

# STATEMENT OF BASIS FOR A PROPOSED MINOR-NSR CONSTRUCTION PERMIT

 Lincoln-Lancaster County Health Department	<b>Lincoln-Lancaster County Health Department</b> Environmental Public Health Division Air Quality Section 3131 O Street Lincoln, Nebraska 68510 Phone: (402) 441-8040      Fax: (402) 441-3890	<b>Kerry Kernen, MPA, MSN, RN</b> Health Director <b>Brock Hanisch, MS, MPH, REHS</b> Environmental Public Health Division Manager <b>Gary R. Bergstrom, Jr.</b> Air Quality Section Supervisor
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<b>LLCHD Air Quality Section Facility Identification (FID) Number:</b>	<b>00014</b>
<b>LLCHD Air Quality Section Construction Permit Number:</b>	<b>CP26-###</b>
<b>Permit Issue Date:</b>	<b>DATE, 2026</b>

**The Lincoln-Lancaster County Health Department (LLCHD) has made the preliminary determination to issue a Minor-NSR Construction Permit to the following:**

Permit Holder Name:	<b>Board of Regents of the University of Nebraska – Lincoln</b>
Address:	<b>3835 Holdrege Street</b>
City, County, State, ZIP:	<b>Lincoln, Nebraska 68583</b>

**The proposed permit allows for operation of the following source:**

Facility Site Name:	<b>University of Nebraska – Lincoln East Campus</b>
Facility Address:	<b>1901 North 37<sup>th</sup> Street</b>
City, County, State, ZIP:	<b>Lincoln, Lancaster County, Nebraska 68583</b>
Facility NAICS:	<b>611301: Colleges, Universities, and Professional Schools</b>

In accordance with requirements set forth under Article 2, Section 14 of the Lincoln-Lancaster County Air Pollution Control Programs Regulations and Standards (LLCAPCPRS), the LLCHD may not issue a construction permit until the public has been given the opportunity to comment on the draft permit.

Within the 30-day public comment period, any interested person, agency, group, or affected state may request or petition the Director of the LLCHD for a public hearing. All requests for public hearing must be made in writing, and must state the nature of the issues to be raised and all arguments and factual grounds supporting their position. If a public hearing is granted by the Director, the hearing will be advertised by public notice at least 30 days prior to its occurrence.

A final determination on this permit will be made following the opportunity of the public to review and comment on the draft permit, and any/all comments received have been addressed.

The conclusion of this document will include a recommendation to either approve or deny the issuance of a construction permit for this source.

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### Section 1 – Introduction

The University of Nebraska-Lincoln East Campus (hereinafter referred to as ‘UNL East’ or ‘the source’) has submitted a request to modify Construction Permits #057D and #217 which were issued to establish fuel use limits on Boiler #5 and Boilers #6 and #7, respectively. Pursuant to the owner/operator’s request, this permit issuance will remove the fuel use limits associated with each boiler and instead set a combined emission limit on all boilers at the facility (Boilers #4, #5, #6, and #7), as well as consolidate both previously issued construction permits. This construction permit issuance will supersede and replace entirely the following construction permits:

- Construction Permit #057D issued September 4, 2020; and
- Construction Permit #217 issued August 12, 2021.

The construction permit will set a limit of all regulated pollutant emissions from the Permitted Emission Units to less than 100 tons per year. The Permitted Emission Units, which consist of two 37.5 MMBtu/hr fossil fuel fired boilers, one 100 MMBtu/hr fossil fuel fired boiler, and one 94 MMBtu/hr fossil fuel fired boiler, constitute the ‘Boiler Plant’ at UNL East Campus. The remainder of the campus consists of cooling towers, gasoline storage tanks, natural gas incinerators, and several electrical emergency generators. The maximum potential to emit of each criteria air pollutant for the entire facility, including the four boilers, is less than 250 tons per year (tpy).

The combined heat input for the boilers at this Boiler Plant exceeds 250.0 MMBtu/hr. Total maximum potential emissions from the Boiler Plant exceed 100 tons per year. Combined, these facts would establish the source as a major source for PSD purposes pursuant to [40 CFR Part 52 §52.21\(b\)\(1\)\(i\)\(A\)](#). However, potential to emit from these boilers is limited to less than 100 tons per year with this construction permit issuance, thereby establishing the boiler plant as a ‘nested’ source within the larger UNL East Campus facility. As potential emissions are limited by a federally-enforceable requirement to less than PSD major source thresholds, the UNL East Campus boiler plant is a minor source for PSD purposes.

This source is considered an ‘area source’ of hazardous air pollutants (HAP), as maximum potential emissions of both individual and combined HAPs are limited to levels that are less than HAP major source thresholds.

## **Section 2 – Permitting History**

### **2.01 – Initial Construction Permit No. 57 – Effective April 1, 1991**

The initial permitting action involved with UNL East was the Department issuing Construction Permit No. 057 to UNL East Campus for the construction of a 94 MMBtu/hr gas and residual oil-fired boiler (designated Boiler #5 by the source). Notable permit conditions related to operation of the boiler included the following:

- The source could not burn any fuel oil other than #6 fuel oil without prior written approval from the Department.
- The sulfur content of the #6 fuel oil was limited to no more than 0.9% by weight (wt%).
- The heating value of the #6 fuel oil was limited to no less than 150,000 British thermal units per gallon (Btu/gal).
- The quantity of #6 fuel oil combusted in the boiler was limited to no more than 387,000 gallons per calendar year.
- The quantity of natural gas combusted in the boiler was limited to no more than 182,000,000 cubic feet (also expressed as 182.0 MMcf) per calendar year.
- UNL East Campus was required to report annual #6 fuel oil and natural gas combustion totals in Boiler #5 no later than 30 days after the end of each calendar year.

### **2.02 – Modified Construction Permit No. 57A – Effective May 3, 1993**

Construction Permit No. 057 was modified to revise some of the conditions that were set forth in the original permit. The modified permit was issued as Construction Permit No. 057A, and replaced No. 057. Notable changes to the permit included the following:

- The maximum sulfur content limit for the #6 fuel oil was increased from 0.9 wt% to 1.7 wt%.
- The minimum heating value limit for the #6 fuel oil was decreased from 150,000 Btu/gal to 148,000 Btu/gal.

