PSD MAJOR MODIFICATION APPLICATION

Cargill / West Fargo, North Dakota

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1. EXECUTIVE SUMMARY

Cargill, Inc. (Cargill) owns and operates an oilseeds processing facility, located in West Fargo, North Dakota. Cargill operates under Permit to Operate T5-G81005, as issued on August 6th, 2019, by the North Dakota Department of Environmental Quality (NDDEQ). The renewal application was submitted to the agency February 2024 and the revised permit is being finalized. Cargill is currently a Title V Major Source and will remain a Title V Major Source after the proposed project.

Cargill proposes processing four (4) new raw materials (Brassica Carinata, Brassica Juncea, Camelina Sativa, and Thlaspi Arvense) at the Cargill West Fargo Facility. The facility will continue to process existing seeds (sunflower, flax, and canola), in addition to the new materials described in this application. The new raw materials will be processed by Cargill's existing Extraction and Refining System (EU48). The proposed solvent loss ratio (SLR) for non-rapeseeds (i.e. Camelina Sativa and Thlaspi Arvense) is shown below in Table 1-1. and further described in Section 2.2 of this report. Processing Camelina Sativa and Thlaspi Arvense may impact potential-to-emit (PTE) emission of volatile organic compounds (VOCs) and hexane from EU48 due to the higher proposed SLR limit. PTE emissions will not change due to the processing of Brassica Carinata or Brassica Juncea as Cargill is proposing they are included in the existing SLR limit. Additionally, Cargill proposes to introduce pods of the proposed raw materials as fuel types for EU43, Foster Wheeler Boiler. EU43 is currently classified as a unit designed to burn biomass solid fuel and this classification will remain the same. The proposed changes will not require any physical changes to facility processing equipment.

Table 1-1. Proposed New Raw Material SLR

Material (Seed)	Proposed SLR (gal solvent/ton seed)
Camelina Sativa	0.7
Thlaspi Arvense	0.7
Brassica Carinata	0.23
Brassica Juncea	0.23

As a result of the proposed project, Cargill considered the applicability of the Prevention of Significant Deterioration (PSD) regulations found in Title 40, U.S. Code of Federal Regulations, Part 52 (40 CFR Part 52) and in North Dakota Administrative Code (NDAC) Chapter 33.1-15-15. As outlined in Section 4.1, since the existing plant is a PSD major source for volatile organic compounds (VOC) (i.e., facility-wide VOC emissions exceed 250 tons per year), the emissions increases associated with the project, due to the higher proposed SLR, were compared to the Significant Emission Rate (SER) thresholds found in §52.21(b)(23)(i). Per the provisions of §52.21(i)(1)(vii), the substantive requirements of New Source Review (NSR) found in §52.21(j) through (r) are not applicable to a modification if the following requirements are met:

- The potential emissions from the project will only exceed the SER due to the inclusion of fugitive emissions; and
- The facility is not considered one of the source categories listed in §52.21(i)(1)(vii)(a) through (aa).

Cargill West Fargo is not considered one of the source categories listed in §52.21(i)(1)(vii). Therefore, the predicted emissions increase from the project is compared to the SER. The predicted emissions increases associated with the proposed project, along with the PSD SERs, are included in Table 1-2. Emissions Increase Summary.

Table 1-2. Emissions Increase Summary

Pollutant	Future Projected Actual Emissions (tpy)	Baseline Emissions (tpy)	Capable of Accommodating Emissions (tpy)	Excludable Emissions (tpy)	Net Emissions Increase (tpy)	PSD SER Thresholds (tpy)
NO_X	-	-	-	-	-	-
CO	-	-	-	-	-	-
VOC	1,047.53	96.55	136.73	40.18	910.8	40
SO_2	-	-	-	-	-	-
PM	-	-	-	-	-	-
PM_{10}	-	-	-	-	-	-
$PM_{2.5}$	-	-	-	-	-	-
HAP	NA	NA	NA	NA	NA	NA
Hexane	NA	NA	NA	NA	NA	NA

As shown in Table 1-2. Emissions Increase Summary the projected emissions increase of VOC, due to the higher proposed SLR, exceeds the SER threshold. Therefore, the project triggers the substantive provisions of PSD permitting, as described in §52.21(j) through §52.21(r). As such, a Best Available Control Technology analysis, a source impacts demonstration, and a review of additional impacts are discussed in this narrative.

This application includes a summary of the project description, a description of the emission calculation methodologies used, as well as a review of potential applicability rules (including PSD permitting). Additionally, the following supplemental information can be found in the appendices of this application:

- Appendix A: Emission Calculations; and,
- Appendix B: The required Permit To Construct (PTC) application forms and $325 PTC application fee.

2. PROPOSED PROJECT

Cargill owns and operates the oilseeds processing plant located in West Fargo, North Dakota. The sections below give a background on the existing facility and the proposed revisions to the Cargill Plant.

2.1 Existing Facility

Cargill operates the West Fargo plant located at 250 7th Avenue NE in West Fargo, ND. The West Fargo facility operates under Title V Permit to Operate number T5-G81005, issued on August 6, 2019. Cargill submitted a timely permit renewal application to North Dakota Department of Environmental Quality (NDDEQ) on February 8, 2024. The facility processes sunflower, flax, and canola seeds into oil. The process utilizes condensers and mineral oil absorption scrubbers to retain the solvent, hexane. The facility also operates two boilers and two diesel emergency fire pumps. Facility operations produce particulate matter (PM), PM_{10}, $PM_{2.5}$ along with combustion-related pollutants SO_2, NO_x, CO, VOC, hazardous air pollutants (HAPs), and greenhouse gases (GHG), specifically carbon dioxide (CO_2).

Cargill operates under an existing solvent loss ratio (SLR) of 0.23-gal /ton seed limit, considered on a 12-month average, as described in permit condition 4.B.12. The SLR is based on the 2005 Consent Decree (Civil Action Number 05-2037-JMR-FLN) and the voluntary limit described in the June 8, 2007 letter to NDDEQ. The portion of the consent decree applicable to the West Fargo facility addressed a SLR limit for sunflower seeds. This SLR limit was conservatively applied to all oilseeds processed at the facility. Further, the facility has an existing plant-wide hexane limit of 394.2 tons/year, considered on a 12-month rolling total, described under permit condition 4.B.7.

2.2 Proposed Project Description

Cargill proposes processing four (4) new raw materials (Brassica Carinata, Brassica Juncea, Camelina Sativa, and Thlaspi Arvense) at the Cargill West Fargo Facility. The new raw materials and the proposed solvent loss ratio (SLR) are shown above in Table 1-1. . As part of this project, Cargill proposes to also use the pods from the Brassica Carinata, Brassica Juncea, Camelina Sativa, and Thlaspi Arvense seeds as additional biomass fuel for EU43, Foster Wheeler Boiler, in addition to natural gas, sunflower hulls, flax hulls, and canola hulls. These raw material changes will not require any physical changes to the processing equipment. The project will not de-bottleneck or increase the maximum throughput in the facility processing equipment.

Camelina Sativa, commonly known as "false flax", is a relatively newly identified oilseed with a similar classification to flax, specifically with the identical scientific classification of Plantae, Tracheophyte, Angiosperms, Endicots, Rosids. Camelina Sativa, Brassica Carinata, Thlaspi Arvense, and Brassica Juncea are all in the Brassicaeae family, as shown in the table below.

Table 2-1. Raw Material Families

Family	Brassicaceae	Brassicaceae	Brassicaceae	Brassicaceae
Genus	Camelina	Brassica	Thlaspi	Brassica
Species	Sativa	Carinata	Arvense	Juncea

Camelina Sativa and Thlaspi Arvense processing is not subject to National Emission Standards for Hazardous Air Pollutants subpart GGGG (NESHAP GGGG), as they are not within the Brassica genus (discussed further in section 3.1.4.1). However, the processing of Camelina Sativa and Thlaspi Arvense is expected to generate emissions similar to that of rapeseeds. As such, Cargill is proposing a SLR limit[1] of 0.7 gal/ton for Camelina Sativa and Thlaspi Arvense. NESHAP GGGG identifies a SLR limit of 0.7 gal/ton for existing facilities processing rapeseeds, and therefore Cargill feels a SLR of 0.7 gal/ton is appropriate.

EPA Region V previously determined that Brassica Carinata and Brassica Juncea meet the definition of a rapeseed, as discussed further in section 3.1.4.1, as they are within the Brassica genus[2]. Therefore, Brassica Carinata and Brassica Juncea are subject to NESHAP GGGG. Cargill is proposing that processing both Brassica Carinata and Brassica Juncea is expected to meet the facility's existing SLR limit of 0.23-gal solvent/ton seed. The facility's existing SLR is described in Permit No. T5-G81005 condition 4.B.12 for EU48.

As there is no SLR for Camelina Sativa and Thlaspi Arvense in NESHAP GGGG, Cargill is proposing a voluntary SLR limit of 0.7-gal solvent/ton seed to allow for operational flexibility. This voluntary 0.7-gal solvent/ton seed SLR limit for Camelina Sativa and Thlaspi Arvense will cause an increase of the facility's potential emissions. Cargill is also proposing the 0.7 gal/ton limit will serve as the BACT limit for processing non-rapeseeds, discussed further in section 4. The use of any of the new raw materials, provided in Table 2-1. Raw Material Families, will not affect or debottleneck Cargill West Fargo's oilseed processing capacity (i.e., no long-term increases), but will increase the facility's potential VOC and HAP emissions due to the higher proposed SLR limit represented on EU48, and plant-wide hexane (VOC) bubble. Cargill proposes to also revise the existing Hexane emission limit, described in permit condition 4.B.7, from 394.2 tpy to 1,047.5 tpy.

The processing of the new raw materials will result in the decreased processing of existing raw materials, such that there is no net increase in materials processed at the facility. The additional fuel types for EU43 (i.e. Camelina Sativa, Brassica Carinata, Thlaspi Arvense, and Brassica Juncea pods) will not affect the long-term or short-term potential emissions of the unit. Cargill anticipates actual emissions when processing the new materials will be similar to that of sunflower, flax, or canola hulls.

2.3 PSD Analysis

Cargill West Fargo is located in Cass County, which is designated as "unclassifiable/attainment" for all criteria pollutants per 40 CFR 81.335. Oilseed processing plants are not included on the 28 listed source categories in 40 CFR Part 52.21(b)(1)(i)(a) with a 100 tpy "major" source PSD threshold (PSD MST); therefore, the PSD MST for Cargill West Fargo is 250 tpy. The current facility-wide potential emissions for Cargill West Fargo exceed 250 tpy of VOC, thus the facility is a major source with respect to PSD permitting requirements. As outlined in 40 CFR 52.21(a)(2)(i), new construction or modifications that result in a net emissions increase in attainment areas are potentially subject to PSD permitting requirements.

The proposed project is wholly separate and distinct from the vegetable oil refinery rebuild project that was granted a PTC on September 27, 2018. In addition to the span of time between the inception of the two projects, the facility has operated adequately and profitably under the vegetable oil refinery rebuild scenario. The economic viability of the previous vegetable oil refinery rebuild project does not rely on the completion of this proposed raw material expansion project. As such, it is appropriate to consider the refinery rebuild project separately from this raw material expansion project.

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[1] Table 1 of 40 CFR 63.2840 "Oilseed Solvent Loss Factors For Determining Allowable HAP Emissions" lists an oilseed loss factor of 0.7 lb/gal existing sources that process rapeseed.

[2] 40 CFR 63.2872 defines oilseed or listed oilseed as: "…means the following agricultural products: corn germ, cottonseed, flax, peanut, rapeseed (for example, canola), safflower, soybean, and sunflower."

The emission increase from the raw material expansion project are included in Table 2-2. Emissions Increase Summary.

