.

30. Within 24 hours from occurrence, the owner or operator shall report to ORCAA any excess emissions or malfunction of pollution control equipment associated with the reformer. The owner or operator shall take appropriate measures to minimize emissions during malfunctions and to repair or replace equipment promptly.

The following conditions 31-40 apply only to the G23W boiler as originally approved under NOC# 557 and as revised and superseded by NOC# 00NOC104 and NOC# 01MOD190:

31. The owner or operator shall notify ORCAA in writing of compliance source testing dates at least 30 days prior to conducting the tests.

32. The owner or operator shall develop and implement an Operations and Maintenance Plan for purposes of maintaining BACT emission levels from boiler G23W. The maintenance plan shall contain all measures identified by the boiler manufacturer as necessary for proper maintenance.

33. The owner or operator shall monitor and maintain records of natural gas and diesel combustion by boiler G23W.

34. Annual criteria pollutant emissions from the boiler shall be based on total annual natural gas and diesel usage records for Boiler G23W and emission factors based on good engineering practice.

35. A file containing the following items shall be maintained and made available at the site:
    1. A copy of this approval order
    2. The Boiler G23W Operations and Maintenance Manual
    3. Natural gas combustion records
    4. Diesel combustion records

36. Permanent sampling ports shall be installed on the boiler G23W exhaust stack prior to performing required source testing. The sampling ports shall meet the requirements of 40 CFR Part 60, Appendix A, Method 1.

37. Information required to be submitted to EPA Region 10 in 40 CFR Part 60 Subparts A and Dc shall also be submitted to ORCAA.

38. Within 24 hours from occurrence, the owner or operator shall report to ORCAA any malfunction of pollution control equipment associated with the boiler. The owner or operator shall take appropriate measures to minimize emissions during malfunctions and to repair or replace equipment promptly.

39. Boiler G23W shall combust only diesel #2 fuel oil with a sulfur concentration of not more than 0.05% sulfur by weight. The owner or operator shall maintain records of the fuel consumption and quality. Records shall include fuel purchase receipts and certifications by the fuel provider and shall be retained on-site for not less than 2 years.

40. Emissions from Boiler G23W shall not exceed 10% opacity in accordance with 40 CFR Part 60 Appendix A Method 9, except during start-up or shutdown of the boiler.

The following conditions 41-52 apply only to the dry sodium borohydride plant as originally approved under NOC#s 556, 558, 559 and as revised by NOC# 05MOD446 and NOC# 06MOD503:

41. The owner or operator shall notify ORCAA in writing of the following event within the time frames indicated:
    a. Notification of compliance source testing dates at least 30 days prior to conducting the tests.

42. The new IPA vent scrubber, new IPA Storage Tank, new IPA Accumulator Tank, dry SBH dust collection systems, and all associated equipment shall be in accordance with the information and specifications as described in the associated NOC application and Preliminary Determination unless otherwise specified by condition in this Approval Order. Deviations from information and specification described in the NOC application which have the potential for altering pollution emission levels as documented in the associated Preliminary Determination may constitute a violation of this Approval Order and ORCAA Rule 6.1, unless prior approval is given by ORCAA.

43. The IPA vent scrubber shall be equipped with gages to monitor
    a. Scrubber pressure differential.
    b. Condensate inlet flowrate.
    c. Fresh water inlet flowrate.

44. All IPA vapors from the IPA storage tank, from the IPA Accumulation Tank, and from other associated process equipment, shall vent to the IPA vent scrubber at all times including periods when the storage tank is being loaded or serviced.

45. The owner or operator shall develop and implement an Operations and Maintenance Plan (O&M) for purposes of operating and maintaining BACT emission levels from the IPA scrubber. The O&M plan shall be submitted to ORCAA for approval prior to initial start-up of the dry SBH plant and shall include procedures for minimizing IPA fugitive emissions.

46. IPA monitoring plan. Prior to initial start-up of the dry SBH plant, the owner or operator shall submit to ORCAA for approval a standard plan and procedures for monitoring and reporting IPA emissions from the IPA scrubber vent.

47. The owner or operator shall maintain records of IPA usage by the plant. Records shall include IPA purchase invoices, a running log of annual IPA usage.

48. Total annual IPA emissions from the IPA scrubber stack shall not exceed 0.10 tons per year as determined according to the IPA monitoring plan required by condition 46.

49. A file containing the following items shall be maintained and made available at the site:
    a. A copy of this Approval Order.
    b. The Operations and Maintenance plan.
    c. IPA Monitoring plan.

d. All preventive maintenance records required by the Operations and Maintenance plan.

50. Permanent sampling ports shall be installed on the IPA exhaust stack prior to commencement of operation. The sampling ports shall meet the requirements of 40, CFR Part 60, Appendix A, Method 1. Adequate and safe access to sampling platforms shall be provided for.

