

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits

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October 27, 2021

VIA EMAIL AND CERTIFIED MAIL

Mr, Andrew Scano
Astoria Gas Turbine Power, LLC
31-01 20th Avenue
Astoria, NY 11105
Andrew.Scano@nrg.com

Re: Notice of Denial of Title V Air Permit
DEC ID: 2-6301-00191/00014
Astoria Gas Turbine Power - Astoria, Queens County
Title V Air Permit Application

Dear Mr. Scano:

On April 27, 2020, Astoria Gas Turbine Power, LLC (Astoria or Applicant), a wholly-owned subsidiary of NRG Energy, submitted a Clean Air Act Title V air permit application to the New York State Department of Environmental Conservation (DEC or Department). Astoria proposes to construct the Astoria Replacement Project, which would consist of a new simple cycle dual fuel fossil fuel-fired peaking combustion turbine generator (CTG) with a nominal generator output of approximately 437 megawatts (MW) (the Project). The Project would be located in Astoria, Queens County.

The Department has reviewed information submitted by Astoria, including in the initial Title V air permit application as well as supplemental materials that were provided in response to requests for additional information by the Department (collectively, the Application). The Department has also reviewed the Supplemental Draft Environmental Impact Statement (SDEIS) prepared for the Project. Finally, the Department has reviewed the over 6,600 public comments received from individuals or organizations during the public comment period.¹

As described further below, and as initially indicated by the Department in the Notice of Complete Application,² the Project would be inconsistent with or would interfere with the attainment of the Statewide greenhouse gas (GHG) emission limits established in Article 75 of the Environmental Conservation Law (ECL).³ Moreover, Astoria has failed to demonstrate that the

¹ The Department received over 6,600 public comments during the public comment period on the Application and SDEIS, which ran from June 30, 2021 through September 13, 2021.

² Combined Notice of Compete Application, Availability of Draft Permits, Announcement of Public Comment Period, Acceptance of Supplemental Draft Environmental Impact Statement, and Intent to Hold a Public Hearing, June 30, 2021 (Complete Notice), Available at www.dec.ny.gov/enb/20210630_not2.html (last visited October 27, 2021).

³ ECL § 75-0107(1). *See also* 6 NYCRR Part 496, Statewide Greenhouse Gas Emission Limits (Part 496).

Project is justified notwithstanding this inconsistency, as it has not demonstrated a reliability need for the Project. Nor has Astoria identified adequate alternatives or GHG mitigation measures. Therefore, given that the Department is unable to satisfy these elements required by Section 7(2) of the Climate Leadership and Community Protection Act (CLCPA or Climate Act),⁴ the Application is hereby denied.⁵ As required by Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR) Section 621.10, a statement of the Department’s basis for this denial is provided below.

BACKGROUND

The site of the proposed Project is the current location of an existing facility that consists of 31 peaking-only gas- and oil-fired combustion turbines with a combined nameplate capacity of 647 MW (Existing Facility). This includes 24 active Pratt & Whitney (P&W) turbines, and seven retired Westinghouse turbines. Astoria has committed to shut down the 24 remaining P&W turbines at the Existing Facility by May 2023, with the exception of the P&W combustion turbines that Astoria would plan to retain for black start capability, consistent with the requirements of 6 NYCRR Subpart 227-3, Ozone Season Oxides of Nitrogen (NOx) Emission Limits for Simple Cycle and Regenerative Combustion Turbines (Peaker Rule).

I. 2010 Replacement Project

Prior to both the enactment of the Climate Act and the Department’s promulgation of the Peaker Rule, the Applicant previously proposed to replace all of the units at the Existing Facility (2010 Replacement Project). The 2010 Replacement Project was subject to environmental review pursuant to the State Environmental Quality Review Act (SEQRA). The Department served as lead agency for the coordinated review of the previously proposed 2010 Replacement Project.

The 2010 Replacement Project was the subject of a Draft Environmental Impact Statement (Accepted April 16, 2010) and a Final Environmental Impact Statement (Accepted September 22, 2010). As lead agency, the Department issued a Findings Statement (October 4, 2010) concluding that all potential environmental impacts of the 2010 Replacement Project had been minimized or mitigated to the maximum extent practicable. All Departmental permits for the 2010 Replacement Project were issued at the time the Findings Statement was issued in 2010. The 2010 Replacement Project was never constructed, and the Existing Facility continues to operate in accordance with its existing permits.

II. Current Proposed Project and Applicability of Article 10

The current Project proposed by Astoria seeks to modify the previously approved 2010 Replacement Project. On June 12, 2019, in response to a Petition by Astoria, the New York State

⁴ Chapter 106 of the Laws of 2019.

⁵ 6 NYCRR § 621.10(f) (“An application for a permit may be denied for failure to meet any of the standards or criteria applicable under any statute or regulation pursuant to which the permit is sought”). Astoria’s other applications to the Department regarding the Replacement Project – including for a Clean Air Act Title IV permit, ECL Article 17, Titles 7 & 8 Industrial State Pollutant Discharge Elimination System (SPDES) Surface Discharge permit, and an ECL Article 15, Title 15 Water Withdrawal permit – remain pending before the Department and are not addressed herein.

Board on Electric Generation Siting and the Environment (Siting Board) issued a Declaratory Ruling (Declaratory Ruling).⁶ In the Declaratory Ruling, the Siting Board held that Astoria’s then-proposed replacement project was not subject to Public Service Law (PSL) Article 10 (Article 10), due to the SEQRA “grandfathering” exemption in Article 10.⁷ In so holding, the Siting Board noted that Astoria had submitted a Title V air permit application to the Department prior to the implementation date of Article 10, and that the facility location was designated in such application.⁸ Moreover, the Siting Board noted that, despite changes in the then-proposed project from the 2010 Replacement Project, Astoria was seeking “to replace the same turbines at the same locations as was originally proposed.”⁹ Thus, the Siting Board held that Astoria’s proposal to proceed with the SEQRA process through a Supplemental Environmental Impact Statement is consistent with Article 10’s “grandfathering” exemption. Therefore, consistent with the Declaratory Ruling, while the Project is not subject to Article 10, the Project remains subject to the requirements of SEQRA.

