

**BEFORE THE
ENERGY FACILITY SITING COUNCIL
OF THE STATE OF OREGON**

In the Matter of Request for Exemption from
Jurisdiction of the Energy Facility Siting Council for
the Port Westward Renewable Fuels Project

)
) PROPOSED ORDER ON EXEMPTION
) REQUEST
)

May 13, 2022

I. Introduction

The Oregon Department of Energy (Department) recommends the Energy Facility Siting Council (Council) issue a Final Order approving the Request for Exemption of the Port Westward Renewable Fuels Project (proposed plant), a biomass facility capable of producing 17,613,600 barrels per year (BPY) of renewable fuels, primarily renewable diesel, proposed by NEXT Renewable Fuels Oregon, LLC (NEXT), in accordance with OAR 345-015-0350(5) and ORS 460.320(4).

Procedural Timeline

November 9, 2020	NEXT submitted initial Request for Exemption to the Department.
December 7, 2020	The Department sent Request for Additional Information (RAI) to NEXT.
February 26, 2021	NEXT responded to RAI-1.
March 30, 2021	The Department sent an evaluation of the exemption request to NEXT for the purpose of clarifying where information was still required.
March 31, 2022	NEXT submitted an updated Request for Exemption
April 6, 2022	The Department issued a Notice of Filing to NEXT as required by OAR 345-015-0370(1).
April 20, 2022	The Department issued a draft of the Proposed Order and concurrently opened a 21 day written comment period.
May 11, 2022	Close of the 21 day written comment period.
May 13, 2022	The Department will issue a Proposed Order and written comment summary for Council's consideration at the May EFSC meeting.
May 27, 2022	Council will review the Proposed Order and may take action at its May meeting.

II. Proposed Facility Description and Location

The proposed facility would be capable of processing up to 50,000 barrels per day (BPD) of renewable biomass feedstocks to produce renewable diesel fuel and renewable naphtha and would consist of the following major components:

- Two new product (20 and 12 inch diameter, each) and one feedstock (18 inch diameter) pipelines from the proposed plant to the confluence with the terminaling provider
- Ten larger product and feedstock tanks (125,000 to 225,000 barrels each) and fourteen smaller feedstock and process tanks (10,000 to 50,000 barrels each)
- Rail System (15,000 linear feet of track, 10-bay feed unloading system and 10-bay diesel loading and bleaching earth unloading system)
- Biomass Pre-Treatment Plant
- Hydrogen Facility
- Up to four Ecofining™ conversion units
- Fresh, storm and process water treatment system
- Substation and 1,100-foot service line
- Interconnecting 3800 foot, 8 inch natural gas pipeline
- Office, warehouse and other buildings

The proposed facility would utilize liquid biomass feedstocks. Feedstocks would arrive via vessel and barge at the existing Port of Columbia County owned dock at Port Westward, Columbia River Mile 53. A terminaling company that is already operating at Port Westward would unload the feedstock and transfer it via pipeline to the new on-site storage tanks. The feedstock would first be processed in one of four pre-treatment units before conversion in one of four Ecofining™ process units into renewable fuels. Finished products would be stored on-site before being transferred back to the terminaling provider via pipeline to ship via barge and vessel from the Port Westward dock.