### **2.03 – Initial Class II Operating Permit – Effective March 4, 1998**

UNL East was issued an initial synthetic minor operating permit that addressed boilers #3, #4, and #5, as well as two incinerators used for the incineration of Type IV pathological waste. The operating permit incorporated some of the applicable limits from Construction Permit No. 057A, as well as conditions set forth in a waiver granted by the Department in which UNL East Campus was allowed to incinerate a limited amount ethidium bromide gel. Additional restrictions of the type of waste allowed for incineration in the units were also placed in the permit. The operating permit also established protocols for monitoring and limiting visible emissions from the boilers and incinerators.

### **2.04 – Class II Operating Permit Renewal – Effective February 25, 2004**

This operating permit renewal was based largely on the previously-issued operating permit, but notable changes included the following:

- Additional requirements from Construction Permit No. 057A were incorporated into the permit.
- The visible emission monitoring procedure was revised to allow for greater flexibility.
- A diesel generator which had not been previously addressed in the permit was added, as were applicable requirements for that generator.

## **2.05 – Significant Modification of Class II Operating Permit – Effective May 2, 2007**

The operating permit issued February 25, 2004 was modified to harmonize the permit with federal regulations for pathological waste incinerators. Notable changes included the following:

- Replacement of language specifying the types and quantities of waste that could be combusted in the incinerators.
- Removal of language pertaining to the waiver granted by the Department regarding ethidium bromide gel incineration.

The permit modification was considered ‘significant’ due to the nature of the changes made to the permit, which did not qualify as ‘administrative amendments’ nor ‘minor modifications’ pursuant to the applicable requirements in Article 2, Section 15 of the LLCAPCPRS.

## **2.06 – Class II Operating Permit Renewal – Effective February 25, 2009**

This operating permit renewal was based largely on the previously-issued operating permit, which incorporated the modifications performed in May of 2007, but notable changes included the following:

- The cooling towers associated with the UNL East Campus physical plant were added as significant emission units. Associated record-keeping requirements were also added.
- Additional requirements from Construction Permit No. 057A were incorporated into the permit.
- The diesel generator, which had been added during the previous renewal, was removed from the permit, as were applicable requirements for that generator.
- Facility-wide fuel use limits were incorporated to provide ‘practically-enforceable’ permit requirements designed to establish the source as a ‘synthetic minor’ source.
- The visible emissions monitoring procedures were revised to provide for greater clarity as to how the source should identify and address potential violations.

## **2.07 – Significant Modification of Class II Operating Permit – Effective April 22, 2010**

### **Modified Construction Permit No. 057B – Effective April 22, 2010**

The operating permit was modified due to modifications to the construction permit for Boiler #5 that were requested by the source. Notable changes included the following:

- The language pertaining to the annual fuel use limits for natural gas and #6 fuel oil was revised to state that the limits applied to any consecutive 12-month period, instead of to calendar years.
- The language pertaining to the annual reporting of natural gas and #6 fuel oil was revised to state that the report was due no later than March 31 each year (consistent with reporting required under LLCAPCPRS Article 2, Section 6), rather than within 30 days of the end of each calendar year.

## **2.08 – Class II Operating Permit Renewal – Effective February 25, 2014**

This operating permit renewal was based largely on the previously-issued operating permit, but notable changes included the following:

- Due to the implementation of 40 CFR Part 63, Subpart ZZZZ and CCCCCC, emission units that had previously been omitted as ‘insignificant activities’ (emergency generator engines and gasoline distribution equipment, respectively) were incorporated as emission units. Also incorporated were natural gas space heaters, as their emissions, while low, contribute to facility-wide NOx and CO emissions.
- The visible emission monitoring procedure was revised to better address how the source should proceed when potential violations are identified.

## **2.09 – Minor Modification of Class II Operating Permit – Effective February 12, 2016**

The operating permit for UNL East Campus was revised via minor modification to accommodate the removal of several emission units that had been removed or decommissioned in place, as well as the addition of several new emission units. The proposed changes to the permit are summarized as follows:

- Removal of EU 5-1 (290 lbs/hr Consumat C-120P Pathological Material Incinerator)
- Removal of EU 8-3 (Transportation Services Gasoline Dispensing UST E-85)
- Removal of EU 7-8 (755 HP/500 kW Emergency Generator (Quilt Study))
- Removal of EU 7-14 (50 HP/30kW Emergency Generator (VDC))
- Removal of EU 7-15 (50 HP/36kW Emergency Generator (Food Industry))
- Addition of EU 7-17 (EEG Unit #17 - East Campus Rec Center (190 hp / 125 kW))
- Addition of EU 7-18 (EEG Unit #18 - Food Industry Complex (320 hp / 125 kW))
- Addition of EU 7-19 (EEG Unit #19 - Quilt Study Center (1220 hp / 760 kW))
- Addition of EU 7-20 (EEG Unit #20 - Vet Diagnostic Center (176 hp / 100 kW))
- Addition of EU 7-21 (EEG Unit #21 - NE Vet Diagnostic Center (620 hp / 350 kW))
- Addition of EU 10-1/10-2 (Consutech C-75P Incinerator (175 lbs/hr) – NVDC)
- Addition of EU 11-1/11-2 (Consutech C-225P Incinerator (600 lbs/hr) – NVDC)

The modified permit incorporated the provisions of the updated Construction Permit No. 171B (emergency electrical generators), as well as the provisions of Construction Permit No. 176 (Consutech C-75P and C-225P incinerators).

Any provisions related to emission units that were removed from the permit were either removed, or revised to specify that they no longer applied to the removed units. Additional provisions for new emission units were incorporated into the permit.

## **2.10 – Administrative Amendment of Class II Operating Permit – April 12, 2016**

An administrative amendment was performed to correct applicable requirements of 40 CFR Part 63, Subpart JJJJJ for Boilers #3, #4, and #5. The correction added §63.11223 paragraph (c) as an applicable requirement, as the boilers are all equipped with oxygen trim systems.