III. Procedural Background for Proposed Project

The Department received Astoria’s Application for the Project on April 27, 2020. In addition to the Title V permit application, Astoria submitted applications for other relevant permits for the Project,¹⁰ as well as a Full Environmental Assessment Form, and an Enhanced Public Participation Plan.

In light of Declaratory Ruling, the Department coordinated for SEQRA lead agency on May 20, 2020 and ultimately assumed lead agency based on the responses received from the other potential involved agencies. The Department, as the SEQRA lead agency, determined the proposed Project would potentially have significant adverse environmental impacts and issued a Notice of Positive Declaration and Notice of Public Scoping that appeared in the Environmental Notice Bulletin (ENB) on July 1, 2020. The Draft Scope was also made available on the Project website.¹¹ On July 16, 2020, Astoria held a public meeting as part of the Environmental Justice Enhanced Public Participation Plan, at which meeting participants were informed of the public scoping process. Public and agency comments on the Draft Scope were accepted through September 4, 2020. The Final Scoping Document was issued by the Department on September 18, 2020.

On October 26, 2020, Astoria submitted a draft SDEIS, along with various appendices, to the Department for review. Astoria subsequently submitted a revised draft SDEIS on November 4, and a revised Title V permit application on November 6, 2020.

On January 6, 2021, the Department issued comments to Astoria that requested additional information regarding the pending applications as well as the draft SDEIS. Among other things,

⁶ Declaratory Ruling Concerning Jurisdiction Over Proposed Generating Facilities, Case 17-F-0451 (June 12, 2019).

⁷ PSL § 162(4)(d).

⁸ “The Proposed Replacement Project location was the same as the original replacement project designated in these respective applications, which were submitted prior to August 1, 2012, the implementation date of PSL Article 10.” Declaratory Ruling at p. 11.

⁹ *Id.* at p. 12.

¹⁰ As noted above, Astoria’s other permit applications to the Department remain pending and are not addressed herein.

¹¹ See <https://www.nrg.com/legal/astoria-peaking-generation-station-project.html> (last visited October 27, 2021).

the Department sought from Astoria revisions to the draft SDEIS to address the Project's compliance with CLCPA as well as its analysis of GHG emissions.

On January 21, 2021, in light of various requests and input from the Department, community stakeholders, and elected officials, Astoria held a second Environmental Justice Public Outreach meeting. Astoria also submitted various responses to the Department's requests for additional information on February 9, 11, and 12, 2021.

On March 1, 2021, the Applicant submitted to the Department a more comprehensive response to the Department's January 6, 2021 comments, including a revised draft SDEIS. On April 15, 2021, given ongoing review of the applications, draft SDEIS, and additional information, Astoria submitted a letter to the Department agreeing to extend the relevant timeframes for Department to determine whether the applications were complete under the Uniform Procedures Act (UPA) regulations to June 17, 2021. Astoria submitted additional revisions to the draft SDEIS on April 23, 2021. On May 3, 2021, Astoria submitted a SPDES and Water Withdrawal permit applications for construction dewatering and discharge, which as previously noted are not otherwise addressed herein.

On May 28, 2021, Astoria submitted additional revisions to its Title V permit Application. The Applicant subsequently agreed, on June 17, 2021, to extend the relevant UPA timeframes for the Department to determine whether the applications were complete until June 30, 2021.

On June 30, 2021, the Department issued and published in the ENB a Combined Notice of Complete Application, Availability of Draft Permits, Announcement of Public Comment Period, Acceptance of Supplemental Draft Environmental Impact Statement, and Intent to Hold a Public Hearing (Complete Notice).¹² As stated by the Department in the Complete Notice, while the Department made a draft Title V permit and SDEIS available for purposes of public review and comment, the Department had not made any tentative or final determination to issue any final permit, Final Environmental Impact Statement, or Findings statement for the proposed Project.¹³ Moreover, the Department noted that, prior to issuing any permit for the Project, the Department would need to, among other things, ensure that its action is consistent with the requirements of the Climate Act.¹⁴ In the Complete Notice, the Department indicated that, as proposed, the Project appeared to be inconsistent with the requirements of the Climate Act.¹⁵

The Complete Notice initially established a deadline of August 29, 2021 for members of the public to submit written comments on the Application and SDEIS. On July 21, 2021, the Department issued and published in the ENB a Notice of Public Hearings, which provided for a total of four public hearing sessions to be held, including two each on August 24 and 26, 2021.¹⁶ On August 11, 2021, the Department issued an Amended Notice of Public Comment Hearings and an Extension of the Public Comment Period.¹⁷ As a result of the heightened public interest in the

¹² Complete Notice, Available at: https://www.dec.ny.gov/enb/20210630_not2.html (last visited October 27, 2021).

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ Available at: https://www.dec.ny.gov/enb/20210721_not2.html (last visited October 27, 2021).

¹⁷ Available at: https://www.dec.ny.gov/enb/20210811_not2.html (last visited October 27, 2021).

Project, draft permits, and SDEIS, the Amended Notice extended the public comment period through September 13, 2021. Moreover, due to ongoing concerns with COVID-19 infection and transmission in the county where the Project is located, the Amended Notice also changed the previously scheduled in-person hearings to be virtual.

On August 24 and 26, 2021, the Department's Office of Hearings and Mediation Services conducted a total of four separate virtual public legislative hearings pursuant to 6 NYCRR Part 621 to receive statements from members of the public on the draft permits and SDEIS for the Project. A total of 143 individuals provided oral statements at the four (4) public legislative hearings.

Finally, the Department's public comment period on the draft permits and SDEIS for the Project closed on September 13, 2021. As of that date, the Department received a total of 6,676 written public comments regarding the Project; the Department also received about 97 separate written comments after the public comment period closed. On September 14, 2021, the Department received hearing transcripts from Astoria.

Given that the Department is unable to satisfy the statutory requirements for the issuance of a Title V permit for the Project, as described further below, the Department need not proceed with the finalization of the SDEIS or a SEQRA Findings Statement. As explained below, the basis for the Department's denial of the Title V permit is the Project's lack of compliance with the requirements of Section 7(2) of the Climate Act. Moreover, given that the Department is denying the Application, the Project itself will not proceed, meaning that there will not be any adverse environmental impacts from the action at issue, and the Department need not identify any additional mitigation measures.