51. Within 24 hours from occurrence, the owner or operator shall report to ORCAA any malfunctions of pollution control equipment associated with the dry SBH plant. The owner or operator shall take appropriate measures to minimize emissions during excess emissions events and to repair or replace equipment promptly.

52. Failure to comply with the terms and conditions of this order constitute a violation of ORCAA Regulations and will be subject to penalties accordingly.

13. Preliminary Recommendation

ORCAA believes that the proposed Conditions of Approval contain measures to assure compliance with Ascensus' voluntary methanol limit, assure that Ascensus' emissions will not "backslide" from existing control measures, and retain all existing determinations from past Notices of Construction.

Therefore, ORCAA's Preliminary Recommendation is that Ascensus' proposal be conditionally approved and that Ascensus be allowed to withdraw from the Air Operating Permit program, provided that:

1. Public notice and opportunity for public comment are provided according to ORCAA Rule 6.1.3(c) and (d) and WAC 173-401-800 (including review by affected states in WAC 173-401-820);
2. Notice of the public comment period is also given to the Environmental Protection Agency (EPA) through EPA Region X office, affected states under WAC 173-401-820 and in Ecology's permit register under WAC 173-401-805;
3. A public hearing and opportunity for public testimony is provided according to ORCAA Rule 6.1.3(e) and WAC 173-401-800, if required; and
4. ORCAA staff's recommended conditions of approval are adopted and included in an enforceable Approval Order issued to Ascensus.

The proposed Conditions of Approval are included in Section 12. **Once issued, the Order of Approval will supersede all previously issued Orders of Approval and this Order of Approval will be only Order of Approval that applies to this facility.**

_____

PREPARED BY: Jennifer DeMay, P.E. Date

_____

REVIEWED BY: Mark V. Goodin, P.E. Date

ATTACHMENTS

☒LIST OF ABBREVIATIONS AND ACRONYMS
☒PUBLIC INVOLVEMENT
☒OTHER SUPPORTING INFORMATION

List of Abbreviations and Acronyms

AOP	Air Operating Permit
AP-42	Compilation of Emission Factors, AP-42, Fifth Edition, Volume I, Stationary Point and Area Sources – Published by EPA
ASIL	Acceptable Source Impact Level pursuant to Chapter 173-460 WAC
BACT	Best Available Control Technology
FCAA	Federal Clean Air Act
CAM	Compliance assurance monitoring (40 CFR 64)
CFR	Code of Federal Regulations
CO	Carbon monoxide
EPA	United States Environmental Protection Agency
GACT	Generally Achievable Control Technology
HAP	Hazardous air pollutant listed pursuant to Section 112 FCAA
MACT	Maximum Achievable Control Technology
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NAAQS	National Ambient Air Quality Standard
NO_X	Nitrogen oxides
NOC	Notice of Construction application
NSPS	New Source Performance Standards
NSR	New Source Review
ORCAA	Olympic Region Clean Air Agency
PM	Total particulate matter (includes both filterable particulate matter measured by EPA Method 5 and condensable particulate matter measured by EPA Method 202)
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (includes both filterable particulate matter measured by EPA Method 201 or 201A and condensable particulate matter measured by EPA Method 202)
$PM_{2.5}$	Particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (includes both filterable particulate matter measured by EPA Method 201 or 201A and condensable particulate matter measured by EPA Method 202)
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RBLC	RACT/BACT/LEAR Clearinghouse
RCW	Revised Code of Washington
SO_2	Sulfur Dioxide
SQER	Small Quantity Emission Rate listed in Chapter 173-460 WAC
TAP	Toxic Air Pollutant pursuant to Chapter 173-460 WAC
T-BACT	Best Available Control Technology for toxic air pollutants
VOC	Volatile Organic Compound
WAC	Washington Administrative Code

Units of Measurement

‘	minute (measurement of angle)
‘’	second (measurement of angle)
°	degree
acfm	actual cubic feet per minute
atm	atmosphere
Bhp	Brake horse power
Btu	British thermal units
cfm	cubic feet per minute
dscfm	dry standard cubic feet per minute
°F	degree Fahrenheit
ft	feet
g	grams
g/s	grams per second
gal	gallon
gr	grain
hr	hour
hp	horsepower
in	inches
K	degree Kelvin
kg	kilograms
km	kilometers
kW	kilowatt
L	liter
lb	pounds
m	meters
M	thousand
min	minute
Mbf	thousand board feet
MMbf	million board feet
MM	million
g	micrograms
MMBtu	million British thermal units
mmHg	millimeters of mercury
mph	miles per hour
MW	megawatts
ppm	parts per million
ppmvd	parts per million, dry volume
ppb	parts per billion
psi	pounds per square inch
s	second
scfm	standard cubic feet per minute
tpy	tons per year