Table 2-2. Emissions Increase Summary

Pollutant	Future Projected Actual Emissions (tpy)	Baseline Emissions (tpy)	Capable of Accommodating Emissions (tpy)	Excludable Emissions (tpy)	Net Emissions Increase (tpy)	PSD SER Thresholds (tpy)
NO_X	-	-	-	-	-	-
CO	-	-	-	-	-	-
VOC	1,047.53	96.55	136.73	40.18	910.8	40
SO_2	-	-	-	-	-	-
PM	-	-	-	-	-	-
PM_{10}	-	-	-	-	-	-
$PM_{2.5}$	-	-	-	-	-	-
HAP	NA	NA	NA	NA	NA	NA
Hexane	NA	NA	NA	NA	NA	NA

As shown in Table 2-2, the emission increase for the project exceeds the SER threshold for VOC due to the higher proposed SLR limit. This means the project is considered a major modification as described in 40 CFR 52.21(b)(2)(i). The substantive elements of PSD permitting must be investigated with respect to VOC emissions. This project is considered a major modification for VOCs and, as specified in 40 CFR 52.21(b)(2)(ii), is considered significant for ozone as well. Further elements of PSD permitting are described in Section 3-1.

In evaluation of PSD applicability, Cargill calculated future Projected Actual Emissions (PAE) for EU48, which considers the higher SLR rate of 0.7 gal/ton, proposed for the operation of Camelina Sativa and Thlaspi Arvense. Cargill considered historic maximum throughputs when determining PAE for EU48. Baseline actual emissions (BAE) were calculated with respect to historic emission inventories. A detailed explanation of the calculation methodologies can be found in Sections 2.3.1.1 to 0 of this report.

2.3.1.1 Calculations by Unit Type

In order to calculate the project emission increase for the raw materials expansion project, Cargill evaluated emission units considering modified units. There will be no physical modifications due to this project, only the use of new raw materials in the existing processing equipment. The project emission increases are due to a higher proposed SLR limit. Emission units that were neither physically modified nor experienced an increase in emissions were deemed unaffected units and were not considered part of this analysis.

As required by NDAC 33-15-15 and 40 CFR 52.21, Cargill used a combination of PAE along with BAE to predict the project's emission increase. Past actual baseline emissions were compared to FPA emissions to determine the project emission increase. To calculate the project emissions increases, Cargill utilized the March 13, 2018, guidance memo from EPA Administrator Scott Pruitt.[3]

2.3.1.2 Baseline Actual Emissions

Baseline actual emissions are defined in §52.21(b)(48), as outlined below:

> *Baseline actual emissions means the rate of emissions, in tons per year, of a regulated NSR pollutant, as determined in accordance with paragraphs (b)(48)(i) through (iv) of this section.*

As the affected unit, EU48 is considered existing, baseline actual emissions were calculated based on the language in §52.21(b)(48)(ii), as outlined below:

> *For an existing emissions unit (other than an electric utility steam generating unit), baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the Administrator for a permit required under this section or by the reviewing authority for a permit required by a plan, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990.*
>
> > *(a) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions.*
> >
> > *(b) The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.*
> >
> > *(c) The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period. However, if an emission limitation is part of a maximum achievable control technology standard that the Administrator proposed or promulgated under part 63 of this chapter, the baseline actual emissions need only be adjusted if the State has taken credit for such emissions reductions in an attainment demonstration or maintenance plan consistent with the requirements of* §51.165(a)(3)(ii)(G) *of this chapter.*
> >
> > *(d) For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for all the emissions units being changed. A different consecutive 24-month period can be used for each regulated NSR pollutant.*

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[3] EPA memo dated March 13, 2018 from Administrator Scott Pruitt entitled "Project Emissions Accounting Under the New Source Review Preconstruction Permitting Program".

(e) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by paragraphs (b)(48)(ii)(b) and (c) of this section.

Baseline actual emissions were calculated using data reported in emission inventories from 2015 to 2024. Emissions were calculated based on actual seed throughput data, actual solvent density, and actual solvent usage data. It is assumed that the VOC content of the solvent is 100%. The highest emission rate from two consecutive years was used as the baseline actual emissions. The two-year period used to calculate baseline emissions for VOC was 2018 to 2019.

2.3.1.3 Future Projected Actuals

As outlined in §52.21(a)(2)(iv)(c), the affected unit associated with the raw material expansion project, EU48, is an existing emission unit, thus the project emission increase is dependent on the PAE, rather than the PTE for the units.

Cargill estimated the VOC emissions of EU48 using the proposed SLR for Camelina Sativa and Thlapsi Arvense of 0.7-gal solvent/ton seed and the maximum solvent density from the last ten years (i.e. 2015-2024). It is assumed that the VOC content of the solvent is 100%. Cargill used an estimated seed throughput to calculate projected future emissions. This was determined by considering the maximum daily seed throughput, scaled to consider annual operations, assuming the facility is out of operation for 23 days of the year

3. REGULATORY APPLICABILITY ANALYSIS

The components of the proposed project are subject to certain federal and state air quality regulations. This section of the permit application summarizes the air permitting requirements and the key air quality regulations that apply to the proposed activities covered by this permit application. Specifically, the applicability of the Prevention of Significant Deterioration (PSD) program, New Source Performance Standards (NSPS), and North Dakota air regulations are addressed. Only regulations applicable or potentially applicable to the proposed modification are discussed below; regulations applicable to unchanged units have been addressed in previous applications and thus are not discussed in this application.

3.1 Federal Regulations

3.1.1 40 CFR 52.21 - Prevention of Significant Deterioration

As this project has an estimate net emission increase above the thresholds for VOC, PSD does apply to this project. Table 3-1. PSD SER Comparison shows the comparison between the PTE and the SERs. Net emission calculation methodology is described in greater detail in Section 2.3. Other aspects of the PSD analysis are captured in Sections 4, 5, 6, and 7.

Table 3-1. PSD SER Comparison

	PM tpy	PM_{10} tpy	$PM_{2.5}$ tpy	CO tpy	NO_x tpy	SO_2 tpy	VOC tpy	Pb tpy	CO_2e tpy
Project Emissions	0	0	0	0	0	0	910.8	0	0
PSD SER Thresholds (tpy)	25	15	10	100	40	40	40	0.6	75,000

3.1.2 Title V and Compliance Assurance Monitoring (CAM) Applicability

The Cargill West Fargo Facility-wide PTE exceeds 100 tpy for Criteria Pollutants, and thus the site is a major source under the Title V program. Note that Cargill was considered a major source under the Title V program prior to this proposed project.

Compliance Assurance Monitoring (CAM) requirements can be found in 40 CFR Part 64. As described in §64.2(a), CAM applies to pollutant-specific emissions units at a major source under the Title V program that satisfy all of the following criteria:

- The unit is subject to an emission limitation or standard for the applicable regulated air pollutant;
- The unit uses a control device to achieve compliance with any such emission limitation or standard; and
- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be

classified as a major source (i.e., 100 tpy of NO_x, CO, VOC, SO_2, PM_{10}, $PM_{2.5}$; 10 tpy of a single HAP; 25 tpy of total HAP).

EU48 does have emission limitations, as described in the existing permit, but it does not utilize control devices to comply with the emission limitations. The facility's mineral oil system is operated as inherent process equipment, and therefore is not a control device, as described in Permit No. T5-G81005, Table 1, footnote D.

3.1.3 New Source Performance Standards (NSPS)

New Source Performance Standards (NSPS) are nationwide regulations that regulate air pollution from new, modified, and reconstructed stationary source categories that are determined to cause, or contribute significantly, to air pollution and that may reasonably be anticipated to endanger public health. The applicability of NSPS subparts was not affected by this project.

3.1.4 National Emission Standards for Hazardous Air Pollutants for Source Categories

National Emission Standards for Hazardous Air Pollutants (NESHAPs) are nationwide regulations that regulate air pollution from new, modified, and reconstructed stationary source categories that are determined to cause, or contribute significantly, to air pollution and that may reasonably be anticipated to endanger public health. The following NESHAPs were assessed for applicability to the existing units associated with the change being proposed at Cargill:

- Subpart A – General Provisions;
- Subpart GGGG - National Emissions Standards for Hazardous Air Pollutants for Solvent Extraction for Vegetable Oil Production

3.1.4.1 40 CFR 63: Subpart GGGG: National Emissions Standards for Hazardous Air Pollutants for Solvent Extraction for Vegetable Oil Production

NESHAP GGGG: National Emissions Standards for Hazardous Air Pollutants for Solvent Extraction for Vegetable Oil Production (NESHAP GGGG) was reviewed as Cargill is an existing NESHAP GGGG affected source. Cargill is an affected source under NESHAP GGGG as it is a major source of HAP emissions[4] and a vegetable oil production process, as defined in 40 CFR 63.2872:

> *"…means the equipment comprising a continuous process for producing crude vegetable oil and meal products, including specialty soybean products, in which oil is removed from listed oilseeds through direct contact with an organic solvent. Process equipment typically includes the following components: oilseed preparation operations (including conditioning, drying, dehulling, and cracking), solvent extractors, desolventizer-toasters, meal dryers, meal coolers, meal conveyor systems, oil distillation units, solvent evaporators and condensers, solvent recovery system (also referred to as a mineral oil absorption system), vessels storing solvent-laden materials, and crude meal packaging and storage vessels. A vegetable oil production process does not include vegetable oil refining operations (including operations such as bleaching, hydrogenation, and deodorizing) and operations*

[4] As defined by 40 CFR 63.2832(a)(1)(ii) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year.

that engage in additional chemical treatment of crude soybean meals produced in specialty desolventizer units (including operations such as soybean isolate production)."

As detailed in Section 2.1. of this report, Cargill proposes to begin using Brassica Carinata, Brassica Juncea, Camelina Sativa, and Thlaspi Arvense as raw materials in the affected source. This change will not require any additional equipment or physical modifications to existing equipment.

NESHAP GGGG does not define rapeseed, but does provide the following definition for oilseeds, per 40 CFR 63.2872:

"Oilseed or listed oilseed means the following agricultural products: corn germ, cottonseed, flax, peanut, rapeseed (for example, canola), safflower, soybean, and sunflower."

Note that rapeseed includes the qualifier "(for example, canola)". It is Cargill's interpretation that EPA did not intend for rapeseed to reflect a single species. Cargill interprets that any plant in the Brassica genus would be considered "rapeseed" for the purposes of NESHAP GGGG applicability, which is consistent with historic EPA Region V determinations.[5].

As detailed in Section 2-1, Camelina Sativa and Thlaspi Arvense are not in the Brassica genus and therefore are not considered oilseeds. As such, Camelina Sativa and Thlaspi Arvense are not subject to NESHAP GGGG. However, Camelina Sativa and Thlapsi Arvense processing emissions are expected to be similar to that of rapeseeds. As such, Cargill is taking a voluntary SLR limit of 0.7 gal/ton when processing Camelina Sativa and Thlapsi Arvense. This voluntary limit mirrors the NESHAP GGGG SLR for existing facilities processing rapeseeds, as described in Table 1 of 40 CFR 63.2840.

Cargill's existing SLR limit, 0.230-gal/ton seed, is the result of the 2005 Consent Decree (Civil Action Number 05-2037-JMR-FLN) and the voluntary limit described in the June 8, 2007, letter regarding revisions to the facility's Title V Permit.[6] The existing SLR limit considers processing seeds regulated under NESHAP GGGG, i.e. sunflower, flax, and canola. The Consent Decree specified an SLR of 0.30 gal/ton when processing sunflower, which is consistent with the NESHAP GGGG limit for existing facilities processing sunflower, as described in Table 1 of 40 CFR 63.2840. Cargill then voluntarily reduced the facility SLR further in 2007 to 0.230 gal/ton. The limit requires supporting calculations and recordkeeping as described in NESHAP GGGG. It is not appropriate to apply the existing 0.23 gal/ton SLR limit to the processing of Camelina Sativa and Thlaspi Arvense, as the materials are not regulated under NESHAP GGGG.

Brassica Carinata and Brassica Juncea meet the definition of a rapeseed, as they are within the Brassica genus, and are therefore subject to NESHAP GGGG. As such, Cargill is proposing a SLR of 0.23 gal/ton seed for Brassica Carinata and Brassica Juncea, consistent with the facility's existing SLR for NESHAP GGGG subject raw materials.

