



YAKIMA REGIONAL CLEAN AIR AGENCY

Order of Approval Permit Number NSRP-05-PF-24

**New Source Review Order of Approval for Paragon Films Inc. for a fourth stretch film
production line (# 34) at Paragon Films Inc.**

IN THE MATTER OF approving a project to install a new air contaminant source at Paragon Films, Inc. in Union Gap, WA. THIS ORDER OF APPROVAL IS HEREBY ISSUED TO:

Applicant/Permittee: Paragon Films Inc.
Production of flat plastic film

Located at: 915 Rose St.
Union Gap, WA 98903

Responsible Official: Paragon Films Inc.
Steven Mitchell, EHS Manager
3500 W. Tacoma St.
Broken Arrow, OK 74012
(509) 424-3700

IN COMPLIANCE WITH THE PROVISIONS OF THE REVISED CODE OF WASHINGTON (RCW), CHAPTER 70A.15 WASHINGTON CLEAN AIR ACT SECTION 2210, WASHINGTON ADMINISTRATIVE CODE (WAC) 173-400-110 and WAC 173-460-040:

ISSUE DATE: December 3, 2024

THIS ORDER OF APPROVAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

Installation and operation of the equipment must be conducted in compliance with all data and specifications, including any additional information submitted subsequent to the New Source Review (NSR) application under which this Order of Approval is issued unless otherwise specified herein. The conditions and limitations of this NSR Order of Approval are attached as follows:

1.0 DESCRIPTION OF THE SOURCE

- 1.1 Paragon Films Inc., hereafter referred to as the Permittee, PF, the Facility or the Source is a flat polyethylene stretch plastic film production facility located at 915 Rose Street, Union Gap, WA. The Permittee submitted a New Source Review (NSR) application in May 2024 and was deemed complete on October 10, 2024, for the installation of a fourth stretch film production line manufactured by Windmoeller & Hoelscher (W&H), hereafter, referred to as Line 34. The Yakima Regional Clean Air Agency (YRCAA) visited the Facility twice for technical assistance. The latter visit was on August 22, 2024 and discovered that Line 34 was partially installed and tested. In addition, during the same technical assistance visit, it was discovered that six (6) additional silos were in the construction phase and installation prior to submitting a NSR application for permitting.
- 1.2 The Facility receives resin pellets via railcars, which are stored in twelve (12) silos in which eight of them were permitted in 2013 (NSRP-22-PF-13), but four of the twelve silos are not permitted (most likely they were added after 2013). Silos are located outside to the eastside of the building. The resin pellets are pneumatically transferred from the railcars into the silos, equipped with baghouses for emission controls, which are already installed and permitted for only eight silos. The resin pellets are then pneumatically transported from the silos to the feed hoppers also called throats for each extruder in any of the stretch film production lines at the facility. The Facility submitted a NSR application for the six silos after the fact on September 10, 2024. Our agency also asked the Facility to include the old four unpermitted silos in the same application or a separate application.
- 1.3 The new Line 34 has seven (7) extruders. The resins pellets are melted during the extrusion process to approximately 550 degrees Fahrenheit (°F). The molten polymer from each extruder is combined in the feed block before it enters the flat die. The feed block and flat die have a die exhaust and two vacuum boxes, which vent through an external exhaust vent. The polymer then exits the flat die, passes through multiple rollers, and is cut to the required widths before entering the winder. The winder wraps the polymer sheet onto cardboard cores, before it exits as a finished product from the winder. The final product is then packed onto skids and stored in the warehouse for shipping.
- 1.4 Line 34 (W&H) is equipped with a recycling process which uses two systems; a double grinder/fluff system and a pelletizer system for excess trimming. During the cutting process, small amounts of film are trimmed from the edges and between rolls which are transferred or blown into the grinder/fluff and or the pelletizer system. If diverted to the pelletizer system, the trim is blown into a shredder on top of the pelletizer first. Then, the shredded material goes straight into the pelletizer extruder feed throat and melted to approximately 550 °F. The extruded pellets are dried, then moved into the accumulator bin, and then pneumatically sent to the day bins or the box fill station. While filling the bins and box fill station, the exhaust passes through a pulse clean baghouse filter, which vents inside the building. Afterward, pellets are fed back into the production line alongside the virgin resin from the silos to be processed again.

- 1.5 If the trim is diverted into the grinder/fluff system, it enters the grinders first, converted to fluff, then the fluff is blown into two cyclones connected to two separate extruders in the main process, where it is mixed with virgin resin and reprocessed. Alternatively, the fluff can be blown into a cyclone-baghouses separator system, where it is dropped into a bin (fluff box) using a rotary airlock and stored for future recycling. The exhaust from the cyclone is directed to the baghouses, which vent inside the building.
- 1.6 Registration forms indicate that the majority of the received resin is Polyethylene, accounting for approximately 98% of the total throughput. However, the Permittee may also receive smaller amounts of other resins, such as Polypropylene, Polyisobutene, and certain additives, accounting for approximately 2% or less of the total throughput.
- 1.7 The Facility's property boundaries and approximate location of Line 34 are shown in Figure 1. Facility's site plan layout and the process flow diagram for Line 34, as submitted with the NSR application by the Permittee, are shown in Figures 2 and 3, respectively.
- 1.8 Air emissions from the operation of Line 34 are in form of Particulate Matters (PM₁₀ and PM_{2.5}), and Volatile Organic Compounds (VOCs), some of which are known as Hazardous Air Pollutants (HAPs) and/or Toxic Air Pollutants (TAPs) in accordance with the Federal Clean Air Act (FCAA) and Washington Administrative Code (WAC) 173-460, respectively.
- 1.9 The Permittee is proposing to install four (4) WHM Prostejov cyclones, two (2) WHM Prostejov baghouse, two (2) Coperion baghouses, and two (2) Coperion bag filters for Line 34 to control air emissions, mainly from the recycling trimming plastic fluff, grinding and the virgin resin input to the main extruders.
- 1.10 The Permittee submitted the specifications for the Line 34, including all control equipment mentioned above, which shall be part of this Order of Approval (Order/Permit). Specifications for the proposed equipment are listed in Table 1 below.
- 1.11 The City of Union Gap exempted this project from the State Environmental Policy Act (SEPA) review process as signed by the Building Official on June 13, 2024. A public notice for this NSR was published on June 12, 2024 in accordance with the Washington Clean Air Act (RCW) 70A.15.2210 and section 173-400-171 of the Washington Administrative Code (WAC).

