

Responsiveness Summary
SPDES Permit No. NY0270342, DEC ID: 6-4058-00198/00001
Air Products & Chemical, Inc.
Massena Green Hydrogen Facility

October 25, 2024

Background

The New York State Department of Environmental Conservation (DEC) issued a State Pollutant Discharge Elimination System (SPDES) permit for Air Products & Chemical, Inc. (henceforth Air Products). This is a new permit pursuant to 6 NYCRR Part 750 following the receipt of an NY-2C application and preliminary engineering report as outlined in the fact sheet. The draft permit was publicly noticed in the *Environmental Notice Bulletin* and in the *Watertown Daily Times* on December 27, 2023. The public comment period closed on February 9, 2024. DEC received 285 comments. A list of the commenters is attached as the Appendix.

As required by 6 NYCRR 621.10(e), DEC prepared the Responsiveness Summary to address timely comments received on the Notice of Complete Application, SPDES draft permit, and fact sheet. Frequently raised comments are summarized and presented as one general comment and are not repeated as specific comments under the Responsiveness Summary. All relevant comments on the Notice of Complete Application, draft permit, and fact sheet are addressed below.

DISCHARGE COMMENTS

TEMPERATURE

Comment 1: The temperature of the discharge from the facility will be too high.

Response 1: DEC modified the draft permit to address concerns regarding the impact of the effluent temperature on the receiving waterbody. The issued permit includes a 90°F daily maximum effluent temperature limit at Outfall 001. The daily maximum limit will be protective of the water quality standard found in 6 NYCRR 704.2(b)(1)(i), which states:

“The water temperature at the surface of a stream shall not be raised to more than 90°F at any point.”

DEC also evaluated a limit for deltaT (the difference in temperature between the intake water temperature and the discharge water temperature) and concluded the discharge does not have a reasonable potential to violate the water quality standard found in 6 NYCRR 704.2(b)(1)(ii), which states:

“At least 50 percent of the cross-sectional area and/or volume of flow of the stream including a minimum of one-third of the surface as measured from shore to shore shall not be raised to more than five Fahrenheit degrees over the temperature that existed before the addition of heat of artificial origin or to a maximum of 86 degrees Fahrenheit whichever is less.”

This conclusion is based on a temperature balance equation of the discharge in the Massena Power Canal, to which the facility proposes to discharge. The equation used projected effluent temperatures and St. Lawrence River temperatures. The calculation showed that even during the most critical time for temperature in the Massena Power Canal, the discharge would not exceed the deltaT water quality standard. A deltaT limit is not necessary because there is no reasonable potential to violate 6 NYCRR 704.2(b)(1)(ii).

Comment 2: The discharge temperature will have negative impacts to fish spawning populations.

Response 2: The Massena Power Canal is a Class B waterbody according to 6 NYCRR 910.4(a) which states that any waterbody not listed in Table 1 of 6 NYCRR 910.6 shall be designated the classification of the waterbody in which it flows into. The Massena Power Canal flows into the Class B Grasse River, therefore the Massena Power Canal is a Class B waterway. 6 NYCRR 701.7 states:

“The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival.”

The issued permit is protective of this classification. Warmwater fish species are present in the Massena Power Canal and some species may spawn in the area. See Response 1 above for information about the allowable temperature differential caused by the outfall. The thermal plume, from the relatively small discharge flow combined with ambient flows, will dissipate as it moves downstream to the Grasse River and St. Lawrence River; therefore, is not expected to negatively impact fish populations in those waters. Where the criteria in 6 NYCRR 704.2(b) are met, the water quality standard in 6 NYCRR 704.2(a) is also met.

Note: A typographical error in the draft materials that stated the Massena Power Canal is a Class C waterbody has been corrected.

Comment 3: The temperature of the discharged water from the facility will cause harmful algal blooms (HABs).