BASIS FOR DENIAL

I. General Climate Act Requirements

The Climate Act, effective January 1, 2020, establishes economy-wide requirements to reduce Statewide GHG emissions. Article 75 of the ECL establishes Statewide GHG emission limits of 40% below 1990 levels by 2030, and 85% below 1990 levels by 2050.¹⁸ As set forth in the Climate Act, Statewide GHG emissions include all emissions of GHGs from anthropogenic sources within the State, as well as upstream GHGs produced outside of the State associated with either: (1) the generation of electricity imported into the State; or (2) the extraction and transmission of fossil fuels imported into the State.¹⁹ In the case of a fossil fuel-fired electric generating facility such as the proposed Project, this includes the upstream GHG emissions associated with the production and transmission of the natural gas or other fossil fuel to be combusted at the facility.

As required by the Climate Act,²⁰ on December 30, 2020, the Department finalized its regulation to translate these statutorily required Statewide GHG emission percentage reduction

¹⁸ ECL § 75-0107(1).

¹⁹ ECL § 75-0101(13).

²⁰ ECL § 75-0107(1).

limits into specific mass-based limits, based on estimated 1990 GHG emission levels.²¹ Pursuant to Part 496, the 2030 and 2050 Statewide GHG emission limits are, respectively, 245.87 and 61.47 million metric tons of carbon dioxide equivalents (CO₂e) on a 20-year Global Warming Potential (GWP) basis.²²

CO₂e provide a measure of the relative GWP of each individual type of GHG to that of carbon dioxide (CO₂) over a specific time frame. CO₂ is assigned a value of one (1) and all other GHGs have a GWP greater than that of CO₂ when measured on a pound-for-pound basis. For example, the GWP of methane on a 20-year basis (GWP20) is defined in 6 Part 496 as 84, meaning that one ton of methane emissions has the same global warming impact as 84 tons of CO₂. Equating the GWP of various GHGs to that of CO₂ provides a uniform basis for the analysis of the relative climate impact of different compounds. The GWP of a compound is also dependent on the timeframe used for measurement. Under the Climate Act, as required by Article 75, GHGs must be measured using a GWP based on GWP20, rather than the one hundred year timeframe (GWP100) most typically used by the federal government and the United Nations.²³ The CO₂e, using GWP20, of each GHG under the Climate Act is listed in a table in the Department's regulations at 6 NYCRR Section 496.5.

In addition to these Statewide GHG emission reduction requirements established in the ECL, and particularly relevant for this proposed Project, the Climate Act includes a new PSL Section 66-p. This provision requires the Public Service Commission (PSC) to implement programs to ensure that, subject to certain limited exceptions, 70% of electricity generation is renewable by 2030 and all electricity generation in the State is emission-free by 2040. In addition to the current and in effect requirements of Section 7, the Climate Act also established the Climate Action Council, which is currently developing a Scoping Plan that will provide recommendations for how the State will achieve the Statewide GHG emission reduction requirements.²⁴ Finally, by January 1, 2024, the Department must promulgate substantive and enforceable regulations on all GHG emission sources that reflect the Scoping Plan's recommendations and ensure compliance with the Statewide GHG emission limits.²⁵

II. Requirements of Climate Act Section 7(2)

While the State is currently in the process of implementing the CLCPA, including through the development of the Scoping Plan and regulations described above, the requirements of CLCPA Section 7, as noted, are already in effect. Section 7 of the Climate Act applies to the Project for purposes of the Department's review of the Application. Among other requirements, the Department cannot issue a Title V permit to Astoria for the Project, unless the Department can ensure compliance with all requirements of CLCPA Section 7.

²¹ Part 496.

²² 6 NYCRR § 496.4.

²³ ECL § 75-0101(2).

²⁴ ECL § 75-0103.

²⁵ ELC § 75-0109.

Section 7(2) of the Climate Act has three elements.²⁶ First, as is relevant here for purposes of the Department’s review of the Application, the Department must consider whether a Title V permit for the Project would be inconsistent with or interfere with the attainment of the Statewide GHG emission limits established in ECL Article 75. Second, if the issuance of a Title V permit for the Project would be inconsistent with or would interfere with the Statewide GHG emission limits, then the Department must also provide a detailed statement of justification for the Project notwithstanding the inconsistency. Third, in the event a sufficient justification is available, the Department would also have to identify alternatives or GHG mitigation measures to be required for the Project.

As the Department initially indicated in the Complete Notice, there are substantial GHG emissions associated with the Project. Based on the information available at the time of the Complete Notice, the Department indicated that it appeared the proposed Project would be inconsistent with or would interfere with the attainment of the Statewide GHG emission limits established in the Climate Act.²⁷ Similarly, based on the information provided to that point, the Department noted that it was not currently able to satisfy either of the other two elements of Section 7(2) with respect to the proposed Project – that is, (1) a detailed statement of justification notwithstanding the inconsistency and (2) alternatives or GHG mitigation measures to be required. Since the time of the Complete Notice, the Department has not received any information from Astoria or otherwise that alters these preliminary conclusions.

III. Determination of Inconsistency

Based on the information in the Application and the SDEIS as prepared and submitted by Astoria, the Department hereby determines that the Project would be inconsistent with or would interfere with the attainment of the Statewide GHG emission limits established in Article 75 of the ECL and reflected in Part 496. As explained further below, this determination of inconsistency is based primarily on the fact that the Project would be a new source of a substantial amount of GHG emissions, including both direct and upstream GHG emissions, as well as the fact that the Project would constitute a new and long-term utilization of fossil fuels to produce electricity without a specific plan in place to comply with the requirements of the Climate Act. The Applicant’s assertions of consistency with the Climate Act, on the other hand, are based primarily on electricity sector modeling projections. As explained further below, this alone is insufficient to determine consistency under the Climate Act, as the projections are uncertain, rely on potential reductions in GHG emissions at *other* facilities, make a series of assumptions about cost savings and accelerating renewable procurement, and in any case are not subject to Department review as part of the Application.