2.0 DETERMINATIONS

In relation to the above installation, the YRCAA determines that the Facility shall comply with all applicable federal, state and local regulations and laws including but not limited to the following determination:

- 2.1 Installation and operation of this new stretch film production Line 34 is considered a new source of air contaminants requiring a NSR pursuant to RCW 70A.15.2210 and WAC 173 400-110, thus, this NSR is being processed;
- 2.2 The Facility is located in an area that is in attainment with all state and federal air quality standards for criteria pollutants, and under a Limited Maintenance Plan (LMP) for PM₁₀;
- 2.3 The Facility is not a major stationary source as of the date of issuance of this Order nor is this installation subject to the Prevention of Significant Deterioration (PSD) permitting requirements of WAC 173-400-700 through 173-400-750;
- 2.4 The Facility is subject to the annual Registration Program pursuant WAC 173-400-099 and YRCAA Regulation 1, Section 4.01. The Facility will be classified based on the annual approved YRCAA registration classification;
- 2.5 The corresponding potential air emissions from this installation and operation of the new Line 34 were calculated as indicated in Appendix A of this Order. Air emissions were based on Potential to Emit (PTE) i.e., 8760 hours per year and maximum design capacity of the units, as indicated in the NSR application;
- 2.6 Emission factors for HAPs and TAPs are based on published test data literature, Safety Data Sheets (SDS), and previous issued Permits for the Facility;
- 2.7 This Facility may be subject to 40 CFR 59.102, National Volatile Organic Compound Emission Standards for Consumer and Commercial Products. It is the responsibility of the Permittee to comply with regulation pertinent to their production.
- 2.8 The calculation results showed that potential air emissions will comply with the National Ambient Air Quality Standards (NAAQS) of 40 CFR Part 50 and the Acceptable Source Impact Level (ASIL) of WAC 173-460-150, if Line 34 is installed and operated as per the submitted specifications of the NSR application and the approval conditions of this Order.

THEREFORE, it is hereby ordered that the project as described above, in the NSR application, and in detailed plans, specifications and other information submitted in reference thereto, is **APPROVED** for operation, **PROVIDED** the specification submitted with the application and the following conditions are met:

3.0 OPERATIONAL APPROVAL CONDITIONS

- 3.1 This Order is for the installation and operation of the new stretch film production Line 34 to be installed at Paragon Films Inc., located at 915 Rose Street, Union Gap, WA., in accordance with the plan and specifications submitted with the NSR application to YRCAA and specified in Table 1 of this Order below.
- 3.2 All previously issued Orders to the Facility remains in place. In addition, all operational and approval conditions previously approved as specified in the former Orders by YRCAA for the Permittee shall be retained. All conditions in those Permits shall remain unchanged and applicable at all times as specified in the Orders.
- 3.3 All air emission factors used in this Order may be used in future modifications or additions to this Facility when using the same or equivalent raw material (polyethylene plastic pellets), unless, newer emission factors for this type of operation and material are published, other than those used in this NSR calculations or based on actual source test results.
- 3.4 This Order authorizes the installation and operation of the following equipment shown in Table 1. below:

Table 1: Equipment authorized to be installed and operated as part of Line 34.

Item No.*	# Units	Equipment	Manufacturer / Model # / Serial #	Specifications
4,a,i	5	Extruders (A, D, E, F, G)	W&H / 70.30D / 66599	Capacity based on die
4,a,ii	2	Extruders (B, C)	W&H / 120.30D / 66899	Capacity based on die
4,a,iii	1	Die	Cloeren / ReFlex Flat Film Die 5425mm / -	Capacity = 4,500 lb/hr
4,a,iv	1	Winder	W&H / Filmatic PS / 66599	Capacity = 2,100 fpm
4,b,i	2	Baghouse	WHM Prostejov / Mat Nt 7631482940 / 66599	Maximum airflow rate = 706 cfm 95% efficiency minimum for PM _{2.5} and PM ₁₀ , 8 bags (SEFAR CARBOTEX 03-205CF)
4,b,ii	2	Baghouse	Coperion / PF25214-193M / -	Maximum airflow rate = 706 cfm MERV 16 at minimum, 9 cartridges (Polyester, Spun Bond with PTFE membrane)
4,b,iii	3	Bag filter	Coperion / Pulse Clean In-Line 20" / -	Maximum airflow rate = 1,338 cfm 99.95% efficiency minimum for PM _{2.5} and PM ₁₀ , 1 cartridge (spunbond polyester)
4,c,i	4	Cyclone	WHM Prostejov / Mat Nr 30291465 / -	Capacity = 1,200 sqm/hr 95% efficiency minimum
4,d,i	2	Grinder	TRIA S / XT6042 / 2023410000008506	Capacity = 771 lbs/hr
4,d,ii	1	Pelletizer	NGR / SGRAN 085-70 HD / P-230370	Capacity = 710 lbs/hr
4,e,i	3	Resin pump	Gardner Denver / GAFMCRA0242 / S685321	Maximum airflow rate = 1,338 cfm
4,e,ii	2	Exhaust blower	Geblase Abluftentstaubung / EQ66599 / -	Maximum airflow rate = 706 cfm
4,e,iii	2	Venturi trim blower	Mit Oder ohne / CSA / -	Maximum airflow rate = 2,542 cfm
4,e,iv	4	Fluff blower	RDP / CSA / -	Maximum airflow rate = 2,118 cfm
4,f,i	2	Accumulator bin	Coperion / 5204-56M / -	Capacity = 19 cu-ft
4,f,ii	1	Box fill	Coperion / 5178-12.0006 / -	Capacity depends on box
4,f,iii	2	Day bins	Coperion / 5206-48M / -	Capacity = 370 cu-ft