Public Notice
Olympic Region Clean Air Agency (ORCAA)
Voluntary Limit on Emissions and Withdrawal from Air Operating Permit Program
Ascensus Specialties LLC
NOC # 19NOC1411

PERMIT APPLICANT:
Ascensus Specialties LLC
4800 State Route 12
Elma, WA

PERMITTING AUTHORITY:
Olympic Region Clean Air Agency
2940 Limited Lane NW
Olympia, WA 98502
1-800-422-5623 or (360) 539-7610, FAX (360) 491-6308

PROJECT DESCRIPTION: Ascensus Specialties LLC (Ascensus) is proposing to revise their existing voluntary limit on emissions of hazardous air pollutants (HAPs) per ORCAA Rule 6.1.12 and WAC 173-400-091 in order to characterize the facility as an area source with respect to all Maximum Achievable Control Technology (MACT) standards in 40 CFR Part 63 National Emission Standards for Hazardous Air Pollutants (NESHAPs) and a minor source with respect to the Air Operating Permit program. If this application is approved, Ascensus is also requesting that ORCAA withdraw the facility from the Air Operating Permit program. There are no emissions increased expected from this proposal.

ORCAA has reviewed Ascensus' proposal and concludes that compliance with applicable air regulations and standards will likely be maintained. On this basis, ORCAA recommends that it be conditionally approved and that Ascensus be allowed to withdraw from the Air Operating Permit program.

PUBLIC NOTICE: Pursuant to ORCAA Rule 6.1.3(b)(2) and WAC 173-401-800, notice is hereby given of ORCAA's Preliminary Recommendation to approve Ascensus' NOC application as described above.

DOCUMENT AVAILABILITY: Copies of ORCAA's Preliminary Recommendation is available on ORCAA's website at www.orcaa.org/news-info. If you do not have internet access or need assistance, please contact our office at 360-539-7610.

PUBLIC COMMENTS: Comments on this case may be submitted to ORCAA in writing by 4:30 p.m. on August 18, 2020. Comments may be mailed to ORCAA at the address above or emailed to jennifer.demay@orcaa.org. Comments that may be considered by ORCAA in making a final determination are those pertaining to air quality implications of the proposed project.

Published by Francea L. McNair, ORCAA Director. (360) 539-7610 extension 100.

Recommended Conditions of Approval Detail

A detailed table of how each current Order of Approval was incorporated into the Recommended Conditions of Approval.

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
19NOC1380 4/8/2020	**Conditional Approval for 10% Production Increase –** This permitting action approved a 10% production increase.	
1	Approved Equipment Specifications. The stationary sources of air pollutant emissions as described in the following table, and further described in Notice of Construction #19NOC1380 are approved for operation at Ascensus Specialties LLC located at 4800 State Route 12 in Elma, subject to conditions in this Order of Approval (Order). Deviations from equipment and operating specifications of approved stationary sources, whether stated in NOC# 19NOC1380, this Order of Approval or past NOC applications submitted by Ascensus, may constitute a violation of this condition and ORCAA Regulations, unless prior approval is granted by ORCAA. [[TABLE]] [Regulatory Basis: ORCAA 6.1.2(l)]	Condition 7
2	Liquid Sodium Borohydride Plant Emission Limits. The following pollutant-specific emission limitations shall apply to total emissions of the indicated pollutants from the liquid sodium borohydride plant (EU1-EU5) following issuance of this Approval Order. a. Emissions of volatile organic compounds shall not exceed 17 tons per consecutive 12-month period. b. Emissions of methanol shall not exceed 8.9 tons per consecutive 12-month period. [Regulatory Basis: ORCAA 6.1.2(l)]	Condition 8 Replaced wording regarding "following issuance of this Approval Order" with the date of issuance of that Approval Order.
3	Emission Limit Monitoring. Compliance with the emission limits in Condition 2 shall be monitored at least monthly by computing the actual amount of emissions over the previous month and 12-consecutive month period. Emissions shall be calculated according to the HAP Inventory Plan required by Condition 4. [Regulatory Basis: ORCAA 6.1.2(l)]	Condition 9
4	HAP Inventory Plan: The owner or operator shall submit to ORCAA for review a revised HAP Inventory Plan within 30 days of issuance of this Order. The plan shall include a description of the methods used to calculate emissions of all HAPs from each emission point in the facility, including stacks, vents, and fugitive emission points. The plan shall be revised, as needed, and resubmitted to ORCAA for review. [Regulatory Basis: ORCAA 6.1.2(l)]	Condition 10 Revised HAP Plan was submitted as required. Requirement changed to have and implement the plan as currently required by 11MOD860 Condition 9.