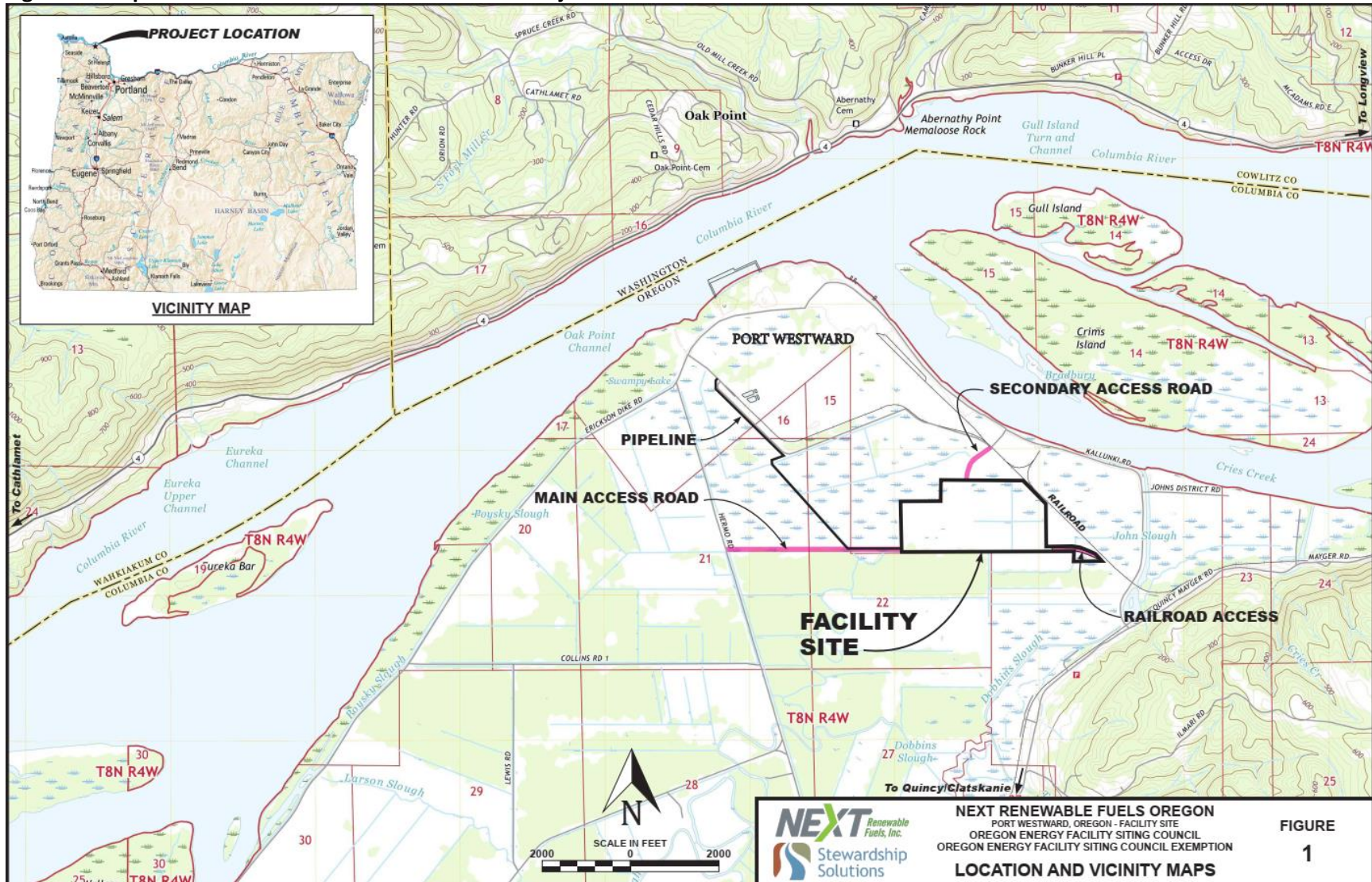
NEXT has provided the following summary of the maximum volumes of renewable fuels to be produced:¹

Product	Barrels per Day	Barrels per Year
Renewable Diesel	46,500	16,647,000
Renewable Naphtha	2700	966,600
Total	49,200	17,613,600

The proposed plant would include a 115.37 acre leased site within Columbia County’s Resource Industrial Planned Development (RIPD) zone. NEXT has purchased an additional 25.5 acres of private land adjacent to the port parcel. These two properties combined compose the manufacturing facility. NEXT has also purchased an additional 4.4 acre parcel in Primary Agriculture (PA-80) zone for use in rail logistics. The total area of the site plus rail areas is 145.27 acres (see Figures 1 and 2 below).

