NOTICE OF CONSTRUCTION
PRELIMINARY RECOMMENDATION to APPROVE
Mill Modifications

Issued to:	**McKinley Paper Co.**	**Cnty:**	**9**
Location:	**1902 Marine Drive**	**Srce:**	**7**
	Port Angeles, WA 98363	**RC:**	**OP1**
Application #:	**19NOC1327**	**File:**	**153**
Prepared on:	**6/10/2019**		

1. Executive Summary

The McKinley Paper Co. (McKinley) seeks approval through a Notice of Construction (NOC, aka Air Permit) to upgrade and modify existing equipment involved in pulp stock preparation and paper machines at their Washington paper mill (Mill) located at 1902 Marine Drive in Port Angeles, Washington. The upgrades and modifications proposed by McKinley, collectively referred to herein as the "Project," will enable use of a wider range of recovered fiber sources and the production of more competitive paper grades. Because the Project will result in an increase in the amount of an air contaminant emitted by the Mill, New Source Review (NSR) and approval of a NOC by Olympic Region Clean Air Agency (ORCAA) is required per ORCAA Rule 6.1, Washington Administrative Code (WAC) 173-400-110 and Chapter 173-460 WAC. ORCAA's Preliminary Recommendation is that the Project meets all criteria and standards for approving modifications of air pollution sources under both ORCAA's and Washington's clean air regulations and should be approved.

Physical and operational changes at the Mill involving other equipment are also proposed by McKinley but will not result in an increase in the amount of an air contaminant and, therefore, do not trigger NSR. As a separate project, McKinley will be replacing the steam turbine and improving reliability of the existing cogeneration plant biomass boiler by blocking off boiler tubes and making other modifications. The existing condensing turbine will be replaced with a back pressure turbine, which demands less steam. Both types of turbines use steam from the boiler to drive a generator and do not emit air contaminants directly. McKinley states in their NOC application that the steam turbine replacement will not affect emissions elsewhere in the Mill. The reliability changes will reduce the overall steam production of the Mill and will not increase emissions. The project will also reduce water consumption at the mill; minor physical and operational changes may be required at the existing wastewater treatment plant but not are expected to result in an increase of air emissions. ORCAA considered the effect

of the Project on all existing equipment at the Mill that emit air pollution and concluded only the recycle pulp plant and paper machines trigger NSR.

This report documents ORCAA staff's preliminary conclusions and recommendations with respect to criteria and requirements for approving new sources of air pollution and modifications under ORCAA's rules, which are pursuant to the Washington Clean Air Act under Chapter 70.94 of the Revised Code of Washington. A comprehensive description of McKinley's Project is contained in their NOC application (19NOC1327), which includes the following documents:

- Prevention of Significant Deterioration Analysis (McKinley, November 5, 2018);
- Prevention of Significant Deterioration Applicability Determination (Ecology, January 2019)
- Health Impact Assessment Report (McKinley, May 2019)
- Health Impact Assessment Recommendation Document for McKinley Paper Company (Ecology, June 2019)
- Second Tier Petition by McKinley Paper Company (Ecology, June 6, 2019)
- Determination of Non Significance (DNS 1406) (City of Port Angeles, April 30, 2019)

2. Public Hearing

A public hearing to gather testimony regarding air quality concerns associated with McKinley's Project will be held on August 1, 2019, commencing 6:30 pm and ending 8:00 pm at Room 160 of the Clallam County Courthouse, located at 223 E 4th St, in Port Angeles, Washington. Comments may be submitted to ORCAA in writing and will be accepted up to the close of the public hearing. Comments that may be considered by ORCAA in making a final determination are those pertaining to air quality implications of the Project.

ORCAA's Preliminary Recommendation and McKinley's NOC application are available at the Port Angeles branch of the North Olympic Library, located at 2210 South Peabody Street in Port Angeles, at ORCAA's headquarters in Olympia and at ORCAA's website http://www.orcaa.org/news-and-information/public-involvement/. Copies may be requested by calling ORCAA at (360) 539-7610 or by filling out a public record request on-line.

3. Regulatory Background

NSR refers to the air regulatory process required by the Washington Clean Air Act under Chapter 70.94 RCW to review and evaluate air quality implications prior to constructing, establishing, replacing or modifying a stationary source of air pollution. NSR is also required prior to replacing or substantially altering an air pollution control device. The goal of NSR is to assure new and modified stationary sources of air pollution and changes to air pollution controls comply with applicable air regulations and standards, including equipment performance standards and ambient air quality standards.

NSR is initiated by a project proponent submitting a Notice of Construction (NOC) application, which includes information on the proposed project of sufficient detail to characterize air impacts and applicable requirements for controlling air pollutant emissions. NOC applications are posted on ORCAA's website and may undergo a public notice and comment period if requested by the public or if emission increases trigger an automatic public notice. ORCAA may, in its discretion, hold a public hearing on the project if it determines significant public interest exists and shall provide at least 30 days prior notice of any hearing.

Approval of a NOC is contingent on verifying the proposed project meets the following criteria for approval from ORCAA's Rule 6.1:

1. ***Performance Standards -*** The new stationary source or modification complies with applicable air-performance standards such as federal new source performance standards (NSPS), national emission standards for hazardous air pollutants (NESHAPs), or any performance standards adopted under chapter 70.94 of the Revised Code of Washington (RCW);
2. ***BACT -*** The new stationary source or modification will employ "Best Available Control Technology" (BACT) to control all air pollutants emitted;
3. ***Ambient Air Quality –*** Emissions increases from the new stationary source or modification will not cause or contribute to a violation of any ambient air quality standard;
4. ***Prevention of Significant Deterioration (PSD) Permitting Requirements -*** If the project qualifies as a new major stationary source or a major modification as defined in WAC 173-400-720, then it must also comply with WAC 173-400-700 through 173-400-750; and,
5. ***Air Toxics -*** If there is a potential for toxic air pollutant (TAP) emissions increases, the stationary source or modification meets all applicable requirements of the State's regulations for new TAP sources under Chapter 173-460 WAC.

McKinley's Project will involve physically modifying two existing stationary sources or emissions units at the Mill resulting in increasing emissions: the recycle pulp plant and the paper machines. The Project qualifies as a modification triggering NSR because it will result in an increase in the amount of an air contaminant emitted from these two units. According to McKinley's NOC application, the Project will not increase either steam demand or wastewater rates. Therefore, emissions increases are only expected from the recycle pulp plant and paper machines.

Per applicable NSR regulations, review of a modification is limited to emission units proposed to be modified and air contaminants whose emissions would increase as a result of the modification. Therefore, NSR requirements were only imposed on the recycle pulp plant and paper machines. However, ORCAA's review considered the effect of the Project on all emissions units at the Mill. Also, as allowed under applicable NSR regulations, contemporaneous emission decreases from existing emissions units that will be decommissioned as a result of the Project were also considered.

4. Facility Background

History

McKinley's Mill in Port Angeles was originally built in 1920 and has operated continuously at this location since this date. The Mill was purchased by McKinley Paper Co. in 2017 from Nippon Paper Industries USA Co., Ltd.

The Mill is located at the base of Ediz Hook, which is zoned "Industrial Heavy" and is on the western edge of Port Angeles Harbor, as shown in Figure 1. The dominant wind direction is from the west and follows the Strait of Juan de Fuca with an occasional onshore breeze of less than 7 knots. The nearest residential area is located south of the facility at a distance of roughly 2000 ft.