## **2.11 – Modified Construction Permit No. 057C – Effective November 16, 2018**

At the request of UNL personnel, Construction Permit #057C was modified to revise the fuel use limits, specifically increasing the natural gas use limit from 182 MMcf/yr to 325 MMcf/yr, and decreasing the fuel oil limit from 387,000 gals/yr to 150,000 gals/yr. This change resulted in a significant decrease in potential sulfur dioxide (SO<sub>2</sub>) emissions (approximately 30 tons), while other regulated pollutants increased by a total of about 7 tons for all pollutants combined. The largest increase was associated with carbon monoxide (CO), which increased by approximately 5.5 tons. The increase in CO emissions was less than the construction permit 'significant modification' threshold of 40 tons, and total potential to emit CO after the modification was limited to about 14 tons. This modification allowed for greater utilization of the boiler, as fuel oil usage for this boiler had decreased significantly due to changing operational preferences on behalf of the source.

## **2.12 – Construction Permit No. 171 and Subsequent Revisions**

This construction permit was originally issued on May 1, 2015 to allow for the installation of two (2) new emergency generators, and also to replace and supersede previously-issued 'construction permit exemptions' for previously-installed emergency generators on UNL East Campus. Details of the original permit and subsequent revisions are provided as follows:

- #171 – May 1, 2015: Authorized installation of EU 7-18 and 7-19, also replaced previously-issued exemptions covering EU 7-1 through 7-7, EU 7-9 through 7-13, and EU 7-17.

- #171A – July 24, 2015: Authorized installation of EU 7-20.
- #171B – December 23, 2015: Authorized installation of EU 7-21.
- #171C – January 3, 2017: Authorized installation of EU 7-22 and 7-23.
- #171D – April 9, 2018: Authorized installation of EU 7-24.
- #171E – March 1, 2019: Authorized installation of EU 7-25.
- #171F – June 20, 2019: Authorized installation of EU 7-26.
- #171G – April 9, 2020: Remove decommissioned EU 7-1 from permit.
- #171H – August 13, 2021: Authorized installation of EU 7-27.

## **2.13 – Construction Permit No. 217**

This construction permit was issued on August 12, 2021 for the replacement of an existing 75.0 million British thermal units per hour (MMBtu/hr) steam boiler (Boiler #3) with two 37.5 MMBtu/hr steam boilers (Boilers #6 & #7). Potential emissions netting analysis indicated that this boiler replacement project did not trigger the minor-NSR construction permitting thresholds because the net increase did not meet or exceed the thresholds for any regulated new source review (NSR) pollutant. However, a construction permit was issued for this project to establish federally-enforceable fuel combustion limitations for the two new boilers, limiting their potential to emit.

## **2.14 – Proposed Issuance of a Minor-NSR Construction Permit**

This document serves as the factual and legal basis for the proposed issuance of CP26-###, which will establish emission limits on the ‘Boiler Plant’ associated with UNL East Campus to levels below PSD permitting thresholds, ensuring the Boiler Plant is minor for PSD purposes pursuant to 40 CFR Part 52 §52.21(b)(1)(i)(A). This permitting action will classify the Boiler Plant associated with UNL East Campus as a ‘nested’ source within the larger UNL East Campus facility.

The sections that follow provide more information on the source, the nature of emissions from the source, evaluation of the potential to emit, and a discussion of conditions set forth in the draft permit.

## **Section 3 – Source Characterization**

### **3.01 – Source Description**

UNL East is a public university composed of a collection of colleges and departments offering undergraduate and graduate degrees in numerous fields of study. Emission sources are primarily composed of units providing district heating, cooling, and emergency electrical power for the numerous buildings that comprise this source, as well as two natural gas incineration units. The Boiler Plant at UNL East consists of two 37.5 MMBtu/hr fossil fuel fired boilers, one 100 MMBtu/hr fossil fuel fired boiler, and one 94 MMBtu/hr fossil fuel fired boiler.

### **3.02 – Significant Sources of Air Pollution**

For the purpose of the proposed construction permit, the following emission units constitute the ‘Permitted Emission Units’:

Emission Unit	SCC Code	Emission Point Description	Emission Segment Description
2-1	1-03-004-01	Boiler #4 – 100 MMBtu/hr	No. 6 Fuel Oil Combustion
2-2	1-03-006-02		Natural Gas Combustion

Emission Unit	SCC Code	Emission Point Description	Emission Segment Description
3-1	1-03-004-02	Boiler #5 – 94 MMBtu/hr	No. 6 Fuel Oil Combustion
3-2	1-03-005-02		No. 2 Fuel Oil Combustion
3-3	1-03-006-02		Natural Gas Combustion
5-1	1-03-005-02	Boiler #6 – 37.5 MMBtu/hr	Distillate Oil <sup>1</sup> /Biodiesel
5-2	1-03-006-02		Natural Gas Combustion
6-1	1-03-005-02	Boiler #7 – 37.5 MMBtu/hr	Distillate Oil <sup>1</sup> /Biodiesel
6-2	1-03-006-02		Natural Gas Combustion

### 3.03 – Insignificant Activities

The LLCHD utilizes the same ‘Insignificant Activities’ list as the Nebraska Department of Environmental Quality. Under that list, stationary external combustion units 10.0 MMBtu/hr or less combusting natural gas, fuel storage and distribution equipment at Class I sources with aggregate annual throughput of less than 1 million gallons for the entire site, and cooling towers with a circulating capacity of less than 2,000 gallons per minute are considered insignificant.

