John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

3/1/2013

Certified Mail

Don Easterling
NASA John H. Glenn Research Center - Lewis Field
21000 Brookpark Road
Cleveland, OH 44135-3191

Facility ID: 1318001169
Permit Number: P0094315
County: Cuyahoga

RE: DRAFT AIR POLLUTION TITLE V PERMIT
Permit Type: Renewal

Dear Permit Holder:

A draft of the OAC Chapter 3745-77 Title V permit for the referenced facility has been issued. The purpose of this draft is to solicit public comments. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, The Plain Dealer. A copy of the public notice, the Statement of Basis, and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified if a public hearing is scheduled. A decision on processing the Title V permit will be made after consideration of comments received and oral testimony if a public hearing is conducted. You will then be provided with a Preliminary Proposed Title V permit and another opportunity to comment prior to the 45-day Proposed Title V permit submittal to U.S. EPA Region 5. The permit will be issued final after U.S. EPA review is completed and no objections to the final issuance have been received. If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 - *Via E-Mail Notification*
CDAQ; Pennsylvania

PUBLIC NOTICE
3/1/2013 Issuance of Draft Air Pollution Title V Permit

NASA John H. Glenn Research Center - Lewis Field
21000 Brookpark Road,
Cleveland, OH 44135-3191
Cuyahoga County
FACILITY DESC.: Space Research and Technology
PERMIT #: P0094315
PERMIT TYPE: Renewal
PERMIT DESC: Title V renewal permit for the NASA Glenn Research Center which conducts research, testing, and development of aeronautical and spaceflight equipment. The emissions units utilized for this research primarily consist of testing fuel burning sources including natural gas and fuel oil-fired boilers, generators, jet engine test cells, air heaters, and pre-heaters.

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: http://epa.ohio.gov/dapc/permitsonline.aspx by entering the permit # or: David Hearne, Cleveland Division of Air Quality, 2nd Floor 75 Erieview Plaza, Cleveland, OH 44114. Ph: (216)664-2297

Statement of Basis For Air Pollution Title V Permit

Facility ID:	1318001169
Facility Name:	NASA John H. Glenn Research Center - Lewis Field
Facility Description:	Research and development center.
Facility Address:	21000 Brookpark Road, Cleveland, OH 44135-3191
Permit #:	P0094315, Renewal

This facility is subject to Title V because it is major for:

☐ Lead ☒ Sulfur Dioxide ☒ Carbon Monoxide ☒ Volatile Organic Compounds ☒ Nitrogen Oxides
☒ Particulate Matter ≤ 10 microns ☐ Single Hazardous Air Pollutant ☐ Combined Hazardous Air Pollutants
☐ Maximum Available Control Technology Standard(s) ☒ GHG ☐ Title IV

A. Standard Terms and Conditions

Has each insignificant emissions unit been reviewed to confirm it meets the definition in OAC rule 3745-77-01(U)?	Yes
Were there any "common control" issues associated with this facility? If yes, provide a summary of those issues and explain how the DAPC decided to resolve them.	No
Please identify the affected unit(s) and associated PTI, if applicable, along with a brief description of any changes to the permit document that qualify as a minor permit modification per OAC rule 3745-77-08(C)(1)	N/A
Please identify the affected unit(s) and associated PTI, if applicable, along with a brief description of any changes to the permit document that qualify as a significant permit modification per OAC rule 3745-77-08(C)(3)	N/A

Please identify the affected unit(s)and associated PTI, if applicable, along with a brief description of any changes to the permit document that qualify as a reopening per OAC rule 3745-77-08(D)	N/A
Please identify the affected unit(s) and associated PTI, if applicable, along with a brief description of any changes to the permit document resulting from a renewal per OAC rule 3745-77-08(E)	B005 – incorporation of 25 TPY NOx limitation to avoid requirements of OAC rule 3745-110; negative declaration of applicability citation or 40 CFR Part 60, Subpart JJJJJJ B014 – incorporation of NOx RACT Tune-up language and negative declaration of applicability citation for 40 CFR Part 60, Subpart JJJJJJ B015 – incorporation of NOx RACT Tune-up language and negative declaration of applicability citation for 40 CFR Part 60, Subpart JJJJJJ B020 – (PTI #13-04494 issued 9/15/2005) – incorporate NOx RACT exemption term B022 - incorporate NOx RACT exemption term B023 – (PTI #13-03436 issued 11/23/1998) – incorporate emission limitations identified in previously issued Title V permit that were not addressed in an administrative modification of the PTI at the time so that the PTI and Title V permit emission limitations will now match. B024 - incorporate NOx RACT exemption term B025 - incorporate NOx RACT exemption term B026 - incorporate NOx RACT exemption term B027 – (PTI #13-03921 issued 3/5/2002) – update PE language and incorporate NOx RACT exemption term B028 – (PTI #13-03995 issued 6/18/2002) – incorporate NOx RACT exemption term B030 – (PTI # 13-04353 issued 2/9/2006) - correct NOx and CO lb/hr b)(1)a.; incorporate NOx RACT exemption; correct f)(1)a. emission factor and f)(1)b. CO lb/hr; change description to reflect de-rating of horse power output to 280 HP; add CFR 40 Part 63 Subpart ZZZZ requirements. B031 – (PTI # 13-04353 issued 2/9/2006) PTI revoked, unit is now on Permit By Rule (PBR) status B032 – (PTI # 13-04353 issued 2/9/2006) – update visible PE language; incorporate NOx RACT exemption term; add CFR 40 Part 63 Subpart ZZZZ requirements. B038 – (PTI P0106967 issued 3/9/2011) negative declaration of applicability citation or 40 CFR Part 60, Subpart JJJJJJ B039 – (PTI P0106966 issued 3/9/2011) negative declaration of applicability citation or 40 CFR Part 60, Subpart JJJJJJ P001 - incorporate NOx RACT exemption term P010 - (PTI # 13-02958 issued 4/12/1995) – incorporate NOx RACT exemption term P017 – (PTI #13-03096 issued 7/27/1996) PTI revoked unit was installed in 1956

	P018 - (PTI # 13-03158 issued 10/9/1996) – incorporate NOx RACT exemption term P026 – (PTI # 13-04747 issued 10/29/2008) – add BAT b)(1)b. and c.; BAT Sunset language b)(2)b.; NOx RACT Exemption b)(2)f. P027 – (PTI # P0106105 issued 10/6/2010) - update SO2 language b)(2)f.; add NOx RACT Exemption b)(2)g. P901 - incorporate NOx RACT exemption term P907 - incorporate NOx RACT exemption term P909 - incorporate NOx RACT exemption term
Please identify the affected unit(s) and pollutant(s) for which a Compliance Assurance Monitoring (CAM) Plan is required per 40 CFR 64. Provide more emissions unit specific detail in Section C.	N/A

B. Facility-Wide Terms and Conditions

Term and Condition (paragraph)	Basis		Comments
	SIP (3745-)	Other	
B.2.	77-03(A)		Listing of Insignificant Emission Units.
B.3	31-05(D)(1)(b)		Facility-wide HAP restrictions.
B.4	20	40 CFR Part 61	Asbestos renovation and demolition activities.
B.5	25-03		Emission control action program.

C. Emissions Unit Terms and Conditions

Key:

EU = emissions unit ID

ND = negative declaration (i.e., term that indicates that a particular rule(s) is (are) not applicable to a specific emissions unit)

OR = operational restriction

M = monitoring requirements

ENF = did noncompliance issues drive the monitoring requirements?