Figure 1. Location of McKinley Paper Co. – Washington Mill

* Imagery ©2018 Google, Maps data ©2018 Google
** Annotations by ORCAA

In 1992, the recycle pulp plant was added to the Mill. This allowed the Mill to add post-consumer recycle fiber to paper products. In 2011, the Mill's cogeneration plant was approved by ORCAA. The cogeneration plant commenced operation in 2014. In 2015, an old corrugated cardboard (OCC) tub pulper was approved by ORCAA and added to

the recycle pulp plant. A summary of NOCs approved by ORCAA since 1975 is provided in the following table.

Table 1: New Source Review Approvals

Approval Order	Description
1975 NOC	This NOC was submitted by Crown Zellerbach to construct a sawmill adjacent to the paper mill. The sawmill was never constructed.
76NOC104	Approved modifications to Boiler #8 allowing combustion of hogged fuel on a grate, fly ash collection and reinjection, and installation of a venturi scrubber.
81NOC326	Approved construction of Boilers #9 and #10 as standby units to replace Boilers #6 and #7.
87NOC384	Approved dry clay storage and transfer system. These are still operating as insignificant emission units.
89NOC421	Approved a mill expansion that never occurred.
96NOC009	Approved dust collection system in the recycled paper warehouse.
03NOC305	Approved overfire air and grate systems in boiler #8. The approval order was superseded by 03NOC325.
03NOC318	Approved installation of a passive landfill gas venting system and closure of the Phase II section of Mill's landfill located in Port Angeles.
03NOC325	Approved changes to Approval Order 03NOC305.
06NOI475	Approved use of post-consumer wood waste as boiler fuel.
10NOC763	Approved construction of the cogeneration plant.
12NOC885	Approved construction of an aboveground storage tank for the dispensing of gasoline into motor vehicles at the facility.
12NOC889	Approved construction of cooling towers for the cogeneration plant.
13MOD989	Approved modifications to condition 14 of the Approval Order 10NOC763 for the cogeneration plant in order to reflect the current, effective National Emission Standards for Hazardous Air Pollutants (NESHAP) for boilers, 40 CFR 63 Subpart DDDDD (Boiler MACT)
13MOD998	Approved modifications to conditions 15, 18, 22, and 26 of Approval Order 10NOC763 for the cogeneration plant to align with current particulate matter (PM) monitoring requirements in the effective National Emission Standards for Hazardous Air Pollutants (NESHAP) for boilers, 40 CFR 63 Subpart DDDDD (Boiler MACT).
15MOD1131	Approved voluntary limits on Boilers #9 and #10. The Approval Order for 15MOD1131 establishes enforceable conditions to limit use of Boilers #9 and #10 so they can be considered "Limited-Use" boilers under the National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (AKA: The Boiler MACT).
15NOC1115	Approved old corrugated tub pulper.
15MOD1125	Approved relaxing NOx limit on cogeneration plant boiler.

Ambient Air Quality

Air quality in the Port Angeles area is generally good. ORCAA has maintained at least one air monitoring station in Port Angeles since 1970. Between 2000 and 2015 ORCAA's ambient monitoring station was located at Steven's Middle School at 1139 W 14th Street. In 2015, the air monitor was relocated to the Port Angeles Fire Department, 102 E 5th St. Although the Port Angeles area was considered in non-attainment of the

total suspended particulate standards (TSP) in 1978[1], no violations of the National Ambient Air Quality Standard (NAAQS) for $PM_{2.5}$ or PM_{10} have been documented in the region since 1990.

In the Port Angeles area, moderate to unhealthy air quality due to ambient particulate concentrations may develop during air stagnation episodes that are accompanied by cold weather. Based on ORCAA's monitoring records, these episodes have occurred 20 to 40 days out of the year and can be attributed to increased residential woodstove use during cold weather and stagnant conditions preventing subsequent emissions from dispersing and leading to an accumulation of pollution in the atmosphere.

As with all of western North America, wildfires have recently caused unhealthy air quality to persist for days during the summer.

Existing Pulp Plant

The Mill as currently equipped is considered an integrated pulp and paper mill since it is capable of producing pulp from several recycled fiber feedstocks as well as from virgin fiber. Historically, 20 to 25% of the fiber in the paper produced by the Mill consisted of recycled fiber reclaimed from newspaper, magazine paper, office waste, telephone directories and old corrugated cardboard, all of which were pulped on site. The remainder of the fiber in the paper produced has either been produced on site from mechanically refined wood chips or from purchased Kraft pulp, which is re-pulped on site. The Mill is not equipped for Kraft or sulfite pulping, although such pulp may be purchased from outside sources. The existing Mill includes the following pulp making equipment:

- Kraft re-pulper - The Kraft re-pulper is used to re-pulp purchased Kraft pulp. The Kraft re-pulper is not regulated as a distinct emissions unit under the Mill's current AOP.
- Refiner lines – The existing Mill includes two operational refiner lines used to mechanically produce pulp from virgin fiber stock. Refiner lines #2 and #3 are regulated as Emissions Unit 1 (EU1) under the Mill's AOP. The refiner lines predate NSR regulations.
- Recycle pulp plant – Used to pulp recycled newspaper, telephone directories, magazines and office paper. Referred to as the "deinking plant" and regulated as Emissions Unit 5 (EU5) under the Mill's current AOP. It was constructed in 1992.
- Old corrugated cardboard tub pulper (OCC Pulper) - Used specifically to pulp recycled corrugated cardboard. The OCC pulper is regulated as Emissions Unit 13 (EU13) under the Mill's current AOP.

Existing Paper Machines

The Mill was originally constructed with one paper machine. By 1927, the Mill had three paper lines and produced nearly 120,000 tons of newsprint each year. The mill

[1] Maps Depicting Nonattainment Areas Pursuant to Section 107 of the Clean Air Act, U.S., Environmental Protection Agency, April 1980: Appendix A, page X-37.

continued in this configuration until the 1960s when the original paper line was shut down and the other two lines were converted to directory paper. The Mill currently operates two paper machines which are regulated in aggregate as Emissions Unit 6 (EU6) under the Mill's current AOP. The existing paper machines have the capacity to produce 550 ADT/day and 800 ADT/day of lightweight printing and heavier bag grades of paper respectively.

Existing Cogeneration Plant

Steam and heat required by the Mill are met by an existing cogeneration plant comprised of a biomass fueled boiler, cooling towers and a condensing steam turbine. The cogeneration plant was permitted by ORCAA in 2011 (10NOC763) and began operating in 2014. Steam for the cogeneration plant is produced by a solid-fuel, vibrating grate boiler with a design heat input rate of 420 million British thermal units per hour (MMBtu/hr). It combusts wood-derived fuel, distillate fuel (startup only), and minor amounts of dewatered sludge from the Mill's wastewater treatment plant. Electricity is produced in a condensing steam turbine capable of producing up to 20 megawatts of electricity.

About 200,000 bone-dry tons of biomass fuel are required to fire the cogeneration plant annually. The bulk of this fuel has been wood in the form of forest slash (minimally processed remains from wood harvesting) and hog fuel from local sawmills (bark, sawdust, trim, and other residuals from lumber production). A small amount (less than one percent) of the fuel has originated from post-consumer wood waste. Post-consumer wood waste fuel is required to be quality assured and is prohibited from containing contaminated materials. Since the boiler first began operating, about 5 percent of the fuel (on a heat value basis) combusted has been clarifier sludge from the on-site wastewater treatment plant.