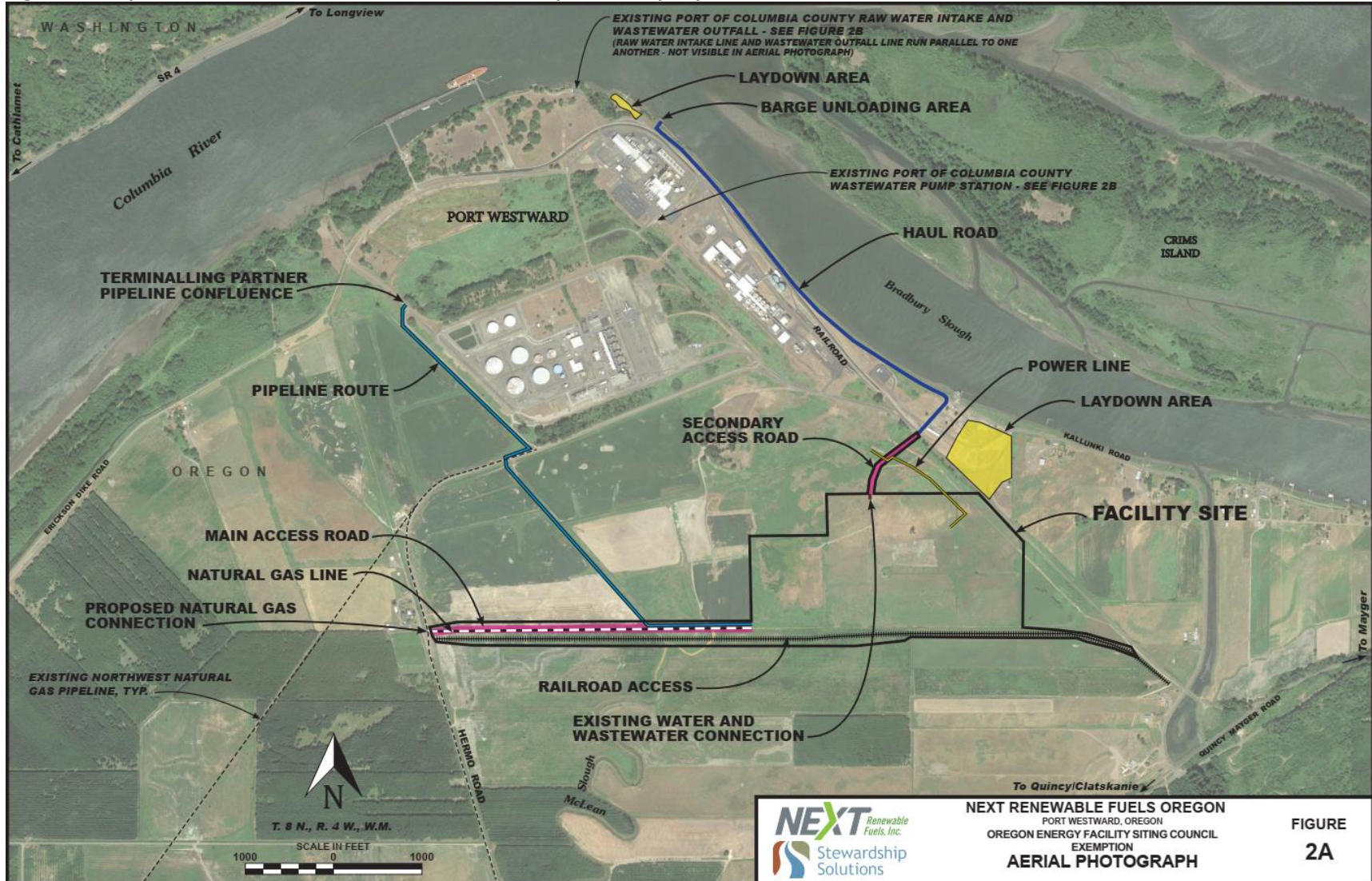
¹ From PWBDoc01 Updated Exemption Request 2022-04-18.pdf, page 5

Figure 1. Proposed Port Westward Renewable Diesel Project Site Location²



² Ibid, page 21

Figure 2. Proposed Port Westward Renewable Diesel Project Facility Layout³



³ Ibid, page 22

III. Applicable Regulatory Requirements

At its maximum design and production capacity, the NEXT facility could produce renewable fuels that are capable of being burned to produce the equivalent of 287.6 billion British Thermal Units (BTU) per day. This meets the definition of an energy facility under ORS 469.300(11)(a)(G)⁴ which establishes Council jurisdiction; however, Oregon statute exempts certain fuel producing energy facilities from Council. NEXT requests an exemption under ORS 469.320(2)(f), which states that a site certificate is not required for:

“An energy facility as defined in ORS 469.300 (11)(a)(G), if the facility:

- (A) Exclusively uses biomass, including but not limited to grain, whey, potatoes, oilseeds, waste vegetable oil or cellulosic biomass, as the source of material for conversion to a liquid fuel;*
- (B) Has received local land use approval under the applicable acknowledged comprehensive plan and land use regulations of the affected local government and the facility complies with any statewide planning goals or rules of the Land Conservation and Development Commission that are directly applicable to the facility;*
- (C) Requires no new electric transmission lines or gas or petroleum product pipelines that would require a site certificate under subsection (1) of this section;*
- (D) Produces synthetic fuel, at least 90 percent of which is used in an industrial or refueling facility located within one mile of the facility or is transported from the facility by rail or barge; and*
- (E) Emits less than 118 pounds of carbon dioxide per million Btu from fossil fuel used for conversion energy.”*

Each of these criteria are evaluated below.

- (A) Exclusively uses biomass, including but not limited to grain, whey, potatoes, oilseeds, waste vegetable oil or cellulosic biomass, as the source of material for conversion to a liquid fuel;*

In Request for Exemption Section 2.2, NEXT verifies that the proposed plant would be designed to process biomass as described in ORS 469.320(f) including virgin vegetable oils, animal fats and tallows, Used Cooking Oils, distiller corn oils, and yellow and white greases. NEXT provides an example of the biomass mix that could be used at the proposed plant which includes soybean and canola oils, distillers corn oil, used cooking oil, beef tallow, choice white grease (pork oil) and yellow grease (chicken fats).

Biomass Feedstock

Of the biomass components listed by NEXT, some are specifically listed in ORS 469.320(2)(f)(A) while others are not. In their application for exemption, NEXT notes that:

“The majority of the biomass products proposed for use by NEXT are specifically identified in ORS 469.320. Additional biomass intended for use in this process, such as animal tallow and white and yellow greases, are subsumed within the definition of “Biomass” in other parts of

⁴ “A plant which converts biomass to a gas, liquid or solid product, or combination of such products, intended to be used as a fuel and if any one of such products is capable of being burned to produce the equivalent of six billion Btu of heat a day”.

Oregon Revised Statute, such as ORS 315.141, which includes “Offal and tallow from animal rendering;” in the definition of biomass.”⁵

Chapter 315 of Oregon Revised Statutes covers Personal and Corporate Income or Excise Tax Credits, and includes a definition of biomass. Given the use of the term “including but not limited to” in ORS 469.320(2)(f)(A), the Department agrees with NEXT’s interpretation that the intent was to allow other materials that meet the definition of biomass to be used. The Department therefore concludes that because “Offal and tallow from animal rendering” are listed in the “Biomass” definition in ORS 315.141, beef tallow, choice white grease (pork oil) and yellow grease (chicken fats) can be included as biomass as intended by ORS 469.320(2)(f)(A).

NEXT intends to convert the biomass feedstock to renewable fuels using up to 4 Ecofining™ units. NEXT states that the Ecofining™ process requires hydrogen which will be supplied by an on-site hydrogen unit. NEXT further states that the hydrogen unit will primarily operate using recycled renewable off-gases produced in the Ecofining™ process supplemented by natural gas input.⁶ The Department now turns to the question of whether or not hydrogen used in the Ecofining™ process should be considered as part of “...the source of material for conversion to a liquid fuel” as defined in ORS 469.300(11)(a)(G)(A). To explore this question requires a basic understanding of the processes used to produce biodiesel and renewable diesel.

Biodiesel vs. Renewable Diesel

Biodiesel is typically produced by a process known as transesterification, whereby fats or oils are reacted with an alcohol – usually methanol or ethanol – in the presence of a catalyst. The reaction produces biodiesel plus one or more byproducts. For example, if methanol is used as the alcohol, glycerin is also formed as a byproduct. The purpose of the alcohol is to act as a hydrogen donor to the reaction, which enables the conversion of the fats and oils to biodiesel.