R = record keeping requirements

Rp = reporting requirements

ET = emission testing requirements (not including compliance method terms)

St = streamlining term used to replace a PTI monitoring, record keeping, or reporting requirement with an equivalent or more stringent requirement

Misc = miscellaneous requirements

EU(s)	Limitation	Basis		ND	OR	M	ENF	R	Rp	ET	St	Misc	Comments
		SIP (3745-)	Other										
B005	20% opacity as a 6 min avg	17-07(A)		N	Y	Y	N	Y	Y	Y	N	N	OR - only burn natural gas and/or number two fuel oil; sulfur and heat content sufficient to comply with allowable SO2 limitation M – perform analyses on each batch of fuel for sulfur content and heat content; collect representative grab sample of oil R – each day during the 3rd quarter record total amount of number two fuel oil burned, in gallons; total number of hours the emissions units were in operation; daily average operating rate, in mmBtu/hr; the total quantity of oil received and each day when fuel other than natural gas and/or number two fuel oil including the type and quantity of fuel burned Rp - each day when a fuel other than natural gas and/or number two fuel oil was burned; any record showing a deviation of the allowable SO2 emission rates; exceedances of the daily average operating rate restrictions during the third calendar quarter of each year ET – if required

B005	PE – 0.020 lb/mmBtu	17-10(B)(1)		N	Y	Y	N	Y	Y	Y	N	N	OR - only burn natural gas and/or number two fuel oil; sulfur and heat content sufficient to comply with allowable SO2 limitation M – perform analyses on each batch of fuel for sulfur content and heat content; collect representative grab sample of oil R – each day during the 3rd quarter record total amount of number two fuel oil burned, in gallons; total number of hours the emissions units were in operation; daily average operating rate, in mmBtu/hr; the total quantity of oil received and each day when fuel other than natural gas and/or number two fuel oil including the type and quantity of fuel burned Rp - each day when a fuel other than natural gas and/or number two fuel oil was burned; any record showing a deviation of the allowable SO2 emission rates; exceedances of the daily average operating rate restrictions during the third calendar quarter of each year ET – if required
B005	SO2 – 1.2 lbs/mmBtu	18-24(M)(2)		N	Y	Y	N	Y	Y	Y	N	N	OR - only burn natural gas and/or number two fuel oil; sulfur and heat content sufficient to comply with allowable SO2 limitation M – perform analyses on each batch of fuel for sulfur content and heat content; collect representative grab sample of oil R – each day during the 3rd quarter record total amount of number two fuel oil burned, in gallons; total number of hours the emissions units were in operation; daily average operating rate, in mmBtu/hr; the total quantity of oil received and each day when fuel other than natural gas and/or number two fuel oil including the type and quantity of fuel burned Rp - each day when a fuel other than natural gas and/or number two fuel oil was burned; any record showing a deviation of the allowable SO2 emission rates; exceedances of the daily average operating rate restrictions during the third calendar

													quarter of each year ET – if required
B005	NOx - 25 TPY as rolling, 12-month summation	110-03(J) (16)		N	N	N	N	Y	Y	Y	N	N	R – records of monthly and rolling, 12-month NOx emissions Rp - identify any exceedance of the rolling, 12-month NOx limitation of 25 tons Et – if required
B005	Periodic testing of fuel oil shall not exceed 48 hours during any calendar year		40 CFR Part 63 Subpart JJJJJJ	N	Y	Y	N	Y	Y	N	N	N	OR - Periodic testing of the fuel oil shall not exceed 48 hours during any calendar year R - maintain annual records of the amount of time in minutes or hours when periodic testing is conducted while burning fuel oil Rp - any record which shows a deviation of the allowable 48 hour operating restriction while burning fuel oil during periodic testing
B014 & B015	20% opacity as a 6 min avg	17-07(A)		N	Y	Y	N	Y	Y	Y	N	N	OR - only burn natural gas and/or number two fuel oil; sulfur and heat content sufficient to comply with allowable SO2 limitation M – perform analyses on each batch of fuel for sulfur content and heat content; collect representative grab sample of oil R – the total quantity of oil received and each day when fuel other than natural gas and/or number two fuel oil including the type and quantity of fuel burned Rp - each day when a fuel other than natural gas and/or number two fuel oil was burned; any record showing a deviation of the allowable SO2 emission rates ET – if required

B014 & B015	PE – 0.020 lb/mmBtu	17-10(B)(1)		N	Y	Y	N	Y	Y	Y	N	N	OR - only burn natural gas and/or number two fuel oil; sulfur and heat content sufficient to comply with allowable SO2 limitation M – perform analyses on each batch of fuel for sulfur content and heat content; collect representative grab sample of oil R – the total quantity of oil received and each day when fuel other than natural gas and/or number two fuel oil including the type and quantity of fuel burned Rp - each day when a fuel other than natural gas and/or number two fuel oil was burned; any record showing a deviation of the allowable SO2 emission rates ET – if required
B014 & B015	SO2 – 1.6 lbs/mmBtu	18-06(D)		N	Y	Y	N	Y	Y	Y	N	N	OR - only burn natural gas and/or number two fuel oil; sulfur and heat content sufficient to comply with allowable SO2 limitation M – perform analyses on each batch of fuel for sulfur content and heat content; collect representative grab sample of oil R – the total quantity of oil received and each day when fuel other than natural gas and/or number two fuel oil including the type and quantity of fuel burned Rp - each day when a fuel other than natural gas and/or number two fuel oil was burned; any record showing a deviation of the allowable SO2 emission rates ET – if required

B014 & B015	Periodic testing of fuel oil shall not exceed 48 hours during any calendar year		40 CFR Part 63 Subpart JJJJJJ	N	Y	N	N	Y	Y	N	N	N	OR - Periodic testing of the fuel oil shall not exceed 48 hours during any calendar year R - maintain annual records of the amount of time in minutes or hours when periodic testing is conducted while burning fuel oil Rp - any record which shows a deviation of the allowable 48 hour operating restriction while burning fuel oil during periodic testing
B020	NOx – 3.2 lbs/hr & 14 TPY CO – 2.7 lbs/hr & 11.8 TPY SO2 - 0.02 lbs/hr & 0.09 TPY PE - 2.8 TPY 5% opacity as a 6 min avg	31-05(A)(3)		N	Y	N	N	Y	Y	Y	N	N	OR - only burn natural gas and/or number two fuel oil R - each day when fuel other than natural gas is burned including the type and quantity Rp - each day when a fuel other than natural gas was burned Et – if required
B020	PE - 0.020 lb/mmBtu of actual heat input	17-10(B)(1)		N	Y	N	N	Y	Y	Y	N	N	OR - only burn natural gas and/or number two fuel oil R - each day when fuel other than natural gas is burned including the type and quantity Rp - each day when a fuel other than natural gas was burned Et – if required
B022, P001, & P901		17-11(B)		Y	N	N	N	N	N	N	N	N	ND – unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

B022, P001, & P901		17-07(A)		Y	N	N	N	N	N	N	N	N	ND – no applicable emission limitations uncontrolled mass rate of particulate emissions is less than 10 pounds per hour
B023	5% opacity as a 6 min avg PE – 0.64 lbs/hr and 2.8 TPY CO - 2.68 lbs/hr and 11.7 TPY. NOx - 3.19 lbs/hr and 14.0 TPY.	31-05		N	Y	N	N	Y	Y	N	N	N	OR – burn only natural gas R - each day during which a fuel other than natural gas is burned Rp – submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned
B023	PE -.020 lb/mmBtu of actual heat input.	17-10(B)(1)		N	Y	N	N	Y	Y	N	N	N	OR – burn only natural gas R - each day during which a fuel other than natural gas is burned Rp – submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned
B024, B025, & B026	20% opacity as a 6 min avg	17-07(A)		N	Y	N	N	Y	Y	N	N	N	OR – burn only natural gas R - each day during which a fuel other than natural gas is burned Rp – submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned
B024, B025, & B026	PE - 0.020 lb/mmBtu	17-10(B)(1)		N	Y	N	N	Y	Y	N	N	N	OR – burn only natural gas R - each day during which a fuel other than natural gas is burned Rp – submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned

B027	5 % opacity as a 6 min avg. PE - 1.0 lb/hr & 4.38 TPY NOx - 5.0 lbs/hr & 21.9 TPY CO - 4.2 lbs/hr & 18.4 TPY SO2 - 0.03 lb/hr & 0.13 TPY OC - 0.55 lb/hr and 2.41 TPY	31-05(A)(3)		N	Y	N	N	Y	Y	N	N	N	OR – burn only natural gas R - each day during which a fuel other than natural gas is burned Rp – submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned
B028	5% opacity as a 6 min avg PE - 0.62 lb/hr & 2.72 TPY NOx - 3.1 lbs/hr & 13.6 TPY CO - 2.6 lbs/hr & 11.4 TPY SO2 - 0.02 lb/hr & 0.09 TPY OC - 0.34 lb/hr & 1.5 TPY	31-05(A)(3)		N	Y	N	N	Y	Y	N	N	N	OR – burn only natural gas R - each day during which a fuel other than natural gas is burned Rp – submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned
B028	PE - 0.020 lb/mmBtu of actual heat input	17-10(B)(1)		N	Y	N	N	Y	Y	N	N	N	OR – burn only natural gas R - each day during which a fuel other than natural gas is burned Rp – submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned

B030	NOx – 10.14 lbs/hr. CO – 2.19 lbs/hr SO2 - 0.7 lbs/hr	31-05(A)(3)		N	Y	N	N	Y	Y	N	N	N	OR - combust diesel fuel oil, with a maximum sulfur content of 0.5% sulfur by weight R - maintain records of the sulfur content of all fuels received for use in this emission unit; each day during which a fuel other than diesel fuel with a maximum sulfur content of 0.5% sulfur by weight is combusted in this emissions unit including the type and quantity of fuel burned Rp - submit deviation (excursion) reports that identify each day when a fuel other than diesel fuel with a maximum sulfur content of 0.5% sulfur by weight was combusted in this emission unit; quarterly deviation reports identifying any exceedance of the fuel sulfur content restriction
B030	NOx – 36.8 TPY CO – 7.5 TPY SO2 - 2.4 TPY PE - 2.58 TPY TPY limits based on rolling, 12-month summation of the annual hours of operation	31-05(C)		N	Y	N	N	Y	Y	N	N	N	OR - maximum annual operating hours shall not exceed 7000 hours, per rolling, 12-month summation R - maintain monthly records of the operating hours and the rolling, 12-month summation of the operating hours Rp - submit quarterly deviation (excursion) reports identifying any exceedance of the hours of operation limitation
B030	20% opacity, as a 6 min avg.	17-07(A)(1)		N	Y	N	N	Y	Y	N	N	N	OR - combust diesel fuel oil, with a maximum sulfur content of 0.0015% sulfur by weight R - maintain records of the sulfur content of all fuels received for use in this emission unit Rp - submit deviation (excursion) reports that identify each day when a fuel other than diesel fuel with a maximum sulfur content of 0.0015% sulfur by weight was combusted in this emission unit; quarterly deviation reports identifying any exceedance of the fuel sulfur content restriction

B030	PE shall not exceed 0.310 lb/mmBtu	17-11(B)(5)(a)											OR - combust diesel fuel oil, with a maximum sulfur content of 0.0015% sulfur by weight R - maintain records of the sulfur content of all fuels received for use in this emission unit Rp - submit deviation (excursion) reports that identify each day when a fuel other than diesel fuel with a maximum sulfur content of 0.0015% sulfur by weight was combusted in this emission unit; quarterly deviation reports identifying any exceedance of the fuel sulfur content restriction
B030	Comply with the Operational and maintenance requirements		40 CFR Part 63 Subpart ZZZZ	N	Y	Y	N	Y	Y	N	N	N	OR – change oil filter and inspect air cleaner every 1,000 hours of operation or annually whichever comes first, and the requirements specified under 40 CFR 80.510(b), 40 CFR 63.6605, 40 CFR 63.6625(e), 40 CFR 63.6625(h), and 40 CFR 63.6625(i). M - inspect all hoses and belts every 500 hours of operation or annually and replace as necessary R – maintain log of hours of operation between each oil and filter change and the date of each oil/filter change and inspection; And the following requirements specified under 40 CFR 63.6635, 40 CFR 63.6655(a), 40 CFR 63.6640(a) and 40 CFR 63.6655(d), 40 CFR 63.6655(e)(3), and 40 CFR 63.6660 Rp – submit quarterly report as specified by 40 CFR 63.6640(b)
B030	Diesel fuel sulfur content not to exceed 15 ppm or 0.0015% sulfur by weight		40 CFR Part 63 Subpart ZZZZ	N	Y	N	N	Y	Y	N	N	N	OR – combust only diesel fuel with a maximum sulfur content of 0.0015% sulfur by weight and the requirements specified under 40 CFR 80.510(b) R - maintain records for a minimum of 5 years of the total quantity of diesel oil received and the supplier's (or permittee's) analyses for sulfur content in ppm; maintain record of the amount of diesel fuel burned annually. RP – Quarterly reporting as specified under 40 CFR 80.510(b) and 40 CFR 63.6640(e).

B032	PE shall not exceed 1.5 TPY NOx - 4.94 lbs/hr & 21.6 TPY CO - 1.06 lbs/hr & 4.7 TPY SO2 - 0.32 lbs/hr 1.4 TPY	31-05(A)(3)		N	Y	N	N	Y	Y	N	N	N	OR - combust diesel fuel oil, with a maximum sulfur content of 0.0015% sulfur by weight R - maintain records of the sulfur content of all fuels received for use in this emission unit Rp - submit deviation (excursion) reports that identify each day when a fuel other than diesel fuel with a maximum sulfur content of 0.0015% sulfur by weight was combusted in this emission unit
B032	20% opacity, as a 6 min avg	17-07(A)(1)		N	Y	N	N	Y	Y	N	N	N	OR - combust diesel fuel oil, with a maximum sulfur content of 0.0015% sulfur by weight R - maintain records of the sulfur content of all fuels received for use in this emission unit Rp - submit deviation (excursion) reports that identify each day when a fuel other than diesel fuel with a maximum sulfur content of 0.0015% sulfur by weight was combusted in this emission unit
B032	PE - 0.31 lb/mmBtu of actual heat input	17-11(B)(5)(a)		N	Y	N	N	Y	Y	N	N	N	OR - combust diesel fuel oil, with a maximum sulfur content of 0.0015% sulfur by weight R - maintain records of the sulfur content of all fuels received for use in this emission unit Rp - submit deviation (excursion) reports that identify each day when a fuel other than diesel fuel with a maximum sulfur content of 0.0015% sulfur by weight was combusted in this emission unit