* Item No. corresponds to equipment shown in the process flow diagram in Figure 3.

- 3.5 Best Available Control Technology (BACT) and Toxic BACT (t-BACT) pursuant to RCW 70A.15.2210, WAC 173 400-113 and WAC 173-460-060 shall be satisfied for any proposed new facility or modified air emission source to control air emissions. YRCAA finds BACT and t-BACT to be satisfied as follows:
- 3.5.1 All equipment specified in Table 1 of this Order for the new production Line 34 shall be installed, operated and maintained in accordance with the specifications submitted with the NSR application to the YRCAA, the manufacturer's specifications, and the conditions of this Order;
 - 3.5.2 Installation and operation of the four (4) WHM Prostejov cyclones, the two (2) WHM Prostejov baghouses, the two (2) Coperion baghouses, and the three (3) Coperion bag filters shall be as per manufacturer's specifications, as submitted with the NSR application, and as of the specifications in Table 1 above;
 - 3.5.3 The Permittee shall operate the equipment listed in Table 1 within its maximum design capacity limits. Any modification that increases the design capacity requires prior written approval from YRCAA before such modification takes place, and a NSR may be required pursuant to WAC 173-400-110;
 - 3.5.4 The Permittee must ensure that all baghouses and bag filters for the new Line 34 are equipped with the specified filter media or a higher efficiency equivalent, meeting or exceeding the minimum efficiency standards listed in Table 1 above, at all times. If the Permittee decides to change the filter media, a notification in writing, including the specifications for the new filter, shall be submitted to YRCAA within fourteen (14) days from any changes and an approval in writing from YRCAA shall be issued prior to any the change;
 - 3.5.5 The Permittee shall use the type of resins submitted with this NSR application, shown in Appendix B below. If and when, the Permittee wants to change materials or suppliers, a notification in writing, including the new resin's Safety Data Sheet (SDS), shall be submitted to YRCAA, and prior written approval from YRCAA is required before such modification or replacement takes place. A NSR may be required pursuant to WAC 173-400-110;
 - 3.5.6 The Permittee shall strive to use resins and additives that do not contain more than 2% of silica, quartz;
 - 3.5.7 Air emission control equipment, i.e. cyclones, baghouses and bag filters, must be operating all the time when Line 34 is in operation. In no event, air emissions from Line 34 shall be released directly to the ambient atmosphere without passing through the corresponding air emission control equipment;
 - 3.5.8 The vacuum boxes and die exhaust shall be in operation at all times when Line 34 is in operation.

- 3.5.9 An Operation and Maintenance (O&M) plan for this new Line 34 shall be developed as specified in this Order and manufacture's recommendation, including appropriate training for all operators as per manufacturer's recommended standards;
 - 3.5.10 Air emissions from this Line 34 shall meet the ASIL of WAC 173-460 and the NAAQs of 40 CFR Part 50 as specified in Appendix A of this Order at all times;
 - 3.5.11 The vacuum box from the pelletizer shall be directed to the same external exhaust vent as the case in feed block of the die; and
 - 3.5.12 External exhaust vent shall vent to the outside of the building from an opening at least 3 feet above the roof level.
- 3.6 All equipment specified in Table 1 of this Order above shall be installed, operated and maintained as per manufacturer's specifications, the information submitted with the NSR application and the approval conditions of this Order. It shall be the responsibility of the Permittee to check and make sure that each unit is maintained and operated as per manufacturer's specifications and as indicated and specified in the O&M plan.
 - 3.7 Maintenance activities on the cyclones, baghouses and bag filters listed in Table 1 above shall be scheduled and performed when the Line 34 is not in operation. Line 34 shall not operate, while the control equipment's are under maintenance or not operating.
 - 3.8 The Permittee must update and implement the site-specific O&M plan to include all equipment for this Line 34, and shall be based on manufacturer's operation manuals, recommended standards or Facility's certification and experience as part of BACT and t-BACT above. The O&M plan shall contain at least four sections: general information, operation plan (i.e., key operating parameters), maintenance plan, and any other additional information. If an O&M plan is not developed yet, a plan must be completed within sixty (60) days of the issuance of this Order, as stated here, and shall include in addition and at a minimum, but not limited to the following:
 - 3.8.1 Training in operating Line 34 for all operators and familiarity with this Order's pertinent conditions to operation;
 - 3.8.2 A regular schedule of the inspections and maintenance checks, at least monthly, for the cyclones, baghouses and bag filters, including a log of any repairs or replacements;
 - 3.8.3 A log of all filter media replacements, which shall include at minimum date, filter model, number of units changed, name of operator and any relevant additional observations or information;