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
5	Trimethyl borate Manufacturing Process BACT. a. All continuous process vents, batch process vents, and vents from other associated emissions points in the trimethyl borate manufacturing process (EU1) shall be vented through one or more closed vents systems to a scrubber b. The scrubber shall reduce uncontrolled methanol emissions by at least 98% by weight. [Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]	Condition 11 Added clarification that the requirements apply at all times, except for opening of a safety device (consistent with the MACT). This does not change the stringency of the condition.
6	Sodium Borohydride Purification Process BACT. a. All continuous process vents, batch process vents, and vents from other associated emissions points in the sodium borohydride purification process (EU4) shall be vented through one or more closed vents systems to a scrubber. b. The scrubber shall reduce uncontrolled methanol emissions by at least 98% by weight. [Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]	Condition 12 Added clarification that the requirements apply at all times, except for opening of a safety device (consistent with the MACT). This does not change the stringency of the condition.
7	Leak Detection and Repair Program. Ascensus shall implement a leak detection and repair program to identify and repair equipment leaks from the trimethyl borate manufacturing process (EU1) and sodium borohydride purification process (EU4). The equipment monitored shall include all valves, pumps, connectors, agitators, pressure relief devices, compressors, sampling connection systems, open-ended valves or lines, and closed vent systems that are in contact with a fluid (liquid or gas) that is at least five percent (5%) by weight methanol as determined by §63.180(d). The leak detection and repair program shall comply with the requirements of 40 CFR Part 63 Subpart UU except for reporting requirements in 40 CFR §63.1039. [Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]	Condition 13

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
8	Heat Exchange System Monitoring Program. The owner or operator shall monitor each heat exchange system in EU1 and EU4 for leaks by the methods in 40 CFR 63.104(b) or (c). All leaks detected during monitoring shall be repaired according to the schedule in 40 CFR 63.104(d) and (e). For purposes of this condition, a heat exchange system is defined as any cooling tower system or once-through cooling water system (e.g., river or pond water). A heat exchange system can include more than one heat exchanger and can include an entire recirculating or once-through cooling system. Heat exchange systems that meet the requirements of at least one of the conditions in 40 CFR 63.104(a)(1)-(6) do not need to comply with this condition. [Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]	Condition 14
9	Closed Vent System BACT. The closed vent systems required in Conditions 5 and 6 shall meet the following requirements: a. Each closed vent system shall be designed and operated to collect the methanol vapors from each emission point and route the collected vapors to a scrubber. b. Closed vent systems shall be operated at all times when emissions are vented to, or collected by, them. c. Except for equipment needed for safety purposes such as pressure relief devices, low leg drains, high point bleeds, analyzer vents, and open-ended valves or lines, the owner or operator shall comply with the provisions of either paragraphs (i) or (ii) for each closed vent system that contains bypass lines that could divert a vent stream to the atmosphere. i. Properly install, maintain, and operate a flow indicator that is capable of continuously monitoring and recording flow through the bypass. The flow indicator shall be installed at the entrance to any bypass line. ii. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. [Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]	Condition 15

10	Closed Vent System Inspection and Monitoring. The closed vent systems required in Conditions 5 and 6 shall be inspected and monitored as follows: a. Except for any closed vent systems that are designated as unsafe or difficult to inspect as provided in paragraphs 40 CFR 63.983(b)(2) and (3), each closed vent system shall be inspected as specified in Condition 10(a)(i) or (a)(ii). i. If the closed vent system is constructed of hard-piping, the owner or operator shall conduct annual inspections for visible, audible, or olfactory indications of leaks. If there are any visible, audible, or olfactory indications of leaks during the annual inspection, the owner or operator shall either eliminate the leak or monitor the leaks according to the procedures in 40 CFR 63.983(c). ii. If the closed vent system is constructed of ductwork, the owner or operator shall conduct an annual inspection according to the procedures in 40 CFR 63.983(c). b. Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practical as described below. i. A first attempt at repair shall be made no later than 5 days after the leak is detected. ii. Except as provided in Condition 10(b)(iii), repairs shall be completed no later than 15 days after the leak is detected or at the beginning of the next introduction of vapors to the system, whichever is later. iii. Delay of repair of a closed vent system for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible or unsafe without a closed vent system shutdown, as defined in 40 CFR 63.981, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed as soon as practical, but not later than the end of the next closed vent system shutdown. c. For each bypass line as described in Condition 9(c), the owner or operator shall comply with Condition 10(c)(i) or (c)(ii): i. If a flow indicator is used, take a reading at least once every 15 minutes. ii. If the bypass line valve is secured in the non-diverting position, visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the non-diverting position, and the vent stream is not diverted through the bypass line.	Condition 16