²⁶ In addition to the requirements of Section 7(2) of the Climate Act regarding consistency with the Statewide GHG emission limits, prior to issuing any Title V or other permit for the Project, the Department would also need to ensure compliance with the requirements of Section 7(3) with respect to potential disproportionate impacts on disadvantaged communities.

²⁷ Complete Notice; ECL Article 75; Part 496.

A) Direct GHG Emissions from the Project

As noted by Astoria in its Application and SDEIS, the Project would result in substantial direct GHG emissions. Astoria provides a number of estimates of the potential direct GHG emissions associated with the Project. First, utilizing the GWP100 metric for CO₂e consistent with 6 NYCRR Part 231, the Applicant estimates a total potential to emit (PTE) from the Project, including the existing P&W black start Twin Pac, of 717,002 short tons per year (tpy) of CO₂e.²⁸ Second, utilizing the GWP20 metric consistent with the requirements of the Climate Act and Part 496, according to Astoria the total Project direct PTE is 723,872 short tpy of CO₂e.²⁹ By any metric, this is a substantial amount of potential GHG emissions from a new source in the State. An *increase* of this amount due to this one new fossil fuel-fired power plant project is inconsistent with the achievement of the Statewide GHG emission limits for 2030, or at a minimum would interfere with the attainment of such limit, especially given that achieving the limit requires a substantial overall *reduction* in GHG emissions.

Astoria also provided estimates of what it believes would be the actual direct GHG emissions from the Project. Unlike the PTE figures noted above, these estimated amounts are based on the projected dispatch of the new facility over time. According to Astoria, the Project would not be expected to operate one hundred percent of the time, but Astoria and its consultants Guidehouse/Navigant projected that the Project would have a much higher capacity factor than the Existing Facility located at the Project site. Based on the projected dispatch of the Project, according to Astoria, the increase in direct GHG emissions from the Project is projected to be 90,766 short tpy of CO₂e (GWP20) through 2035.³⁰

While this represents the average annual amount of projected GHG emissions, Astoria also provides various estimates of GHG emissions from the Project in 2030 and 2050, along with estimated cumulative GHG emissions from the Project. For example, based on the various assumptions made by Astoria and its consultants, the Project would directly emit an estimated 53,982 short tons of CO₂e (GWP20) in the year 2030.³¹ In 2050, due to the Applicant's assumptions that the Project would have either transitioned to a zero-emission fuel or will have shut down, Project GHG emissions are projected by the Applicant to be zero.³² On a cumulative basis, Astoria projects that the Project will directly result in 1,017,472 short tons of CO₂e (GWP20) from the years 2023-2030, and 1,267,811 short tons of CO₂e (GWP20) from the years 2023-2039. Under the Climate Act, again, given the required reductions in Statewide GHG emissions pursuant to ECL Article 75, these estimates constitute a substantial amount of new GHG emissions that would make the Statewide GHG emissions limits more difficult to achieve.

The Department is not able to, nor does it need to, address or evaluate all of the methodological assumptions or analytical decisions made by Astoria or its consultants Guidehouse/Navigant for purposes of their own estimates of the actual GHG emissions from the Project. Generally speaking, PTE is calculated by assuming that a facility operates at its maximum

²⁸ SDIES Table 3.1-6, p. 3-18.

²⁹ SDEIS Table 3.2-7, p. 3-59.

³⁰ SDEIS Table 3.2-7, p. 3-59; *see also* SDEIS Appendix E.

³¹ SDEIS Table 3.2-2, p. 3-46; *see also* SDEIS Appendix F.

³² *Id.*

capacity of 24 hours per day, 365 days per year, whereas projected actual GHG emissions reflect a facility's expected hours of operation considering any planned downtime for maintenance or other periods where the facility's capacity may be reduced from its design maximum. In other words, while Astoria projects 90,766 short tpy of CO₂e in direct emissions from the Project through 2035, if the Project operates more frequently than projected in any given year, then the actual direct GHG emissions from the Project would increase accordingly, up to the Project's GHG PTE.

The Applicant also provided the actual direct GHG emissions from the Existing Facility located at the site of the Project. Astoria reports that, in the baseline period of May 2015 through April 2017, the Existing Facility emitted 41,809 short tpy of CO₂e (GWP20).³³ In other words, given that Astoria would expect the proposed Project to operate more frequently than the Existing Facility, even when accounting for the increased efficiency of the Project as compared to the Existing Facility, the proposed Project would result in a new source of an increased amount of GHG emissions of 48,957 short tpy of CO₂e over and above the existing Facility based on the Applicant's projected use.

Overall, even before considering the other issues noted below, regardless of where the direct GHG emissions from the Project ultimately fall within the estimates provided by the Applicant, there are substantial potential direct GHG emissions from the Project. Accordingly, the Project would be inconsistent with or would interfere with the attainment of the Statewide GHG emission limit for 2030, as established in ECL Article 75 and reflected in Part 496.

B) Upstream GHG Emissions Associated with the Project

Importantly, this substantial amount of GHG emissions only includes the direct GHG emissions from on-site fossil fuel combustion at the Project. In other words, it is before even considering the upstream GHG emissions associated with the extraction and transmission of the natural gas or other fossil fuels to be combusted at the Project. As noted above, upstream out-of-state GHG emissions associated with such fossil fuel imports are considered part of Statewide GHG emissions under the Climate Act.³⁴ Therefore, such GHG emissions must be considered by the Department for the Project pursuant to Section 7(2) of the Climate Act. Moreover, under the Climate Act, GHG emissions must be calculated using a 20-year GWP for CO₂e.³⁵

Astoria provided estimates of upstream GHG emissions associated with the Project, based on the fuel to be combusted at the Project. The Project's upstream PTE is estimated by Astoria to be 287,099 short tpy of CO₂e (GWP20).³⁶ Based on the Applicant's and its consultants' assumptions regarding dispatch of the Project – namely that the Project would have a 4.4% expected annual average capacity factor for 2023-2035 – the expected actual upstream GHG emissions are 41,771 short tpy of CO₂e (GWP20).³⁷

³³ SDEIS Table 3.2-5, p. 3-56; *see also* SDEIS Appendix F.

³⁴ ECL § 75-0101(13).

³⁵ ECL § 75-0101(2).

³⁶ SDEIS Table 3.2-10, p. 3-61.