The cogeneration plant biomass boiler is regulated as Emissions Unit 8 (EU8) under the Mill's current AOP. The cogeneration plant cooling towers are regulated separately as Emissions Unit 9 (EU9).

Existing Wastewater Treatment Plant

Treatment of point and non-point wastewater generated by the Mill is accomplished by an on-site wastewater treatment plant, which is regulated for air emissions as Emissions Unit 7 (EU7) under the Mill's current AOP. Water quality of treated wastewater outfalls from Mill are regulated through a National Pollutant Discharge Elimination System (NPDES) permit issued and enforced by Ecology (WA-00292-5).

Past operations of the Mill required treatment of approximately 8 million gallons per day of wastewater. The wastewater treatment plant includes both a primary clarifier and a secondary air-activated sludge system and clarifier. Sludge from the primary and secondary clarifiers, along with sludge from the recycled paper plant, is dewatered in a screw press. Sludge from the primary clarifier consists mainly of wood fibers and clay.

Sludge from the secondary clarifier contains a high percentage of fiber fines. The recycled paper plant sludge consists of fiber fines, clay and ink from the waste-paper.

5. Project Description

The Project proposed by McKinley will involve physical modifications and changes in the methods of operation of the recycle pulp plant and existing paper machines:

1. The existing paper machines will be modified and operated to enable production of heavier and stronger grades of paper; and,
2. The existing recycle pulp plant will be upgraded and converted to a single-line, continuous pulper with a 900 oven-dried tons of pulp per day (900 ODTP/day) capacity and capable of processing a variety of fiber feedstock.

Modifications to the existing paper machines will include replacing four dryer cans on paper machine 1 and other improvements to increase paper strength. No modifications to paper machine 2 were identified in the NOC application. All modifications to the paper machines will occur inside the existing paper machine building. No new exhaust vents will be added and exhaust rates will remain the same.

All proposed equipment upgrades and modifications to the recycle pulp plant will occur inside the existing recycling plant building. Modifications to the recycle pulp plant will include:

- Replacing the existing old newspaper print pulper with a new single-line continuous pulper with a 900 ODTP/day capacity.
- Modifying the stock contaminant removal system by adding new cleaning and screening equipment.
- Upgrading the pulping reject removal, dewatering and compaction systems.
- Adding a dissolved air flotation system for effluent clarification.

The modifications will enable production of new, heavier paper grades, and will increase the gross production capacity of the Mill from 800 to 840 air-dried tons per day (ADT/day), representing a 40 ADT/day increase. As a result, emissions of certain air pollutants from the recycle pulp plant and paper machines will increase compared to historical baseline emissions. Therefore, the changes qualify as “modifications” and trigger the requirement to secure ORCAA’s approval of a NOC application prior to commencing the Project.

The Project will also involve several changes to exiting emissions units at the Mill resulting in emissions reductions:

1. The existing old corrugated cardboard (OCC) tub pulper will be decommissioned; and,
2. The two existing mechanical refiner lines used to produce pulp from virgin fiber stock will be decommissioned.

McKinley’s NOC application states there is no anticipated increase in the steam demand from the Mill or increases in emissions from the cogeneration plant boiler (EU8

in current AOP) or the cogeneration plant cooling tower (EU9 in current AOP) due to the Project. The application also states there is a separate reliability improvement project planned for the cogeneration plant, which will not increase the cogeneration plant boiler capacity or emissions.

Based on conversations with McKinley representatives, ORCAA's understanding is that the reliability project will include blocking off boiler tubes, replacing the condensing steam turbine with a back-pressure steam turbine, reducing, if not eliminating, use of the cooling towers, and making other minor changes. None of the changes will increase the boiler's design heat rate or potential emissions.

Although the Mill's gross production capacity will increase by 40 ADT of paper per day, steam demand from the Mill will likely decrease due to several Project changes including changing the product grade and more efficient pulping operations. Because both steam demand and the potential to emit of the cogeneration plant boiler will not increase, actual emissions from the cogeneration plant boiler are not expected to increase as a result of the Project. Based on these outcomes, ORCAA concurs with McKinley that the proposed changes to the cogeneration plant (including the boiler and cooling tower) are not part of the Project and not subject to NSR.

According to McKinley's NOC application, the Project will not involve any significant physical or operational changes to the Mill's existing wastewater treatment plant. In addition, although pulping capacity will increase, McKinley anticipates an overall decrease in effluent loading to the wastewater treatment plant due to upgrades to the pulp cleaning and screening processes, and improving the mill water balance from a batch-style refining operation to a continuous recycle pulping process aligned with the paper machine operations. Based on this outcome, decreases in air pollutant emissions from the wastewater treatment plant are also expected. ORCAA concurs with McKinley that the existing wastewater treatment plant is not part of the Project and not subject to NSR permitting at this time.

The following table summarizes NSR applicability for the Project.

Table 2: Project Summary by Emission Unit

Emission Unit	ID	Proposed Physical/ Operational Changes?	Emission Rate Changes	NSR Triggered?
Refiner Lines	EU1	Decommissioned	Decreases in TAP	N/A
Boiler #8	EU2	Shutdown in 2016	No	No
Boiler #9 (limited use boiler)	EU3	None	No	No
Boiler #10 (limited use boiler)	EU4	None	No	No
Recycle Pulp Plant (AKA: Deinking plant)	EU5	Yes - Converted to a single-line, continuous pulper capable of processing a variety of fiber feedstock	Increases in TAP	Yes

Emission Unit	ID	Proposed Physical/ Operational Changes?	Emission Rate Changes	NSR Triggered?
Paper Machines (1 & 2)	EU6	Yes - Modified to enable production of heavier and stronger grades of paper	Increases in TAP	Yes
Wastewater Treatment Plant	EU7	None expected	No	No
Cogeneration Plant Boiler	EU8	Yes – Reliability project including plugging boiler tubes and replacing steam turbine.	No	No
Cooling Towers	EU9	None	No	No
Gasoline Dispensing	EU10	None	No	No
Portable, Temporary Generators	EU11	None	No	No
Landfill	EU12	None	No	No
OCC Tub Pulper	EU13	Decommissioned	Decreases in TAP	N/A

6. Emission Rate Increases

Background

According to definitions under the Washington's Clean Air Act and ORCAA's rules, emissions increases used to determine whether a physical change or change in the method of operation of an existing stationary source (emissions unit) triggers NSR as a "modification" must be based on the increase in hourly emissions rates in terms of pounds per hour of each pollutant emitted. In addition, the term "modification" must be construed consistent with the definition of modification in Section 7411, Title 42, United States Code, and with rules implementing that section[2]. Based on all applicable definitions and national NSR guidance, the increase in emissions rates for determining whether a modification triggers NSR must be determined based on the difference in pre- and post-Project emissions rates.

Emission rate increases should be determined on a pollutant-by-pollutant basis. Past actual emissions rates should reflect maximum actual emissions rates realized during the preceding year, provided they complied with emissions limits. In cases where an emissions unit was shut down during the preceding year, years prior to the preceding year may be used for determining past actual emissions rates as long as the emissions unit was maintained throughout the shutdown period, and provided the air regulatory agency agrees with the choice of the year to determine past actual emissions rates. Future potential emission rates should be based on the maximum Potential to Emit (PTE) of the emission unit. PTE represents the maximum capacity of the emission unit to emit under its physical and operational design considering enforceable emission limits and required air pollution controls.

[2] Definition of modification from WAC 173-400-030(51), 9/16/18.