Response 3: As noted on DEC's [public website](#), HABs are primarily caused by nutrients, and nutrients are not a pollutant of concern associated with this project. Nonetheless, as stated in Response 2, the impact of the thermal plume is not expected to affect the downstream Grasse River or St. Lawrence River due to the relatively small discharge flow compared to the ambient flows of these waterbodies. Since DEC began actively tracking HABs statewide, there have been no HABs reported in the Grasse River, Massena Power Canal, and St. Lawrence River from 2020-2023.

POLLUTION

Comment 4: The facility will discharge Polychlorinated Biphenyls (PCBs) and cause mixing of PCBs already present in the Massena Power Canal.

Response 4: The Massena Power Canal, Grasse River, and St. Lawrence River [portion 1] (PWL No. 0904-0014, 0904-0904, and 0901-0001, respectively) were listed on the 2020 [New York State Section 303\(d\) List](#) of Impaired/TMDL Waters due to PCBs from contaminated sediment. A Total Maximum Daily Load study has not yet been developed to address these impairments.

The Air Products & Chemicals – Massena Facility does not add or use PCBs and is, therefore, not projected to be a source of PCBs. PCBs are not expected to be present in the effluent, so the seven Aroclors listed in Table B of the NY-2C application are marked “believed absent.” As such, the discharge does not have the reasonable potential to violate the water quality standard for PCBs.

As to the concern about mobilizing PCBs already present in the Massena Power Canal, the proposed Outfall 001 consists of a bankside discharge that flows over riprap to the Massena Power Canal, a vertical distance of about 10.5 feet. At a maximum design flow of 740,000 gallons per day, the 15-inch ductile iron discharge pipe is not expected to be a full flowing pipe, resulting in a very low discharge velocity discharging to rip rap, which itself will reduce the velocity of the discharge flow even further, reducing the potential for mixing. Additionally, because PCBs are relatively insoluble with water and tend to bind with sediment, the proposed Outfall 001 is not expected to stir up any existing contaminants in the Massena Power Canal.

Comment 5: The facility will discharge per- and polyfluoroalkyl (herein referred to as PFAS) substances.

Response 5: After reviewing Air Product's NY-2C application and preliminary engineering report (a required submission under 6 NYCRR 750-2.10), DEC concluded that the facility will not use, react, store, or generate PFAS on-site. However, consistent with DEC's Technical and Operational Guidance Series (TOGS) 1.3.13, the finalized permit includes a requirement to conduct short-term monitoring for PFAS and 1,4-dioxane (1,4-D). The results of the short-term sampling will be reviewed and evaluated for additional requirements.

Comment 6: The facility will discharge microplastics.

Response 6: None of DEC's water quality standards cover microplastics for a Class B receiving waterbody, so DEC did not specifically request information or an analysis of microplastics in the proposed discharge. However, due to numerous comments, DEC reviewed the Air Product's NY-2C application and preliminary engineering report (a required submission under 6 NYCRR 750-2.10), the materials used at the facility, the overall hydrogen-production process, and the proposed treatment used (including chemical usage), and based on that review, DEC does not anticipate that use, intake treatment, or wastewater treatment of water at the facility will have a reasonable potential to discharge microplastics into the Massena Power Canal.

Comment 7: The facility will use an unspecified biocide as a water treatment chemical at the facility.

Response 7: As indicated in their NY-2C application, Air Products will require ultrapure water for its hydrogen-production process. A biocide will likely be needed to prevent microorganism growth. Air Products is currently finalizing the wastewater treatment plant design. The plant design must ensure that all effluent limits and requirements specified in the issued SPDES permit are met. The permit requires that DEC be notified before any water treatment chemicals, which includes biocides, are added to the wastewater treatment system. The applicant will submit toxicity and dosage that DEC will review to analyze the use of the product. Air Products will need to obtain DEC authorization to use the product. Currently, Air Products is not authorized to discharge any water treatment chemicals.