³⁷ *Id.*

As with the direct GHG emissions from the Project itself, Astoria also provided various other estimates of upstream GHG emissions associated with the Project in 2030 and 2050, along with estimated cumulative upstream GHG emissions associated with the Project. For example, based on the various assumptions made by Astoria and its consultants, the Project would have 24,840 short tons of upstream CO₂e (GWP20) emissions in the year 2030.³⁸ In 2050, due to the Applicant's assumptions that the Project would have either transitioned to a zero-emission fuel or will have shut down, Project upstream GHG emissions are projected by the Applicant to be zero.³⁹ On a cumulative basis, Astoria projects that the Project will result in 468,268 short tons of CO₂e (GWP20) of upstream GHG emissions from the years 2023-2030, and 583,437 short tons of CO₂e (GWP20) of upstream GHG emissions from the years 2023-2039. Under the Climate Act, again given the required reductions in Statewide GHG emissions pursuant to ECL Article 75, these estimates constitute a substantial amount of new GHG emissions that would make the Statewide GHG emissions limits more difficult to achieve.

Just as with the Applicant's estimates of actual direct GHG emissions, the Applicant's estimates of actual upstream GHG emissions are based on its consultants' Navigant/Guidehouse analyses of the projected dispatch of the Project. In other words, if the Project were to operate more frequently than projected by Astoria and its consultants, then the upstream GHG emissions associated with the Project would increase accordingly, up to the Project's amount of upstream PTE.

The Applicant also provided the actual upstream GHG emissions from the Existing Facility located at the site of the Project. Astoria reports that, in the baseline period of May 2015 through April 2017, the Existing Facility was associated with 19,112 short tpy of CO₂e (GWP20) of upstream GHG emissions.⁴⁰ In other words, given that Astoria would expect the proposed Project to operate more frequently than the Existing Facility, even when accounting for the increased efficiency of the Project as compared to the Existing Facility, the proposed Project would result in a new source of an increased amount of upstream GHG emissions of 22,659 short tpy of CO₂e over and above the Existing Facility's upstream GHG emissions, based on the Applicant's projected use.

Finally, just as with direct GHG emissions from on-site combustion, the upstream GHG emissions associated with the Project are substantial, regardless of where within these ranges the actual upstream GHG emissions ultimately fall. Even assuming the projections of upstream GHG emissions provided by Astoria are correct, the estimates of upstream GHG emissions noted above for 2030 from a new facility such as the Project, along with the cumulative estimated upstream GHG emissions, would be inconsistent with or would interfere with the attainment of the Statewide GHG emission limit for 2030, as established by ECL Article 75 and reflected in Part 496.

C) Total Project GHG Emissions

To determine the total amount of GHG emissions attributable to the Project, the upstream GHG emissions need to be added to the direct GHG emissions from the Project. Therefore,

³⁸ SDEIS Table 3.2-2, p. 3-46; *see also* SDEIS Appendix F.

³⁹ *Id.*

⁴⁰ SDEIS Table 3.2-5, p. 3-56; *see also* SDEIS Appendix F.

according to Astoria, the PTE of the Project as a whole is 1,010,971 short tpy of CO₂e (GWP20). Based on Astoria's projections of actual GHG emissions, the Project would result in 78,732 short tpy of CO₂e (GWP20) in the year 2030, while the average annual emissions through 2035 would be 132,537 short tpy of CO₂e (GWP20).⁴¹ Finally, on a cumulative basis – and again according to the Applicant's projections of dispatch rather than the PTE of the facility – on a cumulative basis the Project would result in 1,485,740 short tons of CO₂e from 2023-2030, and 1,851,248 short tons of CO₂e from 2023-2039.

Moreover, as noted above, Astoria provided the actual direct and upstream GHG emissions associated with the Existing Facility. By adding together the figures noted above, Astoria reports that in the baseline period of May 2015 through April 2017, the Existing Facility was associated with 60,921 short tpy of CO₂e (GWP20). In other words, the Project would result in 71,616 short tpy of CO₂e (GWP20) over and above the Existing Facility's total direct and upstream GHG emissions, based on the Applicant's projected use.

By any metric, but particularly under the Climate Act, this range of estimated GHG emissions from the Project as provided by Astoria represent a substantial amount of GHG emissions. While achieving Statewide GHG emissions limits requires an overall *reduction* in GHG emissions from current levels, the Project itself would result in a substantial *increase* in GHG emissions from just this one single new GHG emission source in 2030. Moreover, the Project would constitute a new and fossil fuel-fired electric generation facility. Therefore, the Project would make meeting the Statewide GHG emission limits established in ECL Article 75 substantially more difficult. Thus, under Section 7(2) of the Climate Act, the issuance of a Title V permit for the Project would be inconsistent with or would interfere with the attainment of the Statewide GHG emission limit.

D) New and Long-term Utilization of Fossil Fuel

In addition to the substantial GHG emissions from the Project, the Project is also inconsistent with other longer-term requirements of the Climate Act, given that it would be a new facility which would use fossil fuels to produce electricity. To achieve the State's climate change and clean energy policies as outlined in the CLCPA, the State needs to continue to accelerate its ongoing transition away from natural gas and other fossil fuels. Constructing and operating a new fossil fuel-fired power plant accomplishes the exact opposite and perpetuates a reliance on fossil fuels. As explained above, in addition to the Statewide GHG emission reduction requirements established in ECL Article 75, the Climate Act includes a requirement that all electricity in the State be emissions-free by 2040. The continued long-term use of fossil fuels to produce electricity – as is proposed by Astoria for the Project – is inconsistent with the State's laws and objectives, including the statutory requirement that all electricity in the State be emission-free by 2040.⁴²

In other words, subject to certain limited exceptions, none of which are applicable here, the Climate Act contains a statutory mandate to ultimately cease the use of fossil fuels to produce electricity in the State by 2040. Particularly in the absence of any justification for the Project or the identification of alternatives or appropriate GHG mitigation measures, a new fossil fuel-fired

⁴¹ SDEIS Table 3.2-7, p. 3-59; *see also* SDEIS Appendix E, SDEIS Table 3.2-2, p. 3-46, and SDEIS Appendix F.