Recycle Pulp Plant and Paper Machines

McKinley determined that emissions rates will only increase for the paper machines and the recycle pulp plant as a result of the Project. The increases for these units are mainly due to increases in capacity to produce pulp and paper. Compared to the former refining and recycle pulp operations, overall pulping capacity will increase from 700 to 900 ODTP/day. For the paper machines, capacity to produce heavyweight liner and bag grades of paper will increase from 800 to 840 ADT/day.

Pre- and post-Project differences in emissions characteristics of the recycle pulp plant and paper machines were also considered and are reflected in calculated emissions increases. For the recycle pulp plant, emissions characteristics will be similar but are not identical compared to the existing plant. The proposed recycle pulp plant will require fewer additives, such as surfactants (soap-like additives for ink removal) because of the change in fiber sources (mixed paper and OCC instead of old newspaper print (ONP)). In addition, no bleaching of the pulp will be needed because brown paper is the desired final product. Likewise, for the paper machines, emissions characteristics will change as a result of producing heavier grades of paper from 100% recycle fiber stock.

Changes in the characteristics of emissions from the recycle pulp plant and paper machines were accounted for by McKinley using the most representative emissions factors to calculate pre- and post-Project emissions rates for both the recycle pulp plant and paper machines. This was accomplished using emissions factors published by the National Council for Air and Stream Improvement (NCASI). The NCASI emissions factors used to calculate emissions from the existing recycle pulp plant are based on air emissions testing of recycle pulp operations with deinking and bleaching, which best represents the existing recycle pulp plant. The NCASI emissions factors used to calculate emissions from the post-Project recycle pulp plant are based on air emissions testing of pulping operations at recycled paperboard facilities without deinking and bleaching, which best represents the post-Project recycle plant. The NCASI emissions factors used to calculate emissions from the pre-Project paper machines represent emissions from paper machines processing mainly mechanical pulp whereas the factors used for post-Project emissions represent emissions from paper machines processing 100% recovered fiber.

ORCAA reviewed McKinley's emissions calculations for the recycle pulp plant and agrees with the emissions factors chosen to represent pre- and post-Project emissions. However, ORCAA did require the following adjustments to calculation methods, which were made and are reflected in the final version of the NOC application submitted to ORCAA on May 7, 2019:

- Not including emissions reductions from decommissioning the OCC Tub Pulper in calculating emissions increases because the tub pulper didn't exist in 2012 or 2013, which were the baseline years chosen for determining past actual emissions.
- Using emissions factors equal to half the detection limit for evaluating TAPs tested for by NCASI, but not detected at the limits of the methods used.

- Reconciling differences between tons of paper produced and ADTP based on a 10% moisture content of ADTP.

McKinley updated their NOC application to reflect these changes. ORCAA's understanding is that the same changes were made to emissions rates used to support McKinley's Health Impact Assessment, which was submitted to Ecology for review on May 1, 2019.

Cogeneration Plant

As explained previously, the design heat rate and potential to emit of the cogeneration plant boiler will not increase. In addition, steam demand from the Mill and from the steam turbine are expected to decrease. McKinley expects the steam turbine to produce a maximum of about 9.5 MW electricity, which is half the design rate of the existing condensing steam turbine. Therefore, ORCAA concurs with McKinley that there will be no increases in emissions rates of any pollutant from the cogeneration plant boiler as a result of the Project.

Other Emissions Units

The Project will not involve modifications to other emissions units that trigger NSR. Emissions decreases from retiring the existing OCC tub pulper and refiner lines are reflected in the net emissions calculations as allowed under WAC 173-460-800(3), which are described later.

Summary of Emission Rate Increases

The Project will result in an increase in the amount of an air contaminant emitted from the recycle pulp plant and paper machines, thereby triggering NSR for these units. The Project will also result in decreasing emissions from the refiner lines and OCC tub pulper, which will be decommissioned as a result of the Project. Although the Project will involve physical changes and changes to the methods of operation of other emissions units at the Mill such as the cogeneration plant boiler, emissions rates from other emissions units will not increase as a result of the Project and, therefore, are not subject to NSR. Table 3 shows the estimated changes in emission rates for the recycle pulp plant and paper machines resulting from the proposed modifications. These rates reflect emissions at the maximum capacity of the emissions unit, which coincides with the maximum potential to emit. For certain pollutants, the emission rates will increase thus triggering NSR.

Table 3: Increases/Decreases in Emissions Rates (lbs/hr)

Pollutant	Recycle Pulp Plant	Paper Machines
PM 2.5	0.00E+00	4.45E-02
PM10	0.00E+00	6.40E-02
PM	0.00E+00	7.00E-02
SO2	0.00E+00	0.00E+00
NOx	0.00E+00	0.00E+00
CO	0.00E+00	0.00E+00
VOC	-4.90E-01	6.15E+00
Lead	0.00E+00	0.00E+00
Acetaldehyde	-5.21E-02	-1.43E-01
Carbon Disulfide	6.51E-02	-1.47E-01
Chloroform	-3.36E-01	3.34E-02
Cumene	1.19E-02	3.68E-03
Formaldehyde	4.69E-03	2.10E-01
Methanol	-1.37E-01	-1.89E+00
Methyl Ethyl Ketone	-1.16E-02	-1.42E-04
Methylene Chloride	3.85E-03	1.45E-02
Naphthalene	1.13E-02	-9.33E-02
Phenol	-1.38E-02	-2.19E-01
Toluene	-1.01E-01	1.75E-01

Note: Table 3 shows the estimated change in the pound per hour emission rate of each pollutant at maximum potential to emit, which are attributable to proposed modifications.

Projected Change in Emissions

The projected change in emissions for each emission unit triggering NSR is shown in Table 4. The projected change in emissions is the difference in future potential emissions (post-Project) minus past actual emissions (also referred to as “baseline actual emissions”). The projected change in emissions provides the best estimate of the maximum change in emissions the environment will experience after a modification considering how the modified emission unit operated in the past.

Table 4: Projected Change in Emissions (annual)

Pollutant	Units	Recycle Pulp Plant	Paper Machines
PM 2.5	tons/year	0.00E+00	2.00E+00
PM10		0.00E+00	2.90E+00
PM		0.00E+00	3.20E+00
SO2		-7.89E+01	0.00E+00
NOx		0.00E+00	0.00E+00
CO		0.00E+00	0.00E+00
VOC		-1.70E+01	4.28E+01
Lead		0.00E+00	0.00E+00
Acetaldehyde	pounds/year	-4.01E+03	-3.17E+02
Carbon Disulfide		4.41E+02	2.75E+02
Chloroform		-1.46E+03	1.06E+03
Cumene		-6.07E+02	4.30E+02
Formaldehyde		-1.05E+03	1.87E+03
Methanol		-2.22E+04	-2.24E+04
Methyl Ethyl Ketone		-2.29E+03	-5.43E+02
Methylene Chloride		-7.37E+00	7.43E+02
Naphthalene		-2.35E+03	-3.02E+02
Phenol		-6.06E+03	-8.29E+03
Toluene		2.71E+01	4.81E+03

7. Toxic Air Pollutant (TAP) Review

Because the Project will result in increasing emissions of certain Toxic Air Pollutants (TAP), review under Washington's Controls for New Sources of Toxic Air Pollutants (Chapter 173-460 WAC) referred to herein as the "WA Air Toxics Regulation" was triggered. As stated in WAC 173-460-110, the purpose of the Washington Air Toxics Regulation is to "establish the systematic control of new or modified sources emitting toxic air pollutants (TAPs) in order to prevent air pollution, reduce emissions to the extent reasonably possible, and maintain such levels of air quality as will protect human health and safety." The TAPs covered under the regulation include carcinogens and noncarcinogens.