Additional information on the water treatment chemical review process can be found at: [SPDES Permitting Of Water Treatment Chemicals \(WTCs\) - NYSDEC](#)

Comment 8: Regarding representative mercury sampling, how can a monthly average be calculated with a single grab sample?

Response 8: The monitoring frequency of once per month is the most conservative monitoring frequency specified in [DOW 1.3.10 \(Mercury – SPDES Permitting & Multiple Discharge Variance\)](#), page 26. If one sample is taken during the calendar month, the monthly average will be determined based on that one sample.

OTHER

Comment 9: The facility could cause degradation of remediation efforts that are ongoing in the Grasse River.

Response 9: DEC acknowledges the milestones of the recent corrective action taken on the Grasse River to clean up PCBs in conjunction with the St. Regis Mohawk Tribe, U.S. Environmental Protection Agency, and the New York State Museum. As noted in Response 4, the facility is not expected nor permitted to discharge PCBs.

Comment 10: Deny the SPDES permit.

Response 10: Air Products has undertaken the required process under 6 NYCRR Part 621, and the State Environmental Quality Review (SEQR) to obtain a SPDES permit. The issued SPDES permit includes all appropriate conditions and requirements to protect water quality. Additionally, per 6 NYCRR Part 621 and as noted above, DEC is providing this written response to comments and made changes to the draft permit and fact sheet accordingly. All conditions, requirements, and limits needed to ensure water quality standards for the industrial, stormwater, and sanitary discharges have been included in the issued permit.

CONSTRUCTION COMMENTS:

Comment 11: The facility will degrade wetlands.

Response 11: DEC and the United States Army Corps of Engineers reviewed applications for a wetland permit and found the affected wetlands to be unregulated under both agencies' regulations.

Comment 12: Concern regarding harm to species and their habitat, including threatened and endangered species.

Response 12: An environmental assessment of the site was completed as part of the SEQR review. In addition, DEC reviewed the site for threatened and endangered species and concluded that this project is not likely to have any significant adverse effects on New York State-listed threatened or endangered species.

COMMENTS ABOUT THE PERMITTING PROCESS

Comment 13: Dissatisfaction with the amount and timeliness of outreach by both DEC and Air Products to the residents of Akwesasne and as part of Commissioner's Policy 29.

Response 13: DEC consulted the Environmental Division of Saint Regis Mohawk Tribe (SRMT) prior to the public notice period in accordance with Commissioner's Policy 42: Contact, Cooperation, and Consultation with Indian Nations.

All notices relative to public meetings have been completed in accordance with DEC requirements. Additionally, Air Products implemented an approved Public Participation Plan in accordance with Commissioner's Policy 29: Environmental Justice and Permitting.

Comment 14: MCA [Mohawk Council of Akwesasne] still has not seen the SEQR negative declaration that was developed by DEC and the Massena Town Planning Board which apparently was relied on to support your development of the Proposed Permit.

Response 14: The SEQR Negative Declaration was uploaded to the online document repository ([Massena Green Hydrogen Facility - C&S Companies \(cscos.com\)](https://www.cscos.com)) required under the Public Participation Plan on August 4, 2023. The negative declaration continues to be posted and can also be requested under the Freedom of Information Law.

Comment 15: SEQR was not completed thoroughly or accurately.

Response 15: The town of Massena acted as Lead Agency for the review under SEQR. DEC provided input on environmental impacts as a SEQR involved agency in a letter dated April 3, 2023. DEC does not enforce or review the SEQR process by other agencies and does not provide legal opinions about the conduct of SEQR by other agencies.

Comment 16: The facility will have negative impacts on human health, including on those living in disadvantaged communities.

