



NSR Engineering Evaluation
CT Department of Energy and Environmental Protection
Bureau of Air Management

Company Name:	Iroquois Gas Transmission System, L.P.	Permit No.:	028-0027 & 028-0028
Equipment Location:	78 High Meadow Road, Brookfield, CT 06804	Date App Received:	3/2/2020
Mailing Address:	One Corporate Drive Suite 600, Shelton, CT 06484	SIMS No.:	202003146 & 202003805
Contact Person:	Mr. Michael Kinik	Date Prepared:	7/29/2025
Contact Title:	Senior Director, Operations	Prepared By:	James Grillo
Contact Phone:	203-944-7023	Single or Multiple Units:	Multiple
Contact Email:	Michael_kinik@ iroquois.com	Permit Type:	Minor Mod (not prepaid)
Ozone:	severe non-attainment	Premises Size:	Major
PM2.5:	attainment	Equipment Size:	Minor
Equipment Description	Two Solar Natural Compressor Turbines	TV Permit Number:	028-0029-TV
Step 1: Complete all the fields above Step 2: <input type="button" value="Generate Eval"/> Step 3: <input type="button" value="Update Fields"/>		Registered under -33a or -33b?	N/A
		Applicant Subject to EJ Statute?	No

Introduction

Reason for Applications:

Iroquois Gas Transmission System, L.P. (owner)/Iroquois Pipeline Operating Company (operator, Iroquois) proposed the ExC Project at the Brookfield Compression Station in Brookfield, Connecticut. The *project* involves the following:

- Minor Modifications to Permit Nos. 028-0027 and 028-0028 (Application Nos. 202003146 & 202003805-Covered in this evaluation)
- Construction and operation of two new Solar Turbines, Inc. Model Taurus 70 (or Equivalent) with SoLoNO_x and CO Oxidation Catalyst (Application Nos. 202003147 & 202003148-Processed as a separate transaction)
- Construction and operation of a non-permitted emergency power generator (addressed in the evaluation for Application Nos. 202003147 & 202003148)

In regard to the minor modifications to Permit Nos. 028-0027 and 028-0028, specifically Iroquois requested to:

- Install an oxidation catalyst and additional acoustic baffles in the existing exhaust stack
- Relocate the exhaust stack laterally
- Increase the stack height from 50 to 69.2 feet

- Add a facility wide restriction on combined startup and shutdown durations of 500 hours per year for these units and the proposed new units (Application Nos. 202003147 & 202003148)

Regulatory Applicability:

The requested changes constitute a minor modification pursuant to Section 22a-174-2a(e)(1) of the Regulations of Connecticut State Agencies (RCSA), because it is neither a non-minor modification nor a revision pursuant to the RCSA.

A public notice would normally not be required for these minor modifications pursuant to RCSA §22a-174-2a(e)(6) because the requested changes are minor and there will be no increase in emissions due to the requested changes. However, these minor modifications will be included in the Tentative Determination notice for the two new combustion turbines (Application Nos. 202003147 & 202003148) as part of the *project*.

Discussion of Modification:

PM₁₀ Testing Requirements

Permit Nos. 028-0027 and 028-0028:

- The existing compressor turbine permits were modified on April 14, 2014 and included a requirement that the units be retested for PM₁₀ every five years if the results exceeded 75% of the permitted limit. The stack testing requirement was added for a compliance demonstration because Solar changed their particulate emissions data from 0.042 to 0.018 lb/MMBtu, resulting in a 15.7 ton/yr reduction in emissions for the two units.

Permit language from April 2014 modification:

If the results of the initial stack test for PM₁₀ exceed 75% of the permitted PM₁₀ emission limits as stated in Part IV of this permit, the Permittee shall conduct recurrent stack testing for PM₁₀ at least once every five years from the date of the previous stack test to demonstrate compliance with their respective limits with the following exceptions:

- In September 2014, both units were tested for PM₁₀ and the emissions were below 75% of the permitted limit. The PM₁₀ stack test results for Unit 1 (P0027) and Unit 2 (P0028), respectively were 0.0018 and 0.0130 lb/MMBtu.

Therefore, the PM₁₀ testing requirement is being removed from both permits to cleanup a permit requirement that is no longer necessary.

Installation of oxidation catalyst:

The installation of the oxidation catalyst required additional monitoring and record keeping, along with a reduction in CO emissions. Additionally, since the units will now utilize pollution control equipment, stack testing for CO will continue on a recurring 5-year basis.

Changes to the stack heights and location

The applicant requested that the stack heights for both units be increased from 50 to 69.2 feet along with a slight decrease in the property line distances.

Therefore, the applicant's requested changes have been made to the permits. In addition, the permits were updated to the current template to include the Phase 2 requirements found in RCSA §22a-174-22e.

Department Initiated Changes

These modified permits also included bringing the permits up to the current “template” with additional monitoring, record keeping, and reporting requirements similar to the proposed new compressor turbines. (Application Nos. 202003147 & 202003148)

The allowable fuel usage in the current permits exceeded 8,760 hours of operation at maximum rated capacity (MRC). Therefore, the fuel usage has been reduced to reflect 8,760 hours at MRC for each permit. No changes to the annual emissions as they reflect actual emissions at 8,760 hours of operation.