Renewable diesel is produced by a somewhat different and newer process in which the fats or oils are first reacted with hydrogen in order to remove oxygen from the feedstock. The deoxygenated feedstock is then isomerized in a second step to produce renewable fuels: diesel, naphtha, and jet fuels are the most common.

Note that besides the differences in how they are produced, biodiesel and renewable diesel are also chemically different. Renewable diesel is a hydrocarbon that is chemically identical to diesel that is produced from petroleum feedstock and can be used as a drop-in replacement for petroleum diesel. Biodiesel contains oxygen; although it can be used in diesel engines, the oxygen content can lead to some performance issues, which is why biodiesel is almost always blended with conventional (petroleum-based) diesel before it is used.

Legislative History

The provision under which NEXT has applied for an exemption is ORS 469.320(2)(f)(A). It was enacted in 1999 and was amended in 2005⁷ to include biodiesel and expand the definition of feedstocks.

⁵ PWBDoc01 Updated Exemption Request 2022-04-18.pdf, page 4 (footnote)

⁶ Ibid, page 5

⁷ 2005 Oregon Laws c. 736 (SB 736)

A review of the legislative history indicates that the primary motivators for the biodiesel exemption were: (1) supporting Oregon’s agricultural industry by incentivizing construction of facilities that would use Oregon agricultural products, (2) the economic benefits of developing a biodiesel industry in Oregon, and (3) encouraging the use of renewable fuels. Agricultural interests, industry representatives, and certain environmental organizations testified in support of the exemption. Of particular importance to this analysis, neither the agricultural interests nor the environmental interests referred to the source of the ethanol/methanol/hydrogen reactant. The conversation was focused entirely on the source of the primary feedstock. For example, during one of the committee hearings on SB 736, which expanded the exemption to include biodiesel, Committee Administrator John Houser introduced the bill as follows: “This bill would expand the current exemption to include biodiesel production facilities that would use waste cooking oil, oil seeds, or cellulosic biomass such as grass straw as their feedstock.”⁸ There is no mention of the ethanol/methanol/hydrogen reactant in the legislative history. This suggests that the legislature was focused on the source of the primary feedstock, and not the other components of the biodiesel production process. The Department therefore concludes that the phrase “material for conversion” was intended to be used in an informal sense, in the same way that a layperson would assume the “material for conversion” in producing gasoline is petroleum, without considering the reactant chemicals used to remove sulfur, nitrogen, residual solids, etc.

Extending this view to the renewable diesel process, the Department concludes that the legislative intent was also to consider only the source of the primary feedstock, in this case the virgin vegetable oils, animal fats and tallows, Used Cooking Oils, distiller corn oils, and yellow and white greases. For the NEXT exemption request, we therefore do not take into consideration the source of the hydrogen, as it is not part of the “material for conversion” to a liquid fuel; it is, rather, part of the means to convert the biomass material to a liquid fuel.

History of Prior Exemption Requests

The Council has previously considered several requests for exemption from the requirement to obtain a site certificate under ORS 469.320(2)(f), but there are only two prior applications for exemption for a biodiesel facility: Altra Biodiesel LLC, and Morrow Bioenergy LLC. The Council issued orders granting exemptions to both facilities on February 2, 2007. A review of the records indicates that with respect to ORS 469.320(2)(f)(A), Council only considered the primary biomass feedstock; there is no mention of methanol, ethanol, or any other reactants used in the conversion process. The order granting Altra’s exemption states: “The planned facility will convert domestically produced soy or canola oil, imported palm oil or other seed oil to produce biodiesel fuel.... The Council finds that criterion (A) is met.” Similarly, the order for Morrow Bioenergy states: “The planned facility will convert seed oil to produce biodiesel fuel... The Council finds that criterion (A) is met.”