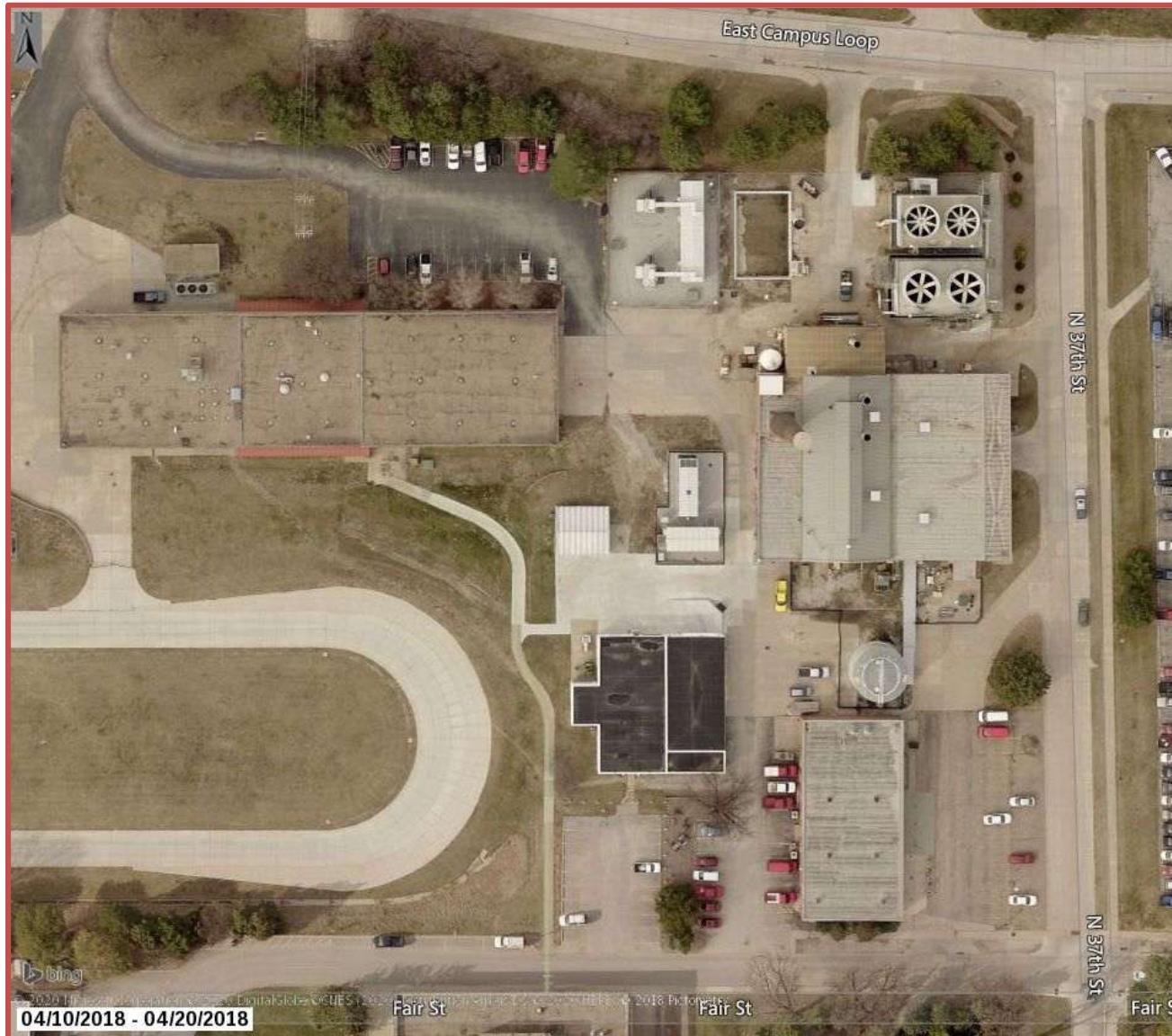
For the purpose of this construction permit, the following activities are considered insignificant sources of emissions:

Insignificant Activity	Description
Natural Gas Space Heaters	Numerous natural gas-fired space heaters, each less than 10.0 MMBtu/hr, and less than 10.0 MMBtu/hr combined
No. 6 Fuel Oil Storage	Tank #85 – Built in 2001 – 85,000-gallon capacity above-ground storage – located adjacent to the Utility Plant
Diesel Fuel Storage	Tank #5000 – Built in 2003 – 5,000-gallon capacity above-ground storage – located at the Tractor Testing Laboratory
Diesel Fuel Storage	Tank #500 – Built in 2012 – 500-gallon capacity above-ground storage – located at Landscaping Services
40 CFR Part 60, Subparts K, Ka, and Kb do not apply to the No 6 or diesel oil storage tanks as the vapor pressure of No 2 and No 6 fuel oil does not reach applicability thresholds. As a result, these tanks are classified as insignificant activities.	

<sup>1</sup> Distillate oil includes No. 1 and No. 2 fuel oil.

### 3.04 – Source Aerial View

The following image is an aerial view of the UNL East Campus physical plant. Additional emission units, such as the pathological material incinerators and most of the emergency generators, are not pictured here.



## Section 4 – Emission Characterization

### **4.01 – Emission Calculation Factors and Methods**

The emission factors, methods, and procedures for performing emission calculations are based on information provided in UNL East's approved application. UNL East will be required to utilize such factors and methods to provide the emissions information required for the annual emissions inventory. UNL East used manufacturer data and emission factors from the US Environmental Protection Agency's (US EPA) Compilation of Air Pollutant Emission Factors (AP-42) to calculate emissions for emission units as included.

### **4.02 – Maximum Potential Emission Calculations and Totals**

#### **4.02.01 – Maximum Potential to Emit (MPTE) – Criteria Pollutants**

The following emission totals represent the PTE criteria pollutants, as well as GHGs and total HAPs associated with the boiler plant at UNL East Campus. These calculations are presented to determine whether the potential emissions from the facility meet or exceed the construction permit thresholds set forth in LLAPCPRS Article 2, Section 17. Section 4.02.03 will compare these emissions to those thresholds.

Emission Unit	Maximum Annual Process Rate	PM <sub>10</sub> (lbs/yr)	PM <sub>2.5</sub> (lbs/yr)	NO <sub>x</sub> (lbs/yr)	SO <sub>x</sub> (lbs/yr)	VOC (lbs/yr)	CO (lbs/yr)	CO <sub>2</sub> e (lbs/yr)	LEAD (lbs/yr)	Total HAP (lbs/yr)
2-1	5,852 Mgal	77,573.26	34,326.42	321,842.40	1.6E+06	9,391.95	29,258.40	1.5E+08	8.84	3,539
2-2	854.98 MMcf	6,497.82	6,497.82	85,497.60	512.99	4,702.37	71,817.98	1.0E+08	0.43	1,616
3-1	5,501 Mgal	72,923.78	32,269.01	302,552.25	1.5E+06	8,829.02	27,504.75	1.4E+08	8.31	3,326
3-2	5,945 Mgal	14,150.10	12,663.74	118,908.40	4,390.69	3,305.65	29,727.10	1.3E+08	0.05	244.19
3-3	794.06 MMcf	6,034.86	6,034.86	79,406.00	476.44	4,367.33	66,701.04	9.5E+07	0.40	1,501
5-1	2,371.84 Mgal	5,645.86	5,052.80	47,444.16	1,751.88	1,318.95	11,861.04	5.4E+07	0.02	97.43
5-2	322.37 MMcf	2,450.00	2,450.00	32,236.80	193.42	1,773.02	27,078.91	3.9E+07	0.16	609.28
6-1	2,371.84 Mgal	5,645.86	5,052.80	47,444.16	1,751.88	1,318.95	11,861.04	5.4E+07	0.02	97.43
6-2	322.37 MMcf	2,450.00	2,450.00	32,236.80	193.42	1,773.02	27,078.91	3.9E+07	0.16	609.28
<b>Total Emissions (lbs/yr)</b>		193,371.52	106,797.45	1.068E+06	3.078E+06	36,780.27	302,889.18	8.01E+08	18.39	11,639.61
<b>Total Emissions (tons/yr)</b>		96.69	53.40	533.78	1,538.94	18.39	151.44	400,500	0.009	5.82