Response 16: Pollutant impacts of the project were reviewed according to the Climate Leadership and Community Protection Act (CLCPA), Section 7(3). The following condition has been added to the permit based on the review:

Climate Leadership and Community Protection Act [CLCPA] Section 7(3) –
In accordance with the provisions of the Climate Leadership and Community Protection Act, Section 7(3), to address impacts to disadvantaged communities the permittee must implement all of the measures identified in the permittee's mitigation plan entitled "Air Products and Chemicals Massena Facility Consistency with CLCPA Section 7(3)", updated August 13, 2024 ("Mitigation Plan"), as further required below:

- All hydrogen truck transport to and from the facility (empty and loaded trucks) must follow the route identified in Figure 1 of the Mitigation Plan as the

“Proposed Trucking Routes”, except where unforeseen road closures or mandated detours prevent use of all or part of the route.

- Before the Commencement of Operation, the permittee must install at least four electric vehicle charging stations and implement agreements with the municipalities, as described in the Mitigation Plan.

In accordance with the Schedule of Additional Submittals, for any non-operational Mitigation Plan measures, the permittee must provide a final certification that the measures have been implemented no later than Commencement of Operation.

Cumulative impacts of a project are generally considered under SEQR. DEC was not the lead agency for the SEQR review. DEC does not enforce or review the SEQR process by other agencies and does not provide legal opinions about the conduct of SEQR by other agencies. Comments that referenced the “Cumulative Impacts Law”, (S.8830/A.2103D) likely pertain to legislation enacted regarding the siting of environmental facilities relative to disadvantaged communities, codified by various amendments to New York Environmental Conservation Law Articles 8 and 70. The legislation does not take effect until Dec. 30, 2024 and so is not applicable to this application.

TRANSPORTATION OF HYDROGEN COMMENTS

Comment 17: Comments relating to traffic and the potential dangers of transporting hydrogen.

Response 17: Transportation concerns were considered by the town during the SEQR process and traffic concerns were evaluated during the CLCPA 7(3) review. DEC regulates liquid Hazardous Materials stored in bulk in stationary tanks under Part 597, and the storage and transportation of Hazardous Wastes under Parts 370-374 and Part 364. Hydrogen is not a regulated hazardous material.

COMMENTS OF SUPPORT

Comment 18: Comments supporting the project were received from local municipalities and a trade union. Commentors referenced job creation, tax revenue, and green energy production as positive contributions of the proposed facility.

Response 18: DEC acknowledges these comments.

COMMENTS FROM THE APPLICANT

Comment 19: The Permit lists Jonathon Traynor as the contact person. Mr. Traynor is no longer associated with Air Products, and the new contact person and associated information is provided below:

John Greco
Project Manager
Air Products & Chemicals
1940 Air Products Blvd.
Allentown, PA 18106
(610) 481-3455
grecojj@airproducts.com

Response 19: DEC corrected the contact information in the final permit.

Comment 20: The discharge location of primary Outfall 001 has been relocated to the following coordinates:

Latitude: N44° 57' 12.6"

Longitude: W74° 54' 28.4"

Response 20: DEC corrected the permit and fact sheet accordingly. It is also noted that the change in outfall location has not affected the water quality review of this permit, and effluent limits and requirements are not impacted by this change.

Comment 21: According to the Special Conditions, Page 5 of 15, the Permit states that “the permittee is not authorized to commence construction until the Department has approved final engineering design documents. Additionally, the permittee is not authorized to discharge until construction is complete and the Department has accepted the Construction Completion Certification. If any changes are made to the approved design during construction, the permittee must notify the Department.” Based on discussions with NYSDEC, it is our understanding that construction refers to the wastewater treatment system designed to remove mercury to meet the discharge limit of 0.7 ng/L. Air Products has previously been authorized by DEC staff to move forward with construction of the hydrogen manufacturing facility, but not the construction of the wastewater treatment system until DEC has approved the final engineering design documents for the wastewater treatment system. Please confirm this understanding.

Response 21: Construction of the wastewater treatment facilities cannot begin until DEC has approved the design documents per 6 NYCRR 750-2.10(c). Additionally, discharge from the constructed wastewater facility cannot begin until DEC accepts the Construction Completion Certification per 6 NYCRR 750-2.10(c). All effluent limitations go into effect when the DEC accepts the Construction Completion Certification.