There have been several other exemption requests under ORS 469.320(2)(f) for facilities converting biomass to ethanol.⁹ Although the process for producing ethanol is clearly different than that for biodiesel, the similarity within the context of this discussion is that manufacturing ethanol from biomass also requires other materials, most notably at the pretreatment step where a variety of chemicals (acids, alkalis, solvents, etc.) may be used. A review of the records indicates that in each case, the Council considered only the primary biomass feedstock and not any other materials that would be required as

⁸ House Committee on State and Federal Affairs, June 14, 2005, 56:32

⁹ Altra Ethanol; Cascade Grain Products; Oregon Ethanol Facility; Treasure Valley Renewable; ZeaChem

part of the process. The most recent example is the exemption granted to ZeaChem on February 1, 2013, in which the final order stated: “The planned facility will convert cellulose from locally sourced cellulosic woody biomass... and cellulosic agricultural residue... into ethanol.... The Council finds that criterion (A) is met.”

Conclusion

Based on the description of feedstocks provided in the Request for Exemption, the NEXT facility will exclusively use biomass as the source of material for conversion to a liquid fuel. The Department recommends that Council find that the proposed plant would satisfy ORS 469.320(2)(f)(A).

(B) Has received local land use approval under the applicable acknowledged comprehensive plan and land use regulations of the affected local government and the facility complies with any statewide planning goals or rules of the Land Conservation and Development Commission that are directly applicable to the facility;

Affected Local Government

The proposed plant would be located within Columbia County, where the local governing body is the Columbia County Board of Commissioners (the Board). On March 23, 2022, the Board issued final order 12-2022, granting a “Use Permitted Under Prescribed Conditions” for the NEXT facility, and final order 13-2022, granting a “Conditional Use Permit” for a rail branchline to serve the NEXT facility. These land use approvals provide confirmation of compliance with the applicable acknowledged comprehensive plan and land use regulations of the Columbia County Zoning Ordinance (CCZO), a list of which can be found on page 9 of the Columbia County Board of Commissioners Staff Report¹⁰. Copies of the final orders issued by the Board are provided as Attachment 1 of this order.

The final orders issued by the Board, in writing and with notice to appropriate parties, constitute a final local land use decision. Although the Board’s decision is still subject to potential appeals, EFSC is not required to wait until any potential appeals are exhausted before taking action on a request for exemption. Note that the Department’s position is consistent with DLCD’s interpretation of a “land use decision” as defined in ORS 197.015(10).

Statewide Planning Goals and Applicable LCDC Rules

The proposed NEXT facility is located entirely within the RIPD Zone. The Board has determined “...that the Project is consistent with the uses and development standards that the County provided for industrial development within Port Westward by adopting the Port Westward exception area and the RIPD zone.”¹¹

In contrast, a portion of the rail branchline is proposed to be located on land that is designated as Primary Agricultural Use Zone (PA-80) land. LCDC rule OAR 660-012-0065(1) “...identifies transportation facilities, services and improvements which may be permitted on rural lands consistent with Goals 3, 4, 11, and 14 without a goal exception.” The Board found that “The proposed rail development is a “rail branchline” for purposes of OAR 660-012-0065(3)(j) and is authorized as a transportation improvement

¹⁰ PWBDoc01 Updated Exemption Request 2022-04-18.pdf, page 134

¹¹ Ibid, page 41: Exhibit A, Supplemental Findings of Fact and Conclusions of Law for Final Order 12-2022

under CCZO 306(9) and OAR 660-012-0065(3)(j).¹² Furthermore, the Board asserts that “...the rail branchline is a use allowed under 215.283 because railroad branchlines are transportation facilities that may be permitted on rural lands and DLCD’s rules have found branchlines are consistent with Statewide Goals 3, 4, 11, and 14.”¹³ The Board also found that “The rail branchline satisfies the “farm impacts test” criteria of ORS 215.296 as it will not force a significant change or a significant increase in cost in accepted farm practices CCZO 307.1.A, 307.1.B, and ORS 215.296.”¹⁴

Finally, orders 12-2022 and 13-2022 serve as local land use approval. As these permits are granted under Columbia County’s Comprehensive Plan, which is in turn acknowledged by the Land Conservation and Development Commission (LCDC), by extension the facility and rail branchline comply with any applicable statewide planning goals or LCDC rules as determined in the county’s assessment.

The Department recommends that, for the above described reasons, Council find that that the proposed facility and associated rail branchline would satisfy ORS 469.320(2)(f)(B).