#### 4.02.02 – Hazardous Air Pollutant (HAP) MPTE

The HAPs from this facility are those typically associated with natural gas and fuel oil combustion (primarily formaldehyde), as well as Hydrogen chloride, primarily emitted from the pathological material incinerators. As reflected in Section 4.02.01, total combined HAPs for the Permitted Emission Units are just under 6 tons, meaning emissions of the greatest individual HAP are still well below the HAP major source threshold of 10 tons/year, and total HAP emissions are well below the HAP major source threshold of 25 tons/year.

#### 4.02.03 – MPTE – Permit Threshold Evaluation

The following table summarizes the source's maximum potential to emit, and compares it to applicable Minor-NSR and PSD Construction permit thresholds:

Criteria Pollutant	Emissions (tpy)	Minor-NSR Construction Permit Thresholds	Meet or Exceed?	PSD Construction Permit Thresholds	Meet or Exceed?
PM <sub>10</sub>	96.69	≥ 15 tpy	Yes	≥ 100 tpy	No
PM <sub>2.5</sub>	53.40	≥ 10 tpy	No	≥ 100 tpy	No
NO <sub>x</sub>	533.78	≥ 40 tpy	Yes	≥ 100 tpy	Yes
SO <sub>x</sub>	1,538.94	≥ 40 tpy	Yes	≥ 100 tpy	Yes
VOC	18.39	≥ 40 tpy	No	≥ 100 tpy	No
CO	151.44	≥ 50 tpy	Yes	≥ 100 tpy	Yes
Lead	0.009	≥ 0.6 tpy	No	≥ 5 tpy	No
CO <sub>2</sub> e	400,500	N/A	N/A	N/A	N/A
Hazardous Air Pollutant	Emissions (tpy)	Class II Permitting Threshold	Meet or Exceed?	HAP Major Source Threshold	Meet or Exceed?
Greatest Single HAP	1.77	≥ 2.5 tpy	No	≥ 10.0 tpy	No
Total Combined HAPs	5.82	≥ 10.0 tpy	No	≥ 25.0 tpy	No

#### 4.03 – Limited and Controlled Potential to Emit (LCPTE)

##### 4.03.01 – LCPTE: Criteria Pollutants, GHG, and Total Combined HAPs

The following emission totals represent the PTE for criteria pollutants, as well as GHGs and total HAPs associated with the boiler plant at UNL East after incorporation of emission limits accepted by the owner/operator in the approved application. The potential emissions presented herein represent the federally-enforceable maximum allowable emissions under the proposed construction permit. Section 4.03.02 will compare these emissions to Minor-NSR and PSD Construction permit thresholds.

Emission Unit	Maximum Annual Process Rate	PM <sub>10</sub> (lbs/yr)	PM <sub>2.5</sub> (lbs/yr)	NO <sub>x</sub> (lbs/yr)	SO <sub>x</sub> (lbs/yr)	VOC (lbs/yr)	CO (lbs/yr)	CO <sub>2e</sub> (lbs/yr)	LEAD (lbs/yr)	Total HAP (lbs/yr)
2-1	5,852 Mgal	77,573.26	34,326.42	199,980	199,980	9,391.95	199,980	1.5E+08	8.84	3,539
2-2	854.98 MMcf	6,497.82	6,497.82			4,702.37		1.0E+08	0.43	1,616
3-1	5,501 Mgal	72,923.78	32,269.01			8,829.02		1.4E+08	8.31	3,326
3-2	5,945 Mgal	14,150.10	12,663.74			3,305.65		1.3E+08	0.05	244.19
3-3	794.06 MMcf	6,034.86	6,034.86			4,367.33		9.5E+07	0.40	1,501
5-1	2,371.84 Mgal	5,645.86	5,052.80			1,318.95		5.4E+07	0.02	97.43
5-2	322.37 MMcf	2,450.00	2,450.00			1,773.02		3.9E+07	0.16	609.28
6-1	2,371.84 Mgal	5,645.86	5,052.80			1,318.95		5.4E+07	0.02	97.43
6-2	322.37 MMcf	2,450.00	2,450.00			1,773.02		3.9E+07	0.16	609.28
<b>Total Emissions (lbs/yr)</b>		193,371.52	106,797.45	199,980	199,980	36,780.27	199,980	8.01E+08	18.39	11,639.61
<b>Total Emissions (tons/yr)</b>		96.69	53.40	99.99	99.99	18.39	99.99	400,500	0.009	5.82

#### 4.02.03 – MPTE – Permit Threshold Evaluation

The following table summarizes the source's limited and controlled potential to emit, and compares it to applicable Minor-NSR and Construction permit thresholds:

Criteria Pollutant	Emissions (tpy)	Minor-NSR Construction Permit Threshold	Meet or Exceed?	PSD Construction Permit Threshold	Meet or Exceed?
PM <sub>10</sub>	96.69	≥ 15 tpy	Yes	≥ 100 tpy	No
PM <sub>2.5</sub>	53.40	≥ 10 tpy	Yes	≥ 100 tpy	No
NO <sub>x</sub>	99.99	≥ 40 tpy	Yes	≥ 100 tpy	No
SO <sub>x</sub>	99.99	≥ 40 tpy	Yes	≥ 100 tpy	No
VOC	18.39	≥ 40 tpy	No	≥ 100 tpy	No
CO	99.99	≥ 50 tpy	Yes	≥ 100 tpy	No
Lead	0.009	≥ 0.6 tpy	No	≥ 5 tpy	No
CO <sub>2</sub> e	400,500	N/A	N/A	N/A	N/A
Hazardous Air Pollutant	Emissions (tpy)	Minor-NSR Construction Permit Threshold	Meet or Exceed?	HAP Major Source Threshold	Meet or Exceed?
Greatest Single HAP	1.77	≥ 2.5 tpy	No	≥ 10.0 tpy	No
Total Combined HAPs	5.82	≥ 10.0 tpy	No	≥ 25.0 tpy	No

#### 4.04 – Permit Threshold Evaluation

As reflected in the table in Section 4.02.03, emissions from this source are of sufficient quantities as to qualify for a minor-NSR Construction permit. This source will be classified as an 'area' source of HAPs as it has the potential to emit both individual and combined HAPs in quantities less than the major source thresholds.

The source will not be classified as a 'major source' of air pollution for 'Prevention of Significant Deterioration of Air Quality' (PSD) purposes. In accordance with 40 CFR Part 52, §52.21(b)(1)(i)(a), a source is a 'major source' for PSD purposes if it emits (or has the potential to emit) a regulated pollutant in quantities greater than 100 tons/year AND if it falls into a listed category (refer to §52.21(b)(1)(i)(a)). For sources that do not fall into one of the listed categories, the PSD major source threshold is 250 tons/year pursuant to 40 CFR Part 52, §52.21(b)(1)(i)(b). The UNL East Campus Boiler Plant falls under one of the listed source categories found in 40 CFR Part 52, §52.21(b)(1)(i)(a), specifically 'fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input'. However, the requirements within this construction permit issuance will limit emissions of all regulated air pollutants to less than 100 tons/year, thereby establishing the UNL East Campus Boiler Plant as a minor source for PSD purposes. The remainder of the UNL East Campus facility, which does not fall under one of the listed source categories, does not have the potential to emit regulated air pollutants in excess of 250 tons/year. As such, the entire UNL East Campus will be classified as a minor source for the purposes of the PSD program, and the Boiler Plant will be classified as a 'nested' source within the larger UNL East Campus facility.

## **Section 5 – Applicable and Non-Applicable Regulations & Requirements**

### **5.01 – Applicable Regulations under the LLCAPCPRS**

The following is a list of local regulations that have been incorporated as applicable requirements in the proposed Minor-NSR Construction Permit.

(A) The following sections (§) of the LLCAPCPRS are applicable requirements of this permit:

**Table 1-A: Applicable Regulations of the LLCAPCPRS**

<b>Article 1: Administration and Enforcement</b>	
§1	Intent
§2	Unlawful Acts – Permits Required
§3	Violations – Hearings – Orders
§4	Appeal Procedure
§5	Variance
§6	Annual Fees
§7	Compliance – Actions to Enforce – Penalties for Non-Compliance
§8	Procedure for Abatement
§9	Severability
<b>Article 2: Regulations and Standards</b>	
§1	Definitions
§2	Major Sources – Defined
§4	Ambient Air Quality Standards
§6	Emissions Reporting – When Required
§14	Permits – Public Participation
§15	Permit Modifications – Reopening for Cause
§16	Stack Heights – Good Engineering Practice (GEP)
§17	Construction Permits – When Required
§20	Particulate Limitations and Standards
§32	Duty to Prevent Escape of Visible Airborne Dust
§33	Time Schedule for Compliance
§34	Emission Source Testing and Monitoring
§35	Compliance – Exceptions Due to Startup, Shutdown, or Malfunction
§36	Control Regulation Circumvention – When Excepted
§37	Compliance – Responsibility of Owner/Operator Pending Review by Director
§38	Emergency Episodes – Occurrence, Control and Contingency Plans
<b>Appendices</b>	
I	Emergency Emission Reduction Regulations
II	Hazardous Air Pollutants Sorted by Pollutant Name
III	Hazardous Air Pollutants Sorted by CAS Number

### **5.02 – Applicable Federal Regulations**

(B) The following Federal Regulations, including those not currently delegated to the LLCHD or not yet included in the LLCAPCPRS, are applicable requirements of this permit:

**Table 1-B: Applicable Federal Regulations**

<b>40 CFR Part 60: New Source Performance Standards (NSPS)</b>	
<i>Subpart</i>	<i>Subpart Subject</i>
A	General Provisions
Dc	Small Industrial/Commercial/Institutional (ICI) Steam Generating Units

### 5.03 – Non-Applicable Local Regulations

(C) The following sections of the LLCAPCPRS are not requirements of this permit:

**Table 1-C: LLCAPCPRS Regulations not Incorporated in Permit**

<b>Article 2: Regulations and Standards</b>	
§5	Operating Permits – When Required
§7	Operating Permits – Application
§8	Operating Permits – Content
§9	General Permits
§10	Operating Permits for Temporary Sources
§12	Operating Permit Renewal and Expiration
§13	Class I Operating Permit – EPA Review – Affected States Review
§18	New Source Performance Standards (NSPS)
§19	Prevention of Significant Deterioration (PSD) of Air Quality
§21	Compliance Assurance Monitoring (CAM)
§22	Incinerator Emission Standards
§23	National Emission Standards for Hazardous Air Pollutants (NESHAPs)
§24	Sulfur Compound Emission Standards for Existing Sources
§25	Nitrogen Oxide Emissions Standards for Existing Sources
§26	Acid Rain
§27	Hazardous Air Pollutants – Maximum Achievable Control Technology (MACT)
§28	Hazardous Air Pollutants – Source Category Emission Standards
§29	Operating and Construction Permit Emissions Fees
§3, §11 §30, §31	Reserved

### 5.04 – Non-Applicable State Regulations

(D) The 'Prevention of Significant Deterioration of Air Quality' regulation(s) set forth under Title 129 of the Nebraska Administrative Code (Nebraska Air Quality Regulations) do not apply to this source.