The Air Toxics Regulation has two independent requirements for new sources and modifications that increase TAP emissions:

1) **tBACT:** The new or modified emission units must use Best Available Control Technology to control TAP emissions; and
2) **Ambient impact requirement:** The NOC application must demonstrate that any increase in TAP from the new or modified emission units are sufficiently low to

protect human health and safety from potential carcinogenic and/or other toxic effects.

tBACT

McKinley's NOC application also included a tBACT analysis conforming to the requirements in WAC 173-460-060 of the WA Air Toxics Regulation. ORCAA reviewed McKinley's tBACT analysis and agrees with their conclusions. The Approval Order issued by ORCAA will include emissions limitations and work practice standards to assure ongoing maintenance of tBACT in the future.

Ambient Impact Requirement

For the ambient impact requirement, the WA Air Toxics Regulation provides a multi-tiered screening approach to assess the potential of health impacts from TAP increases. The "First tier review" (Tier 1 review) is a screening-level review and involves comparing estimated air impacts with Acceptable Source Impact Levels (ASIL), which are unique to each TAP and listed in the regulation. The Tier 1 review is required for any TAP found with an emission increase greater than the de minimis threshold, which are also listed by TAP in the regulation. If the modeled impact of the increase in emissions of a TAP does not exceed its corresponding ASIL, the First Tier Review is passed for that TAP. This analysis typically involves the use of an ambient air quality model to predict ambient concentrations of the pollutant followed by a comparison with the ASIL. However, the Air Toxics Regulation also provides that if the calculated emission rate is less than the Small Quantity Emission Rate (SQER) for any TAP, then emissions are sufficiently low to ensure compliance with the ASIL without further analysis (WAC 173-460-020(7)). SQER are listed in the Air Toxics Regulation for all TAP.

For pollutants with ambient concentrations found to be greater than their ASIL, a "Second tier review" (Tier 2 review) by the Washington Department of Ecology (Ecology) is required. An applicant may submit a petition requesting Ecology perform a Tier 2 review to determine compliance with the ambient impact requirement of the WA Air Toxics Regulation. Tier 2 petitions must include a Health Impacts Assessment (HRA) and projected ambient TAP impacts based on refined air dispersion. Ecology's review and approval of a Tier 2 petition is contingent on finding that impacts meet the underlying requirement that increases in TAP emissions are sufficiently low to protect human health and safety from potential carcinogenic and/or other toxic effects. If Ecology recommends denial of a Tier 2 petition, the permitting authority may not approve the project. The applicant then has the option of submitting a petition for a "Third tier review" (Tier 3 review) by Ecology and a request for a risk management decision.

The WA Air Toxics Regulation provides under WAC 173-460-040(2) that review of a modification be limited to the emission unit or units proposed to be modified and the TAPs whose emissions would increase as a result of the modification. Therefore, for

McKinley, TAP review of the Project was limited to the recycle pulp plant and paper machines because air emissions will increase from these units.

McKinley calculated TAP increases by subtracting past actual (referred to as baseline) emissions from future potential emissions. McKinley chose the average of actual production data from 2012 and 2013 to determine past actual emissions. This choice was acceptable to ORCAA. McKinley calculated future potential TAP emissions based on maximum capacities of the recycle paper pulp plant and paper machines and continuous operation. As provided under WAC 173-460-080(3), reductions in actual emissions from emissions units being retired were allowed to offset TAP increases. Therefore, past actual emissions from the refiner lines, which will be retired as a result of the Project and were in operation during 2012 and 2013, were allowed to be reflected in the baseline emissions. However, the OCC tub pulper was not allowed to be reflected in baseline TAP emissions even though it will be retired. This is because the OCC tub pulper did not exist in 2012 and 2013, which were the baseline years chosen by McKinley to determine past actual TAP emissions.

McKinley's calculations of TAP emissions increases were provided in their NOC application. ORCAA reviewed McKinley's calculations including production data sets, TAP emissions factors, assumptions and equations used. ORCAA's conclusion is that the emissions increases calculated by McKinley conservatively estimate TAP increases and are appropriate for estimating TAP impacts and compliance with the WA Air Toxics Regulation. Table 5 shows the TAP emissions increases (overall for the Project) provided in McKinley's NOC application.

Table 5: TAP Emissions Increases (lbs/ave. period)

Pollutant	Averaging Period	TAP Increase (lb/averaging period)	De Minimus (lb/averaging period)	Below DeMinimis?	SQER (lb/averaging period)	Below SQER?	ASIL (µg/m3)	Model Results (µg/m3)	Below ASIL?
Acetaldehyde	year	-4329.97	3.55	Yes	71	--	0.37	--	--
Carbon Disulfide	24-hr	1.96	5.26	Yes	105	--	800	--	--
Chloroform	year	-402.87	0.417	Yes	8.35	--	0.0435	--	--
Cumene	24-hr	-0.49	2.63	Yes	52.6	--	400	--	--
Formaldehyde	year	818	1.6	No	32	No	0.167	0.64	No
Methanol	24-hr	-122.22	26.3	Yes	526	--	4000	--	--
Methyl Ethyl Ketone	24-hr	-7.77	32.9	Yes	657	--	5000	--	--
Methylene Chloride	year	735.80	9.59	No	192	No	1	0.28	Yes
Naphthalene	year	-2653.67	0.282	Yes	5.64	--	0.0294	--	--
Phenol	24-hr	-39.32	1.31	Yes	26.3	--	200	--	--
Toluene	24-hr	13.25	32.9	Yes	657	--	5000	--	--

From McKinley NOC application, May 7, 2019

As shown in Table 5, emission increases for all TAP except two, Methylene Chloride and Formaldehyde, were determined to be less than their respective Small Quantity Emission Rate (SQER) threshold. Methylene chloride emissions were modeled by McKinley and found to be below the ASIL. Therefore, emissions of all TAP except formaldehyde pass the Tier 1 review. Modeled impacts from the increase in formaldehyde emissions were above the ASIL, therefore a Tier 2 review by Ecology was triggered. A Tier 2 petition was submitted to Ecology on May 1, 2019. Ecology's review of McKinley's Tier 2 petition is still pending.

8. Performance Standards

ORCAA's Rule 6.1.4(a)(1) and WAC 173-400-113 require a finding that any new or modified stationary source will likely comply with applicable state, federal and local performance standards for air emissions including emission standards adopted under chapter 70.94 of the Revised Code of Washington (RCW), emissions standard of ORCAA, and federal emission standards including New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and National Emission Standards for Hazardous Air Pollutants for Source Categories (MACT standards). Because McKinley's Project triggers NSR for modifications to the recycle pulp plant and paper machines and no other emissions units at the Mill, only performance standards potentially applicable to recycle pulp plant and paper machines were reviewed. Performance standard applicability for other parts of the Mill are addressed in McKinley's current AOP. Compliance evaluations for relevant performance standards determined to apply are summarized in Table 6. Applicability determinations for relevant performance standards determined inapplicable are summarized in Table 7.