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[5] The Archer Daniels Midland (ADM) Red Wing Technical Support Document for Minnesota Pollution Control Agency (MPCA) Part 70 Permit No. 04900001-104, dated February 10, 2022, documents that EPA Region V determined Brassica Carinata is covered under the definitiion of rapeseed.

[6] The EU48 SLR limit is described in permit T5-G81005, condition 4.B.12.

3.1.4.2 40 CFR 63: Subpart DDDDD: National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

NESHAP DDDDD: National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (NESHAP 5D) was reviewed as Cargill is an existing affected source under NESHAP 5D. EU43, Foster Wheeler Boiler, and EU44, International Boiler Works Boiler, make up the Cargill NESHAP 5D existing affected source.

The proposed project results in EU43 processing pods from the new raw materials (Brassica Carinata, Brassica Juncea, Camelina Sativa, and Thlaspi Arvense), as described in Section 2.2. EU43 is currently an existing NESHAP 5D affected source, and this status will not change with the introduction of additional fuels in the boiler.

EU43 has various required compliance demonstrations, such as emissions testing and emission limits required under NESHAP 5D. It is not anticipated that the inclusion of new raw materials as fuel sources will violate the existing emission limits.

3.2 North Dakota State Air Regulations

This project is being permitted under the regulations contained in the North Dakota Administrative Code (NDAC) Air Pollution Control Rules in Article 33.1-15. North Dakota air rules fall under two main categories: those regulations that are generally applicable (e.g., permitting requirements) and those that have specific applicability (e.g., PM standards for processes). The generally applicable requirements are straightforward (e.g., filing of emission statements, permit fees, stack heights, etc.) and, as such, are not discussed in further detail. Similar to Section 3.1, only regulations applicable or potentially applicable to the proposed modification are discussed below; regulations applicable to unchanged units have been addressed in previous applications and thus are not discussed in this application.

3.2.1 Federal Regulations Incorporated by Reference

The project is not subject to any additional air-related federal requirements beyond those covered in the Federal Regulations in Section 3.1 for these State Air Regulations.

3.2.2 NDAC 33.1-15-05 – Control of Particulate Matter Emissions

NDAC 33.1-15-05-02 applies to the emission of particulate matter (PM) from fuel burning equipment used for indirect heating. EU43 does meet the definition of indirect heating fuel burning equipment. The addition of fuels utilized in EU43 (i.e. pods from (Brassica Carinata, Brassica Juncea, Camelina Sativa, and Thlaspi Arvense) does not change applicable requirements under this rule.

3.2.3 NDAC 33.1-15-07 – Control of Organic Compounds Emissions

NDAC-33.1-15-07 applies to facilities considered "new" as defined in section 33.1-15-01-04, meaning:

> *"…equipment, machines, devices, articles, contrivances, or installations built or installed on or after July 1, 1970, unless specifically designated within this article, and installations existing at said stated time which are later altered, repaired, or rebuilt and result in the emission of an additional or greater amount of air contaminants."*

Cargill West Fargo is not considered “new” as described by the definition above, as the proposed project does not involve the alternation, repair, or reconstruction of existing emission units. As such, NDAC 33.1-15-07 does not apply to the proposed project.

3.2.4 NDAC 33.1-15-15 – Prevention of Significant Deterioration of Air Quality

NDAC Article 33.1-15-15 incorporates by reference the PSD requirements listed in 40 CFR Part 52. The applicability of this section is described in Section 3.1.1, above.

3.2.5 NDAC 33.1-15-19 – Visibility Protection

The requirements of NDAC 33-15-19 are applicable to major modifications, as defined in NDAC 33-15-15-01, whose construction or modification is commenced after August 12, 1985. The net emissions increase of VOC triggers substantive PSD requirements, and so the project must be assessed for visibility impacts, as described in Section 6.1.

3.2.6 NDAC 33.1-15-22 – Emission Standards for Hazardous Air Pollutants for Source Categories

NDAC Article 33.1-15-15 incorporates by reference the NESHAP subparts presented in 40 CFR 63. The applicability of this section is described in Section 3.1.4, above.

3.2.7 NDAC 33.1-15-16 – Restriction of Odorous Air Contaminants

This subpart restricts the release of objectionable odors from facilities. Cargill is subject to this rule and will take efforts to minimize the release of objectionable odors from the facility

4. BACT ANALYSIS

The requirement to conduct a BACT analysis is set forth in 40 CFR 51.166(j)(3) as:

> *A major modification shall apply best available control technology for each a regulated NSR pollutant for which it would be a significant net emissions increase at the source this requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.*

This section discusses the regulatory basis for BACT, the approach used in completing the BACT analysis, and the BACT analysis for VOC. Supporting documentation is provided in Appendix C.

4.1 BACT Definition

BACT is defined under 40 CFR 51.166(b)(12) as:

> *Best available control technology means an <u>emissions limitation</u> (including a visible emissions standard) based on the maximum degree of reduction for each a regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the reviewing authority, on a <u>case-by-case basis</u>, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combination techniques for control of such pollutant. <u>In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60 and 61</u>. If the reviewing authority determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.*

The separate components of the BACT definition are discussed below.

4.1.1 Emission Limitation

First and foremost, BACT is an emissions limit. While BACT is prefaced upon the application of technologies to achieve that limit, the final results of a BACT is a numerical limit. In general, this limit would be an emission rate of a pollutant (e.g., pounds of VOC per unit throughput).[7]

4.1.2 Case-By-Case Basis

The PSD program's BACT evaluation is performed on a case-by-case basis. As noted by the EPA:

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[7] Emission limits can be broadly differentiaed as "rate-based" or "mass-based". A rate-based limit would typically be in units of lb/ton or lb/MMBTU (mass emissions per unit material throughput). Typical mass-based limits would be in units of lb/hr (mass emissions per unit time).

The case-by-case analysis is far more complex than merely pointing to a lower emissions limit or higher control efficiency elsewhere in a permit or a permit application. The BACT determination must take into account all of the factors affecting the facility […]. The BACT analysis, therefore, involves judgement and balancing.[8]

In a memorandum dated December 1, 1987, the EPA stated their preference for a "top-down" analysis.[9] The first step in this approach is to determine the most stringent control available for a similar or identical source or source category for each emission unit. If it can be shown that this level of control is technically, environmentally, or economically infeasible for the unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections. Presented below are the five basic steps of a "top-down" BACT analysis procedure as identified by the EPA in the October 1990 New Source Review Workshop Manual (draft).[10]

4.1.2.1 Step 1 – Identify All Control Technologies

Available control technologies are identified for each emission unit in question. The following methods are typically used to identify potential technologies:

- Researching the Reasonably Achievable Control Technology (RACT)/BACT/Lowest Achievable Emission Reduction (LAER) Clearinghouse (RBLC database),
- Surveying regulatory agencies,
- Drawing from previous engineering experience,
- Surveying air pollution control equipment vendors, and
- Surveying available literature.

4.1.2.2 Step 2 – Eliminate Technically Infeasible Options

After the identification of control options, an analysis is conducted to eliminate technically infeasible options. A control option is eliminated from consideration if there are process-specific conditions that prohibit the implementation of the control or if the highest control efficiency of the option would result in an emission level that is higher than any applicable regulatory limits, such as NSPS.

4.1.2.3 Step 3 – Rank Remaining Control Technologies by Control Effectiveness

Once technically infeasible options are removed from consideration, the remaining options are ranked based on their control effectiveness. If there is only one remaining option, or if all of the remaining technologies could achieve equivalent control efficiencies, ranking based on control efficiency is not required.

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[8] EPA Region 9, EPA Responses to Public Comments on the Proposed PSD Permit for the Desert Rock Energy Facility, pp 41-42. EPA-R09-OAR-2007-1110-0120. 31 Jul 2008. https://downloads.regulations.gov/EPA-R09-OAR-2007-1110-0120/content.pdf

[9] Memorandum from J. Craig Potter, Assistant Administrator for Air and Radiation, to Regional Administrator, Regions 1-10, entitled "Improving New Source Review (NSR) Implementation." 1 Dec 1987. https://www.epa.gov/sites/production/files/2015-07/documents/establsh.pdf.

[10] EPA, Office of Air Quality Planning and Standards. New Source Review Workshop Manual: Prevention of Significant Deterioration and Nonattainment Area Permitting, Draft. Research Triangle Park, NC. Oct 1990. https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf.

4.1.2.4 Step 4 – Evaluate the Most Effective Controls and Document the Results

Beginning with the most efficient control option in the ranking, detailed economic, energy, and environmental impact evaluations are performed. If a control option is determined to be economically feasible without adverse energy or environmental impacts, it is not necessary to evaluate the remaining options with lower control efficiencies.

The economic evaluation centers on the cost effectiveness of the control option. Cost of installing and operating control technologies are estimated and annualized following the methodologies outlined in the EPA's Air Pollution Control Cost Manual (CCM) and other industry resources. Cost effectiveness is expressed in dollars per ton of pollutants controlled. Objective analyses of energy and environmental impacts associated with each option are also conducted. Both beneficial and adverse impacts are discussed and quantified.

4.1.2.5 Select BACT

In the final step, one pollutant specific control option is proposed as BACT for each emission unit under review based on evaluations from the previous step.

While the top-down BACT analysis is a procedural approach suggested by EPA policy, this approach is not specifically mandated as a statutory requirement of the BACT determination.[11] As discussed in Section 4.4.5, the BACT limit is an emissions limitation and does not require the installation of any specific control device.

4.1.3 Achievable

BACT is to be set at the lowest value that is achievable. However, there is an important distinction between emission rates achieved at a specific time on a specific unit and an emission limitation that a unit must be able to meet continuously over its operating life. As discussed by the D.C. Circuit Court of Appeals:

> *In National Lime Ass'n v. EPA, 627 F.2d 416, 431 n.46 (D.C. Cir. 1980), we said that where a statute requires that a standard be "achievable," it must be achievable "under most adverse circumstances which can reasonably be expected to recur."*[12]

The EPA has reached similar conclusions in prior determinations for PSD permits.

> *Agency guidance and our prior decisions recognize a distinction between, on the one hand, measured 'emissions rates,' which are necessarily data obtained from a particular facility at a specific time, and on the other hand, the 'emissions limitation' determined to be BACT and set forth in the permit, which the facility is required to continuously meet throughout the facility's life. Stated simply, if there is uncontrollable fluctuation or variability in the measured emission rate, then the lowest measured emission rate will necessarily be more stringent than the "emissions limitation" that is "achievable" for that pollution control method over the life of the facility. Accordingly, because the "emissions limitation" is applicable for the facility's life, it is wholly appropriate for the permit issuer*

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[11] EPA, Office of Air Quality Planning and Standards. PSD and Title V Permitting Guidance for Greenhouse Gases, p 19. EPA-457/B-11-001. Mar 2011. https://www.epa.gov/sites/production/files/2015-12/documents/ghgpermittingguidance.pdf.

[12] Sierra Club, et al v. EPA, et al. No. 97-1687. 2 Mar 1999. https://www.cadc.uscourts.gov/internet/opinions.nsf/C09711D3E557339385256F15006C1C5C/$file/97-1686a.txt

to consider, as part of the BACT analysis, the extent to which the available data demonstrate whether the emissions rate at issue has been achieved by other facilities over a long term.[13]

Thus, BACT must be set at the lowest feasible emission rate recognizing that the emission unit must be in compliance with that limit for the lifetime of the unit on a continuous basis. Thus, while viewing individual unit performance can be instructive in evaluating what BACT might be, any actual performance data must be viewed carefully, as rarely will the data be adequate to truly assess the performance that a unit will achieve during its entire operating life. While statistical variability of actual performance can be used to infer what is "achievable," such testing requires a detailed test plan akin to what teams in EPA use to develop MACT standards over a several year period and is far beyond what is reasonable to expect of an individual source. In contrast to limited snapshots of actual performance data, emission limits from similar sources can reasonably be used to infer what is "achievable" for a given unit.[14]

To assist in meeting the BACT limit, the source must consider production processes or available methods, systems or techniques, as long as those considerations do not redefine the source.