⁴² PSL § 66-p.

generation facility like this Project could exacerbate and extend the use of fossil fuels to produce electricity, contrary to the requirements of the Climate Act. In this manner, the Project would delay, frustrate, or increase the cost of the statutorily mandated transition away from the use of natural gas and other fossil fuels to produce electricity in the State. The construction of a new fossil fuel-fired major electric generating facility, which would otherwise be expected to have a useful life beyond 2040, is inconsistent with the CLCPA's requirement for emission-free electricity generation by 2040.⁴³

E) Emission-Free by 2040 Requirement

Astoria does not propose a specific plan to meet the Climate Act's emission-free by 2040 requirement. In fact, the Applicant specifically states that it is "not relying on a transition to renewable fuel to demonstrate consistency with the CLCPA."⁴⁴ Moreover, the Applicant repeatedly acknowledges that "the Project is not seeking to permit operation on hydrogen fuel at this time . . ." and that "[s]uch operations will require a future amended permitting process."⁴⁵ In other portions of the SDEIS, the Applicant acknowledges that the use of green hydrogen or renewable natural gas (RNG) is not currently technically feasible given that there are no commercially available sources of either fuel.⁴⁶ Astoria simply assumes that, prior to 2040, the Project will be able to utilize hydrogen, RNG, or some other fuel that is considered zero-emissions under the Climate Act. Otherwise, the Applicant assumes that the Project will shut down, subject to the limited exceptions in PSL Section 66-p.

Overall, the Applicant's plan for compliance with the Climate Act's emission-free by 2040 generation requirement is uncertain and speculative in nature. Astoria has not established the feasibility of either RNG or hydrogen as a compliance pathway, from either a supply or GHG emission perspective.

For example, there is uncertainty surrounding the feasibility of firing hydrogen in existing combustion turbines. Nascent testing of hydrogen combustion at certain facilities is partially intended to address some of this uncertainty. While existing combustion turbines are generally capable of firing mixtures of hydrogen and natural gas, these fuel blends raise other concerns. When compared to natural gas, hydrogen has a higher explosive potential, a higher leak potential, a lower volumetric heating value, and a higher flame temperature. A lower volumetric heating value means that more fuel needs to be fired to achieve the same output. The additional volume of fuel fired, combined with the higher flame temperature when firing hydrogen, is expected to cause higher emissions of NO_x without the installation of additional NO_x controls. An existing combustion turbine facility may be required to modify its fuel feed system, fuel firing system, and/or emission control system to facilitate hydrogen firing in the combustion turbine while maintaining compliance with its permitted emission limits. Further, if a blend of hydrogen and natural gas is combusted, some amount of GHG emissions would still be generated from the natural

⁴³ See also DEC Notice of Denial of Water Quality Certification, Northeast Supply Enhancement Project, May 15, 2020, at pp. 14-16, Available at: www.dec.ny.gov/docs/permits_ej_operations_pdf/neseqwcdenial05152020.pdf (last visited October 27, 2021).

⁴⁴ SDEIS at p. 3-49.

⁴⁵ E.g., SDEIS at p. 3-55 n. 76.

⁴⁶ See SDEIS Section 4.8.2.

gas component of the fuel mixture, potentially jeopardizing the facility’s compliance with the zero emissions by 2040 requirement in the CLCPA.

With respect to RNG, while it may be technically feasible to operate the Project on RNG at some point in the future, this still would require commercial availability of RNG. For this to be realized, additional infrastructure may be necessary to generate and deliver this fuel in sufficient quantities to allow the Project to continue to operate. This approval process – which would likely also be subject to Section 7(2) of the Climate Act by the relevant agency or agencies – may affect the ability to continue operation of the Project. In any case, neither the Department nor PSC have yet determined the extent to which RNG combustion may be an acceptable means of meeting the zero-emissions by 2040 requirement of the CLCPA.

Other potential options for the Project to comply with the Climate Act are similarly indeterminate, and also rely on potential future action by PSC or additional developments. Regardless, at this time, Astoria is not specifically proposing to transition to either hydrogen or RNG. While the SDEIS discusses and assumes that the Project will ultimately transition to hydrogen or RNG, these are essentially aspirational references, as the Application at issue before the Department here contemplates firing fossil fuels at the Project. While the overall implementation of the Climate Act by the State is still ongoing and some details may be uncertain, it is already clear that the construction and operation of a new fossil fuel-fired power plant is inconsistent with the Climate Act, unless an adequate justification, assessment of alternatives, and GHG mitigation are provided.

F) Projected Displacement of Other Electric Generation

Astoria’s assertions, including in the SDEIS, that the Project would be consistent with the Statewide GHG emission limits in the Climate Act – notwithstanding the substantial GHG emissions associated with the Project itself – rely on two primary claims. First, Astoria and its consultants Guidehouse/Navigant assert that the Project would result in “direct” reductions in GHG emissions due to the projected displacement of other less efficient and higher emitting electric generating units (EGUs).⁴⁷ Second, Astoria and its consultants assert that the Project would result in “indirect” GHG emission reductions by providing quick start and fast ramping capacity, which would provide cost savings that would accelerate the procurement of additional renewable resources, including offshore wind.⁴⁸

In other words, while acknowledging the direct and upstream GHG emissions associated with the Project itself, Astoria first claims that the Project is nevertheless consistent with the Climate Act due to *projected* reductions that *could* occur at *other* GHG emission sources across the State. While these are referred to as “direct” GHG emission reductions by Astoria, there is in fact no certainty that they will occur.