(C) Requires no new electric transmission lines or gas or petroleum product pipelines that would require a site certificate under subsection (1) of this section;

Under ORS 469.300(11), EFSC jurisdictional transmission lines include lines rated 230 kV or greater in voltage, extending 10 or miles and crossing two or more jurisdictions. EFSC jurisdictional pipelines include those 6 inches or greater in diameter, extending 5 miles or more for transport of crude oil or natural gas and those 16 inches or greater in diameter, extending 5 miles or more for transport of natural gas or geothermal energy.

The electrical load of the proposed plant would be 40 megawatts (MW) per day, served via a proposed onsite substation. The proposed substation would require construction and operation of an 1,100-foot service line, extending from the substation to an existing Clatskanie Public Utility District power pole. The proposed transmission line would not constitute an energy facility under ORS 469.300(11)(a)(C) because it would be rated less than 230 kV, would extend less than 10 miles in length and would not extend across more than one jurisdiction.

Components of the proposed plant including boilers, heaters and other process equipment would operate using natural gas, resulting in overall fuel needs of 14.2 million standard cubic feet per day (15,400 million BTU/day).¹⁵ Onsite natural gas needs would be delivered via a new 8-inch natural gas pipeline (interconnecting pipeline), extending approximately 3,800-feet (approx. 0.72 miles) that would interconnect to the existing Northwest Natural Gas pipeline. The proposed interconnecting natural gas pipeline would be constructed below grade to connect to the Northwest Natural gas pipeline, entirely within the RIPD zone. Because the interconnecting pipeline would be less than 5 miles in length, the Department recommends Council finds that it would not constitute an energy facility under ORS 469.300(11)(a)(E).

The Department recommends that, for the reasons explained above, Council find that the proposed plant would satisfy ORS 469.320(2)(f)(C).

¹² Ibid, page 206: Exhibit A, Supplemental Findings of Fact and Conclusions of Law for Final Order 13-2022

¹³ Ibid, page 211

¹⁴ Ibid, page 210

¹⁵ PWBDoc01 Updated Exemption Request 2022-04-18.pdf, page 6

(D) Produces synthetic fuel, at least 90 percent of which is used in an industrial or refueling facility located within one mile of the facility or is transported from the facility by rail or barge;

NEXT represents that biomass derived fuels be considered synthetic fuels because of their inclusion in the exemption criteria for a biomass facility and based on historic Council decisions on similar ethanol and biomass facilities.¹⁶ Given that the sole purpose of the exemption criteria under 469.320(2)(f) is to provide a path for an exemption for facilities which produce liquid fuels from biomass, the Department recommends Council find that the proposed plant would produce synthetic fuels.

The produced biomass fuel would not be used at an industrial or refueling facility within one mile of the proposed plant. NEXT represents that over 95 percent of the finished products would be transported via ship or barge at the existing Port Westward dock, where approximately 5 ships per month, or 60 ships per year, would be used to load product using a third-party logistics provider with priority dock access under a long-term lease agreement at the Port.¹⁷ NEXT provided calculations in their response to the Department's Request for Additional Information to support their estimate of approximately 5 ships per month for finished products.¹⁸ In their calculations, they also note that approximately 10 ships per month will bring feedstocks to the facility, with feedstock ships holding approximately ½ the capacity of finished product vessels.

In their response to a Request for Additional Information by the Department, NEXT provided copies of the relevant dock agreement and amendments.¹⁹ NEXT also provided a summary of this information, explaining the history of the dock use agreement, the purpose of each amendment and the relationships of the parties involved in the agreement.²⁰

NEXT further states that a small portion of the fuel, less than 5 percent, may be transported via rail or truck for local consumption. The rail system consists of approximately 15,000 linear feet of track with 10 bays reserved for the feed unloading system and an additional 10 bays for the diesel loading and bleaching earth unloading system. NEXT states that "The majority of the rail track is for storage to minimize the number of rail movements to and from the site and to allow for moving of cars to the loading/unloading bays."²¹ The rail system is designed to accommodate:

- Unloading of feedstock: 10 railcars/week
- Loading of renewable diesel: 3 railcars/week
- Unloading of bleaching earth material: 20 railcars/week