Comment 22: As an update, Veolia is continuing to conduct bench testing to determine a method to consistently meet the discharge limit of 0.7 ng/L. Although the expected mercury influent loading from the St. Lawrence River can be reduced by over 50 percent, bench testing and analytical result variation has yet to indicate a treatment technology that can consistently document the mercury concentration of the effluent to below 0.7 ng/L. The Air Products Massena facility's hydrogen manufacturing process will not use mercury or add any additional mercury to the wastewater. However, removing mercury from a background water concentration of 1.1 ng/L in the St. Lawrence River to a discharge concentration of 0.7 ng/L has not been shown to be achievable to date. Air Products will keep DEC updated on the results of further bench testing.

Response 22: DEC notes this status on bench testing for mercury. The issued permit maintains the mercury limit of 0.7 ng/L. Final treatment design and analysis shall be presented in the forthcoming design documents.

Appendix: List of Commenters

Abraham Francis
Adam Jacobs
Agnes Terrance
Alethea Lazore
Alexandria
Amanda Lazore
Amber Montour
Anastasia George
Andrew Kassian
Andrew Powell
Angele Malenfant
Ann Mitchell
Anthony Tubolino
April Lazore
Arlene LaFrance
Ashley Martin
Ashley Tarbell-Johnson
Aubrey Phillips
Aurora Swamp
Autumn Cree
Autumn Jock
Bailee Rourke
Blake Lavia
Bobby King
Brandy Pierce
Brenna Castagnier
Brent Maracle
Brianna
Caiya Sunday
Carla Mitchell
Carrie Benedict
Carrie Hill
Carvin Lewis
Cecelia Herne
Chaevee Willie
Chantelle White
Charlan Thompson
Chase Parker
Chelsea Lazore
Chelsea Oakes
Chelsea Sunday
Cherish Benedict
Cheyenne Jocko
Cheyenne Square
Chief Jackie Benedict
Chrissy
Christiana DeForge
Christie Boots
Christine Sutter
Christine Winston
Ciele Samuel
Clayton Barnes
Clayton Benedict
Corrin Burns
Courtney Angus
Craig Arquette
Crystal Adams
Cynthia Garrow
Cynthia Phillips
Dahwandawnsarae Maracle
Dakota Thompson
Dana Leigh
Danielle Oakes
Darcie Cree
Darren Major
Deanna Swamp
Dennis Bero Sr
Dennis Phillips
Devin Harrington
Dillon Point
Dominic
Doris Burns
Doris Cook
Dr. Jessica Dolan
Dr. Sarah Konwahahawi Rourke
Drake Adams
Drew
Dylan Spicer
Emerald Jock
Erin Lewis
Erin Mitchell
Ernie LaBaff
Fallon Jacobs
Francis Conners III
Francis Tarbell
Gavin papequash
Grand Chief Abram Benedict (MCA)
Grass Roots Indigenous Physicians
Gregory M Paquin
Halle Cooke

Hannah Lazare
Hunter Mae Cooke
Ian Clute
lawentas Nanticoke
Ida Lazore
leheroskon Ionkiats
lewenhniserakon
Ilona Thompson
Jacelyn Lazore
Jackie Benedict
Jackie Tarbell
Jacob Wynn
Jade Gabri
Janisa Benedict
Jasmine Benedict
Jasmine Jimerson
Jennifer Conners
Jessica Jock
Jessica Lazore
Jessica Sargent
Joelle Porter
Johanne Jackson
John Trendowski
Jon Michael Lazore
Joshua Sargent
Julia Cook
Julie Phillips-Jacobs
Justice Thompson
Kaharonkwas/Tamra:Cook
Kahentinetha
Kahionhawinehshon Melissa Francis
Kahionwinehshon Phillips
Kahnekahawi Thompson
Kaitlyn Oakes
Kalli Delormier
Kannahstasi Mackenzie Smoke
Kanerahataroroks Kimberly Terrance
Kaniehtiotha Jacey Rourke
Karakwahawi
Karakwine
Karen Jocko
Karen Kateri Thompson
Karon:ies Thompson
Karonhiotha
Katelyn Kanarahtakwas Cook
Katelynn Delormier