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
	[Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); ORCAA 8.8; WAC 173-400-113(2); WAC 173-460-040(3)(a)]	
11	Scrubber Continuous Parameter Monitoring System Plan. The owner or operator shall develop and implement a continuous parametric monitoring system plan for each scrubber in the liquid sodium borohydride plant. The plan shall be submitted to ORCAA for review within 30 days of issuance of this Approval Order. The parametric operating limits shall be based on the parameter values measured during the most recent performance test and may be supplemented by engineering assessments, manufacturer's recommendations and/or data from the interim monitoring required in Condition 12. The plan shall include: a. Identify of the scrubber parameter(s) that will be monitored and the rationale to for selection of these parameter(s) as scrubber performance indicators. b. The operating limit for each parameter and the rationale to support how these limits demonstrate the control device is operating properly. c. Monitoring frequency, data collection procedures and frequency, and averaging period for each parameter. d. Quality assurance and control practices for each monitoring device (i.e. procedures for calibration and maintenance). e. The plan should include procedures for maintaining and calibrating all monitoring equipment. [Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]	Condition 17 Plan has already been submitted for review, so that requirement was revised to require revising the plan when needed.

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
12	Scrubber Control Efficiency Interim Monitoring. The owner or operator shall monitor the control efficiency of the A12 and G53 scrubbers whenever the boric acid and/or sodium feed rates exceed the maximum levels established in the April 30, 2015 source test ("2015 source test levels"). This condition shall cease to apply when the owner or operator has received results from the initial stack test required by Condition 13 showing compliance with Conditions 5 and 6. The owner or operator shall develop a monitoring plan and submit it to ORCAA for review prior to the first planned exceedance of the "2015 source test levels". The plan shall be revised and submitted to ORCAA for review as needed. At a minimum the plan shall include: a. Method that will be used for sampling including identification of the specific equipment that will be used (Draeger tubes and their measuring range for each sampling location, type of sampling pump used, etc); b. How frequently sampling will be conducted; c. Written sampling procedures including how to use sampling equipment, sampling duration, how to conduct simultaneous sampling of inlet and outlet(s), how to read the results, and identification of staff that have been trained to conduct sampling (for the purposes of this monitoring, simultaneously means within 5 minutes); d. Procedures for calculating scrubber efficiency including equations and timing after sampling is completed; and e. Written procedures that will be followed if the results indicate scrubber control efficiency does not meet the requirements of Conditions 5 and 6. [Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); WAC 173-400-113(2); WAC 173-460-040(3)(a)]	Condition 18 The plan was submitted prior to the first planned exceedance of the 2015 source test levels, so that requirement was removed.

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
13	Scrubber Performance Testing Required. The permittee shall conduct performance tests to determine compliance with control efficiency requirements in Conditions 5 and 6. Testing shall be conducted as follows: a. An initial performance test of the A12 and G53 scrubbers shall be conducted no later than 18 months from the first date the boric acid and/or sodium feed rates exceed the maximum levels established in the April 30, 2015 source test. b. Testing shall be conducted when the liquid sodium borohydride plant is operating at maximum representative operating conditions. c. Following the test required in (a), the permittee shall conduct a performance test of the A12 and G53 scrubbers at least once every 61 months, or whenever required by ORCAA. d. The performance test shall meet all performance testing requirements for methodology, notifications, test plans, and test reports as required by Condition 14. [Regulatory Basis: ORCAA 6.1.4(a)(2); ORCAA 6.1.4(a)(5); ORCAA 1.5(i); WAC 173-400-113(2); WAC 173-460-040(3)(a)]	Condition 19 Revised to include the specific date the initial performance test is due for clarity.

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
14	Performance Testing Requirements. Whenever performance testing is required: a. The owner or operator shall submit a notification of the intent to conduct a performance test and site-specific test plan to ORCAA at least 30 calendar days before the scheduled date of a performance test. The test plan shall describe the proposed source test methods, operational conditions proposed for the test, and provisions for monitoring source operation during the test. b. Testing shall be conducted using approved EPA methods from 40 CFR parts 51, 60, 61 and 63 (in effect on July 1, 2019), or approved procedures contained in "Source Test Manual – Procedures for Compliance Testing," State of Washington, Department of Ecology, as of September 20, 2004. c. The owner or operator shall monitor boric acid feed rates, sodium feed rates, parameters identified in their Scrubber Continuous Parameter Monitoring System Plan, and any other process parameters necessary to document the operation of the liquid sodium borohydride plant during stack testing. d. The permittee shall submit a performance test report to ORCAA no later than 60 days after completion of the test. The performance test shall be certified as true and accurate by responsible officials from the testing contractor and the permittee. At a minimum, the performance test report shall contain the following information: i. A description of the source and sampling location; ii. The date and time of each test; iii. A summary of test results reported in units and averaging period appropriate to the applicable limit; iv. A description of the test methods and quality assurance procedures used; v. Operating parameters of the emission units and control equipment during each test; vi. Raw field data and sample calculations; and vii. Deviations from approved test plans. [Regulatory Basis: ORCAA 8.11; ORCAA 1.5(d)&(i)]	Condition 20