- 3.8.4 The log shall also include, checking of the physical conditions or signs of damage (wear and tear) on the cyclones, baghouses, bag filters, and filters media as per designers or manufacturers' recommended intervals. If no recommended intervals, it shall be done at least, monthly. Any major repairs or replacements shall be logged and reported to YRCAA within fourteen (14) business days; and
- 3.8.5 The weekly check and log of the pressure drop readings from all installed gauges on baghouses and bag filters while in operation. If there are no gauges pressure installed, a pressure gauge must be installed, and the operating range shall be clearly marked, on or besides the gauge, based on manufacturer's recommendations.
- 3.9 The range of the marked differential pressure drop shall not be exceeded anytime while the baghouses and bag filters are in operation. If and when exceeded, at any time, the Permittee shall log the date, time and pressure drop reading and shall take corrective actions based on manufacturer's recommendations and the O&M plan within 48 hours of the observation.
- 3.10 The Permittee must conduct visible emission inspections of the facility, including but not limited to the units stated in condition 3.10, at least once per month. Inspections are to be performed while the Line 34 is operating during daylight hours. If during the monthly visible emissions inspection, visible emissions are observed from the units or operation, the Permittee shall as soon as practicable but within 24 hours of the initial observation do any of the following:
 - 3.10.1 Take corrective actions, which may include verifying and certifying that the affected unit or process is operating according to its design specifications, within acceptable design parameters, and according to O&M procedures. The Permittee must ensure that any operational conditions previously known to result in compliance are being met. If the equipment or process is not performing as designed and O&M procedures, the Permittee shall shut the unit down until it can be repaired, and until there are no more visible emissions observed; or
 - 3.10.2 Conduct an opacity evaluation by a certified opacity reader in accordance with 40 CFR Part 60, Appendix A, Method 9 or 22 (as applicable). If the opacity limit is exceeded from the unit and/or the operation, the Permittee shall immediately cease operation of the affected equipment or process within 3 hours. Operations shall not resume until the issue is fully resolved, repaired are completed, and zero opacity limit is met. If the Facility has no Opacity reader, the Permittee must contact YRCAA and will be advised accordingly.
- 3.11 If visible emissions are originated from any of the baghouse and or bag filter exhausts, and the above corrective actions do not resolve the visible emissions within 24 hours, a source test for PM_{2.5} may be required as stated and specified in condition 4.7 below.

- 3.12 Opacity, as measured by 40 CFR Part 60, Appendix A, Method 9 or Method 22 (as applicable), shall be conducted within 30 days from the startup of the operation or the issuance of this permit. Opacity shall not exceed zero percent (0%) opacity. Zero opacity is defined as no visible emissions – average over six (6) consecutive minutes in any one hour period, from the extruders, die, external exhaust vent, baghouse exhausts, and bag filter exhausts installed and part of Line 34, or any building opening. The Permittee shall maintain the 0% opacity at all times when operating, except during periods of startup, shutdown or malfunction as provided in WAC 173-400-081. If the opacity is greater than this limit the Permittee shall immediately stop the equipment in question and/or the operation and take corrective actions as per the O&M plan until visible emissions are below the respective opacity limit.

4.0 GENERAL APPROVAL CONDITIONS

- 4.1 Establishment and operation of this new Line 34 must comply with all applicable Federal, State, and Local laws and regulations, including, but not limited to, RCW, Chapter 70A.15 Washington Clean Air Act, WAC 173-400 General Regulations for Air Pollution Sources, WAC 173-460 Controls for New Sources of Toxic Air Pollutants and YRCAA Regulation 1.
- 4.2 All plans, specifications, other information and any further authorizations, approvals or denials in relation to this operation, shall be incorporated herein and made to be part of YRCAA file and this Order.
- 4.3 Except as specified in this Order, any new or additional construction, installation of equipment, modifications or alterations to the operation not covered in this review process which will affect air emissions from any equipment in this Facility are subject to a NSR permitting process before it takes place or construction starts as required by RCW 70A.15.2210, WAC 173-400-110, WAC 173-460-040 and YRCAA Regulation 1, and BACT and t-BACT requirements must be satisfied.
- 4.4 If and when the Permittee would like to increase the air emissions limit in Appendix A or change any resins used, or the equipment, including the air pollution control equipment or its efficiencies, a NSR application must be submitted and a written Order must be issued by YRCAA prior to any modification.
- 4.5 Within 60 days from the date of issuance of this Order, the Permittee shall submit notification to YRCAA in writing indicating that the O&M plan is completed and in place. Any future modifications to the facility's operation or equipment requiring prior approval from YRCAA must also be reflected in an updated O&M plan, which shall be implemented accordingly.
- 4.6 All air emissions from this Facility shall be in compliance with air emission standards at all times. It is the responsibility of the owner to make sure that air emissions are within all known rules and regulations.