Table 6: Applicable Performance Standards - Recycle Pulp Plant and Paper Machines

Regulation Title *Citation*	Description	Compliance Evaluation
Concealment and Masking *WAC 173-400-040(8)* *&* *ORCAA 7.5*	Prohibits the installation or use of any means that conceals or masks an emission of an air contaminant that would otherwise violate any provisions of this chapter.	N/A
Particulate Standards for Process units *WAC 173-400-060* *ORCAA Rule 8.3(a)*	Prohibits emissions from any process unit in excess of 0.1 grain/dscf. EPA test methods from 40 CFR Appendix A shall be used should demonstration of compliance be required.	Particulate emissions from both recycle pulp plant and paper machines expected to be de minimis.
General Standards for Maximum Visual Emissions *WAC 173-400-040(2)* *ORCAA Rule 8.2(a)*	Prohibits emissions with opacity of greater than 20% for more than three (3) minutes in any one hour.	Vents on buildings for both the recycle pulp plant and paper machines will expected to exhibit steam, not opacity.
Control Equipment Maintenance and Repair *ORCAA Rule 8.8*	ORCAA Rule 8.8 requires that all air contaminant sources keep any process and/or air pollution control equipment in good operating condition and repair.	Although this general applicable requirement applies, there are no air pollution controls on either the recycle pulp plant or paper machines.
Emission Inventory *WAC 173-400-105(1)* *&* *ORCAA 4.3*	Requires maintenance of records relating to air pollutant emissions and submittal of an annual emissions inventory if required.	McKinley already submits an emissions inventory to ORCAA annually and is accustomed to meeting this requirement.
Emissions Detrimental to Persons or Property *WAC 173-400-040(6)* *&* *ORCAA 7.6*	Prohibits emissions of any air contaminant from any source that are detrimental to persons or property.	Maintaining compliance with this prohibition will likely not be an issue. The new recycle pulp plant will use less in the way of chemical additives. McKinley will be required to keep track

Regulation Title *Citation*	Description	Compliance Evaluation
		of the compositions and amounts of all chemical additives in the pulping process,
Fallout Prohibition *WAC 173-400-040(3)* *&* *ORCAA 8.3(e)*	Prohibits particulate emissions from any source to be deposited, beyond the property under direct control of the owner or operator of the source, in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material was deposited.	Maintaining compliance with this prohibition will not likely be an issue since particulate emissions from both the recycle plant and paper machines are insignificant.
Odor Control and Prohibitions *WAC 173-400-040(5)* *&* *ORCAA Rule 8.5*	Both rules include general requirements for controlling odors and a general prohibition of odors that unreasonably interfere with the use or enjoyment of a person's property.	Maintaining compliance with the general requirements for odors is not likely to be an issue. The recycle pulp plant will require fewer chemical additives and will not include bleaching. Both outcomes will reduce the potential for generation of odors.
Record Keeping and Reporting *ORCAA 8.11*	Requires the following: 1. Maintenance of records on the nature and amounts of emissions and other related information as deemed necessary by ORCAA; 2. Reporting of emissions to ORCAA upon request.	Required records will be specified in the Approval Order issued to approve this NOC.
National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry *40 CFR Part 63, Subpart S*	This federal subpart applies to facilities that are major sources of hazardous air pollutants (HAP) and that produce pulp, paper, or paperboard via any of the following processes: • Kraft, soda, sulfite, or semi-chemical pulping processes using wood; or • Mechanical pulping processes using wood; or • Any process using secondary or non-wood fibers.	ORCAA's determination is that this federal subpart applies. However, because McKinley's recycle pulp plant will not include bleaching, no performance standards from the subpart apply. Only recordkeeping and reporting requirements from the subpart apply. These will be specified in the Approval Order.

Table 7: Relevant Performance Standards Determined Inapplicable - Recycle Pulp Plant and Paper Machines

Regulation Title *Citation*	Description	Basis
Standards of Performance for Kraft Pulp Mills 40 CFR Part 60, Subpart BB	These federal subparts apply to kraft pulp mills and pulp mills where kraft pulping is combined with neutral sulfite semi chemical pulping. Kraft pulp mill means any mill that produces pulp from wood by cooking (digesting) wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure.	Kraft pulping does not occur at the Mill currently and will not post-Project. McKinley's recycle pulp plant does not rely on the Kraft process to recycle pulp.
Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013. 40 CFR Part 60, Subpart BBa		
National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi-chemical Pulp Mills 40 CFR Part 63, Subpart MM	This federal subpart applies to kraft, soda, sulfite, or stand-alone semi-chemical pulp mills that are major sources of Hazardous Air Pollutants (HAP).	McKinley's Mill is not a kraft, soda, sulfite, or stand-alone semi-chemical pulp mill per the definitions of these terms in the subpart.

9. Best Available Control Technology (BACT)

ORCAA's Rule 6.1.4(a)(2) requires new stationary sources and modifications to use Best Available Control Technology (BACT) to control increases in air pollutant emissions. Per the WA Air Toxics Regulation, Best Available Control Technology for Toxic Air Pollutants (tBACT) is the required level of control for TAP emissions increases from new stationary sources and modifications. BACT and tBACT share the same definition from Chapter 173-400-030 WAC: *"an emission limitation based on the maximum degree of reduction for each air pollutant subject to regulation under chapter 70.94 RCW emitted from or which results from any new or modified stationary source, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes and available*

methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each pollutant."

In a December 1, 1987 memorandum from the U.S. Environmental Protection Agency (USEPA) Assistant Administrator for Air and Radiation, the agency provided guidance on the "top-down" methodology for determining BACT. The "top-down" process involves the identification of all applicable control technologies according to control effectiveness. Evaluation begins with the "top," or most stringent, control alternative. If the most stringent option is shown to be technically or economically infeasible, or if environmental impacts are severe enough to preclude its use, then it is eliminated from consideration and then the next most stringent control technology is similarly evaluated. This process continues until the BACT (or tBACT) level under consideration cannot be eliminated by technical or economic considerations, energy impacts, or environmental impacts. The top control alternative not eliminated in this process becomes the proposed BACT basis.

McKinley's Project will increase Volatile Organic Compound (VOC) emissions including compounds regulated as TAPs under the WA Air Toxic Regulation. Particulate emissions in the form of PM_{10} and $PM_{2.5}$ will also increase. Therefore, BACT is required for these pollutants. McKinley provided a top down BACT analysis covering all pollutants emitted by the recycle pulp plant and paper machines in their NOC application. ORCAA reviewed this analysis and concurs with McKinley's conclusions.

McKinley does not propose any additional particulate control for the recycle pulp plant or paper machines. This is consistent with other comparable mills and is acceptable as BACT given the low level of particulate from both the recycle pulp plant and paper machines. For control of VOC and TAP emissions, McKinley proposes pollution prevention measures as BACT and tBACT. The Mill will be converted into a 100% recycle paper plant. Less chemical additives will be used to produce recycled pulp and no bleaching will be used. Both outcomes result in less VOC and TAP emitted per ton of pulp and paper produced compared to the existing Mill. Emissions factors expressed in terms of pounds of pollutant per air dried ton of pulp (lb/ADTP) produced provides a good metric to quantify these pollution prevention gains. Table 8 provides pre- and post-Project emissions factors for cumulative TAP emissions.