The permits also specify that all emissions limitations in (lb/hr) and (lb/MMBtu) are based on the higher heating value (HHV) of natural gas.

Emissions Change from Modification

Table A: Emissions Change for Permit No. 028-0027

Pollutant	Existing Permit (tpy)	Modified Permit (tpy)	Change in Emissions (tpy)
PM/PM₁₀/PM_{2.5}	5.1	5.1	0
SO_x	0.2	0.2	0
NO_x	17.1	17.1	0
VOC	1.0	1.0	0
CO	17.4	0.7	-16.7

Table B: Emissions Change for Permit No. 028-0028

Pollutant	Existing Permit (tpy)	Modified Permit (tpy)	Change in Emissions (tpy)
PM/PM₁₀/PM_{2.5}	6.5	6.5	0
SO_x	0.3	0.3	0
NO_x	22.0	22.0	0
VOC	1.3	1.3	0
CO	22.1	0.7	-21.4

Comments: As shown in Tables A and B above, there will be a decrease in CO emissions for each turbine due to the installation of the oxidation catalyst. Additionally, the startup CO emissions are essentially the uncontrolled emissions because the oxidation catalyst requires a minimum temperature to reduce emissions. During shutdown events, the remaining exhaust gas passing over the catalyst will be controlled until such time that the minimum effective temperature of the bed is reached, which is why the shutdown limit is less than the startup limits. In addition to the annual 500 hour limitation on startup/shutdown events for all four turbines, the permits also limit both startup and shutdown events to 10 minutes per event.

Ambient Air Quality Impact Analysis (Attachment L of NSR Application)

Review Type	Conduct If...	Emissions/Analysis	Dates
Refined Modeling	...allowable emissions for all equipment being permitted contemporaneously exceed any of the limits to the right →	<input type="checkbox"/> $PM_{10} \geq 15$ TPY <input type="checkbox"/> $SO_x \geq 15$ TPY <input type="checkbox"/> $PM_{2.5} \geq 10$ TPY <input type="checkbox"/> $NO_x \geq 40$ TPY <input type="checkbox"/> $CO \geq 100$ TPY <input type="checkbox"/> $Pb \geq 0.6$ TPY <input type="checkbox"/> Total Dioxins $\geq 0.6E-7$ TPY	Date Sent: 06/18/25 Date Approved: 07/29/25

Comments: The application package states that the following reviews were required: Stack Height review for SO_2 and CO ; and screening analysis for PM_{10} , $PM_{2.5}$, and NO_x . Iroquois submitted refined modeling analyses for review.

On March 6, 2024, the Environmental Protection Agency (EPA) published in the Federal Register, that became effective on May 6, 2024, a National Ambient Air Quality Standard (NAAQS) final rule that reduced the primary annual $PM_{2.5}$ standard from $12.0 \mu g/m^3$ to $9.0 \mu g/m^3$. To address this change and recent updates to meteorological data, the Department requested a revised modeling submission from the applicant in spring 2025. The Applicant complied with the request. The Department's review has concluded that the *project* as discussed above will not cause or significantly contribute to a violation with the applicable National Ambient Air Quality Standards and Prevention of Significant Deterioration increments for SO_2 , NO_2 , PM_{10} , $PM_{2.5}$, and CO . (see memo from S. Sampieri, dated 07/29/2025)

BACT Review

BACT does not apply because there will be no increase in emissions due to the proposed modifications to these permits.

Major Modification/PSD/Non-Attainment Review

The proposed modifications to these permits do not trigger a major modification, PSD, or Non-Attainment review as there is no increase in emissions. However, since the premises is considered a major source of emissions, the Evaluation for the new turbines (Application Nos. 202003147 & 202003148), discusses the applicability of major modification and non-attainment with respect to the *project* as discussed in the *Introduction: Reason for Applications* section of this evaluation.

Permit Fee(s) (Double Click to edit)

Equipment Size ☐ Major ☒ Minor

Permit Type Minor Permit Mod ▼

Permit Fee \$1,750 ea.

Municipality ☐ Yes

of Permits/Applications 2 \$3,500

Application Fee Submitted ☒ Yes -\$1,880

Was Permit Fee paid with Application Fee? ☒ Yes -1620

Additional Application Fees (\$1750 Each)

	Quantity	
BACT Review	0	\$0
LAER Review	0	\$0

Money Owed	\$0
-------------------	------------

Comments: While the applicant submitted the total permit fee with the applications for these permit modifications, they are being included in the Tentative Determination public notice for the two new turbines (Application Nos.202003147 & 202003148) as part the *project*.

Compliance History Review

Was the SIMS Enforcement Report run and reviewed for this applicant?	Yes
Were other bureaus contacted to resolve any outstanding enforcement actions shown in the SIMS Report?	No
What is the date on the Enforcement Section's review of air compliance email?	7/28/2025
Was the compliance record reviewed in accordance with the Environmental Compliance History Policy?	Yes


Recommendation

Based on the information submitted by the applicant, this engineering evaluation and the compliance history review, the granting of permit minor modifications is recommended for Iroquois Gas Transmission System, L.P.


/s/James Grillo
James Grillo, APCE

07/29/2025
Date

Approvals


For Louis J. Corsino III
Supervising APCE

7/29/2025
Date


Jaimeson Sinclair
Director

7/29/2025
Date