## **Section 6 – Discussion of Proposed Permit Conditions, Monitoring, Reporting, Notification and Record Keeping Requirements**

The following conditions of the proposed permit contain monitoring, reporting, and record keeping requirements, a brief description of the condition is provided:

### 6.01 – General Conditions

Conditions II through XXIII are general conditions that are applicable to all Minor-NSR Construction Permits. There will not be an in-depth discussion of these requirements, except to note the following General Conditions specifically related to monitoring, reporting, notification, and record-keeping:

- VI – Annual Fees
- XI – Annual Emission Reporting
- XII – Notification of Source Modifications
- XIV(E) – Permit Copy Maintenance and Retention
- XVIII (E) – 'Credible Evidence Rule'
- XIX – Startup, Shutdown, and Malfunction (SSM) Provisions
- XXII(E) – Record Keeping Elements and Retention Times

### 6.02 – Specific Conditions

The following are specific conditions of the proposed Minor-NSR Construction permit:

XXIII. – Source Wide Requirements. As authorized by LLCAPPRS Article 2, Section 17, this permit authorizes the owner/operator operate Permitted Emission Units in accordance with the following requirements:

(A) Operating Requirements, Throughput Limits, and Work Practice Standards.

The requirements set forth under this condition serve to:

- establish the operating requirements to be followed during operation of Boilers #4, #5, #6, and #7;
- establish the sulfur content limit of fuel oil combusted for Boilers #4, #5, #6, and #7;
- ensure that the units are operated in such a manner that their contributions to air pollution are minimized; and
- incorporate any elections made in the approved application by reference.

(B) Emission Limits and Emission Control Requirements.

The requirements set forth under this condition serve to:

- establish the annual emission limits for the UNL East Boiler Plant;
- incorporate the applicable particulate matter emission limits established pursuant to Article 2, Section 20 of the LLCAPPRS; and
- incorporate by reference any applicable emission limits and/or emission control requirements established pursuant to applicable federal regulations.

(C) Monitoring and Record Keeping Requirements.

The requirements set forth under this condition serve to:

- establish monitoring procedures necessary to ensure ongoing compliance with the emission limits set forth in paragraph (B)(1) of this condition;
- incorporate by reference the visible emissions monitoring procedures necessary to demonstrate compliance with the opacity limit set forth under paragraph (B)(3) of this condition;
- incorporate the method by which the source will demonstrate compliance with particulate matter emission limits established in the permit;
- establish the method by which the owner/operator shall demonstrate compliance with the sulfur content limit of fuel oil for the boiler plant;
- establish the method by which the owner/operator shall demonstrate compliance with the requirement to minimize contributions to air pollution from the source; and
- incorporate by reference any applicable monitoring and record keeping requirements established pursuant to applicable federal regulations.

(D) Notification and Reporting Requirements.

The requirements set forth under this condition serve to:

- reiterate the requirement that the owner/operator is to submit an annual emission inventory and establish the data elements to be included;
- ensure the owner/operator reports any exceedances of limits set forth in this permit in a timely manner; and
- incorporate by reference any applicable notification and reporting requirements established pursuant to applicable federal regulations.

(E) Other Requirements.

The requirements set forth under this condition serve to:

- establish the procedure(s) to be followed prior to making any modifications to any emission units;
- establish the length of time that all conditions in this permit shall remain applicable; and
- ensure that the owner/operator achieves compliance with rules and regulations in a timely manner.

(F) Requirements of the New Source Performance Standard (NSPS) set forth in Title 40, Part 60 of the Code of Federal Regulations (40 CFR Part 60).

The requirements set forth under this condition serve to:

- establish 40 CFR Part 60 Subpart Dc as an applicable requirement for Boilers #4, #5, #6, and #7; and
- incorporate applicable requirements under 40 CFR Part 60 Subpart A pursuant to 40 CFR Part 60 Subpart Dc.

(G) Requirements of the National Emissions Standards for Hazardous Air Pollutants – Maximum Achievable Control Technology (Source Category NESHAP MACT) Requirements set forth in Title 40, Part 63 of the Code of Federal Regulations (40 CFR Part 63).

The requirements set forth under this condition serve to:

- establish the conditions in which 40 CFR Part 63 Subpart JJJJJ will become an applicable requirement for Boilers #4, #5, #6, and #7.

## **Section 7 – Summary of Permit Conditions Enforceable by Agency**

- (1) LLCHD (Local) – All conditions indicated in this permit.
- (2) EPA (Federal) – All conditions indicated in this permit.

## **Section 8 – Compliance Assurance Monitoring (CAM)**

It has been determined that 40 CFR Part 64 does not apply to the UNL City Campus, as there are no pollutant-specific emission limits for which the source is required to utilize control equipment and emission monitoring equipment. As a result, a CAM Plan is not necessary.

## **Section 9 – Pollution Prevention Opportunities**

The Department encourages UNL East to continually examine its operations for pollution prevention opportunities. The Department's Technical Assistance Program can provide resources to aid the facility in exploring available pollution prevention options.

A guidance document outlining possible pollution prevention opportunities can be found on LLCHD's Air Quality webpage at the link below or by scanning the QR code.



<https://www.lincoln.ne.gov/files/sharedassets/public/v/1/health-dept/environmental/air-quality-forms-amp-apps/pollutionpreventionopportunities.pdf>

## **Section 10 – Environmental Justice Considerations**

The Department utilized the Environmental Justice Screening Tool (EJSCREEN) to determine if there are environmental justice concerns in the area surrounding this facility. The U.S. EPA's '*Technical Guidance for Assessing Environmental Justice in Regulatory Analysis*' (June 2016) states that, "When using EJSCREEN, the 80<sup>th</sup> percentile is a suggested starting point for the purpose of identifying geographic areas in the United States that may warrant further consideration, analysis, or outreach. That is, if any of the EJ indexes for the areas under consideration are at or above the 80<sup>th</sup> percentile nationally, then further review may be appropriate."

For urban areas, the Department analyzes a 1-mile radius around the center of the regulated facility. The EJSCREEN analysis performed by LLCHD personnel for this permitting action indicated that, in the 1-mile radius surrounding the approximate center of the facility, there is an affected population of approximately 13,100 people. For the affected population, the following 'Environmental Justice Indexes' and 'Supplemental Environmental Justice Indexes' equaled or exceeded the 80<sup>th</sup> percentile nationally.