Table 8: Pollution Prevention Gains

Emission Unit	Cumulative TAP Emissions Existing (lbs/ADTP)	Cumulative TAP Emissions Project (lbs/ADTP)
Recycle Pulp Plant	0.109	0.008
Paper Machines	0.181	0.086

10. Protection of Ambient Air Quality Standards

ORCAA's Rule 6.1.4(a)(3) requires a demonstration that any new stationary source or modification resulting in an increase in criteria air pollutant emissions will not delay the attainment date of an area not in attainment, or cause or contribute to a violation of any Ambient Air Quality Standard (AAQS). Typically, an ambient air impacts analyses meeting this requirement requires use of an air dispersion model to predict concentrations of air pollutants at the fence line of a facility and beyond. Air dispersion models account for air pollutant emissions rates, characteristics of the new source, topography and local meteorology, and use this information to predict the maximum concentrations of pollutants outside the property line of the facility. Regulatory standards for conducting ambient air quality impacts analyses are established by EPA through formal guidance on ambient air dispersion modeling techniques. EPA's Guideline on Air Quality Models in 40 CFR 51 Appendix W provides guidelines for determining ambient air impacts using air dispersion models. Any deviation from EPA's guidelines must be justified.

McKinley provided an ambient air quality impacts analysis for PM_{10} and $PM_{2.5}$ in their NOC application. Projected impacts including background concentrations are less than the applicable ambient standards for both PM_{10} and $PM_{2.5}$. ORCAA reviewed McKinley's analysis, data used and assumptions and found it in conformance with EPA's guidelines. Results are summarized in Table 9 below.

Table 9: Ambient Impacts Summary per McKinley's NOC Application

Pollutant	Averaging Period	Impacts (µg/m^3)			NAAQS/WAAQS[4] (µg/m^3)
		Project Impacts[1]	Background[2]	Total[3]	
PM_{10}	24-hour	4.66	25	29.66	150
$PM_{2.5}$	24-hour	2.52	16	18.52	35
	annual	1.46	6.5	7.96	12

Notes:
[1] Concentrations shown are the 6th-high 24-hour average PM10 concentration over four modeled years, the highest 4-year average of the 98th percentile 24-hour average PM2.5 concentration at each receptor, and the highest 4-year average of the annual average PM2.5 concentration at each receptor (based on guidance in the "Modeling Procedures for Demonstrating Compliance with the PM2.5 NAAQS memorandum" issued on March 23, 2010 by Stephen Page, Director of OAQPS).
[2] The 2009-2011 background concentrations for each criteria pollutant were obtained through the NW AIRQUEST website (http://lar.wsu.edu/nw-airquest/lookup.html) for UTM coordinates: X = 465250, Y = 5331400 (UTM zone 10, units: meters).
[3] Total concentration is the sum of the modeled project impacts and the background concentration.
[4] WAC 173-476 aligns the Washington Ambient Air Quality Standards (WAAQS) with the National Ambient Air Quality Standards (NAAQS).

11. Prevention of Significant Deterioration

A Prevention of Significant Deterioration (PSD), Application for Applicability Determination was submitted to the Washington State Department of Ecology (Ecology)

in November 2018. Ecology rendered a determination on January 14, 2019 that McKinley's Project does not trigger PSD review and permitting. Ecology's determination was based on McKinley's demonstration that emissions increases will be below the Significant Emission Rates (SER) and that the modeled maximum 24-hour PM_{10} and $PM_{2.5}$ impacts are below the "significant" threshold of 1 microgram per cubic meter (1 µg/m3).

12. Title V Air Operating Permit (AOP) Implications

Conditions of approval from this NOC will be incorporated into McKinley's AOP at renewal. McKinley submitted a complete renewal application on October 24, 2018. McKinley's current AOP expires November 12, 2019.

13. State Environmental Policy Act (SEPA) Compliance

The City of Port Angeles issued a Determination of Non Significance (DNS) for McKinley's Project on April 30, 2019. The DNS was issued per WAC 197-11-355.

14. Public Outreach

Public notice of McKinley's NOC application was posted on ORCAA's website on March 12, 2019. A public hearing to gather public testimony on McKinley's Project will be held in Room 160 of the Clallam County Courthouse at 223 E 4th St, in Port Angeles, Washington commencing 6:30 pm on August 1, 2019. Public notice of both ORCAA's preliminary recommendation to approve McKinley's Project and of the public hearing to gather public testimony on the Project was initiated by the following actions:

- Publishing the notice, ORCAA's Preliminary Recommendation and McKinley's NOC application on ORCAA's website;
- Publishing in the Washington Permit Register;
- Posting the notice, ORCAA's Preliminary Recommendation and McKinley's NOC application in the Reference section of the Port Angeles Main Library at 2210 South Peabody Street in Port Angeles;
- Issuing a press release;
- Sending the notice via mail to list of interested persons and entities.

After the public hearing and consideration of public comments and concerns regarding air quality implications of the Project, ORCAA will render a final determination. ORCAA's final determination will be noticed on ORCAA's website and a copy mailed to all persons and entities who submitted comments or provided testimony at the public hearing.

15. Conditions of Approval

The following conditions of approval are recommended to be included in the Order of Approval (Order) issued by ORCAA. Once approved, conditions in the Order become

enforceable applicable requirements and may be subject to enforcement actions including penalties if compliance is not maintained.

1. **Approved Equipment:** Modifications to the recycle pulp plant and paper machines as described in the associated Notice of Construction (NOC) application (19NOC1327) are approved provided:
    a. The existing two refiner lines and old corrugated cardboard (OCC) tub pulper will be decommissioned and not used to make pulp;
    b. The existing recycle pulper is replaced by a new single-line continuous recycle pulper with a design capacity of not more than 900 oven-dry tons of pulp per day;
    c. The new recycle pulp plant will not bleach pulp, meaning it will not rely on chemical processing of wood pulp to lighten its color and whiten the pulp; and,
    d. Gross combined production capacity of the paper machines does not exceed 840 air-dried ton per day.

    [Regulatory Basis: ORCAA Rules 6.1.2(l); 6.1.4(a)(2); and WAC 173-460-080(3)]

2. **Emissions Limits:** The following limits apply:
    a. **Toxic Air Pollutant Limits -** Combined emissions from the single-line continuous recycle pulp plant and paper machines, as determined based on ORCAA-approved emissions factors and actual production rates, shall not exceed the following limits over any continuous 12-month period:

Pollutant	Recycle Pulper	Paper Machines
Acetaldehyde (lbs/yr)	423.4	3,170
Chloroform (lbs/yr)	18.2	1,230
Formaldehyde (lbs/yr)	50.4	3,190
Methylene Chloride (lbs/yr)	61.3	947

    [Regulatory Basis: ORCAA Rule 6.1.2(l) and WAC 173-460-080(3)]
    b. **Volatile Organic Compound (VOC) Limit:** Approval of either a Prevention of Significant Deterioration (PSD) application per WAC 173-400-720 or a determination by the Washington Department of Ecology that PSD does not apply is required if combined emissions from the single-line continuous recycle pulp plant and paper machines, as determined based on ORCAA-approved emissions factors and actual production rates exceed 70.7 tons per any continuous 12-month period.

    [Regulatory Basis: ORCAA Rule 6.1.2(l) and WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

3. **Monitoring:** The Permittee shall continuously monitor and record the following:
    a. Pulp production in terms of oven-dry tons of pulp per day;
    b. Paper production in terms of air-dried ton per day; and,

c. Steam production in terms of gross pounds per hour of saturated steam produced by the cogeneration plant biomass boiler.