- 4.7 If and when, a source test becomes required by YRCAA to demonstrate compliance for air emissions limits as specified in this Order in accordance with WAC 173-400-105(4), the Permittee shall conduct a PM_{2.5} source test for the baghouses and bag filters. The source test shall be conducted in accordance with 40 CFR Part 60 Appendix A, Method 5 with Method 202 or 201A with 202 front and back half to demonstrate compliance with BACT determination above. The source test protocol must be submitted to and approved by YRCAA at least 30 days prior to the source test date. Results of the source test when conducted shall be submitted to YRCAA within 30 days after the source test is completed.
- 4.8 There must be no fallout or any fugitive emissions from this Facility beyond the property boundary in a quantity that interferes unreasonably with the use and enjoyment of the property owner upon which the material is deposited, or is detrimental to the health, safety or welfare of any person, or causes damage to any property or business.
- 4.9 The Air Pollution Control Officer (APCO) of the YRCAA or his authorized staff shall be allowed to enter the Facility at reasonable times, without notice, to inspect equipment and/or records specific to the control, recovery, or release of contaminants into the atmosphere for compliance with applicable laws, regulations and the conditions on this Order, pursuant RCW 70A.15.2500 and YRCAA Regulation 1.
- 4.10 Nothing in this Order shall be construed as preventing or evading compliance with any other requirement(s) of law including those imposed pursuant to the Federal and State Clean Air Acts, and rules and regulations thereunder. Any violation(s) of such rules and regulations are subject to enforcement and penalty action in accordance with RCW 70A.15.3150 and 3160, WAC 173-400-230 and YRCAA Regulation 1, Article 5, which shall not exceed ten thousand dollars per day per violation.
- 4.11 This Order may be modified, suspended or revoked in whole or part for cause including, but not limited to, the following:
- 4.12 Violation of any terms or conditions of this authorization; or
- 4.13 If this authorization has been obtained by misrepresentation or failure to disclose fully all relevant facts.
- 4.14 The provisions of this authorization are severable and, if any provision or application of any provision of this authorization to any circumstance is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.
- 4.15 Deviations from these conditions are violations subject to penalties in accordance with RCW 70A.15.3150 and 3160, WAC 173-400-230 and YRCAA Regulation 1, Article 5.

- 4.16 The requirements of this Order apply to the Facility owner and/or operator(s) and any contractor or subcontractor performing any activity authorized under this Order. Any person(s), including contractor(s) and subcontractor(s), not in compliance with the applicable Order requirements are in violation of State and Local laws and subject to appropriate civil and criminal penalties. The Facility owner and/or operator, and all contractor(s) or subcontractor(s) are liable for the actions and violations of their employee(s). Any violation committed by a contractor or subcontractor shall be considered a violation by the Facility owner and/or operator, and is also a violation by the contractor and/or any subcontractor(s).
- 4.17 Applicable laws and regulations may be superseded or revised without notice. It is the Permittee's responsibility to stay current with, laws, rules and regulations governing their business and therefore is expected to comply with all new rules and regulations immediately upon their effective date. Rules and Regulations updates will be incorporated into existing permits or upon renewal of said permits.
- 4.18 This Order and its conditions shall remain in effect in the event of any change in control or ownership of the Facility. In the event of any such change in control or ownership of the subject Facility, the Permittee shall notify the succeeding owner of this Order and conditions and shall notify the YRCAA of the change in control or ownership by filing an "Ownership or Name Change" form within fifteen (15) days of that change. The form can be obtained from our website or requested from the agency.
- 4.19 This Order is invalid without paying the complete appropriate and required fees to YRCAA, pursuant to RCW 70A.15.2210.

5.0 EMISSION LIMITS

- 5.1 The annual amount of air emission, small Particulate matters (PM₁₀ and PM_{2.5}) and VOCs from the operation of Line 34 must not exceed the allowable emissions shown in Appendix A of this Order. The allowable air emissions are based on potential to emit and maximum design capacity of the equipment.
- 5.2 Opacity from the extruders, die, external exhaust vent, baghouse exhausts, bag filter exhausts installed in Line 34, or any building opening shall not exceed zero percent (0%) as indicated above.
- 5.3 In addition to the limits imposed by this Order, the Permittee shall comply with all other applicable general standards for maximum air emissions as specified in WAC 173-400-040, WAC 173-460 and WAC 173-400-075.

6.0 MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

- 6.1 This Order and a copy of the O&M plan for this Facility shall be kept on site at all times and shall always be readily available, organized and accessible when requested by the YRCAA's APCO or his designated staff or during an inspection pursuant to RCW 70A.15.2500 and YRCAA Regulation 1. The O&M plan shall be updated to reflect any changes in operating procedures and such changes shall routinely be implemented.
- 6.2 All required records and logs mentioned above, including but not limited to visible emissions inspections, opacity evaluations, maintenance procedures including repairs, and reports shall be maintained and kept on site for a rolling average of five (5) years from any current date, and shall be readily available, organized and accessible to the YRCAA's APCO or his designated staff during inspections or upon request pursuant to RCW 70A.15.2500 and YRCAA Regulation 1.
- 6.3 Records shall include, at minimum, the monthly number of hours of operation of all units, the resin usage and received, the O&M items performed, and any opacity readings. Forms for recordkeeping must be designed by the Permittee and shall include at least the date, time, maintenance activity performed and the operator's name.
- 6.4 Safety Data Sheets (SDS) of all materials contributing to HAP, TAP, VOC and PM emissions shall be maintained on-site and readily accessible when requested by the APCO or his designated staff.
- 6.5 Any application form, report, or compliance certification, monthly record and the annual consumption report submitted to YRCAA pursuant to this Order must be signed by the responsible official.

- 6.6 The Facility shall submit its annual registration report including the calculation of their total annual air emissions for all pollutants, and the number of hours of operation with the required fees to YRCAA as specified in the sent-out annual registration forms on or before the specified date on the registration. Annual air emissions, and hours of operation shall be based on the previous calendar year.

You may appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process and applicable requirements is governed by Chapter 43.21B RCW. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

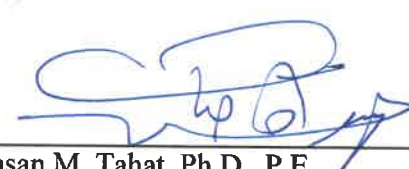
- File your appeal and a copy of this Order with the PCHB, P.O. Box 40903, Olympia, WA, 98504-0903. Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on YRCAA in paper form - by mail or in person. E-mail is not accepted.