4.1.4 BACT Floor

The least stringent emission rate allowable for BACT is any applicable limit under 40 CFR Parts 60 and 61 (NSPS and NESHAP, respectively). NESHAPs under 40 CFR Part 63 and state SIP limitations must also be considered when determining the emissions floor.

4.2 BACT Requirement

The BACT requirement applies to each new or modified emissions unit from which there are emissions increases above the PSD SERs. As discussed in 2.3, although there are no physical modifications, the proposed project at the West Fargo Facility will result in a significant increase in VOC due the change in the method of operation due to the processing of new raw materials with a higher SLR. Therefore, a BACT analysis was conducted for VOC emission sources that are impacted by the higher proposed SLR limit. In this case, EU48 – the Plant wide Hexane bubble – will be evaluated for BACT.

It is important to note that the PSD permitting program is evaluated on a pollutant-by-pollutant basis. As part of the source obligation requirements of 40 CFR 51.166(r)(2), the need to do a full PSD permit application only applies to the pollutant for with the avoidance limitation was established (in this case, VOCs). To determine the BACT requirements, two primary part of this project being considered is the increase in VOC emissions caused by the 0.7 gal/ton SLR limit proposed for the processing of Camelina Sativa and Thlaspi Arvense.

A summary of the BACT requirements is provided below.

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[13] EPA Environmental Appeals Board. In Re Newmont Nevada Energy Investment, LLC, TS Power Plant, p 442. PSD Appeal No. 05-04. Environmental Administrative Decisions, Volume 12. 21 Dec 2005.

[14] Emission limits must be used with care in assessing what is "achievable." Limits established for facilities which were never built must be viewed with care, as they have never been demonstrated and that company never took a significant liability in having to meet that limit. Likewise, permitted units which have not yet commenced construction must also be viewed with special care for similar reasons.

4.3 BACT Assessment Methodology

The following sections provide details on the assessment methodology utilized in preparing the BACT analyses for the extraction process. As previously noted, the minimum control efficiency to be considered in a BACT assessment must result in an emission rate less than or equal to any applicable NSPS or NESHAP emission rate for the source. The extraction process is subject to a volatile HAP emission limit for raw material subject to 40 CFR 63 Subpart GGGG.[15] Cargill also proposes a separate volatile HAP emission limit, 0.7 gal/ton, when processing Brassica Camelina and Thlaspi Arvense.

As stated in the New Source Review Workshop Manual, "EPA has not considered the BACT requirement as a means to redefine the design of the source when considering available control alternatives."[16] As such, a different solvent for the extraction process would redefine the proposed project at the West Fargo facility and is out of the scope of a BACT analysis.

4.3.1 Identification of Potential Control Technologies

Potentially applicable emission control technologies were identified by researching the EPA control technology database, technical literature, control equipment vendor information, state permitting authority files, and by using process knowledge and engineering experience. The RBLC, a database made available to the public through the EPA's Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN), lists technologies and corresponding emission limits that have been approved by regulatory agencies in permit actions. These technologies are grouped into categories by industry and can be referenced in determining what emissions levels were proposed and approved for similar types of emission units.

Cargill performed a search of the RBLC database in April 2025 to initially identify the emission control technologies and emission levels that were determined by permitting authorities as BACT within the past ten years for emission sources comparable to the extraction process. The RBLC database search included process code 70.390 for other vegetable oil manufacturing. A table summarizing the relevant BACT determinations from the RBLC search is provided in Appendix C.

4.4 VOC BACT – Extraction Process

Solvent extraction is the most efficient method of recovering oil from oilseeds (including Camelina Sativa, Thlaspi Arvense, Brassica Juncea, Brassica Carinata). Hexane is used to extract oil from seed flakes in the extraction process. Seed flakes are introduced into a hexane bath in the extractor where the hexane extracts the oil out of the flakes. The extraction system at the Cargill West Fargo facility utilizes a mineral oil absorber to recover hexane from the exhaust of the solvent recovery vent.

Since solvent is a primary raw material in the processing of raw materials to produce oil, the economics of oilseed processing make it essential to recover as much solvent as possible from the solvent vapors. Additionally, because hexanes are explosive in nature at relatively low concentrations, the hexane solvent must be recovered for safety reasons.

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[15] Cargill West Fargo has an existing emission limit in terms of VOC: 0.23 gal solvent loss / ton throughput. The solvent loss factor is described in Permit No. T5-G81005, resulting from the 2005 Consent Decree and voluntary limit taken in a June 8, 2007, letter to NDDEQ.

[16] EPA, Office of Air Quality Planning and Standards. New Source Review Workshop Manual: Prevention of Significant Deterioration and Nonattainment Area Permitting, Draft, p B.13. Research Triangle Park, NC. Oct 1990. https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf.

In the following sections, a top-down BACT analysis is presented for the solvent VOC emission sources.

4.4.1 Step 1 – Identify All Control Technologies

Cargill researched VOC control technologies and developed the following list of potential options:

- Condensation/refrigerated condensation
- Mineral oil absorption
- Biofiltration
- Regenerative thermal oxidizer (RTO) / incineration
- Carbon adsorption

These control technologies are commonly reviewed in making BACT determinations that are included in the RBLC database. Appendix C provides a listing of recent RBLC determinations for similar emission sources.

It should be noted that even though a condenser/absorber train is identified as a possible control technology, it is recognized throughout the industry that these units are primarily intended for solvent recovery. The control of VOC emissions is a secondary function.

4.4.1.1 Condensation/Refrigerated Condensation

Condensers using water for the cooling media are commonly used to condense and recover volatile organics. The vegetable oil extraction industry commonly utilizes this technology as part of a closed-vent vent system to condense hexane solvent vapors for collection and reuse in the extraction process.

4.4.1.2 Mineral Oil Absorption

Mineral oil absorbers are currently utilized at the West Fargo facility in oil extraction systems, primarily to recover hexane solvent for reuse is the extraction process. They also help to ensure the emissions from the closed vent system are less than the lower explosive limit (LEL) of hexane (12,000 ppm), thus providing an added safety measure.

4.4.1.3 Biofiltration

Biofiltration technology encompasses a wide variety of pollution control systems that utilize a fixed matrix of biological films to oxidize VOC in an exhaust stream. Biofiltration has only recently emerged over the last few years as a potentially viable technology for gas phase applications. These systems have been under development, especially in Europe, for the last several years but have not matured as a proven VOC control technology.

Biological VOC control systems harness the natural degrading abilities of microorganisms to biochemically oxidize organic contaminants at ambient temperatures and pressures. Thus, biological systems typically require a smaller energy input. The key drawback of a biofilter is that it is, in essence, a living control system. As such, the system is vulnerable to changes in the inlet gas stream composition or changes in the physical operating conditions of the system. This vulnerability can lead to wide fluctuations in the destruction efficiency provided by the systems.

All biofilters use some type of material to support a microbial film. The most common types of materials used are soils or a high organic content material such as compost and peat. In either case, the waste gas is drawn through a packed bed arrangement of the support material. Contaminants in the waste gas then diffuse into the microbial films growing on the support material. Given a suitable growth environment, including adequate quantities of dissolved oxygen and inorganic nutrients, organisms in the films can utilize the VOC contaminants as energy sources. End products of the reactor consist of new biological cell mass, carbon dioxide, water, and mineral salts.

Cargill found no evidence of biofiltration being applied for the control of hexane emission from any vegetable oil solvent extraction plant.

4.4.1.4 RTO/Incineration

VOC vapors can be destroyed by an RTO. An RTO usually consists of at least two chambers packed with ceramic media. The polluted gas enters one hot ceramic bed where the gas is heated to between 300 degrees Fahrenheit (°F) and 1,400°F, the desired combustion temperature. The gas then passes through a second ceramic bed where the heat released from combustion is recovered and stored in the bed. The process flow is then switched so that the polluted gas enters the second ceramic bed first. The system is operated in this alternating cycle, recovering up to 95% of the thermal energy while VOC is being oxidized.

Catalytic incinerators differ from thermal incinerators in that catalytic incinerators use a bed of activated material (catalyst) to increase the VOC oxidation rate, enabling oxidation at a lower reaction temperature than normal thermal units. The emissions stream must still be heated to between 300°F and 1,400°F to initiate the reaction. Incinerators can have a high efficiency when the emissions stream is heated to very high temperatures and are held in the combustion zone for an adequate period of time (approximately one second).

Typically, commercially available RTOs or catalytic incinerators can achieve VOC destruction efficiencies that exceed 99 percent depending on the installation. The advantage to oxidation systems is that they can achieve high control efficiencies on emissions streams containing relatively low concentrations of VOCs.

4.4.1.5 Carbon Adsorption

A carbon adsorption system can control VOC vapors. The core component of a carbon adsorption system is an activated carbon bed contained in a steel vessel. The VOC laden gases pass through the carbon bed and the VOC is adsorbed on the activated carbon. The cleaned gas is discharged to the atmosphere. The spent carbon is regenerated either at an on-site regeneration facility or by an off-site activated carbon supplier by using steam to replace adsorbed organic compounds at high temperatures.

Carbon adsorption systems can be designed to be very efficient. However, as design efficiencies increase, the required adsorbent bed depth and pressure drop through the system increases. Typical commercially available carbon adsorption systems can achieve between 95 and 99 percent control efficiency for emission streams.

4.4.2 Step 2 – Eliminate Technically Infeasible Options

The next step in the process is to evaluate all possible options and determine if any of them are technically infeasible for the proposed project.

4.4.2.1 Condensation/Refrigerated Condensation

Condensers using water for the cooling media will be utilized as part of the closed-vent solvent recovery system. Additional water-cooled or refrigerated condensers are not technically feasible for the solvent recovery system, as the maximum control achievable by this technology has already been reached and is less effective than the existing mineral oil absorption system. Therefore, this technology is not technically feasible for the proposed project and is eliminated for further consideration as BACT.

4.4.2.2 Mineral Oil Absorption

Mineral oil absorbers are currently utilized in oil extraction systems for hexane recovery and to ensure the emissions from the closed vent system are less than the LEL of hexane (12,000 ppm). In addition to recovering/controlling VOC for reuse, these systems have the added benefit of providing an additional safety measure. This technology is technically feasible for the proposed equipment and is included for further consideration as BACT.

The Cargill West Fargo facility currently uses a mineral oil absorption system to recover hexane. Hexane recovery begins when hexane vent vapors exchange with mineral oil in an absorber. The hexane-rich mineral oil is then heated and sent to the mineral oil stripper, where hexane is flashed off from the mineral oil using direct contact sparge steam and a vacuum. The hexane vapor then goes to a high vacuum condenser for further recovery. The stripped mineral oil is then cooled and recycled back into the absorber for reuse. Cargill's existing system provides a hexane recovery of 60-90%.

4.4.2.3 Biofiltration

The application of the biofiltration technology outside of the bench-scale and pilot plant operations has been limited. There is no methodology or theory established to design for or predict the destruction efficiency that could be achieved for Cargill's extraction process. A biofilter system is dynamic since the system continually changes with changes in the microbial growths it contains. Knowledge of the behavior of these dynamic systems over extended operating periods is not available. Thus, there is no basis from which the long-term reliability of the system could be established.

At this stage in its development, the application of biofiltration for control of the hexane would be technically infeasible. Destruction efficiencies in biofilter systems are largely governed by gas residence time in the biofilter bed and the degradability of the contaminant to be treated. Since biofiltration is not a technically proven control for hexane emissions from solvent extraction plants, this technology is not considered technically feasible for the proposed project and is eliminated from further consideration as BACT.

4.4.2.4 RTO/Incineration

RTOs and incineration are not currently utilized as control technologies at any solvent extraction facility for both technical and safety issues. First the exhaust from the process will contain small amounts of oil in aerosol form. Aerosol oil can lead to carbonization and degradation of packing in RTO incineration units. Degradation would lead to less effective heat transfer and, over time, would decrease the efficiency of the RTO.