Katsitsiios David
Katsitsionni Fox
Kelly Pierce
Kierin Bell
Kim Confer
Kimora Swamp
Konwahlenrawi Sage Herne
Krista Loran
Kristan Swamp
Kristian Terrance
Kwennatenha
Kwetio Kanerahtiio
Kyle Herne
Kyrsha Angus
Laken Cook
Landon Thompson
Larissa Cook
Lauren Chubb
Layla back
Layne Lazore
Leah Barnes
Leah Benedict
Leland
Leniente Cook
Leo Fox
Lesley Bero
Lindsay Sunday
Lisa Delormier
Lisa Roundpoint
Logan Sunday
Lorna Francis
Louis Bush Jr
Louis Chubb
Lynden Chubb
Mackenzie Garrow
Madison Peraza
Maegan Mitchell
Mara Lazore
Marina Johnson-Zafiris
Marisa Francis
Marli Conners
Marty G. Miller
Meadow Tarbell
Melerena Back
Mia McDonald
Mikalee Adams

Miranda Green
Misty Garrow
MoniGarr
Morgan Kawisaronkwaw McDonald
Mya Tarbell
Name not provided
Nathan Chubb
Neva Benware
Nia Seymour
Nihatsistohkwaa Skye
Nikki Sunday-Jocko
Norma Tarbell-Sunday
Onenioteko:wa Maracle
Orientatahse
Patrick Kelly
Patrick O'Brien
Paulina Gray loiehsos
Rachel Benedict
Rachel Jacobs
Raelee Simcox
Rahion'ha'no:ne Edward Kader
Rahnonkwatsherehawi George
Rana Maracle
Ranatiostha Swamp
Ranatsienhawi David
Raterakwas
Raymond Rourke
Rita Curran
Robert J Cole
Robert King
Robert O McNeil
Roberta Lazore
Ronald Burke
Ronni Sunday
Ronwahawihson phillips
Rori Francis-Herne
Rorontakehte david
Rose Oakes
Rosebud Cook
Ryan Francis-Forgues
Ryan Ransom
Sara Bero
Sateikwen Bucktooth
Shakowe:sere George
Shana Maracle
Shannon Ryan

Shara Francis-Herne
Shayleen Thompson
Shelby Adams
Shelyn K Peets
Sherry Oakes
Shy Ransom
Sierra White
Skaniehtiiohstha Montour
Stacey Mitchell
Stephanie and David Swenson
Steven Thompson
Stevie A. Burley
Sue Bellor
Sue Herne
Sunni Benedict
Sunshine Roundpoint
Sydney
Sydnie Garrow
Tahniah Cook-Square
Taiothoratie Oakes-Laffin
Talon Swamp
Tanice Jock
Tashawna Francis
Tawny Martin
Taylor Day
Teeweewes Swamp
Tehrenhniserakhas
Teiohontathe Fallan Jacobs
Terri Day
Theresa Benedict
Theresa Jocko
Theresa Thompson
Thohahente
Tianna Back
Tiarraray Square
Tiffany Burns
Tiffany Cook
Tina Bradley
Tina Square
Toni Jo Kawennahente Cook
Travis Phillips
Troy Thompson
Tsionatio Thompson
Tyana Benedict
Tyson Thomas/Rakeniathe
Tzintzun Aguilar-Izzo

Valerie Gray
Victoria Buckshot
Waheson Lazore
Wennietanoron Oakes

Wentine Thompson
William Sunday
Wilma David
Zoe Oakes