The so-called “indirect” GHG emissions that Astoria attributes to the Project are even more attenuated. As defined by the Applicant’s consultants, “indirect” GHG emission benefits of the project are based on a convoluted series of interconnected actions and consequences, which may

⁴⁷ See SDEIS Appendix E.2

⁴⁸ See *id.*

or may not occur in the manner projected by the consultants. That is, purported “indirect” GHG emission benefits are based on the assertion that the Project provides quick start and fast ramping capacity, which in turn helps to maintain reliability in New York City. According to the consultants, this allows the State to avoid the installation of very large amounts of marginal capacity from energy storage. Next, according to the Applicant’s consultants, this cost savings can then be applied to accelerate the procurement of additional renewable resources. Most notably, the additional renewable resources that the Applicant claims could be procured include significant amounts of offshore wind. Finally, the series of projected events culminates in the realization of significant GHG emission benefits from the additional offshore wind. The vast majority of the supposed GHG emission benefits from the Project are due to these so-called “indirect” GHG emission benefits.⁴⁹

Both the “direct” and “indirect” GHG emission benefits that Astoria claims are attributable to the Project are based on electricity sector modeling performed by the Applicant’s consultants. As with any such electricity sector modeling, its outputs are largely determined by chosen inputs and assumptions. The Department cannot, nor does it need to, address or evaluate all the methodological assumptions or analytical decisions made by Astoria or its consultants for purposes of their own estimates of GHG emissions associated with the Project.

Regardless of the validity of the Applicant’s chosen methods and assumptions, in the case of a new fossil fuel-fired electric generation facility, such as the Project, projected displacement of other GHG emission sources across the State is not itself sufficient for the Department to determine consistency with the Statewide GHG emission limits established in ECL Article 75 pursuant to Section 7(2) of the Climate Act. The Project itself would result in substantial direct and upstream GHG emissions due to the production, transmission, and combustion of fossil fuels. The extent to which the Project might displace other EGUs is uncertain and dependent on a number of factors that are not fully controlled by Astoria. This includes the relative dispatch of the Project and other EGUs, as well as future market conditions.

Regardless, Subdivision 7(2) of the Climate Act requires the Department to make a determination in the context of a permitting action for an individual facility. As part of this review, because the Department is taking action with respect to one particular source – in this case, the Project – the Department does not specifically take into account actions that may or may not occur at other GHG emission sources. Other GHG emission sources are generally subject to requirements pursuant to separate Departmental permits and may require their own reviews pursuant to Section 7(2) of the Climate Act.

Overall, because it is at best uncertain whether the Project would actually displace other electric generation sources to the extent necessary to offset the direct and upstream GHG emissions attributable to the Project, the projected displacement of other electric generation – including both the “direct” and “indirect” GHG emission benefits claimed by Astoria – is not a sufficient basis to determine consistency for a new fossil fuel-fired electric generating facility like the Project.

⁴⁹ See, e.g., SDEIS Appendix E.2, Figure 1 and Table 1, pp. 2-3.

IV. Other Elements of CLCPA Section 7(2)

As indicated above, a determination of inconsistency is only the first of three elements required pursuant to Section 7(2) of the Climate Act. That is, when, as here, a permit decision would be inconsistent with or would interfere with the attainment of the Statewide GHG emission limits established in ECL Article 75, the agency must also: (1) provide a detailed statement of justification for the project notwithstanding the inconsistency; and (2) if such a justification is available, identify alternatives or GHG mitigation measures to be required. Thus, given that the Project would be inconsistent with or would interfere with the attainment of the Statewide GHG emission limits, the Department may only issue a Title V permit for the Project if it can satisfy the other required elements of Section 7(2).

As the Department initially indicated in the Complete Notice, at that time, it was not able to satisfy either of these two elements with respect to the proposed Project. As noted above, the Department has not received any information from Astoria or otherwise that alters these preliminary conclusions. This includes with respect to the potential need or justification for the project from a reliability perspective.

A) Project Need and Justification

Astoria asserts that a primary purpose of the Project is to address or alleviate identified reliability shortfalls in New York City.⁵⁰ However, based upon publicly available studies and reports by the New York Independent System Operator (NYISO), as well as other recent actions by PSC and the State, any previous reliability deficiency has been resolved. Therefore, at least through 2030, there is no demonstrated reliability need or justification for the Project.

In New York State, NYISO studies and evaluates the long-term reliability needs of the State. In order to evaluate State reliability needs, NYISO has a Comprehensive Reliability Planning Process comprised of four components: (1) the Local Transmission Planning Process; (2) the Reliability Planning Process (RPP) along with parts of the Short Term Reliability Process (STRP), (3) the Congestion Assessment and Resource Integration Study, and (4) the Public Policy Transmission Planning Process. Under the RPP, NYISO conducts the Reliability Needs Assessment (RNA), which is a biennial study that evaluates the resource adequacy and transmission system security of New York's bulk power transmission facilities.

NYISO published its last RNA report in 2020, which covers the study period years 2024 through 2030.⁵¹ The 2020 RNA initially found loss of load expectation (LOLE) violations occurred in years 2027 through 2030 of the study period. The identified deficiencies were driven by the compound effect of the increasing load forecast and loss of generation in Zone J (New York City). The 2020 RNA found that potential solutions to address the identified resource deficiency in Zone J could include a combination of increased transfer capability into Zone J, increased resources located within Zone J, or demand-side solutions. In addition, the 2020 RNA found certain transmission security violations in Zone J, partially due to loss of generation driven by the Peaker

⁵⁰ See SDEIS at pp. 1-14 and 1-15.

⁵¹ NYISO 2020 RNA, Available at: <https://www.nyiso.com/documents/20142/2248793/2020-RNAReport-Nov2020.pdf/64053a7b-194e-17b0-20fb-f2489dec330d> (last visited October 27, 2021).

Rule. In particular, with full implementation of the Peaker Rule, several 345 kilovolt (kV) circuits in the Con Edison service territory would not meet transmission security requirements.

The deficiencies identified in the 2020 RNA were resolved by the post-RNA Base Case updated as identified by NYISO in 2020. These updates included: (1) a reduced peak load forecast in Zone J, decreasing peak load by 392 MW in 2030, (2) updates submitted by Con Edison to its Local Transmission Plan (LTP), and (3) STRP solutions based on operating procedure changes to address the 2023 short-term need identified in the STRP.⁵² With respect to Con Edison’s LTP updates, Con Edison proposed three new projects: (1) a new 345 A new 345/138 kV PAR controlled 138 kV Rainey – Corona feeder; (2) a new 345/138 kV PAR controlled 138 kV Gowanus – Greenwood feeder; and (3) a new 345/138 kV PAR controlled 138 kV Goethals – Fox Hills feeder.