In addition to these technical issues, the installation of an RTO or other incineration unit is not feasible due to safety issues. The National Fire Protection Agency (NFPA) standards for solvent extraction plants require that any flame operations (e.g., flares) be located at least 100 feet from the process area. In addition, any potential ignitions sources must be equipped with approved devices to prevent flashbacks into the process area. The inherent potential presence of fugitive hexane vapors at the plant and the presence of a flame from an RTO or incinerator presents an unacceptable risk of explosion or fire hazard. In addition, variations in flow and solvent concentrations make the design of the system difficult and raise the inherent safety risks to even higher levels. Even during normal controlled shutdown and startup periods, the facility can have vapors present at or near LEL conditions in the exhaust stream, which would increase the risk of explosion.

Furthermore, no applications of this type to solvent extraction plants have been demonstrated. For these reasons, RTO/incineration are technically infeasible and do not warrant further consideration as BACT.

4.4.2.5 Carbon Adsorption

Carbon adsorption is not used to control VOC emissions in soybean oil extraction facilities for technical and safety reasons. Carbon adsorption systems were applied rather widely to the final vent stream from solvent extraction plants in the late 1940s and early 1950s. Performance and safety problems led to their discontinued use over time. In the late 1950s, mineral oil absorption systems began to replace carbon units.

Carbon adsorbers are also not considered a feasible control option for soybean oil extraction facilities from a safety standpoint. An exothermic reaction takes place when hexane adsorbs onto carbon. An increase in the concentration of hexane in the main vent would lead to additional heat build-up in the bed. During optimal conditions, air convection should remove the additional heat built up in the system. However, if the hexane concentration should be too large (i.e., during upset conditions) or if channeling should occur in the carbon bed, the bed may overheat and reach the point of auto-ignition. Hexane and the bed itself would fuel such a fire.

Because of these technical and safety concerns, carbon adsorption is technically infeasible and is eliminated from further consideration as BACT.

4.4.3 Step 3 – Rank Remaining Control Technologies by Control Effectiveness

As previously demonstrated, all potential control technologies are technically infeasible except for mineral oil absorption. Cargill West Fargo currently utilizes mineral oil absorption for hexane recovery.

4.4.4 Step 4 – Evaluate the Most Effective Controls and Document Results

Mineral oil absorbers are commonly used in oilseed extraction facilities for final recovery of solvent vapors from the final condenser. While many oilseed plants use mineral oil absorbers (and in many cases the absorbers are referred to as control devices even though the primary function is solvent recovery), no existing facility has been identified that controls VOC emissions using add-on control devices at the outlet of the mineral oil absorber. Therefore, Cargill is proposing to continue to utilize the existing mineral oil system to limit facility VOC emissions.

4.4.5 Step 5 – Select BACT

In order to determine BACT for VOC at the extraction process, several different control technologies were considered and evaluated. Cargill has selected the existing mineral oil system as the control technology. The final step is to determine the associated BACT allowable emission limit. There are several factors that can affect solvent loss. Some of these factors are within Cargill's control, such as effective maintenance which minimizes unplanned shutdowns and startups as well as raw materials processed. Several factors, however, are outside of Cargill's control. These factors include variability in seed characteristics (i.e., moisture, oil content, etc.) as well as any future genetic modifications to seeds that may occur. All of these factors must be considered when setting the PSD BACT emission limit.

As described in Section 3.1.4.1, the facility's existing SLR limit, 0.23 gal/ton, considers processing NESHAP GGGG regulated materials such as sunflower, canola, and flax. The existing SLR is voluntarily lower than both the NESHAP GGGG SLR suggested for existing facilities processing sunflower (0.30 gal/ton) and the 2005 Consent Decree limit (also 0.30 gal/ton). Therefore, the facility's existing SLR is more restrictive than

NESHAP GGGG. Compliance with the existing SLR is based on a 12-month rolling calculation of gallons of solvent loss per ton soybean processed. Review of the data available in the RBLC database showed that soybean facilities in the past ten years have had BACT limits set between 0.29 gal/ton and 4.0 gal/ton. RBLC data is included in Appendix C.

Cargill is proposing an SLR limit of 0.7 gal/ton when processing non-rapeseeds (i.e. Brassica Carinata and Brassica Juncea), as it is anticipated that non-rapeseeds will have emissions similar to that of rapeseeds. The SLR of 0.7 gal/ton is referenced from Table 1 of NESHAP GGGG for existing facilities processing rapeseeds.

Cargill is proposing two BACT limits: 0.23 gal/ton for the extraction process (EU48) when processing Brassica Carinata and Brassica Juncea, and 0.7 gal/ton for the extraction process (EU48) when processing Camelina Sativa and Thlaspi Arvense. Each BACT limit would be based on an annual basis. These limits will apply at all times. Compliance will be demonstrated through 12-month rolling calculations. Since the proposed BACT limits include periods of startup, shutdown, and malfunction, a secondary BACT limit is not required.

5. SOURCE IMPACT AND AIR QUALITY ANALYSES

This section discusses the VOC and ozone impacts with respect to the proposed project.

5.1 Background on MERPs

40 CFR 51.166(k) states the following:

> Required demonstration. *The plan shall provide that the owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reduction (including secondary emissions), would not cause or contribute to air pollution in violation of:*
> *(i) Any national ambient air quality standard in any air quality control region; or*
> *(ii) Any applicable maximum allowable increase over the baseline concentration in any area.*

The latest revisions to the *Guideline*, which was recently published in the Federal Register on November 29, 2024, recommend the use of Model Emissions Rate for Precursors (MERPs) to evaluate a proposed project's impact on ozone levels in the surrounding airshed. The *Guideline* establishes a two-tiered demonstration approach for addressing single-source impacts on ozone. Tier 1 demonstrations involve the use of technically credible relationships between emissions and ambient impacts based on existing modeling studies deemed sufficient for evaluating a project source's impacts. Tier 2 demonstrations involve case-specific application of chemical transport modeling (e.g., with a Eulerian grid or Lagrangian model). If the Tier 1 demonstration displays no exceedance of the relevant thresholds, a Tier 2 demonstration is not required.

MERPs are a type of Tier 1 demonstration that represents the level of increased ozone concentrations expected to occur due to precursor emissions. In other words, the relationship between precursor emission rates and modeled ozone concentrations for representative, hypothetical sources are used to estimate the impact of project emissions increases. As part of the MERPs analysis, the project emissions increases are multiplied by the MERP (i.e., the ratio of the hypothetical sources modeled concentrations to the hypothetical modeled emission rates) to estimate project related ozone concentrations. The resulting concentration is compared against the relevant significant impact level (SIL). If the concentration is less than the SIL, no further demonstrations are required.

Data for the hypothetical source was obtained from EPA's MERPs View Qlik website.[17] The methodologies outlined in EPA's latest MERPs guidance document were used in this air quality analysis.[18]

5.2 Results of MERPs Air Quality Analysis

Consistent with the MERPs methodology, Cargill identified the nearest hypothetical source from EPA's MERPs View Qlik website, which is located in Stutsman County, North Dakota. Stutsman County is located approximately 75 miles west of the West Fargo facility. This hypothetical source location has similar terrain and surrounding land use to the West Fargo facility. The Stutsman County location is also generally within the same air shed and as such is expected to be subject to similar atmospheric chemistry and secondary pollutant formation processes as the area surrounding West Fargo facility. Therefore, the Stutsman County

[17] www.epa.gov/scram/merps-view-qlik

[18] https://www.epa.gov/sites/default/files/2020-09/documents/epa-454_r-19-003.pdf

source was determined as the most representative hypothetical source in EPA's compiled photochemical modeling dataset and used in this Tier-1 MERPs modeling analysis.

The next step of the MERPs analysis is to consider project emission increases. Both NO_x and VOCs are precursor pollutants for ozone emissions. Note, the proposed project does not result in any changes (increases or decreases) to NO_X emissions. As such, the ozone SIL analysis does not consider NO_X impacts, and instead only considers project VOC emissions. Table 5-1 below summarizes the MERPs ozone SIL analysis.

Table 5-1. MERPs Ozone SIL Analysis

Averaging Period	Precursor	Modeled Emission Rate from Stutsman Co. (tpy)	Modeled Impact from Stutsman Co. (ppb)	Project Emissions Increases (tpy)	Ozone Project Impact (ppb)	MERP for Ozone (tpy)	Ozone SIL (ppb)
8-hour	VOC	500	0.17	910.8	0.32	2,857.67	1.0

Table 5-1 above displays that project ozone impacts are below the MERP for Ozone as well as the Ozone SIL threshold. As such, no further ozone increment demonstrations are required.

6. ADDITIONAL IMPACT ANALYSES

440 CFR 51.166(o) requires additional impact analyses with respect to the visibility, soil and vegetation, industrial and other growth, and air quality. This section discusses the VOC and ozone impacts with respect to the proposed project.

6.1 Visibility Impacts

The project is not expected to produce any perceptible visibility impacts in the immediate vicinity of the West Fargo facility. All emission units with the potential to emit PM have a 20% opacity limit under the current facility permit. Cargill will comply by performing periodic monitoring for visible emissions, as described in the permit.

There are no sensitive areas, including airports or state parks, which will be impacted by any visible emissions at the facility. The Hector International Airport is located 3.4 miles away from the facility. The nearest state park, Buffalo River State Park, is located 21 miles away from the facility.

6.2 Soil and Vegetation Impacts

The EPA developed the secondary NAAQS in order to protect certain air quality related values (such as soil and vegetation) that were not sufficiently protected by the primary NAAQS. The secondary NAAQS represent levels which provide protection for public welfare, including protection against decreased visibility, damage to animals, crops, vegetation and buildings. The secondary standard for ozone is the same as the primary standard, at 0.070 ppm. As demonstrated above, the area surrounding the West Fargo facility is in attainment with the ozone NAAQS. The concentration is 28% of the standard, and as discussed above, it is not expected that the proposed project will have a significant impact on the formation of ozone in the surrounding area. Therefore, the project will not significantly impact the soil and vegetation.

6.3 Industrial and Other Growth Impacts

A growth analysis is intended to quantify the amount of new growth that is likely to occur in support of the facility and to estimate emissions resulting from that associated growth. Associated growth includes general commercial, residential, and industrial growth associated with the source or major modification. Residential growth depends on the number of new employees and the availability of housing in the area, while associated commercial and industrial growth consists of new sources providing services to the new employees and the facility.

The proposed project does not require construction, and so no additional outside workforce will be required to implement this project. Similarly, the West Fargo facility will not require additional employees for this project. Therefore, no significant increase in residential growth or commuting-related mobile source emissions is anticipated from this project. No additional industry or commercially associated growth will be created, such that no "secondary emissions" would be created in the vicinity.

There is no basis for estimating any growth-related ambient air quality impacts as there is not significant associated growth anticipated for the proposed project.

7. CLASS I AREA ANALYSIS

Sections 160-169 of the Clean Air Act, as amended by the Clean Air Act Amendments of 1990, establish a detailed policy and regulatory program to protect the quality of the air in regions of the United States in which the air is cleaner than required by the NAAQS to protect public health and welfare. One of the purposes of the PSD program is "to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value."

Under the PSD provisions, Congress established a land classification scheme for those areas of the country with the quality better than the NAAQS. Class I allows very little deterioration of air quality and includes:

- International Parks;
- National wilderness areas which exceed 5,000 acres in size;
- National memorial parks which exceed 5,000 acres in size; and
- National parks which exceed 6,000 acres in size.

40 CFR 51.166(p) includes additional requirements for projects that may impact Class I areas, which includes Class I increment and air quality related values (AQRVs) analyses. The Class I areas in Table 7-1 could potentially be impacted by the Cargill West Fargo facility.

Table 7-1. Distances to Class I Areas

Class I Area	Distance (km)
Voyageurs National Park, Minnesota	348
Boundary Waters Canoe Area Wilderness, Minnesota	400
Lost Wood National Wilderness Area, North Dakota	455
Theodore Roosevelt National Park, North Dakota	500
Badlands National Park, South Dakota	540
Wind Cave National Park, South Dakota	640

As discussed in Section 5.2 of this report, no increment modeling was triggered by this project. As described in the October 6, 2014, modeling memo published by NDDEQ, modeling PSD Class I increments is required for PSD projects located within 250 kilometers of North Dakota Class I areas[19]. Table 7-1 demonstrates that the West Fargo facility is not within 250 kilometers of any Class I area.