DATED at Yakima, Washington this 3rd day of December, 2024.

PREPARED BY:


Elizel Reynoso
Engineer Specialist
Yakima Regional Clean Air Agency

REVIEWED AND ISSUED BY:


Hasan M. Tahat, Ph.D., P.E.
Engineering and Planning Division Supervisor
Yakima Regional Clean Air Agency
For
Marc Thornsbury
Air Pollution Control Officer
Yakima Regional Clean Air Agency

REVIEWED BY:


Norman Hepner, P.E.
Nth Degree Engineering Solutions



PRODUCTION LINE #34

Potential (PTE) operating hours	8,760	hours/year
	525,600	min/year
Maximum output per hour (die)	4,500	lb/hr
PTE production	39.42	MMlb/year @ 4,500lb/hr * 8,760 hr/yr
PTE recycling ¹	7.10	MMlb/year

¹ Assuming worst case scenario where approximately 18% of trimmed material is sent to the pelletizer system only.

Particulate Matter (PM) - PM₁₀, PM_{2.5}

PM Emission Factor
0.02
2.86E-06

grain/dscf
lb/dscf

Waster Plastic Fluff

Unit	Quantity	CFM/unit	Total CFM	PM ₁₀ efficiency	PM _{2.5} efficiency
4,c,i - WHM cyclone	2	706	1,412	95%	95%
4,b,i - WHM baghouse	2	706	1,412	95%	95%
4,b,ii - Copercion baghouse (Bin Vent Filter) ¹	2	706	1,412	95%	95%

¹ MERV 16

Pollutant	PTE Emissions (lb/yr)	PTE Emissions (tons/yr)
PM ₁₀	0.265	1.33E-04
PM _{2.5}	0.265	1.33E-04

Resin Vacuum

Unit	Quantity	CFM/unit	Total CFM	PM ₁₀ efficiency	PM _{2.5} efficiency
4,b,iii - Copercion bagfilter (Pulse Clean Filter) ¹	3	1338	4,014	99.95%	99.95%

¹ Per NSR app

Pollutant	PTE Emissions (lb/yr)	PTE Emissions (tons/yr)
PM ₁₀	3.014	1.51E-03
PM _{2.5}	3.014	1.51E-03

Pollutant	PTE Emissions (tpy)
Total PM ₁₀	1.64E-03
Total PM _{2.5}	1.64E-03

Hazardous Air Pollutants (HAPs) and Toxic Air Pollutants (TAPs)

Pollutant	CAS No.	Classification	Averaging period ¹ (avg. period)	Emission Factor ² (lb/million lb resin processed)	Emissions (lb/year)	Emissions (lb/day)	De Minimis ¹ (lb/avg. period)	SQER ¹ (lb/avg. period)	ASIL ¹ (ug/m ³)	Permit required? ³	Modeling required? ⁴
Particulates⁵											
Particulates (extruder)	-	-	-	47.9	2,228.10	6.1E+00	-	-	-	-	-
Particulates (die)	-	-	-	40.1	1,865.28	5.1E+00	-	-	-	-	-
Silica, Quartz ⁶	7631-86-9	TAP	24-hr	1%	40.93	1.1E-01	1.1E-02	2.2E-01	3.0E+00	Yes	No
Volatile Organic Compounds (VOCs)⁵											
Volatile Organic Compounds (extruder)	-	-	-	35.3	1,642.00	4.5E+00	-	-	-	-	-
Volatile Organic Compounds (die)	-	-	-	14.2	660.52	1.8E+00	-	-	-	-	-
Heavy Hydrocarbons (HHC)⁷											
Heavy Hydrocarbons (HHC)	-	-	-	21.3	990.78	2.7E+00	-	-	-	-	-
Light Hydrocarbons (LHC)⁷											
Ethane	74-84-0	-	-	0.04	1.86	5.1E-03	-	-	-	-	-
Ethylene	74-85-1	-	-	0.02	0.93	2.5E-03	-	-	-	-	-
Propylene	115-07-1	TAP	24-hr	0.01	0.47	1.3E-03	1.1E+01	2.2E+02	3.0E+03	No	-
Aldehydes											
Formaldehyde	50-00-0	HAP/TAP	year	0.2	9.30	2.5E-02	1.4E+00	2.7E+01	1.7E-01	Yes	No
Acrolein	107-02-8	HAP/TAP	24-hr	0.02	0.93	2.5E-03	1.3E-03	2.6E-02	3.5E-01	Yes	No
Acetaldehyde	75-07-0	HAP/TAP	year	0.16	7.44	2.0E-02	3.0E+00	6.0E+01	3.7E-01	Yes	No
Propionaldehyde	123-38-6	HAP/TAP	24-hr	0.05	2.33	6.4E-03	3.0E-02	5.9E-01	8.0E+00	No	-
Ketones											
Acetone	67-64-1	-	-	0.08	3.72	1.0E-02	-	-	-	-	-
Methyl ethyl ketone	78-93-3	TAP	24-hr	0.04	1.86	5.1E-03	1.9E+01	3.7E+02	5.0E+03	No	-
Organic acids											
Formic acid	64-18-6	-	-	0.17	7.91	2.2E-02	-	-	-	-	-
Acetic acid	64-19-7	-	-	0.17	7.91	2.2E-02	-	-	-	-	-
Acrylic acid	79-10-7	HAP/TAP	24-hr	0.02	0.93	2.5E-03	3.7E-03	7.4E-02	1.0E+00	No	-

¹ WAC 173-460-150. Last update effective 12/23/19, certified on 02/20/2023.