B032	Comply with the Operational and maintenance requirements		40 CFR Part 63 Subpart ZZZZ	N	Y	Y	N	Y	Y	N	N	N	OR – change oil filter and inspect air cleaner every 1,000 hours of operation or annually whichever comes first, and the requirements specified under 40 CFR 80.510(b), 40 CFR 63.6605, 40 CFR 63.6625(e), 40 CFR 63.6625(h), and 40 CFR 63.6625(i). M - inspect all hoses and belts every 500 hours of operation or annually and replace as necessary R – maintain log of hours of operation between each oil and filter change and the date of each oil/filter change and inspection; And the following requirements specified under 40 CFR 63.6635, 40 CFR 63.6655(a), 40 CFR 63.6640(a) and 40 CFR 63.6655(d), 40 CFR 63.6655(e)(3), and 40 CFR 63.6660 Rp – submit quarterly report as specified by 40 CFR 63.6640(b)
B032	Diesel fuel sulfur content not to exceed 15 ppm or 0.0015% sulfur by weight		40 CFR Part 63 Subpart ZZZZ	N	Y	N	N	Y	Y	N	N	N	OR – combust only diesel fuel with a maximum sulfur content of 0.0015% sulfur by weight and the requirements specified under 40 CFR 80.510(b) R - maintain records for a minimum of 5 years of the total quantity of diesel oil received and the supplier's (or permittee's) analyses for sulfur content in ppm; maintain record of the amount of diesel fuel burned annually. RP – Quarterly reporting as specified under 40 CFR 80.510(b) and 40 CFR 63.6640(e).
P010	5% opacity as a 6 min avg PE - 0.352 lbs/hr, 0.02 lb/mmBtu & 1.54 TPY NOx - 2.46 lbs/hr & 10.77 TPY	31-05(A)(3)		N	Y	N	N	Y	Y	N	N	N	OR – burn only natural gas R - each day during which a fuel other than natural gas is burned Rp – submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned

P011, P012, P015,P016, P017, P019 – P024, P028, P903 – P906, P919, and P920		17-07(A)		Y	N	N	N	N	N	N	N	N	This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
P011, P012, P015,P016, P017, P019 – P024, P028, P903 – P906, P919, and P920		17-11(B)		Y	N	N	N	N	N	N	N	N	The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
P011, P012, P015,P016, P017, P019 – P024, P028, P903 – P906, P919, and P920		18-06(E)		Y	N	N	N	N	N	N	N	N	Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation.

P018	OC - 3 lbs/hr, 15 lbs/day, & 2.74 TPY PE - 7.13 lbs/hr & 2.96 TPY CO - 17.1 lbs/hr & 7.12 TPY NOx - 22.78 lbs/hr & 9.47 TPY	31-05(A)(3)		N	Y	N	N	Y	Y	N	N	N	OR – burn only commercially available naphtha and kerosene-based distillate fuels R - each day during which a fuel other than commercially available naphtha and kerosene-based distillate fuel is burned; maintain daily and annual records of the total amounts, in pounds, of fuels combusted Rp - submit deviation (excursion) reports that identify each day when fuels other than commercially available naphtha and kerosene-based distillate fuels are burned; submit quarterly deviation (excursion) reports that identify each day during which the OC emissions exceeded 15 lbs/day, and the actual OC emissions for each such day; submit annual reports that specify the actual emission totals, in tons per year (TPY), for OC, PE, CO, and NOx from this emissions unit for the previous calendar year for Fee Emission Reporting
P018		17-07(A)		Y	N	N	N	N	N	N	N	N	This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
P018		17-11(B)		Y	N	N	N	N	N	N	N	N	The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
P018		18-06(E)		Y	N	N	N	N	N	N	N	N	Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation.

P025	No emission limit.	21-07(M)		Y	N	N	N	N	Y	N	N	N	ND - The requirements of OAC rule 3745-21-07(M) do not apply because there is no control device or bake oven associated with this emissions unit. Rp - submit annual reports identifying total OC/VOC for annual Fee Emission Report purposes
P026	NOx - 118.2 lbs/hr SO2 - 104 lbs/hr PE – 8.52 TPY VOC – 2.57 CO – 5.54	31-05(A)(3)		Y	Y	N	N	N	Y	N	N	N	ND - The hourly emission limit was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this short term emissions limitation. OR - burn only commercially available naptha and distillate-based jet fuels Rp - submit reports that identify each day when a fuel other than commercially available jet fuel was burned
P026	Annual jet fuel usage shall not exceed 800,000 gallons; NOx- 23.63* SO2 20.8* PM 8.52* CO 5.54* VOC 2.57* *TPY limit	31-05(D)(1)		N	Y	N	N	Y	Y	N	N	N	OR - amount of fuel burned shall not exceed 800,000 gallons per year based upon a rolling, 12-month summation R - monthly records of the name and/or identification number of each fuel used; amount used each month; the rolling, 12-month summation of the fuel consumed; annual records of the following for ten (10) years - number of gallons of jet fuel consumed and the total annual NOx, VOC, CO, PM_{10}, SO_2 and $PM_{2.5}$ (using factor for PM_{10}) emissions. Rp - submit quarterly reports identifying exceedances of the rolling, 12-month fuel consumption limit
P026	20% opacity, as a 6 min avg.	17-07(A)		N	Y	N	N	N	Y	N	N	N	OR - burn only commercially available naptha and distillate-based jet fuels Rp - submit reports that identify each day when a fuel other than commercially available jet fuel was burned

P026	PM from turbine exhaust - 0.040 lb/mmBtu of actual heat input	17-11(B)(4)		N	Y	N	N	N	Y	N	N	N	OR - burn only commercially available naptha and distillate-based jet fuels Rp - submit reports that identify each day when a fuel other than commercially available jet fuel was burned
P026	SO2 - 0.5 lb/mmBtu actual heat input	18-06(F)		N	Y	N	N	N	Y	N	N	N	OR - burn only commercially available naptha and distillate-based jet fuels Rp - submit reports that identify each day when a fuel other than commercially available jet fuel was burned
P026	maintain records for the next 10 years that demonstrate that the amount of actual emissions increase stays below these major modification thresholds	31-10(A)(1)		N	N	N	N	Y	Y	N	N	N	R – annual records of the following for ten (10) years - annual records of the number of gallons of jet fuel consumed and the total annual NOx, VOC, CO, PM_{10}, SO_2 and $PM_{2.5}$ (using factor for PM_{10}) emissions. Rp - submit a deviation report if the actual annual emissions, in tons/year, exceed the baseline actual emissions by a significant amount for CO, NOx, PM_{10}, $PM_{2.5}$, SO_2, and VOC.
P907	20% opacity as a 6 min avg.	17-07(A)		N	Y	N	N	Y	Y	N	N	N	OR - burn only commercially available naphtha and kerosene-based distillate fuels R – maintain records of each day during which a fuel other than commercially available naphtha and kerosene-based distillate fuels are burned in this emissions unit Rp - submit deviation (excursion) reports that identify each day when a fuel other than a commercially available naphtha and kerosene-based distillate fuel was burned

P907	PE - 0.22 lb/mmBtu of actual heat input	17-10(C)(1)		N	Y	N	N	Y	Y	N	N	N	OR - burn only commercially available naphtha and kerosene-based distillate fuels R – maintain records of each day during which a fuel other than commercially available naphtha and kerosene-based distillate fuels are burned in this emissions unit Rp - submit deviation (excursion) reports that identify each day when a fuel other than a commercially available naphtha and kerosene-based distillate fuel was burned
P909	20% opacity as a 6 min avg.	17-07(A)		N	Y	N	N	Y	Y	N	N	N	OR - burn only commercially available naphtha and kerosene-based distillate fuels R – maintain records of each day during which a fuel other than commercially available naphtha and kerosene-based distillate fuels are burned in this emissions unit Rp - submit deviation (excursion) reports that identify each day when a fuel other than a commercially available naphtha and kerosene-based distillate fuel was burned
P909	PE - 0.18 lb/mmBtu of actual heat input	17-10(C)(1)		N	Y	N	N	Y	Y	N	N	N	OR - burn only commercially available naphtha and kerosene-based distillate fuels R – maintain records of each day during which a fuel other than commercially available naphtha and kerosene-based distillate fuels are burned in this emissions unit Rp - submit deviation (excursion) reports that identify each day when a fuel other than a commercially available naphtha and kerosene-based distillate fuel was burned