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
15	Recordkeeping. The following records shall be maintained for at least five years from the date the record originated, or as specified, and made available for inspection upon request. Monitoring records shall include a. Records of maintenance conducted on the equipment listed in Condition 1. b. Records of material usage, composition data, and any other data used to calculate emissions. c. Records of monthly and 12-month rolling totals of emissions as required by Condition 3. d. Records of all leak detection monitoring and repairs conducted as required by Condition 7. e. Records of all heat exchange system monitoring and repairs required by Condition 8. f. Records of all closed vent system inspections and leak repairs are required by Condition 10(a)-(b). g. Records of closed vent system bypass monitoring required by Condition 10(c) as described below: i. For flow indicators installed per Condition 9(c)(i), hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating. ii. For seal mechanisms installer per Condition 9(c)(ii), records of monthly visual inspection of the seals or closure mechanisms, records of the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has been broken. h. A copy of the Scrubber Continuous Parameter Monitoring System Plan as required by Condition 11 and a record of all monitoring conducted as required by the plan. i. A copy of the Scrubber Control Efficiency Interim Monitoring Plan required by Condition 12 and a record of all monitoring conducted per Condition 12. j. Copies of all tests plans and reports. [Regulatory Basis: ORCAA 8.11]	Condition 21

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
16	Monitoring Records. Monitoring records required by Condition 17 shall include, where applicable, the following: a. The date, location, and time of sampling or measurement; 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 analyses; and f. The operating conditions existing at the time of sampling or measurement. [Regulatory Basis: ORCAA 8.11]	Condition 22
17	Reporting. When required by ORCAA, you must prepare and submit a report of any required monitoring required by this Order of Approval. [Regulatory Basis: ORCAA 8.11]	Condition 23
11MOD860 11/29/11	**Modification of 01MOD189 and Request for Voluntary Limit of Emissions –** Establishes an enforceable limit on facility-wide hazardous air pollutants (HAPs). This Order (11MOD860) supersedes the Order of Approval for 01MOD189, which was issued 12/10/02.	
1	Rohm and Haas Chemicals LLC shall notify ORCAA in writing of compliance source testing dates at least 30 days prior to conducting the tests.	Condition 24
2	Rohm and Haas Chemicals LLC shall develop and implement an Operations and Maintenance Plan for purposes of maintaining the reformer furnace and achieving continuous compliance with applicable regulations. The maintenance plan shall contain all measures identified by the furnace manufacturer as necessary for proper maintenance of the furnace.	Condition 25
3	[RESCINDED]	NA
4	Rohm and Haas Chemicals LLC shall monitor and maintain records of natural gas and process gas combustion by the reformer. Annual criteria pollutant emissions from the reformer shall be based on total gas combustion records and emission factors based on Good Engineering Practice.	Condition 26
5	A file containing the following items shall be maintained and made available at the site: 1. A copy of this Approval Order 2. The Operations and Maintenance Manual 3. HAP Inventory Plan.	Condition 27
6	Permanent sampling ports shall be installed on the reformer exhaust stacks prior to performing required source testing. The sampling ports shall meet the requirements of 40CFR Part 60, Appendix A, Method 1. Adequate and safe access to sampling ports shall be provided for.	Condition 28