The three Con Edison feeder projects are collectively known as the Transmission Reliability and Clean Energy (TRACE) projects. On April 15, 2021, PSC issued an Order approving Con Edison’s request for recovery of the costs of these new TRACE projects.⁵³ In petitioning PSC for this approval, Con Edison argued that the TRACE projects help to implement CLCPA mandates “by enabling the retirement of downstate fossil fuel-fired ‘peaking’ generation units by solving the associated reliability needs thus created without the addition of any new fossil-fueled power plants...”⁵⁴ PSC similarly stated that the approval of the TRACE Projects and their additional transmission capacity allowed for “[t]he retirement of downstate fossil fuel-fired peaking generation units without the addition of any new fossil-fueled power plants.”⁵⁵

Based on these updates, NYISO identifies a zonal resource adequacy margin for Zone J – i.e., New York City, where the proposed Project would be located – through 2030. In other words, rather than requiring new electric generation sources such as the proposed Project, capacity can be removed without causing LOLE violations. Indeed, NYISO recently presented its Draft 2021-2030 Comprehensive Reliability Plan, which reiterated NYISO’s Post-RNA conclusions that “all resource adequacy and transmission security Reliability Needs are resolved” and stated that there is “[n]o need to solicit for solutions.”⁵⁶ Finally, NYISO’s analyses are before even taking into account the recently-announced transmission projects under Tier 4 (New York City Renewable Energy) of the Clean Energy Standard.⁵⁷ While these projects are pending PSC approval, the Governor announced two recommended awards for the Clean Path NY and Champlain Hudson Power Express Projects, which will deliver wind, solar, and hydropower to New York City.⁵⁸

⁵² NYISO Reliability Planning Process, Post-RNA Base Case Updates, February 23, 2021 Presentation, Slide 13, Available at: https://www.nyiso.com/documents/20142/19415353/07%202020-2021RPP_PostRNABaseCaseUpdates.pdf (last visited October 27, 2021).

⁵³ Order Regarding Transmission Investment Petition, PSC Case No. 19-E-0065 (April 15, 2021).

⁵⁴ ConEd TRACE Petition, PSC Case No. 19-E-0065 (December 30, 2020) at p. 3.

⁵⁵ Press release, PSC Approves \$800 million Investment to Maintain and Improve Reliability, Achieve Climate Change Goals, Enhance Resiliency of NYC Transmission Grid, PSC Case No. 19-E-0065 (April 15, 2021).

⁵⁶ NYISO 2021-2030 CRP, August 18, 2021, slide 5, Available at: https://www.nyiso.com/documents/20142/23873690/02%202021-2030_CRP.pdf/29eb0cce-f689-3b05-4c69-d3fbfae5e0e9 (last visited October 27, 2021).

⁵⁷ See <https://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Standard/Renewable-Generators-and-Developers/Tier-Four> (last visited October 27, 2021).

⁵⁸ Governor’s Press Release, September 20, 2021, Available at: <https://www.governor.ny.gov/news/during-climate-week-governor-hochul-announces-major-green-energy-infrastructure-projects-power> (last visited October 27, 2021).

Taken together, if approved, these two projects will have a transmission capacity of over 2,500 MW, and will deliver electricity directly into Zone J. Therefore, overall, there is no reliability need or justification for the Project.

B) GHG Mitigation and Alternatives

Because there is not a sufficient justification for the Project notwithstanding its inconsistency with the Statewide GHG emission limits, the Department need not reach this element of the Section 7(2) analysis. In any case, given that the Applicant considers the Project to result in “direct” and “indirect” GHG emission benefits, Astoria committed to only minimal additional GHG mitigation measures, beyond those required by other existing regulations.

The minimal GHG mitigation measures noted by Astoria include upgrading the starting system for the two P&W combustion turbines being retained for black start capability.⁵⁹ According to the Applicant, this is expected to result in approximately 1,077 short tpy of CO₂e in GHG emission savings. Even if the Project were justified despite its inconsistency with the Statewide GHG emission limits established in ECL Article 75, which, as explained above, it is not, this amount of GHG mitigation would be insufficient given the substantial direct and upstream GHG emissions associated with the Project.

OTHER UNSATISFIED ISSUES

As noted above, in addition to ensuring compliance with the requirements of Climate Act Section 7(2), the Department would also have to ensure compliance with the requirements of Climate Act Section 7(3) prior to issuing any Title V or other permit for the Project. Pursuant to Section 7(3) of the Climate Act, in considering and issuing permits, the Department “shall not disproportionately burden disadvantaged communities” as identified pursuant to the Climate Act. Moreover, the Department is required to prioritize reductions of GHG emissions and co-pollutants in such disadvantaged communities (DACs).

While the Climate Justice Working Group under the Climate Act⁶⁰ has not yet finalized criteria for the identification of disadvantaged communities pursuant to the Climate Act, the State has identified interim DACs that may be utilized until the final criteria are established.⁶¹ Moreover, pursuant to the Department’s Commissioner’s Policy 29, the Department has established Potential Environmental Justice Areas (PEJAs).⁶²

Whether utilizing the interim DACs or the PEJAs, the Project may have a disproportionate burden on DACs pursuant to Section 7(3) of the Climate Act. Thus, even if Astoria were able to satisfy the requirements of Section 7(2) for the Project, the Department would not be able to issue a Title V permit unless Astoria also satisfied this separate requirement of the Climate Act.

⁵⁹ SDEIS at p. 3-64.

⁶⁰ See ECL § 75-0111.

⁶¹ See <https://www.nyserda.ny.gov/ny/disadvantaged-communities> (last visited October 27, 2021).

⁶² See <https://www.dec.ny.gov/public/911.html> ((last visited October 27, 2021).

CONCLUSION

For all of the reasons described above, the Department hereby denies the Title V Application for the Project (DEC ID: 2-6301-00191/00014).

Pursuant to 6 NYCRR Section 621.10(a)(2), Astoria has the right to request an administrative adjudicatory hearing regarding the denial of this Application. Pursuant to this provision, any such request for a hearing must be made in writing within thirty (30) days of the date of this letter.

If you have any questions regarding this denial or the Project, you may contact me or Christopher Hogan in my office, or Jonathan A. Binder, Esq. in the Office of General Counsel.

Sincerely,



Daniel Whitehead, Director
Division of Environmental Permits

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