P027	CO - 27.18 lbs/hr PE (includes PM10 and PM2.5) - 42.58 lbs/hr VOC -12.84 lbs/hr	31-05(A)(3)		N	Y	N	N	N	N	N	N	N	OR - burn only commercially available naphtha and kerosene-based distillate fuels; commercially no more than 800,000 gallons burned per year based upon a rolling, 12-month summation
P027	NOx - 96.0 ppmvd. SO2 - 0.5 lbs/mmBtu.		ORC rule 3704.03(T)	N	Y	N	N	Y	Y	N	N	N	OR - jet fuel burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation R - maintain records of the total quantity of fuel received, the fuel identification, the permittee's or fuel supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate and perform or require the supplier to perform the analyses for sulfur content and heat content Rp - submit deviation (excursion) reports identifying each day when a fuel other than commercially available naptha and distillate-based jet fuel was burned

P027	restriction on annual jet fuel usage of 800,000 gallons per rolling 12 months; CO 5.54* NOx 23.63* PE 8.52* SO_2 20.8* VOC 2.57* *TPY limit	31-05(D)(1)		N	Y	N	N	Y	Y	N	N	N	OR - burn only commercially available naphtha and kerosene-based distillate fuels; commercially no more than 800,000 gallons burned per year based upon a rolling, 12-month summation R - monthly records of the name and/or identification number of each fuel used; amount used each month; the rolling, 12-month summation of the fuel consumed Rp – submit quarterly deviation reports identifying exceedances of the 800,000 gallons per year fuel limitation
P027	20% opacity, as a 6 min avg.	17-07(A)		N	N	Y	N	Y	N	N	N	N	M – daily visible emission checks R – observations of visible emissions
B038 & B039	When burning natural gas: NOx - 1.34 lbs/hr & 5.87 TPY PE - 0.32 lb/hr & 1.40 TPY OC - 0.46 lb/hr & 2.01 TPY VOC - 0.23 lb/hr & 1.01 TPY When burning No. 2 Fuel Oil: NOx - 5.96 lbs/hr PE - 0.6 lbs/hr	31-05(A)(3)		N	Y	Y	N	Y	N	N	N	N	OR - burn only natural gas and/or No. 2 fuel oil; No. 2 fuel oil sulfur and heat content sufficient to comply with the allowable sulfur dioxide emission limitation of 0.50 lb/mmBtu and the sulfur content limitation for No. 2 fuel oil of less than or equal to 0.3 per cent sulfur; annual No. 2 fuel oil usage rate shall not exceed 580,000 gallons based upon a rolling, 12-month summation. M - perform or require the supplier to perform analyses for sulfur content and heat content R - collect or require oil supplier to collect representative grab sample of oil for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lb/mmBtu) and maintain records of the total quantity of oil received; maintain monthly records of the name and/or identification number of each fuel used; amount used each month; the rolling, 12-month summation of the fuel consumed

	CO - 1.5 lbs/hr 20% opacity, as a 6 min avg												
B038 & B039	NOx - 5.8 CO - 1.45 PE - 0.58 SO2 - 12.35 annual No. 2 fuel oil usage rate for this emissions unit shall not exceed 580,000 gallons based upon a rolling, 12-month summation	31-05(D)		N	Y	Y	N	Y	N	N	N	N	OR - annual No. 2 fuel oil usage rate for this emissions unit shall not exceed 580,000 gallons based upon a rolling, 12-month summation M - perform or require the supplier to perform the analyses for sulfur content and heat content R - collect or require oil supplier to collect representative grab sample of oil for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lb/mmBtu) and maintain records of the total quantity of oil received; maintain monthly records of the name and/or identification number of each fuel used; amount used each month; the rolling, 12-month summation of the fuel consumed
B038 & B039	When burning natural gas: CO - 0.08 lb/mmBtu. When burning No. 2 Fuel Oil: SO2 - 0.50 lb /mmBtu		ORC) rule 3704.03(T)	N	Y	N	N	N	N	N	N	N	OR - burn only natural gas and/or No. 2 fuel oil; No. 2 fuel shall have a combination of sulfur and heat content sufficient to comply with the allowable sulfur dioxide emission limitation of 0.50 lb/mmBtu and the sulfur content limitation for No. 2 fuel oil of less than or equal to 0.3 per cent sulfur

B038 & B039	PE - 0.020 lb/mmBtu	17-10(B)(1)		N	N	Y	N	Y	N	N	N	N	M - perform or require the supplier to perform the analyses for sulfur content and heat content R - collect or require oil supplier to collect representative grab sample of oil for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lb/mmBtu) and maintain records of the total quantity of oil received; maintain monthly records of the name and/or identification number of each fuel used
B038 & B039	Annual boiler tune-up	110-03(A)		N	N	Y	N	Y	N	N	N	N	M - perform a tune-up annually R - maintaina log book, of the following information: the date of the last tune-up; the name, title and affiliation of the person who performed the tune-up and made any adjustments; and any other information which the Ohio EPA may require as a condition of approval of any permit for the boiler
B038 & B039	SO2 - 0.50 lb/mmBtu when burning No. 2 fuel oil. 20% as a 6 min avg except for one 6- minute period per hour of not more than 27% opacity.		40 CFR Part 60 Subpart Dc	N	N	Y	N	Y	N	N	N	N	M - perform or require the supplier to perform the analyses for sulfur content and heat content R - collect or require oil supplier to collect representative grab sample of oil for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lb/mmBtu) and maintain records of the total quantity of oil received; maintain monthly records of the name and/or identification number of each fuel used

B038 & B039	Periodic testing of fuel oil shall not exceed 48 hours during any calendar year		40 CFR Part 63 Subpart JJJJJJ	N	Y	N	N	Y	Y	N	N	N	OR - Periodic testing of the fuel oil shall not exceed 48 hours during any calendar year R - maintain annual records of the amount of time in minutes or hours when periodic testing is conducted while burning fuel oil Rp - any record which shows a deviation of the allowable 48 hour operating restriction while burning fuel oil during periodic testing

DRAFT

Division of Air Pollution Control
Title V Permit
for
NASA John H. Glenn Research Center - Lewis Field

Facility ID:	1318001169
Permit Number:	P0094315
Permit Type:	Renewal
Issued:	3/1/2013
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance

Division of Air Pollution Control
Title V Permit
for
NASA John H. Glenn Research Center - Lewis Field

Table of Contents

Authorization 1
A. Standard Terms and Conditions 2
1. Federally Enforceable Standard Terms and Conditions 3
2. Monitoring and Related Record Keeping and Reporting Requirements 3
3. Scheduled Maintenance 6
4. Risk Management Plans 6
5. Title IV Provisions 7
6. Severability Clause 7
7. General Requirements 7
8. Fees 8
9. Marketable Permit Programs 8
10. Reasonably Anticipated Operating Scenarios 9
11. Reopening for Cause 9
12. Federal and State Enforceability 9
13. Compliance Requirements 9
14. Permit Shield 11
15. Operational Flexibility 11
16. Emergencies 11
17. Off-Permit Changes 12
18. Compliance Method Requirements 12
19. Insignificant Activities or Emissions Levels 12
20. Permit to Install Requirement 13
21. Air Pollution Nuisance 13
22. Permanent Shutdown of an Emissions Unit 13
23. Title VI Provisions 13
24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only 14
25. Records Retention Requirements Under State Law Only 14
26. Inspections and Information Requests 14
27. Scheduled Maintenance/Malfunction Reporting 15
28. Permit Transfers 15

29. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations 15

B. Facility-Wide Terms and Conditions 16

C. Emissions Unit Terms and Conditions 21

1. B005 - BOILER05-B012 22
2. Emissions Unit Group -2 - 45.5 mmBtu/hr Steam Boilers: B014,B015, ... 28
3. B020, Heat29-B145(B020) 33
4. Three (3) natural gas fired heated air production units 38
5. B023, HEAT22-B039(Z120) 40
6. Three natural gas-fired air heaters (wind tunnel air heating) 44
7. B027, Heat28-B124 47
8. B028, Heat29-B5 52
9. B030, Generator-10x10 B114 58
10. B032, Generator-8x6 B053 (Z204) 67
11. P010, HEAT03-B095 75
12. Seventeen (17) Jet Engine Test Cells 79
13. P018, CELL01-B145(Z326) 82
14. P025, 8x6 Seeding B039 88
15. P026, PSL 124 Preheater 90
16. P907, CELLCPRM-B038Z312 99
17. P909 CELL02-B124(Z315) 102
18. P027, PSL 124 Preheater #2 105
19. B038, Boiler #3 and B039, Boiler #4 114

Authorization

Facility ID:	1318001169
Facility Description:	Research and development center.
Application Number(s):	A0025810, A0025811, A0025812, A0036165, A0043594, A0045122
Permit Number:	P0094315
Permit Description:	Title V renewal permit for the NASA Glenn Research Center which conducts research, testing, and development of aeronautical and spaceflight equipment. The emissions units utilized for this research primarily consist of testing fuel burning sources including natural gas and fuel oil-fired boilers, generators, jet engine test cells, air heaters, and pre-heaters.
Permit Type:	Renewal
Issue Date:	3/1/2013
Effective Date:	To be entered upon final issuance
Expiration Date:	To be entered upon final issuance
Superseded Permit Number:	P0094314

This document constitutes issuance of an OAC Chapter 3745-77 Title V permit to:

NASA John H. Glenn Research Center - Lewis Field
21000 Brookpark Road
Cleveland, OH 44135-3191

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

The above named entity is hereby granted a Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Cleveland Division of Air Quality. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months (540 days) and no later than 6 months (180 days) prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:

(1) Standard Term and Condition A. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions

(2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions

(3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting

(4) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(Authority for term: ORC 3704.036(A))

2. Monitoring and Related Record Keeping and Reporting Requirements

a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

(1) The date, place (as defined in the permit), and time of sampling or measurements.

(2) The date(s) analyses were performed.

(3) The company or entity that performed the analyses.

(4) The analytical techniques or methods used.

(5) The results of such analyses.

(6) The operating conditions existing at the time of sampling or measurement.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c) The permittee shall submit required reports in the following manner:

(1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any scheduled maintenance, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive

measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as provided below, the written reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2)c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.19, A.20, A.21, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable requirements not specifically addressed by permit or rule for the

insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))

(4) Each written report shall be signed by a responsible official certifying that, "based on information and belief formed after reasonable inquiry, the statements and information in the report (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."

(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

(5) Reports of any required monitoring and/or record keeping information shall be submitted to Cleveland Division of Air Quality.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

3. Scheduled Maintenance

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

4. Risk Management Plans

If applicable, the permittee shall develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq. ("Act"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or

b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

5. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

(Authority for term: OAC rule 3745-77-07(A)(5))

6. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

(Authority for term: OAC rule 3745-77-07(A)(6))

7. General Requirements

a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.

b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c) This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with Standard Term and Condition A.11 below. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d) This permit does not convey any property rights of any sort, or any exclusive privilege.

e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the

Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:

(1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or

(2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or

(3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminant sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))

8. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.

(Authority for term: OAC rule 3745-77-07(A)(8))

9. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

(Authority for term: OAC rule 3745-77-07(A)(9))

10. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these standard terms and conditions shall apply to all operating scenarios authorized in this permit.

(Authority for term: OAC rule 3745-77-07(A)(10))

11. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a) Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b) This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c) The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

12. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

(Authority for term: OAC rule 3745-77-07(B))

13. Compliance Requirements

a) Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official

that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

(1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.

(3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

(4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c) The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

(1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

(2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

d) Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

(1) Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted (i.e., postmarked) on or before April 30th of each year during the permit term.

(2) Compliance certifications shall include the following:

a. An identification of each term or condition of this permit that is the basis of the certification.

b. The permittee's current compliance status.

c. Whether compliance was continuous or intermittent.

d. The method(s) used for determining the compliance status of the source currently and over the required reporting period.

e. Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.

(3) Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

14. Permit Shield

a) Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b) This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

15. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

16. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

(Authority for term: OAC rule 3745-77-07(G))

17. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a) The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b) The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c) The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d) The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e) The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit-to-install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(Authority for term: OAC rule 3745-77-07(I))

18. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.

(This term is provided for informational purposes only.)

19. Insignificant Activities or Emissions Levels

Each IEU that has one or more applicable requirements shall comply with those applicable requirements.

(Authority for term: OAC rule 3745-77-07(A)(1))

20. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-07(A)(1))

21. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

(Authority for term: OAC rule 3745-77-07(A)(1))

22. Permanent Shutdown of an Emissions Unit

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the responsible official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the responsible official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

No emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-01)

23. Title VI Provisions

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.

b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.

c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

(Authority for term: OAC rule 3745-77-01(H)(11))

24. Reporting Requirements Related to Monitoring and Record Keeping RequirementsUnder State Law Only

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

25. Records Retention RequirementsUnder State Law Only

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

26. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with

this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

(Authority for term: OAC rule 3745-77-07(C))

27. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

28. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

(Authority for term: OAC rule 3745-77-01(C))

29. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or

b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potentials to emit; or

c) where the company's responsible official has certified that an emissions unit has been permanently shut down.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

   a) None.

2. The following insignificant emissions units are located at this facility:

   B018 - make-up air heater;
   B019 - space heating boiler;
   B031 - CAEB Diesel Generator (BLD064) – OAC 3745-31-03(A)(4)(b);
   G001 - gasoline fuel storage and dispensing (PTI #13-2464);
   K003 - painting operation;
   P003 - jet engine testing;
   P007 - research vacuum chamber;
   P013 - engine testing (PTI #13-3069);
   T001 - fuel storage and dispensing (PTI #13-2319);
   T002 - fuel storage and dispensing (PTI #13-2443);
   T003 - fuel storage and dispensing (PTI #13-2443);
   T004 - fuel storage and dispensing (PTI #13-2475);
   T005 - fuel storage and dispensing (PTI #13-2597);
   T006 - fuel storage and dispensing (PTI #13-2597);
   T007 - fuel storage and dispensing (PTI #13-2597);
   T008 - fuel storage and dispensing (PTI #13-2597);
   T009 - fuel storage and dispensing (PTI #13-2780);
   T010 - fuel storage and dispensing; and
   P005 - test cell (PTI #13-2022)

   Each insignificant emissions unit at this facility must comply with all applicable state and federal regulations, as well as any emission limitations and/or control requirements contained within a permit to install for the emissions unit.

3. Facility-wide Emissions Limitations

   a) Applicable Emissions Limitations and/or Control Requirements

      (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)(1)(b) Synthetic Minor to Avoid MACT Applicability	See a)(2)a., a)(2)b., c)(1), c)(2), d)(1), and d)(2) below.