It should be noted that in Final Order 13-2022, the Board limits rail transport to 318 rail cars per week. This is considerably more than the numbers cited above. The applicant provided testimony to the Board at a January 19, 2022 hearing, stating that the facility is designed and intended to receive 100 percent of its feedstocks via marine transportation and to export 100 percent of its products the same way.²² The

¹⁶ Ibid, page 19

¹⁷ Ibid

¹⁸ Ibid, page 473: Request for Additional Information Response, Attachment D – Ship and Berth Calculations

¹⁹ Ibid, page 400: Request for Additional Information Response, Attachment C – Dock Agreement & Amendments

²⁰ Ibid, page 387

²¹ Ibid, page 19

²² Ibid, page 81: Exhibit A, Supplemental Findings of Fact and Conclusions of Law for Final Order 12-2022

applicant asserts that beyond its primary purpose of transporting bleaching earth, the rail branchline serves a contingency role for times when river transportation is disrupted or otherwise unavailable to allow the facility to continue operations.

Based on this information, staff recommends that Council find that adequate rail and barge facilities are available to serve the proposed site as required by OAR 345-015-0360(7)(f).²³

The Department recommends that, for the above described reasons, Council find that that the proposed plant would satisfy ORS 469.320(2)(f)(D).

(E) Emits less than 118 pounds of carbon dioxide per million Btu from fossil fuel used for conversion energy.

ORS 469.320(2)(f)(E) requires that an energy facility exempt from EFSC jurisdiction demonstrate that it would emit less than 118 pounds of carbon dioxide (CO₂) per million British thermal unit (lb CO₂/MMBtu) from fossil fuel used for conversion energy. In Request for Exemption Section 2.4.1, NEXT states that the average carbon intensity (emission rate) of the natural gas to be used for conversion energy is 115.9 lb CO₂/MMBtu. NEXT also provided a calculation as part of RAI-1.²⁴

NEXT states that the natural gas will come from a nearby Northwest Natural gas pipeline. Northwest Natural annually reports an emissions factor to the Oregon Department of Environmental Quality. Those emissions factors when converted to lb CO₂/MMBtu have fallen in the range of 117.0 – 117.2 over the last 10 years. This is also consistent with the U.S. Environmental Protection Agency value of 117 lb CO₂/MMBtu for natural gas. The ORS 469.320(2)(f)(E) threshold appears to have been set marginally greater than the established natural gas emissions factor for the purpose of including natural gas as a qualifying fuel for the exemption. Also for reference, the same 117 lb CO₂/MMBtu emissions factor for natural gas is ~~also~~ found in other siting statute (ORS 469.503(2)(e)(J)).

The Department recommends that, for the above described reasons, Council find that that the proposed plant would satisfy ORS 469.320(2)(f)(E).

IV. Final Order

Although not required for the exemption, Columbia County's requirements outlined in Final Orders 12-2022 and 13-2022 still apply and must be met.

The Department recommends that the Council find that the proposed Renewable Fuels Production facility, as described in the exemption request submitted by NEXT Renewable Fuels Oregon LLC on March 31, 2022, is exempt from its jurisdiction pursuant to ORS 469.320(2)(f).

²³ OAR 345-015-0360(7)(f): "A statement verifying that the plant will produce synthetic fuel, at least 90 percent of which will be used in an industrial or refueling facility located within one mile of the facility or will be transported from the facility by rail or barge and evidence that adequate rail and barge facilities are available to serve the proposed site."

²⁴ PWBDoc01 Updated Exemption Request 2022-04-18.pdf, page 399: Request for Additional Information Response, Attachment B – Carbon Dioxide Calculations

This exemption is limited to the scope of facilities described in the application for exemption as submitted by NEXT and is based upon the information contained therein. Furthermore, Council requires that NEXT submit an annual report providing data to demonstrate continuing compliance with the requirements of ORS 469.320(2)(f). This report is to be submitted to the Department after the conclusion of each calendar year and no later than April 30 for the prior year's activities.

Attachment 1: Columbia County Final Orders 12-2022 and 13-2022

NOTICE: Any person adversely affected or aggrieved by the Council's order may appeal the issuance of this exemption. Judicial review may be obtained by filing a petition for review with the Oregon Supreme Court within 60 days from the service of this order.

DRAFT