² Obtained from "Development of Emission Factors for Polyethylene Processing", Air & Waste Manage. Assoc. 46: 569-58, 1996 - Table 7. Summary of polyethylene emission factors by resin type (lb/million lbs) for "LLDPE Blown Film @ 500 °F", unless otherwise noted.

³ Permitting is required if the emissions exceed the De Minimis threshold.

⁴ Modeling is required if the emissions exceed the SQER threshold.

⁵ Emission factors from "Emission Calculation Fact Sheet - Plastic Production and Products Manufacturing", Michigan Department of Environmental Quality (DEQ), Fact Sheet #9847, Rev. 11/05 - SCC 3-08-010-02 Extruder and SCC 3-08-010-03 Film Production, Die (Flat/Circular).

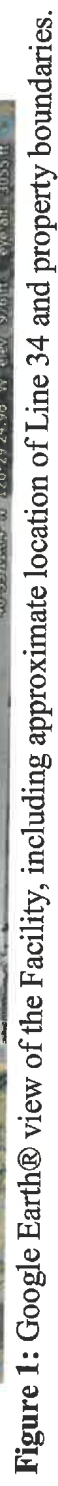
⁶ "Exceed Performance Polymers (PPA, Quartz, TALC)" is composed of 1% Silica, Quartz, CAS No. 14808-60-7. The respirable fraction of crystalline silica are particles under 10 microns in diameter, i.e. <PM10 (<https://safesilica.com/wp-content/uploads/2019/09/Safe-Silica-Whitepaper-Feb-2019.pdf>).

For conservative purposes, all particulates from extruders and die were considered as respirable fraction of crystalline silica, assuming also that all material throughput is composed of this material only. Respirable fraction of crystalline silica is listed as a TAP in WAC 173-460-150 with CAS No. 7631-86-9.

⁷ Total VOCs are determined by summing the HHC and LHC results.

Appendix B – List of resins approved to be used

SDS Product Name/Identifier	Manufacturer / Provider	Issue / Revision Date
- ATTANE™ 4704G Ultra Low Density Copolymer	DOW	5/14/2021
- DOWLEX™ 2045G Polyethylene Resin	DOW	7/18/2018
- ELITE™ 5230 G Enhanced Polyethylene	DOW	7/18/2018
- EXCEED™ PERFORMANCE POLYMERS (PPA, QUARTZ, TALC)	ExxonMobil	1/15/2020
- LOW DENSITY POLYETHYLENE HOMOPOLYMER - Grades designated by LD prefix	ExxonMobil	3/30/2022
- FPS417-5%CS	INGENIA	5/1/2019
- TPC 1285 (POLYISOBUTYLENE TPC 1285 IBC705)	Univar Solutions	2/16/2022
- Polypropylene Random Copolymer, Polypropylene, Ethylene-Propylene Copolymer (pp_copolymer)	TotalEnergies	8/7/2021
- SCLAIR® Polyethylene – Not Coloured (All Grades)	NOVA Chemicals	3/10/2023
- SURPASS® Polyethylene - Not Coloured (All Grades)	NOVA Chemicals	5/25/2022
- TUFLIN™ HS-7001 NT 7 Linear Low Density Polyethylene Resin	DOW	6/13/2018