[19] https://deq.nd.gov/publications/aq/Policy/modeling/Criteria_Modeling_Memo.pdf

APPENDIX A. EMISSION CALCULATIONS (ELECTRONIC)

Cargill West Fargo
Camelina Project PSD Calculations

PSD Determination

	VOC
Baseline Actuals (24-Month Avg) (tpy)	96.55
Future Projected Actuals (tpy)	1047.53
Capable of Accommodating Emissions (tpy)	136.73
Excludable Emissions (tpy)	40.18
Net Emission Increase (tpy)	910.80
Significant Emission Rate (tpy)	40
Triggers PSD?	Yes

Past Actuals - VOC; Plant wide hexane (VOC) bubble

	Annual Throughput (ton seed/ yr)	Solvent Density[1] (lb/gal)	Solvent Use[1] (gal/yr)	Emission Factor (lb/ton seed)	Baseline Emissions (ton/yr)	24-month Rolling (ton/24-month)
2015	377,473	5.646	25,767.69	0.39	72.74	-
2016	435,862	5.638	31,510.51	0.41	88.83	161.57
2017	438,774	5.638	21,655.60	0.28	61.05	149.88
2018	429,265	5.638	44,542.07	0.59	125.56	186.61
2019	383,740	5.638	23,955.96	0.35	67.53	193.10
2020	364,750	5.638	30,446.79	0.47	85.83	153.36
2021	350,747	5.638	21,482.10	0.35	60.56	146.39
2022	428,845	5.638	26,334.55	0.35	74.24	134.80
2023	441,061	5.638	29,336.96	0.38	82.70	156.94
2024	467,431	5.638	37,024.28	0.45	104.37	187.07

1. Solvent Usage and Density is based on reported annual emission inventory values.

Capable of Accommodating Emissions[1]

	Value
Capable of Accommodating Throughput (ton/yr)	467,431
Emission Factor (lb/ton)	0.59
Capable of Accommodating Emissions (ton/yr)	136.73

1. Emission Factor determined considering the maximum emission factor, calculated referencing 2015 - 2024 throughputs, solvent usage, and solvent density, as reported in historic emission inventories.

Future Projected Actuals Parameters[1,2,3]

Parameter	Value	Units
Non-rapeseed Solvent Loss Ratio	0.7	gal solvent/ton seed
Solvent Density	5.646	lb/gal
Emission Factor	3.95	lb/ton non-rapeseed
Projected Actual Process Rate	530,100	ton/yr

1. Cargill is proposing a non-rapeseed solvent loss ratio of 0.7 gal solvent/ton seed when processing Camelina Sativa and Thlaspi Arvense.

2. Solvent density is referenced from annual emission inventories.

3. Projected Actual Process Rate considers the maximum oilseed crush rate of 1,550 tons seed/day, converted to a year of operation assuming that the facility will not operate 23 days of the year.

Future Projected Actuals

	ton/yr
Year 1	1,047.53
Year 2	1,047.53
Year 3	1,047.53
Year 4	1,047.53
Year 5	1,047.53

Cargill West Fargo

Camelina Project Hexane PTE

Parameters

Parameter	Value	Units
Non-rapeseed Solvent Loss Ratio	0.7	gal solvent/ton non-rapeseed
Solvent Density	5.68	lb/gal
n-Hexane Content	0.62	%
Maximum Process Rate[1]	200	ton/hr
Maximum Process Rate[2]	565,750	ton/yr

1. Maximum Hourly Process Rate references the maximum seed throughput described in Permit No. T5-G81005.
2. Maximum Annual Process Rate considers the maximum seed crush rate of 1,550 tons/day scaled up to 365 days/year.

Hexane Potential to Emit

	Emission factor (lb/ton non-rapeseed)	Uncontrolled Emissions (lb/hr)	Uncontrolled Emissions (ton/yr)
VOCs	3.98	795.20	1,124.71
n-Hexane	2.47	493.02	697.32

Cargill West Fargo

Camelina Project Ozone MERPs

8-hr Ozone Impact Formula:

$$Ozone\ Impact = \frac{NO_X\ Project\ Increases\ (tpy)}{NO_X\ MERP\ (tpy)} + \frac{VOC\ Project\ Increases\ (tpy)}{VOC\ MERP\ (tpy)}$$

As NO_x emissions are not modified by the proposed project, the equation simplifies to:

$$Ozone\ Impact = \frac{VOC\ Project\ Increases\ (tpy)}{VOC\ MERP\ (tpy)}$$

Ozone Impact

Averaging Period	Precursor	Modeled ER from Hypothetical Source (tpy)	Modeled Impact from Hypothetical Source (ppb)	Project Emissions Increases (tpy)	Ozone Project Impact (ppb)	MERP for Ozone (tpy)	SIL (ppb)
8-hour	VOC	500	0.17	910.80	0.32	2,857.67	1.0

1. Hypothetical Source data is from Stutsman County, North Dakota, referenced from EPA's MERPs View Quik Tables.

EPA MERPs View Quick Table Export

State	County	Metric	Precursor	Emissions	Stack	MaxConc	Climate Zone
North Dakota	Stutsman Co	8-hr Ozone	VOC	500	10	0.174967751	Northern Rockies and Plaines

1. Referenced from EPA's MERPs View Quik tables, found at: https://www.epa.gov/scram/merps-view-qlik

Domain	FIPS	Latitude	Longitude	Terr Avg	Urban Max
12US2_2016RUN2	38093	46.922	-98.4868	466	3.8

Cargill, Inc.
Oilseeds Processing
Permit T5-G81005
250 Seventh Avenue, NE
West Fargo, ND

Emission Unit	Emission Point	Description	Basis of Operation	PM	PM10	PM2.5	SO2	NOX	VOC	CO	Lead	CO2e	TRS	H2S	THAP
1	DC-1	Gerber Industry Model #75 oilseeds rail/truck receiving Pit #1	Rail/Truck Seed Receiving Hours	4.82	4.82	4.82	--	--	--	--	--	--	--	--	--
2	DC-2	Gerber Industry Model #75 oilseeds truck receiving Pit #2	Truck Seed Receiving Hours	4.82	4.82	4.82	--	--	--	--	--	--	--	--	--
3	DC-5	Weigh Hopper	Total Production Hours	0.44	0.44	0.44	--	--	--	--	--	--	--	--	--
4	DC-6	Four receiving legs	Sum of Rail/Truck Seed Rec, Truck Seed Rec, Dryer A, and Dryer B Hours	1.75	1.75	1.75	--	--	--	--	--	--	--	--	--
5 & 5A	DC-3	Two seed scalpers, Shakers A&B	Dryer A & B Hours	1.75	1.75	1.75	--	--	--	--	--	--	--	--	--
6 & 6A	DC-4	Two seed cleaners/aspirators A&B	Dryer A & B Hours	2.01	2.01	2.01	--	--	--	--	--	--	--	--	--
7	DC-7	Dryer A leg	Dryer A Hours	0.44	0.44	0.44	--	--	--	--	--	--	--	--	--
8	DC-8	Dryer B leg	Dryer B Hours	0.44	0.44	0.44	--	--	--	--	--	--	--	--	--
9 & 10	Fugitive	Dryers A & B - Natural Gas	Dryer Natural Gas Usage	0.16	0.16	0.16	0.01	2.12	0.12	1.78	1.06E-05	2,556	--	--	0.04
		Dryer A & B - Fugitive PM	Dryer A & B Hours	106.22	26.55	4.54	--	--	--	--	--	--	--	--	--
11		One prep process scale													
11A		One seed conveying leg													
12	DC-9	Two scalper/cleaners	Total Production Hours	7.45	7.45	7.45	--	--	--	--	--	--	--	--	--
13		16 Decorticators													
15		Hulls scale 100													
16	DC-10	Two Kice primary aspirators	Sunflower Production Hours	3.52	3.52	3.52	--	--	--	--	--	--	--	--	--
17	DC-11	Two Kice primary aspirators	Sunflower Production Hours	3.52	3.52	3.52	--	--	--	--	--	--	--	--	--
18	DC-12	One Kice secondary aspirator	Sunflower Production Hours	0.44	0.44	0.44	--	--	--	--	--	--	--	--	--
19	DC-13	Two Kice secondary aspirators	Sunflower Production Hours	0.44	0.44	0.44	--	--	--	--	--	--	--	--	--
21	DC-25	Hulls storage tank	Flax and Canola Production Hours	1.16	1.16	1.16	--	--	--	--	--	--	--	--	--
23	Fugitive	Hulls receiving pit (HR-1)	10/hr day 5 days/week	3.10	3.10	3.10	--	--	--	--	--	--	--	--	--
24	Fugitive	Hulls loadout spout (HL-1)	Not used	--	--	--	--	--	--	--	--	--	--	--	--
25	DC-34	Conditioner	Total Production Hours	0.22	0.22	0.22	--	--	--	--	--	--	--	--	--
26	DC-35	Four flakers	Total Production Hours	1.36	1.36	1.36	--	--	--	--	--	--	--	--	--
27	DC-36	Eight expellers/presses	Total Production Hours	0.53	0.53	0.53	--	--	--	--	--	--	--	--	--
29	NV-4	Cake drag	Total Production Hours	0.88	0.88	0.88	--	--	--	--	--	--	--	--	--
30	DC-28	Dryer cooler, top		0.44	0.44	0.44	--	--	--	--	--	--	--	--	--
31	DC-29	Dryer cooler, middle	Total Production Hours	0.88	0.88	0.88	--	--	--	--	--	--	--	--	--
32	DC-30	Dryer cooler, bottom		1.75	1.75	1.75	--	--	--	--	--	--	--	--	--
33	DC-17	Conveying/storage of Filtrol	20% of Total Production Hours per Rodney Roe of Cargill	0.09	0.09	0.09	--	--	--	--	--	--	--	--	--
34	DC-27	Conveying/storage of Filter Aid	20% of Total Production Hours per Rodney Roe of Cargill	0.09	0.09	0.09	--	--	--	--	--	--	--	--	--
35		Meal conveyor													
36	DC-18	Meal static sifters	Total Production Hours	1.75	1.75	1.75	--	--	--	--	--	--	--	--	--
37		Four meal grinders													
38	DC-19	Finished meal conveyor	Total Production Hours	0.44	0.44	0.44	--	--	--	--	--	--	--	--	--
39	DC-22	Carter Day Model #72 RJ finished meal conveyors	Meal Loadout Hours	0.44	0.44	0.44	--	--	--	--	--	--	--	--	--
40		Finished meal weighing hopper													
41	DC-20	Finished meal rail loadout	Meal Loadout Hours	0.44	0.44	0.44	--	--	--	--	--	--	--	--	--
42		Finished meal truck loadout													
43	B-1	Foster Wheeler boiler - Natural Gas	FW Boiler Natural Gas Usage	0.12	0.12	0.12	0.01	1.20	0.09	1.33	0.00	1905.24	--	--	0.03
		Foster Wheeler boiler - Hulls	FW Boiler Hulls Usage	0.18	0.18	0.18	5.54	107.66	4.25	35.59	0.00	50,311.46	--	--	0.42
44	B-2	International Boiler Works boiler - Natural Gas	IBW Boiler Natural Gas Usage	0.24	0.24	0.24	0.02	2.08	0.17	2.66	1.58E-05	3,808	--	--	0.06
		International Boiler Works boiler - Landfill Gas	IBW Boiler LFG Usage	3.09	3.09	3.09	9.30	18.99	9.06	0.24	Not Available	11,172	--	--	2.02
45	T-84	Hexane underground storage tank[1] (30,000 gal)	N/A	--	--	--	--	--	--	--	--	--	--	--	--
46	T-85	Hexane underground storage tank[1] (30,000 gal)	N/A	--	--	--	--	--	--	--	--	--	--	--	--
48	DC-33	Hexane emissions from extraction & refining2		--	--	--	--	--	--	--	--	--	--	--	--
49	Bubble	Plant wide hexane (VOC) bubble	Hexane Usage	--	--	--	--	--	1124.71	--	--	--	5.62	5.32	697.32
50	NV-50a, NV-50b, NV-50c, NV-50d	Dryer feed conveyor	Total Production Hours	0.56	0.56	0.56	--	--	--	--	--	--	--	--	--
51	T-51a, b &c	Seed storage tank	50% of Flax and Canola Production Hours	0.28	0.07	0.07	--	--	--	--	--	--	--	--	--
52	T-52a, b, & c	Seed storage tank	50% of Flax and Canola Production Hours	0.28	0.07	0.07	--	--	--	--	--	--	--	--	--
54	B-3	Deodorizer boiler	Deodorizer Boiler Natural Gas Usage	0.11	0.11	0.11	0.01	1.41	0.08	1.19	7.05E-06	1,697	--	--	0.03
	Fugitive	Seeds Unloading	Rail/Truck Seed Rec & Truck Seed Rec Hours	16.91	3.77	0.61	--	--	--	--	--	--	--	--	--
	Fugitive	Truck Traffic	Truck Traffic	154.76	36.16	3.98	--	--	--	--	--	--	--	--	--
64	64	Cooling Tower	Total Production Hours	9.82	4.65	0.02	--	--	--	--	--	--	--	--	--
66	FP-2	Diesel engine-driven emergency fire pump	N/A	0.02	0.02	0.02	5.20E-04	0.58	0.03	0.09	--	131.70	--	--	3.12E-03
67	FP-3	Diesel engine-driven emergency fire pump	N/A	0.02	0.02	0.02	5.20E-04	0.58	0.03	0.09	--	131.70	--	--	3.12E-03
68	Gen-1	Diesel engine-driven emergency generator	N/A	0.00	0.00	0.00	0.00	0.06	0.00	0.01	--	13.46	--	--	0.00
		Facility-wide Total		**338.15**	**121.16**	**59.18**	**14.89**	**134.70**	**1,138.53**	**42.98**	**0.00**	**71726.78**	**5.62**	**5.32**	**699.92**
															697.48 Hexane
			Total Without fugitive	**57.01**	**51.42**	**46.79**	**14.88**	**132.57**	**1,138.53**	**41.20**	**0.00**	**69,170.85**	**5.62**	**5.32**	**699.92**