(2) Additional Terms and Conditions

a. The emissions of hazardous air pollutants (HAPs), as defined in Section 112(b) of Title III of the Clean Air Act, from all emissions units (non-insignificant and insignificant) at the facility, shall not exceed 9.5 TPY for any individual HAP, as a rolling, 12-month summation of the individual HAP emissions, and 24.5 TPY for any combination of HAPs, as a rolling, 12-month summation of the combined HAP emissions.

b. The permittee has voluntarily accepted these restrictions on HAP emissions to avoid being classified as a major source of HAP and subject to federal Maximum Achievable Control Technology (MACT) standard(s). The permittee has existing records to demonstrate that HAP emissions have not exceeded HAP major source thresholds.

b) Operational Restrictions

a. None.

c) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall use the calculation methodologies below to estimate HAP emissions for all emissions units (non-insignificant and insignificant) at the facility. The calculations below shall be performed on a monthly basis with all emission rates converted to tons:

a. The HAP emissions from the combustion sources at the facility shall be calculated from records maintained by the permittee of monthly natural gas and bulk fuel purchases in conjunction with the emission factors specified in the most recent edition of USEPA publication AP-42, Chapters 1.3 and 1.4 for the combustion of fuel oil, jet fuel and natural gas.

b. The HAP emissions from the storage tanks at the facility shall be calculated using the most recent version of USEPA's TANKS program to estimate HAP emission rates.

c. The HAP emissions from all other emissions units at the facility shall be calculated using one or more of the following methods:

i. USEPA's Compilation of Air Pollution Emission Factors, AP-42, Fifth Edition or the most recent edition of AP-42;

ii. USEPA emission estimation software programs such as TANKS program, SPECIATE version 3.1, Factor Information Retrieval (FIRE) version 6.22 or the most recent version of these software programs;

iii. emission test data;

iv. material balance calculations; or

v. other Agency-approved emission factors.

(2) The permittee shall maintain monthly records of the following information for all emissions units (non-insignificant and insignificant) at the facility:

a. the rolling, 12-month summations of the individual HAP emission rates, in tons; and

b. the rolling, 12-month summation of the total combined HAPs emission rate, in tons.

d) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports in accordance with Standard Terms and Conditions of this permit that identify all exceedances of the following:

a. identification of each month during which the rolling, 12-month emission rate of an individual HAP at the facility exceeded 9.5 tons; and

b. identification of each month during which the rolling, 12-month combined HAP emission rate for the facility exceeded 24.5 tons.

(2) The annual compliance certification reports submitted in accordance with the Standard Terms and Conditions of this permit shall include certification with the above-mentioned HAP emission limitations.

e) Testing Requirements

(1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. <u>Emission Limitation</u>:

Individual HAP emissions shall not exceed 9.5 TPY.

Combined HAP emissions shall not exceed 24.5 TPY.

<u>Applicable Compliance Method</u>:

Compliance with the individual and combined annual HAP limitations shall be determined through the monitoring and recordkeeping requirements specified in c)(1) and c)(2) above.

f) Miscellaneous Requirements

(1) None.

4. All asbestos renovation and demolition activities conducted at this facility shall be performed in accordance with the applicable requirements specified in 40 CFR Part 61 and OAC Chapter 3745-20.

5. This facility is subject to the applicable requirements specified in OAC Chapter 3745-25. In accordance with Ohio EPA Engineering Guide #64, the emission control action programs, as specified in OAC rule 3745-25-03, shall be developed and submitted within 60 days after receiving notification from the Ohio EPA.

C. Emissions Unit Terms and Conditions

1. B005 - BOILER05-B012

Operations, Property and/or Equipment Description:

B005 - 90 mmBtu/hr natural gas and number two fuel oil-fired steam boiler

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
b.	OAC rule 3745-17-10(B)(1)	Particulate emissions (PE) shall not exceed 0.020 lb/mmBtu of actual heat input.
c.	OAC rule 3745-18-24(M)(2)	Sulfur dioxide (SO_2) emissions shall not exceed 1.2 lbs/mmBtu actual heat input. See b)(2)a. below.
d.	OAC rule 3745-110-03(J)(16)	Nitrogen Oxide (NOx) emissions shall not exceed 25 tons per year (TPY) as a rolling, 12-month summation. See d)(1), e)(1), and f)(1)a. below.
e.	40 CFR Part 63, Subpart JJJJJJ	See b)(2)b., c)(3), d)(6), and e)(5) below.

(2) Additional Terms and Conditions

a. The daily operating rate for emissions unit B005 shall not exceed 56 mmBtu/hr during the third quarter when burning number two fuel oil.

b. This emissions unit is not subject to the requirements 40 CFR Part 63, Subpart JJJJJJ while burning fuel oil during periods of gas curtailment, gas supply emergencies, or periodic testing on fuel oil.

c) Operational Restrictions

(1) The permittee shall only burn natural gas and/or number two fuel oil in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(2) The quality of the oil burned in this emissions unit shall have a combination of sulfur content and heat content that is sufficient to comply with the allowable sulfur dioxide emission limitation specified in b)(1)c. above.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(3) Periodic testing of the fuel oil shall not exceed 48 hours during any calendar year.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall calculate and maintain monthly records of the NOx emissions and the rolling, 12-month emissions of NOx. The NOx emissions shall be calculated in accordance with f)(1)a. below.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(F)]

(2) For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee shall collect and record the following information for each day during the third calendar quarter of each year for emissions units B004 and B005:

a. the total amount of number two fuel oil burned, in gallons;

b. the total number of hours the emissions units were in operation; and

c. the daily average operating rate, in mmBtu/hr. (The heat content for the oil from d)(3) may be used to back calculate the daily average operating rate.)

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) For each shipment of oil received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission

rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).). A shipment may be comprised of multiple tank truck loads from the same supplier's batch and the quality of the oil for those loads or may be represented by a single batch analysis from the supplier.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(5) The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Cleveland Division of Air Quality (Cleveland DAQ).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-18-04(A)]

(6) The permittee shall maintain annual records of the amount of time in minutes or hours when periodic testing is conducted while burning fuel oil.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify any exceedance of the rolling, 12-month NOx limitation of 25 tons.

The deviation (excursion) reports shall be submitted to the Cleveland DAQ within 30 days after the exceedance occurs.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(F)]

(2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee shall notify the Cleveland DAQ in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon the calculated sulfur dioxide emission rates from d) above. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 45 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall submit a deviation (excursion) report that documents all exceedances of the daily average operating rate restrictions during the third calendar quarter of each year. The report shall be submitted within thirty days after the end of the third quarter.

The deviation reports shall be submitted in accordance with the Standard Terms and Conditions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(5) The permittee shall notify the Cleveland DAQ in writing of any record which shows a deviation of the allowable 48 hour operating restriction while burning fuel oil during periodic testing.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(6) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:
NOx emissions shall not exceed 25 TPY per rolling, 12-month summation

Applicable Compliance Method:

The emission limitations were based upon the emission factor for natural gas combustion taken from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4, Table and Section 1.3, Table 1.3-1 (9/98) for No. 2 fuel oil combustion.

Compliance with the annual NOx emission limitation shall be determined through the following equation using the emission factors:

(100 pounds NOx/mm scf gas burned x monthly amount of natural gas burned) + (24 pounds NOx/1,000 gallons No. 2 fuel oil x monthly No. 2 fuel oil usage)/ 2,000 pounds/ton = tons NOx/month

The monthly emissions shall then be added together to determine the rolling, 12-month summation.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(F)

b. Emission Limitation:

PE shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

When firing number two fuel oil, compliance may be determined by multiplying an emission factor of 2.0 pounds of particulates/1,000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (640.7 gallons/hour) and dividing by the emissions unit's rated heat input capacity (90 mmBtu/hour). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).

When firing natural gas, compliance may be determined by multiplying an emission factor of 1.9 pounds of particulates/mmscf by the emissions unit's maximum hourly natural gas firing capacity (0.090 mmscf/hour) and dividing by the emissions unit's rated heat input capacity (90 mmBtu/hour). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9), while firing number two fuel oil.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-10(B)(1)]

c. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-03(B)(1)(a)]

d. Emission Limitation:

SO_2 emissions shall not exceed 1.2 lbs/mmBtu actual heat input.

Applicable Compliance Method:

When firing fuel oil, compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation, as required in the monitoring and record keeping requirements above.