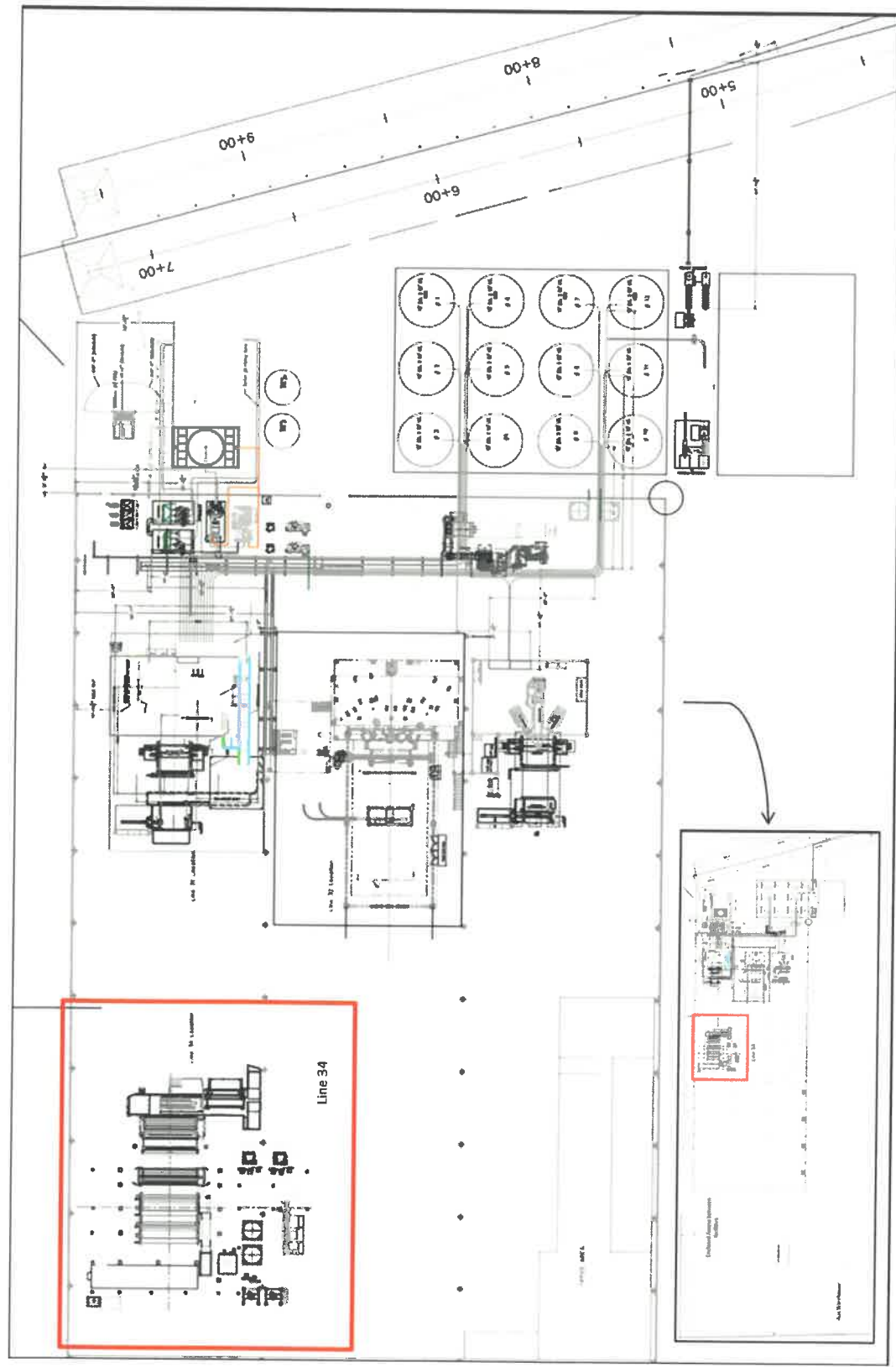


Figure 2: Facility's site plan layout. New Line 34 outlined in red.

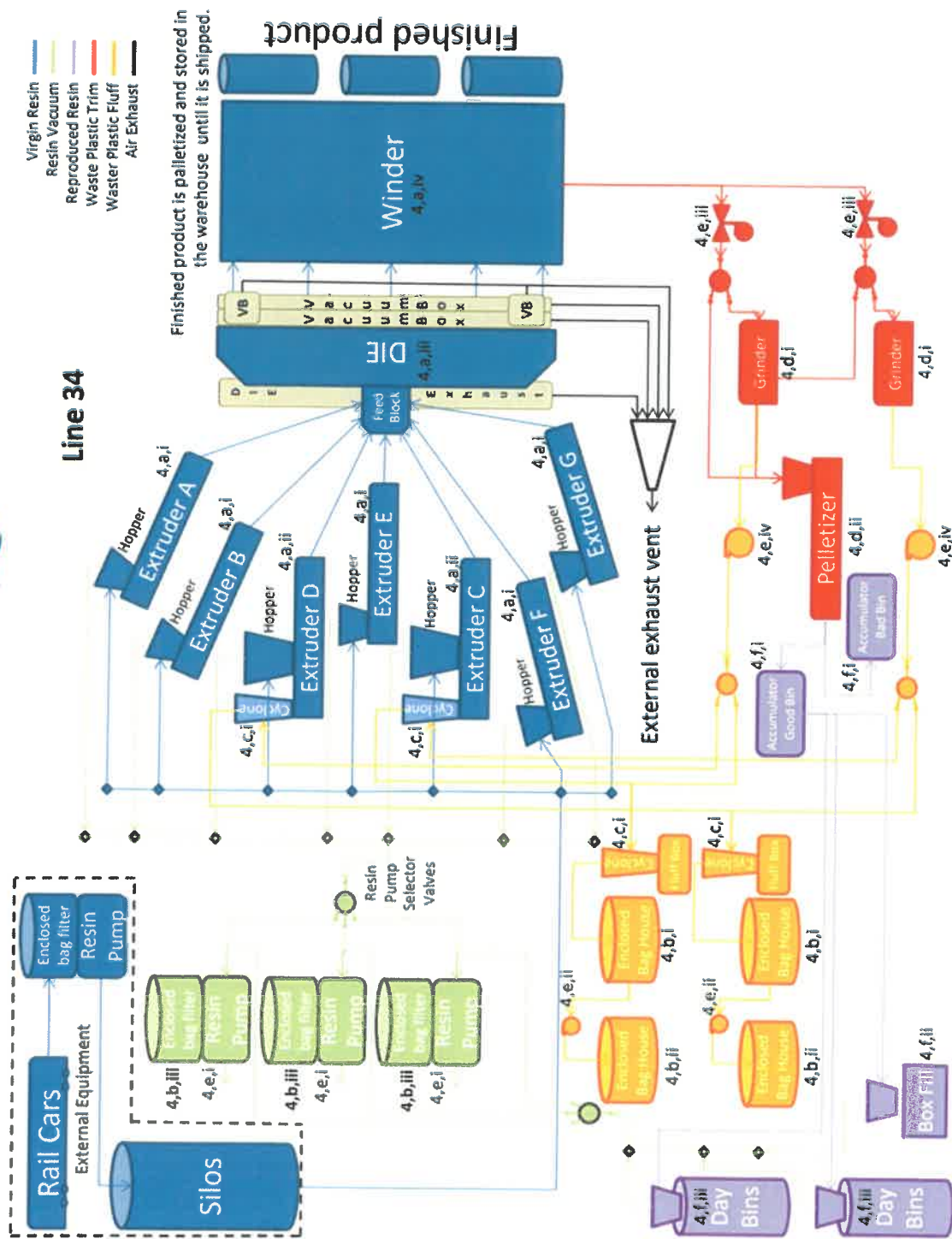


Figure 3: Process flow diagram for Line 34.*

*External equipment (dashed line) already permitted in previous Order.