[Regulatory Basis: ORCAA Rule 8.11 and WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

4. **Emission Calculations:** For purposes of verifying compliance with the emissions limits under condition #2, emissions shall be calculated monthly based on monitored daily production rates and ORCAA-approved emissions factors. [Regulatory Basis: ORCAA Rule 8.11 and WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

5. **Required Records:** The following records must be compiled monthly and retained for the life of the associated equipment:
    a. Average hourly steam production in terms of gross pounds per hour of saturated steam produced by the cogeneration plant biomass boiler;
    b. Monthly emissions rates from the recycle pulp plant and paper machines for the pollutants limited under condition #2;
    c. Annual emissions from the recycle pulp plant and paper machines in terms of pounds per previous consecutive 12-month period for each pollutant limited under condition #2;
    d. Safety Data Sheets (SDS) for chemicals used in the recycle pulp plant; and,
    e. Amounts of each chemical additive used in the recycle pulp plant.

    [Regulatory Basis: ORCAA Rule 8.11 and WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

6. **Reporting:** The Permittee shall report to ORCAA emissions of pollutants in terms of pound per consecutive 12-month period for each pollutant limited under condition #2 for each month during the reporting period. The report shall be submitted with semiannual monitoring reports required under the Title V permit. [Regulatory Basis: WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

16. Supporting Documents

The following documents were included as part of McKinley's NOC application and support ORCAA's Preliminary Recommendation:

- NOC application - May 7, 2019 revision;
- Prevention of Significant Deterioration Analysis (McKinley, November 5, 2018);
- Prevention of Significant Deterioration Applicability Determination (Ecology, January 2019)
- Health Impact Assessment Report (McKinley, May 2019)
- Health Impact Assessment Recommendation Document for McKinley Paper Company (Ecology, June 2019)
- Second Tier Petition by McKinley Paper Company (Ecology, June 6, 2019)
- Determination of Non Significance (DNS 1406) (City of Port Angeles, April 30, 2019)

_____

REVIEWED BY Mark V. Goodin, PE **Date**

Olympic Region Clean Air Agency
ORCAA

2940 Limited Lane NW
Olympia, WA 98502

Representing Clallam, Grays Harbor, Jefferson, Mason, Pacific, and Thurston Counties

1-800-422-5623 • (360) 539-7610

ORDER OF APPROVAL
NOTICE OF CONSTRUCTION 19NOC1327
ISSUED TO McKinley Paper Company on: _____

This Order of Approval ("Order") is issued in accordance with Olympic Region Clean Air Agency ("ORCAA") Regulations and Chapter 173-400 of the Washington Administrative Code.

> Conditional approval to modify the existing paper machines and recycle pulp plant ("Approved Modification") at 1902 Marine Drive in Port Angeles ("Approved Location") for operation solely as described in the associated Notice of Construction ("NOC") application No. 19NOC1327, is hereby GRANTED to the McKinley Paper Co. ("Permittee"), subject to the Conditions of Approval listed below.

This Order and the Conditions of Approval herein remain in effect for the life of the Approved Equipment as used at the Approved Location and shall be binding on Applicant, current owners and operators of the equipment, and Applicant's heirs, successors and assigns unless amended or superseded by a subsequent Order issued by ORCAA or unless the equipment is permanently shut down. The Applicant must notify any subsequent owner, operator, heirs, successor or assigns of this Order and the Conditions of Approval herein. Conditions of Approval established in this Order shall be enforceable in addition to any applicable state, local and federal regulations or standards in existence now or in the future. Compliance with the conditions of this Order do not relieve the Applicant or any owner or operator from compliance with ORCAA Regulations, Chapter 70.94 Revised Code of Washington (RCW), or any other emissions control requirements, nor from any penalties for failure to comply with the same. Applicant may appeal this Order to the Pollution Control Hearings Board ("PCHB") by filing a written appeal with the PCHB and serving a copy upon ORCAA within thirty (30) days of receipt of this Order.

This Order is GRANTED, subject to the following Conditions of Approval:

1. **Approved Equipment:** Modifications to the recycle pulp plant and paper machines as described in the associated Notice of Construction (NOC) application (19NOC1327) are approved provided:
    a. The existing two refiner lines and old corrugated cardboard (OCC) tub pulper will be decommissioned and not used to make pulp;
    b. The existing recycle pulper is replaced by a new single-line continuous recycle pulper with a design capacity of not more than 900 oven-dry tons of pulp per day;
    c. The new recycle pulp plant will not bleach pulp, meaning it will not rely on chemical processing of wood pulp to lighten its color and whiten the pulp; and,

d. Gross combined production capacity of the paper machines does not exceed 840 air-dried ton per day.

[Regulatory Basis: ORCAA Rules 6.1.2(l); 6.1.4(a)(2); and WAC 173-460-080(3)]

2. **Emissions Limits:** The following limits apply:
   a. **Toxic Air Pollutant Limits -** Combined emissions from the single-line continuous recycle pulp plant and paper machines, as determined based on ORCAA-approved emissions factors and actual production rates, shall not exceed the following limits over any continuous 12-month period:

Pollutant	Recycle Pulper	Paper Machines
Acetaldehyde (lbs/yr)	423.4	3,170
Chloroform (lbs/yr)	18.2	1,230
Formaldehyde (lbs/yr)	50.4	3,190
Methylene Chloride (lbs/yr)	61.3	947

   [Regulatory Basis: ORCAA Rule 6.1.2(l) and WAC 173-460-080(3)]
   b. **Volatile Organic Compound (VOC) Limit:** Approval of either a Prevention of Significant Deterioration (PSD) application per WAC 173-400-720 or a determination by the Washington Department of Ecology that PSD does not apply is required if combined emissions from the single-line continuous recycle pulp plant and paper machines, as determined based on ORCAA-approved emissions factors and actual production rates exceed 70.7 tons per any continuous 12-month period.

   [Regulatory Basis: ORCAA Rule 6.1.2(l) and WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

3. **Monitoring:** The Permittee shall continuously monitor and record the following:
   a. Pulp production in terms of oven-dry tons of pulp per day;
   b. Paper production in terms of air-dried ton per day; and,
   c. Steam production in terms of gross pounds per hour of saturated steam produced by the cogeneration plant biomass boiler.

   [Regulatory Basis: ORCAA Rule 8.11 and WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

4. **Emission Calculations:** For purposes of verifying compliance with the emissions limits under condition #2, emissions shall be calculated monthly based on monitored daily production rates and ORCAA-approved emissions factors. [Regulatory Basis: ORCAA Rule 8.11 and WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

5. **Required Records:** The following records must be compiled monthly and retained for the life of the associated equipment:

a. Average hourly steam production in terms of gross pounds per hour of saturated steam produced by the cogeneration plant biomass boiler;
b. Monthly emissions rates from the recycle pulp plant and paper machines for the pollutants limited under condition #2;
c. Annual emissions from the recycle pulp plant and paper machines in terms of pounds per previous consecutive 12-month period for each pollutant limited under condition #2;
d. Safety Data Sheets (SDS) for chemicals used in the recycle pulp plant; and,
e. Amounts of each chemical additive used in the recycle pulp plant.

[Regulatory Basis: ORCAA Rule 8.11 and WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

6. **Reporting:** The Permittee shall report to ORCAA emissions of pollutants in terms of pound per consecutive 12-month period for each pollutant limited under condition #2 for each month during the reporting period. The report shall be submitted with semiannual monitoring reports required under the Title V permit. [Regulatory Basis: WAC 173-400-720(4)(b)(iii)(D)(ii) through (v)]

PREPARED & REVIEWED BY: Mark V. Goodin, PE