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
7	Within 24 hours from occurrence, Rohm and Haas Chemicals LLC shall report to ORCAA any excess emissions or malfunction of pollution control equipment associated with the reformer. Rohm and Haas Chemicals LLC shall take appropriate measures to minimize emissions during malfunctions and to repair or replace equipment promptly.	Condition 29
8	**HAP Emission Limits:** Facility-wide emissions of hazardous air pollutants (HAPs), as defined in Section 112(b) of the Federal Clean Air Act, shall be less than 10.0 tons of any single HAP and less than 25.0 tons of all combined HAPs, during any 12 consecutive month period. [Regulatory Basis: WAC 173-400-091; ORCAA 6.1.12]	Condition 1 Revised HAP to methanol (See Section 7)
9	**HAP Inventory Plan:** Rohm and Haas Chemical LLC shall develop and submit to ORCAA for approval a HAP Inventory Plan within 30 days after the date of this Approval Order. The plan shall include a description of the method used to calculate emissions of all HAPs from each emission point in the facility, including stacks, vents, and fugitive emission points. The plan shall be revised, as needed, and resubmitted to ORCAA for approval. [Regulatory Basis: WAC 173-400-091; ORCAA 6.1.12]	REMOVED Plan is already required in Condition 10.
10	**HAP Monitoring:** Within 30 days of the end of each month, Rohm and Haas Chemical LLC shall determine monthly emissions of HAPs, according to the approved HAP Inventory Plan to demonstrate that annual emissions do not exceed the limits in Condition #8. Records shall include the following: a) Monthly emissions of each individual HAP emitted, b) Monthly total of all HAPs combined, and c) A rolling total of emissions over the previous 12-month period. [Regulatory Basis: WAC 173-400-091; ORCAA 6.1.12(c)]	Condition 2 Revised HAP to methanol. Recordkeeping removed as it is already included in Condition 3.
11	**HAP Recordkeeping.** Rohm and Haas Chemical LLC shall keep records of monitoring data required under Condition #10 and any other data used in performing the emission calculations. These records shall be maintained on-site for at least five years and shall be made available for inspection by ORCAA upon request. [Regulatory Basis: WAC 173-400-105; ORCAA 6.1.12(c); ORCAA 8.11]	Condition 3 Renamed HAP to methanol.

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
12	**HAP Reporting:** The owner or operator shall submit periodic reports to ORCAA as follows: a) A summary of the data monitored under Condition #10 in the semiannual monitoring report required under the facility's Title V air operating permit (AOP). b) On an annual basis, an inventory of the actual amount of HAP emitted during the previous calendar year. The inventory shall be submitted to ORCAA within 30 days of receipt of the standard inventory reporting forms, and shall be accompanied by associated calculations, data or other information used in calculating the reported emissions. [Regulatory Basis: WAC 173-400-105(1), ORCAA 8.11]	Condition 4 Original a) was removed as a Title V SAMR will no longer be required if this request is approved. Added additional requirement to report to ORCAA if methanol emissions exceed 8 tons.

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
13	**HAP Source Testing**: The owner or operator shall conduct testing for hazardous air pollutants (HAPs) whenever a performance test is required by 40 CFR Part 63 Subpart FFFF and whenever required by ORCAA. The testing shall meet the following requirements: a. The owner or operator shall notify ORCAA in writing at least 30 days prior to any compliance test and provide ORCAA an opportunity to review a test plan and to observe the test. The test plan shall describe the proposed source test methods, operational conditions proposed for the test, and provisions for monitoring source operation during the test. b. Testing shall be conducted using approved EPA methods from 40 CFR parts 51, 60, 61 and 63 (in effect on July 1, 2010), or approved procedures contained in "Source Test Manual – Procedures for Compliance Testing," state of Washington, department of ecology, as of September 20, 2004, on file at Ecology. c. The operator of the source may be required to provide the necessary platform and sampling ports for ecology personnel or others to perform a test of an emissions unit. Ecology shall be allowed to obtain a sample from any emissions unit. The operator of the source shall be given an opportunity to observe the sampling and to obtain a sample at the same time. d. The owner or operator shall monitor all process parameters identified in their Operations and Maintenance Plan during stack testing. e. The owner or operator shall submit test results to ORCAA within 45 days of test completion. The report shall include: i. A description of the source and sampling location; ii. The time and date of the test; iii. A summary of results, reported in units and for averaging periods consistent with the applicable emission standard; iv. A description of the test methods and quality assurance procedures used; v. The amount of fuel burned and/or raw material processed by the source during the test; vi. The operating parameters of the source and control equipment during the test; and, vii. Field data and example calculations. [Regulatory Basis: WAC 173-400-091; ORCAA 6.1.12; WAC 173-400-105(4)]	Condition 5 19NOC1380 already requires source testing for the scrubbers. Therefore, those conditions were used with the addition of requiring testing of M46 tank.
01MOD190 12/10/03	**Modifications to G23W Boiler Order of Approval** – This Order (01MOD190) supersedes the Order of Approval for 00NOC104, which was issued 1/12/01.	