- Lead Paint Indicator
- RMP Proximity
- Hazardous Waste Proximity
- Underground Storage Tanks
- Wastewater Discharge

The following 'Pollution and Sources Indicators' equaled or exceeded the 80<sup>th</sup> percentile nationally.

- Hazardous Waste Proximity
- Underground Storage Tanks
- Wastewater Discharge

In addition, the Socioeconomic Indicator for 'Low Income Population' also exceeded the 80<sup>th</sup> percentile nationally for the area included in the EJSCREEN analysis.

As a result, the Department encourages the owner/operator to continually evaluate how to effectively provide meaningful engagement to the public on the following, as needed:

- Potential releases of toxic pollutants (hazardous air pollutants), including specific pollutants emitted and potential quantity of each pollutant emitted in excess of each pollutant's respective 'Reporting Level' established in Appendices II and III of the LLCAPCRS.
- Information regarding any on-site storage of hazardous waste (if any).
- Information regarding any underground storage tanks maintained on-site (if any).
- Information regarding the company's efforts to control and/or reduce emissions of regulated air pollutants, which may include any emission controls utilized and/or any limitations on emissions or throughputs employed.
- Guidance on how to obtain copies of operating and construction permits, as well as any associated public document, for public review and comment.

The Department does not have any specific recommendations pertaining to meaningful public engagement on matters relating to Lead Paint and Wastewater Discharge, as those are matters beyond the purview of air quality operating/construction permits, and also beyond the control of company/facility representatives.

### **Section 11 – Air Quality Section Recommendation**

The Department proposes approval of a minor-NSR construction permit for this facility. Enforceable permit conditions have been provided in the draft permit. A final determination on the permit will be made following the opportunity of the U.S. EPA and affected states to comment on the draft permit, and any comments received have been addressed.

### **Section 12 – Public Participation, Affected States Review, and EPA Review**

The following notice is scheduled for publication in the **December 23, 2025** edition of the Lincoln Journal Star, which is a newspaper of general circulation in Lancaster County, Nebraska. This notice will also be made available on the LLCHD Air Quality Section website at the following URL:

<http://www.lincoln.ne.gov/city/health/environ/pollu/pubnot.htm>

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### **NOTICE OF INTENT TO ISSUE PERMITS**

#### **Lincoln-Lancaster County Health Department (LLCHD)**

- A. In accordance with Article 2, Sections 13 and 14 of the Lincoln-Lancaster County Air Pollution Control Program Regulations and Standards (LLCAPCPRS), the LLCHD gives notice of the preliminary determination to approve the following permitting action(s) for the source identified in item 'B' (below). The 30-day public comment period commences **December 23, 2025 and ends on January 22, 2026**.
  - 1. Proposed issuance of a Class I (Title V) Operating Permit
  - 2. Proposed issuance of a minor-NSR Construction Permit
- B. Issuance of the proposed permits allows for continued operation of the subject emission source within Federal, State and Local requirements. Provided below are the name, address, and the North America Industry Classification System (NAICS) code(s) describing the nature of business at the subject emission source:
  - 1. Source Name: University of Nebraska-Lincoln (UNL) East Campus
  - 2. Source Address: 1901 N 37<sup>th</sup> Street, Lincoln, NE 68583
  - 3. NAICS Codes: 611301 (Colleges, Universities, and Professional Schools)
- C. Potential emissions exceed the Class I permit thresholds set forth under Article 2, Section 5 of the LLCAPCPRS, and as such, this source qualifies for a Class I operating permit as a 'major source'.
- D. The proposed Class I operating permit will allow for emissions of the following regulated air pollutants in the associated quantities. All quantities are in units of tons per year, or tpy.

Particulate matter <10 micrometers in diameter (PM <sub>10</sub> )	107.91 tpy
Particulate matter <2.5 micrometers in diameter (PM <sub>2.5</sub> )	107.91 tpy
Oxides of Nitrogen (NO <sub>x</sub> )	189.96 tpy
Oxides of Sulfur (SO <sub>2</sub> , SO <sub>3</sub> , and combinations thereof)	102.83 tpy
Volatile Organic Compounds (VOC)	106.55 tpy
Carbon Monoxide	134.46 tpy
Lead	5.05 tpy

Greatest Individual Hazardous Air Pollutant	3.89 tpy
Total Combined Hazardous Air Pollutants	9.95 tpy
Carbon Dioxide Equivalents	406,788.00 tpy

- E. Lancaster County is an 'attainment/unclassifiable' area for all pollutants subject to the National Ambient Air Quality Standards (NAAQS), meaning air quality in Lancaster County meets or is cleaner than the national standards. This permitting action is not expected to change that status.
- F. The proposed permit is available for inspection during business hours at the office of the LLCHD at 3131 O Street, Lincoln, NE 68510. A copy of this public notice document may also be obtained online at: <http://lincoln.ne.gov>, keyword search "air". Telephone inquiries regarding this public notice may be directed to the Air Quality Section at 402-441-8040. If alternate formats of materials are needed, please notify the Department by calling 402-441-8040 or 402-441-6284 for TDD users.
- G. Within the 30-day public comment period, any interested person, agency, or group may submit comments on the proposed permit(s), or request or petition the Director of the LLCHD for a public hearing in accordance with item 'H' below. Comments on the proposed permit(s) may be mailed to the attention of the Air Quality Section Supervisor at the address provided in item 'F' above, or submitted via e-mail to [health@lincoln.ne.gov](mailto:health@lincoln.ne.gov) using the subject line 'Comment on Air Quality Permit'. Individuals commenting via e-mail are asked to provide their home address and phone number for follow-up correspondence.
- H. Requests for public hearing must be made in writing, and must state the nature of the issues to be raised and all arguments and factual grounds supporting their position. If a public hearing is granted by the Director, the hearing will be advertised by public notice at least 30 days prior to its occurrence.
- I. The LLCHD does not discriminate on the basis of race, color, national origin, disability, age, or sex in administration of its programs or activities, and LLCHD does not intimidate or retaliate against any individual or group because of their participation in or opposition to actions protected or prohibited by 40 CFR Part 7, or for the purpose of interfering with any right or privilege guaranteed by 40 CFR Part 7.