1. Hexane emissions from extraction, refining, and tanks are included in the plant wide hexane bubble.

Description (units)	Future Projected
FW Boiler	
Natural Gas (scf)	31,680,120
Hulls (MT)	22,278
IBW Boiler	
Natural Gas (cf)	63,318,254
Landfill Gas (cf)	430,379,815
Deodorizer Boiler	
Natural Gas (cf)	28,219,490
Seed Dryers	
Natural Gas (cf)	42,499,892
Hexane Usage1 (gal)	38,889
n-Hexane HAP Content (%)	63
Fire Pump (hrs)	Not Affected
M711 Fan (hr) Rail/Truck Seed Receiving2	8,760
M712 Fan (hr) Truck Seed Receiving2	8,760
Dryer A Fan (hr)	8,760
Dryer B Fan (hr)	8,760
748A Fan (hr) Meal Loadout3	8,760
Sunflower Production4 (hr)	5,869
Flax Production (hr)	1,664
Canola Production (hr)	1,226
Total Production (hr)	8,760
Total Processed (MT)	475,000

Density of Hexane (lb/gal)1	5.68
Heat Content of Hulls (MMBtu/MT)2	17.053

1. Cargill records.
2. 2010 hulls analysis.

APPENDIX B. APPLICATION FORMS AND APPLICATION FEE

PERMIT APPLICATION FOR AIR CONTAMINANT SOURCES

NORTH DAKOTA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY
SFN 8516 (9-2021)

SECTION A - FACILITY INFORMATION

Name of Firm or Organization Cargill, Inc.		
Applicant's Name Michael Gregoryk		
Title Facility Leader	Telephone Number (701) 282-1708	E-mail Address michael_gregoryk@cargill.com
Contact Person for Air Pollution Matters Michael Gregoryk		
Title Facility Leader	Telephone Number (701) 282-1708	E-mail Address michael_gregoryk@cargill.com
Mailing Address (Street & No.) 250 7th Ave NE		
City West Fargo	State ND	ZIP Code 58078
Facility Name Cargill West Fargo		
Facility Address (Street & No.) 250 7th Ave NE		
City West Fargo	State ND	ZIP Code 58078

County	Coordinates NAD 83 in Decimal Degrees (to forth decimal degree)	
Cass	Latitude 46.88375000	Longitude -96.89577000

Legal Description of Facility Site

Quarter	Quarter	Section	Township	Range

Land Area at Facility Site	MSL Elevation at Facility
40 Acres (or) ______ Sq. Ft.	896 ft

SECTION B – GENERAL NATURE OF BUSINESS

Describe Nature of Business	North American Industry Classification System Number	Standard Industrial Classification Number (SIC)
Oilseeds Processing	311224	2076

SECTION C – GENERAL PERMIT INFORMATION

Type of Permit? ■ Permit to Construct (PTC) ☐ Permit to Operate (PTO)

If application is for a Permit to Construct, please provide the following data:

Planned Start Construction Date	Planned End Construction Date

SECTION D – SOURCE IDENTIFICATION AND CATEGORY OF EACH SOURCE INCLUDED ON THIS PERMIT APPLICATION

		Permit to Construct				Minor Source Permit to Operate						
Your Source ID Number	Source or Unit (Equipment, Machines, Devices, Boilers, Processes, Incinerators, Etc.)	New Source	Existing Source Modification	Existing Source Expansion	Existing Source Change of Location	New Source	Existing Source Initial Application	Existing Source After Modification	Existing Source After Expansion	Existing Source After Change of Location	Existing Source After Change of Ownership	Other
EU48	Facility-Wide Hexane Bubble	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐
EU43	Foster Wheeler Boiler	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Add additional pages if necessary

SECTION D2 – APPLICABLE REGULATIONS

Source ID No.	Applicable Regulations (NSPS/MACT/NESHAP/etc.)
Facility-wide	
EU48	NESHAP GGGG
EU43	NESHAP DDDDD

SECTION E – TOTAL POTENTIAL EMISSIONS

Pollutant	Amount (Tons Per Year)
NO_x	134.7
CO	42.98
PM	338.15

Pollutant	Amount (Tons Per Year)
PM_{10} (filterable and condensable)	121.16
$PM_{2.5}$ (filterable and condensable)	59.18
SO_2	14.89
VOC	1,138.53
GHG (as CO_2e)	71,726.76
Largest Single HAP	697.48
Total HAPS	699.92

*If performance test results are available for the unit, submit a copy of test with this application. If manufacturer guarantee is used provide spec sheet.

SECTION F1 – ADDITIONAL FORMS

Indicate which of the following forms are attached and made part of the application

☐ Air Pollution Control Equipment (SFN 8532)	☐ Fuel Burning Equipment Used for Indirect Heating (SFN 8518)
☐ Construct/Operate Incinerators (SFN 8522)	☐ Hazardous Air Pollutant (HAP) Sources (SFN 8329)
☐ Natural Gas Processing Plants (SFN 11408)	☐ Manufacturing or Processing Equipment (SFN 8520)
☐ Glycol Dehydration Units (SFN 58923)	☐ Volatile Organic Compounds Storage Tank (SFN 8535)
☐ Flares (SFN 59652)	☐ Internal Combustion Engines and Turbines (SFN 8891)
☐ Grain, Feed, and Fertilizer Operations (SFN 8524)	☐ Oil/Gas Production Facility Registration (SFN 14334)

SECTION F2 – OTHER ATTACHMENTS INCLUDED AS PART OF THIS APPLICATION

1.	PTE Calculations	4.	
2.	Narrative	5.	
3.		6.	

I, the undersigned applicant, am fully aware that statements made in this application and the attached exhibits and statements constitute the application for Permit(s) to Construct and/or Operate Air Contaminant sources from the North Dakota Department of Environmental Quality and certify that the information in this application is true, correct and complete to the best of my knowledge and belief. Further, I agree to comply with the provisions of Chapter 23.1-06 of the North Dakota Century Code and all rules and regulations of the Department, or revisions thereof. I also understand the permit is nontransferable and, if granted a permit, I will promptly notify the Department upon sale or legal transfer of this permitted establishment.

Signature	Date
[signature]	6/11/25

INSTRUCTIONS

SITE PLANS TO BE ATTACHED TO APPLICATION:

Prepare and attach a plot plan drawn to scale or properly dimensioned, showing at least the following:

a. The property involved and the outlines and heights of all buildings on the property. Identify property lines plainly. Also, indicate if there is a fence around the property that prevents public access.

b. Location and identification of all existing or proposed equipment, manufacturing processes, etc., and points of emission or discharge of air contaminants to the atmosphere.

c. Location of the facility or property with respect to the surrounding area, including residences, businesses and other permanent structures, streets and roadways. Identify all such structures and roadways. Indicate direction (**NORTH**) on the drawing and the prevailing wind direction.

EQUIPMENT PLANS AND SPECIFICATIONS FOR PERMIT TO CONSTRUCT:

Supply plans and specifications, including as a minimum an assembly drawing, dimensioned and to scale, in plan, elevation and as many sections as are needed to show clearly the design and operation of the equipment and the means by which air contaminants are controlled.

The following must be shown:

a. Size and shape of the equipment. Show exterior and interior dimensions and features.

b. Locations, sizes, and shape details of all features which may affect the production, collection, conveying, or control of air contaminants of any kind, location, size, and shape details concerning all material handling equipment.

c. All data and calculations used in selecting or designing the equipment.

d. Horsepower rating of all internal combustion engines driving the equipment.

NOTE: **STRUCTURAL DESIGN CALCULATIONS AND DETAILS ARE NOT REQUIRED.** WHEN STANDARD COMMERCIAL EQUIPMENT IS TO BE INSTALLED, THE MANUFACTURER'S CATALOG DESCRIBING THE EQUIPMENT MAY BE SUBMITTED IN LIEU OF ITEMS a, b, c, and d OF ABOVE, WHICH THE CATALOG COVERS. ALL INFORMATION REQUIRED ABOVE THAT THE CATALOG DOES NOT CONTAIN MUST BE SUBMITTED BY THE APPLICANT.

ADDITIONAL INFORMATION MAY BE REQUIRED:

If the application is signed by an authorized representative of the owner, a LETTER OF AUTHORIZATION must be attached to the application.

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Environmental Quality
Division of Air Quality
4201 Normandy Street, 2nd Floor
Bismarck, ND 58503-1324
(701) 328-5188

APPENDIX C. RBLC RESULTS

COMPREHENSIVE REPORT
Report Date:04/01/2025

Facility Information

RBLC ID: IN-0338 (final)

Date Determination Last Updated: 03/04/2022

Corporate/Company Name: PHM BRANDS, LLC DBA VIO COOP

Permit Number: 091-42641-00104

Facility Name: PHM BRANDS, LLC DBA VIO COOP

Permit Date: 10/04/2021 (actua

Facility Contact: KIRK ARENS 219-879-7356 KIRK.ARENS@PHMBRANDS.COM

FRS Number: 110000742064

Facility Description: A stationary Cannabidiol (CBD) oil extraction and processing plant.

SIC Code: 2076

Permit Type: D: Both B (Add new process to existing facility) &C (Modify process at existing facility)

NAICS Code: 311225

Permit URL: https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83222773&dDocName=83224178&Rendition=web&allowInterrupt=1&noSaveAs=1

EPA Region: 5

COUNTRY: USA

Facility County: LAPORTE

Facility State: IN

Facility ZIP Code: 46360

Permit Issued By: INDIANA DEPT OF ENV MGMT, OFC OF AIR (Agency Name)
MR. MATT STUCKEY(Agency Contact) (317) 233-0203 mstuckey@idem.in.gov

Permit Notes:

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	5.2500 (Tons/Year)
Nitrogen Oxides (NOx)	6.2500 (Tons/Year)
Particulate Matter (PM)	0.8500 (Tons/Year)
Sulfur Oxides (SOx)	0.0400 (Tons/Year)
Volatile Organic Compounds (VOC)	170.7000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: French Extractor

Process Type: 70.390 (Other Vegetable Oil Manufacturing Processes)

Primary Fuel:

Throughput: 0

Process Notes: Cannabidiol (CBD) oil extraction system with extractor, distiller and spent hemp desolventizer toaster-dryer, identified as the French Extraction System, utilizing three (3) water-cooled condensers (#1, #2 and #3) for hexane recovery and an in-series mineral oil absorption system for VOC control.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

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Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.0000 GALLONS PER TON
Emission Limit 2: 10950.0000 TONS OF HEMP/YEAR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: OTHER
Control Method: (A) Mineral Oil Absorption
Est. % Efficiency: 98.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: CBD Oil Refining
Process Type: 70.390 (Other Vegetable Oil Manufacturing Processes)
Primary Fuel:
Throughput: 0
Process Notes: Cannabidiol (CBD) Oil Refinement process, identified as CBD Oil Refinement. Venting from the process vacuum pump systems is controlled by chilled condensation process, identified as Condenser #4 through #8, Condenser #4.