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
1	Morton International shall notify ORCAA in writing of compliance source testing dates at least 30 days prior to conducting the tests.	Condition 30
2	Morton shall develop and implement an Operations and Maintenance Plan for purposes of maintaining BACT emission levels from boiler G23W. The maintenance plan shall contain all measures identified by the boiler manufacturer as necessary for proper maintenance.	Condition 31
3	Morton shall monitor and maintain records of natural gas and diesel combustion by boiler G23W.	Condition 32
4	Annual criteria pollutant emissions from the boiler shall be based on total annual natural gas and diesel usage records for Boiler G23W and emission factors based on good engineering practice.	Condition 33
5	A file containing the following items shall be maintained and made available at the site: a) A copy of this approval order b) The Boiler G23W Operations and Maintenance Manual c) Natural gas combustion records d) Diesel combustion records	Conditions 34
6	Permanent sampling ports shall be installed on the boiler G23W exhaust stack prior to performing required source testing. The sampling ports shall meet the requirements of 40CFR Part 60, Appendix A, Method 1.	Condition 35
7	Information required to be submitted to EPA Region 10 in 40CFR Part 60 Subparts A and Dc shall also be submitted to ORCAA.	Condition 36
8	Within 24 hours from occurrence, Rohm and Haas shall report to ORCAA any malfunction of pollution control equipment associated with the boiler. Rohm and Haas shall take appropriate measures to minimize emissions during malfunctions and to repair or replace equipment promptly.	Condition 37
9	Boiler G23W shall combust only diesel #2 fuel oil with a sulfur concentration of not more than 0.05% sulfur by weight. The owner or operator shall maintain records of the fuel consumption and quality. Records shall include fuel purchase receipts and certifications by the fuel provider and shall be retained on-site for not less than 2 years.	Conditions 38
10	Emissions from Boiler G23W shall not exceed 10% opacity in accordance with EPA 40CFR Part 60 Appendix A Method 9, except during start-up or shut-down of the boiler.	Condition 39
556, 558, 559 4/14/94 05MOD446 06MOD503	**Conditional Approval of Dry Sodium Borohydride (SBH) Plant** – This permitting action approved the G23W boiler, the isopropyl amine (IPA) scrubber, and dry SBH compaction and packaging system baghouse. Modified through 05MOD446 and 06MOD503 (new Orders of Approval were not issued).	

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
1	Morton, Int. shall notify OAPCA in writing of the following event within the time frames indicated: a. Notification of the actual date construction is completed within 15 days after such date. b. Notification of compliance source testing dates at least 30 days prior to conducting the tests.	Condition 39 Item "a" was remove as the notification has already been submitted.
2	The new IPA vent scrubber, new IPA Storage Tank, new IPA Accumulator Tank, dry SBH dust collection systems, and all associated equipment shall be in accordance with the information and specifications as described in the associated NOC application and Preliminary Determination unless otherwise specified by condition in this Approval Order. Deviations from information and specification described in the NOC application which have the potential for altering pollution emission levels as documented in the associated Preliminary Determination may constitute a violation of this Approval Order and ORCAA Rule 6.1.5, unless prior approval is given by OAPCA.	Conditions 40
3	The IPA vent scrubber shall be equipped with gages to monitor a. Scrubber pressure differential. b. Condensate inlet flowrate. c. Fresh water inlet flowrate.	Condition 41
4	All IPA vapors from the IPA storage tank, from the IPA Accumulation Tank, and from other associated process equipment, shall vent to the IPA vent scrubber at all times including periods when the storage tank is being loaded or serviced.	Condition 42
5	Morton shall develop and implement an Operations and Maintenance Plan (O&M) for purposes of operating and maintaining BACT emission levels from the IPA scrubber. The O&M plan shall be submitted to OAPCA for approval prior to initial start-up of the dry SBH plant and shall include procedures for minimizing IPA fugitive emissions.	Condition 43
6	IPA monitoring plan. Prior to initial start-up of the dry SBH plant, Morton shall submit to OAPCA for approval a standard plan and procedures for monitoring and reporting IPA emissions from the IPA scrubber vent.	Condition 44
7	Morton shall maintain records of IPA usage by the plant. Records shall include IPA purchase invoices, a running log of annual IPA usage.	Condition 45
8	Total annual IPA emissions from the IPA scrubber stack shall not exceed 0.10 tons per year as determined according to the IPA monitoring plan required by condition #6.	Condition 46

NOC # CONDITION #	DESCRIPTION (For information only)	Discussion / New Condition #
9	A file containing the following items shall be maintained and made available at the site: a) A copy of this Approval Order. b) The Operations and Maintenance plan. c) IPA Monitoring plan. d) All preventive maintenance records required by the Operations and Maintenance plan.	Condition 47
10	Permanent sampling ports shall be installed on the IPA exhaust stack prior to commencement of operation. The sampling ports shall meet the requirements of 40, CFR Part 60, Appendix A, Method 1. Adequate and safe access to sampling platforms shall be provided for.	Condition 48
11	Within 24 hours from occurrence, Morton shall report to OAPCA any malfunctions of pollution control equipment associated with the dry SBH plant. Morton shall take appropriate measures to minimize emissions during excess emissions events and to repair or replace equipment promptly.	Condition 49
12	Failure to comply with the terms and conditions of this order constitute a violation of ORCAA Regulations and will be subject to penalties accordingly.	Condition 50