POLLUTANT NAME: Volatile Organic Compounds (VOC)
CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 3.2500 GAL/TN CRUDE CBD OIL
Emission Limit 2: 4380.0000 TONS CBD PASTE/YEAR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U
Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: N/A
Control Method: (A) Chilled Condensation Processes
Est. % Efficiency: 98.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown
Pollutant/Compliance Notes:

Facility Information

RBLC ID:	MN-0092 (final)	**Date Determination Last Updated:**	05/02/2017
Corporate/Company Name:	CHS, LLC	**Permit Number:**	06900025-005
Facility Name:	CHS HALLOCK	**Permit Date:**	09/23/2015 (actual)
Facility Contact:	MATT KUZEL 2185260011 MATTHEW.KUZEL@CHSIN.COM	**FRS Number:**	Not Found
Facility Description:	CHS HALLOCK IS A CANOLA OIL PROCESSING FACILITY AND REFINERY WITH A 1750 TON/DAY OILSEED EXTRACTION PLANT.	**SIC Code:**	2079
Permit Type:	C: Modify process at existing facility	**NAICS Code:**	311223
Permit URL:	HTTPS:WWW.PCA.STATE.MN.US/SITES/DEFAULT/FILES/06900025-005.PDF		
EPA Region:	5	**COUNTRY:**	USA
Facility County:	KITTSON		
Facility State:	MN		
Facility ZIP Code:	56773		
Permit Issued By:	MINNESOTA POLL CTRL AGCY, AIR QUAL DIV (Agency Name) MR. RICHARD CORDES(Agency Contact) (651)757-2291 RICHARD.CORDES@STATE.MN.US		
Permit Notes:			

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	AL	Sipsey	100km - 50km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
Carbon Monoxide	42.2000 (Tons/Year)
Nitrogen Oxides (NOx)	73.0000 (Tons/Year)
Particulate Matter (PM)	111.3000 (Tons/Year)
Sulfur Oxides (SOx)	1.3000 (Tons/Year)
Volatile Organic Compounds (VOC)	467.3000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: CANOLA OILSEED PROCESSING

Process Type: 70.390 (Other Vegetable Oil Manufacturing Processes)

Primary Fuel:

Throughput: 1750.00 T/D

Process Notes: TONS OF OILSEED PER DAY

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	0.2900 GAL/TON 12 MONTH ROLLING SUM
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NESHAP , OPERATING PERMIT
Control Method:	(P) GOOD SOLVENT RECOVERY PRACTICES, LEAK DETECTION AND REPAIR PROGRAM
Est. % Efficiency:	
Cost Effectiveness:	20000 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	ALL ADD-ON CONTROLS DETERMINED TO BE TECHNICALLY INFEASIBLE WITH THE EXCEPTION OF A RTO SYSTEM DESIGNED OUTSIDE OF THE HEXANE VAPOR WALL. THIS LIMIT SUPERCEDES THE LIMIT OF 0.25 GAL/TON LISTED IN NORTHSTAR AGRI INDUSTRIES - HALLOCK PERMIT 069000025-004 ISSED ON 07/23/2013.

COMPREHENSIVE REPORT
Report Date:04/01/2025

Facility Information

RBLC ID: IN-0338 (final)

Date Determination Last Updated: 03/04/2022

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Permit URL: https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=83222773&dDocName=83224178&Rendition=web&allowInterrupt=1&noSaveAs=1

EPA Region: 5

COUNTRY: USA

Facility County: LAPORTE

Facility State: IN

Facility ZIP Code: 46360

Permit Issued By: INDIANA DEPT OF ENV MGMT, OFC OF AIR (Agency Name)
MR. MATT STUCKEY(Agency Contact) (317) 233-0203 mstuckey@idem.in.gov

Permit Notes:

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
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Nitrogen Oxides (NOx)	6.2500 (Tons/Year)
Particulate Matter (PM)	0.8500 (Tons/Year)
Sulfur Oxides (SOx)	0.0400 (Tons/Year)
Volatile Organic Compounds (VOC)	170.7000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: French Extractor

Process Type: 70.390 (Other Vegetable Oil Manufacturing Processes)

Primary Fuel:

Throughput: 0

Process Notes: Cannabidiol (CBD) oil extraction system with extractor, distiller and spent hemp desolventizer toaster-dryer, identified as the French Extraction System, utilizing three (3) water-cooled condensers (#1, #2 and #3) for hexane recovery and an in-series mineral oil absorption system for VOC control.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC

Test Method: Unspecified

l)

Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 4.0000 GALLONS PER TON
Emission Limit 2: 10950.0000 TONS OF HEMP/YEAR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: OTHER
Control Method: (A) Mineral Oil Absorption
Est. % Efficiency: 98.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton
Compliance Verified: Unknown
Pollutant/Compliance Notes:

Process/Pollutant Information

PROCESS NAME: CBD Oil Refining

Process Type: 70.390 (Other Vegetable Oil Manufacturing Processes)

Primary Fuel:

Throughput: 0

Process Notes: Cannabidiol (CBD) Oil Refinement process, identified as CBD Oil Refinement. Venting from the process vacuum pump systems is controlled by chilled condensation process, identified as Condenser #4 through #8, Condenser #4.

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number: VOC
Test Method: Unspecified
Pollutant Group(s): (Volatile Organic Compounds (VOC))
Emission Limit 1: 3.2500 GAL/TN CRUDE CBD OIL
Emission Limit 2: 4380.0000 TONS CBD PASTE/YEAR
Standard Emission:
Did factors, other then air pollution technology considerations influence the BACT decisions: U

Case-by-Case Basis: OTHER CASE-BY-CASE
Other Applicable Requirements: N/A
Control Method: (A) Chilled Condensation Processes
Est. % Efficiency: 98.000
Cost Effectiveness: 0 $/ton
Incremental Cost Effectiveness: 0 $/ton

Compliance Verified: Unknown

Pollutant/Compliance Notes:

Facility Information

RBLC ID:	MN-0092 (final)	**Date Determination Last Updated:**	05/02/2017
Corporate/Company Name:	CHS, LLC	**Permit Number:**	06900025-005
Facility Name:	CHS HALLOCK	**Permit Date:**	09/23/2015 (actual)
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Permit Type:	C: Modify process at existing facility	**NAICS Code:**	311223
Permit URL:	HTTPS:WWW.PCA.STATE.MN.US/SITES/DEFAULT/FILES/06900025-005.PDF		
EPA Region:	5	**COUNTRY:**	USA
Facility County:	KITTSON		
Facility State:	MN		
Facility ZIP Code:	56773		
Permit Issued By:	MINNESOTA POLL CTRL AGCY, AIR QUAL DIV (Agency Name) MR. RICHARD CORDES(Agency Contact) (651)757-2291 RICHARD.CORDES@STATE.MN.US		
Permit Notes:			

Affected Boundaries:

Boundary Type:	Class 1 Area State:	Boundary:	Distance:
CLASS1	AL	Sipsey	100km - 50km

Facility-wide Emissions:

Pollutant Name:	Facility-wide Emissions Increase:
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Volatile Organic Compounds (VOC)	467.3000 (Tons/Year)

Process/Pollutant Information

PROCESS NAME: CANOLA OILSEED PROCESSING

Process Type: 70.390 (Other Vegetable Oil Manufacturing Processes)

Primary Fuel:

Throughput: 1750.00 T/D

Process Notes: TONS OF OILSEED PER DAY

POLLUTANT NAME: Volatile Organic Compounds (VOC)

CAS Number:	VOC
Test Method:	Unspecified
Pollutant Group(s):	(Volatile Organic Compounds (VOC))
Emission Limit 1:	0.2900 GAL/TON 12 MONTH ROLLING SUM
Emission Limit 2:	
Standard Emission:	

Did factors, other then air pollution technology considerations influence the BACT decisions: Unknown

Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NESHAP , OPERATING PERMIT
Control Method:	(P) GOOD SOLVENT RECOVERY PRACTICES, LEAK DETECTION AND REPAIR PROGRAM
Est. % Efficiency:	
Cost Effectiveness:	20000 $/ton
Incremental Cost Effectiveness:	0 $/ton
Compliance Verified:	Unknown
Pollutant/Compliance Notes:	ALL ADD-ON CONTROLS DETERMINED TO BE TECHNICALLY INFEASIBLE WITH THE EXCEPTION OF A RTO SYSTEM DESIGNED OUTSIDE OF THE HEXANE VAPOR WALL. THIS LIMIT SUPERCEDES THE LIMIT OF 0.25 GAL/TON LISTED IN NORTHSTAR AGRI INDUSTRIES - HALLOCK PERMIT 069000025-004 ISSED ON 07/23/2013.

Air Permit to Construct - New

version 1.2

(Submission #: HQC-T49R-GBEEF, version 1)

Details

Submission ID HQC-T49R-GBEEF

Form Input

Form Instructions

General Process for all Pre-Construction Permitting

NOTE: At the very minimum, an application should include the following items:

1. A written description of the proposed project and the facility including site diagrams (if a physical change is proposed) and applicable process descriptions and technical specifications.

2. A summary of Hazardous Air Pollutant emissions and compliance with the Air Toxics Policy.

3. A written section addressing Title V and PSD applicability.

4. A summary of state and federal rule applicability including a listing of any New Source Performance Standards (NSPS, see 40 CFR 60) and National Emission Standards for Hazardous Air Pollutants (NESHAP, see 40 CFR 63) subparts that apply.

5. A statement addressing any dispersion modeling requirements for Criteria Pollutants or Air Toxics and the inclusion of any required modeling analysis with a complete method description in accordance with the State Air Quality Analysis Guide or Department guidance.

6. All Applicable Air Quality Permit Application forms.

7. The $325 Permit to Construct filing fee payment per NDAC 33.1-15-23-02.
Additional Pre-Construction Permitting Information

Section A - Applicant Information

Applicant

First Name	Last Name
Michael	Gregoryk

Title
Facility Leader

Phone Type	Number	Extension
Business	7012821708	

Email
michael_gregoryk@cargill.com

Section B - Source Information

Permit Application for Air Contaminant Sources

Follow link to complete form SFN 8516 and upload below. If this form is already included in your application package, please upload complete application in Section D instead of this Section.
Link to SFN 8516 - Permit Application for Air Contaminant Sources

Upload form SFN 8516

Title V PSD Application Signed 6.11.25.pdf - 06/12/2025 08:24 AM

Comment

NONE PROVIDED

Section C - Source Location

Facility Name

Cargill West Fargo

Facility Location:

46.88375000,-96.8957700

Section D - File Upload

File Upload

Select and upload applicable SFN permit forms, from the list below, to detail information provided in Section D of SFN 8516.

DO NOT ADD CONFIDENTIAL INFORMATION to this form. If you have Confidential Information see NDAC 33.1-15-14-01-16.
NDAC 33.1-15-14-01-16

Please also remember to upload all additional documents necessary to meet Steps 1-5 of the Form Instructions Section.

Additional Forms

NONE PROVIDED

Attachments

Camelina PSD PTE v2.0.xlsx - 06/12/2025 08:26 AM
Cargill PSD Narrative v5.0.docx - 06/12/2025 10:34 AM

Comment

NONE PROVIDED