When firing natural gas, compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6, while firing number two fuel oil.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-18-04(A), and 3745-18-24(M)(2)]

g) Miscellaneous Requirements

(1) Emissions unit B005 was installed 6/1/1970.

2. Emissions Unit Group -2 - 45.5 mmBtu/hr Steam Boilers: B014,B015,

Operations, Property and/or Equipment Description:

B014	45.4 mmBtu/hr natural gas and number two fuel oil-fired steam boiler
B015	45.4 mmBtu/hr natural gas and number two fuel oil-fired steam boiler

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
b.	OAC rule 3745-17-10(B)(1)	Particulate emissions (PE) shall not exceed 0.020 lb/mmBtu of actual heat input.
c.	OAC rule 3745-18-06(D)	Sulfur dioxide (SO_2) emissions shall not exceed 1.6 lbs/mmBtu actual heat input.
d.	OAC rule 3745-110-03(A)	See d)(4) below.
e.	40 CFR Part 63, Subpart JJJJJJ	See b)(2)a., c)(3), d)(5), and e)(3) below.

(2) Additional Terms and Conditions

a. This emissions unit is not subject to the requirements 40 CFR Part 63, Subpart JJJJJJ while burning fuel oil during periods of gas curtailment, gas supply emergencies, or periodic testing on fuel oil.

c) Operational Restrictions

(1) The permittee shall only burn natural gas and/or number two fuel oil in this emissions unit.

[Authority for term: OAC rules 3745-77-07(A)(1)]

(2) The quality of the oil burned in this emissions unit shall have a combination of sulfur content and heat content that is sufficient to comply with the allowable sulfur dioxide emission limitation specified in b)(1)c. above.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(3) Periodic testing of the fuel oil shall not exceed 48 hours during any calendar year.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) For each shipment of oil received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).). A shipment may be comprised of multiple tank truck loads from the same supplier's batch and the quality of the oil for those loads or may be represented by a single batch analysis from the supplier.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240, and D4294), or equivalent methods as approved by the Cleveland Division of Air Quality (Cleveland DAQ).

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-18-04(A)]

(4) The owner or operator of a small boiler must annually perform a tune-up and maintain, in a permanently bound log book, or other format approved in writing by the director the following information:

a. the date of the last tune-up;

b. the name, title and affiliation of the person who performed the tune-up and made any adjustments; and

c. any other information which the Ohio Environmental Protection Agency may require as a condition of approval of any permit for the boiler.

[Authority for term: OAC rules 3745-77-07(A)(3) and 3745-110-03(A)]

(5) The permittee shall maintain annual records of the amount of time in minutes or hours when periodic testing is conducted while burning fuel oil.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall notify the Cleveland DAQ in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon the calculated sulfur dioxide emission rates from d) above. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 45 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee shall notify the Cleveland DAQ in writing of any record which shows a deviation of the allowable 48 hour operating restriction while burning fuel oil during periodic testing.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-03(B)(1)(a)]

b. Emission Limitation:

PE shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

When firing number two fuel oil, compliance may be determined by multiplying an emission factor of 2.0 pounds of particulates/1,000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (323.2 gallons/hour) and dividing by the emissions unit's rated heat input capacity (45.4 mmBtu/hour). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).

When firing natural gas, compliance may be determined by multiplying an emission factor of 1.9 pounds of particulates/mmscf by the emissions unit's maximum hourly natural gas firing capacity (0.0454 mmscf/hour) and dividing by the emissions unit's rated heat input capacity (45.4 mmBtu/hour). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9), while firing number two fuel oil.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-10(B)(1)]

c. Emission Limitation:

SO_2 emissions shall not exceed 1.6 lbs/mmBtu actual heat input.

Applicable Compliance Method:

When firing fuel oil, compliance with the allowable sulfur dioxide emission limitation may be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation, as required in d) above.

When firing natural gas, compliance with this limitation will be assumed due to the negligible percent sulfur, by weight, in the fuel.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6, while firing number two fuel oil.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-18-04(A), and 3745-18-06(D)]

g) Miscellaneous Requirements

(1) Emissions unit B014 was installed 6/1/1948.

(2) Emissions unit B015 was installed 6/1/1948.

3. B020, Heat29-B145(B020)

Operations, Property and/or Equipment Description:

AAPL Natural gas heater with maximum input capacity of 31.86 MMBTU/ hr

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) Modified PTI 13-04494 issued 9/15/2005	Nitrogen oxide (NOx) emissions shall not exceed 3.2 pounds per hour and 14 tons per year (TPY). Carbon monoxide (CO) emissions shall not exceed 2.7 pounds per hour and 11.8 TPY. Sulfur dioxide (SO_2) emissions shall not exceed 0.02 pound per hour and 0.09 TPY. Particulate emissions (PE) shall not exceed 2.8 TPY. Visible particulate emissions shall not exceed 5% opacity as a 6-minute average. The requirements of this rule include compliance with OAC rules 3745-17-10(B)(1).
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 lb/mmBtu of actual heat input.
d.	OAC rule 3745-18-06	The SO_2 emission limitation specified in this rule is less stringent than the SO_2 emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).

(2) Additional Terms and Conditions

a. The uncontrolled NOx emissions from this emissions source do not exceed 25 TPY. The requirements of OAC rule 3745-110-03 paragraphs (A) through (F) do not apply to this emissions unit as specified under OAC rule 3745-110-03(J)(11) and (15).

c) Operational Restrictions

(1) The permittee shall burn only natural gas in this emission unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI 13-04494]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emission unit.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04494]

e) Reporting Requirements

(1) The permitte shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emission unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04494]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

NOx emissions shall not exceed 3.2 pounds per hour.

Applicable Compliance Methods:

Compliance may be determined by multiplying an emission factor of 100 pounds of NOx/mmscf by the emissions unit's maximum rated heat input capacity (31.86 mmBtu/hr) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04494]

b. Emission Limitation:

CO emissions shall not exceed 2.7 pounds per hour.

Applicable Compliance Methods:

Compliance may be determined by multiplying an emission factor of 84 pounds of CO/mmscf by the emissions unit's maximum rated heat input capacity (31.86 mmBtu/hour) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1(7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04494]

c. Emission Limitation:

SO_2 emissions shall not exceed 0.02 pound hour.

Applicable Compliance Methods:

Compliance may be determined by multiplying an emission factor of 0.6 pound of SO_2/mmscf by the emissions unit's maximum rated heat input capacity (31.86 mmBtu/hour) and dividing by 1,000 Btu/scf. This emission factor is specified in

U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

[Authority for term: OAC rules 3745-77-07(C)(1) and PTI 13-04494]

d. Emission Limitation:

PE shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Methods:

Compliance shall be determined by multiplying an emission factor of 1.9 pounds of particulates/mmscf by the emissions unit's maximum hourly natural gas firing capacity (0.03186 mmscf/hour) and dividing by the emissions unit's rated heat input capacity (31.86 mmBtu/hour). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-10(C)(1), and PTI 13-04494]

e. Emission Limitations:

NOx emissions shall not exceed 14 TPY

CO emissions shall not exceed 11.8 TPY

SO_2 emissions shall not exceed 0.09 TPY

PE shall not exceed 2.8 TPY

Applicable Compliance Methods:

The annual emission limitations were established by multiplying the hourly emission rates by 8,760 hours of operation per year and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitations shall be assumed provided compliance is maintained with the pounds per hour limitations.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04494]

f. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 5% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance with the opacity limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1), 3745-17-03(B)(1)(a), and PTI 13-04494]

g) Miscellaneous Requirements

(1) This emissions unit was installed 3/1/1997.

4. Three (3) natural gas fired heated air production units

Operations, Property and/or Equipment Description:

B022	HEAT05-B085(Z103) - 500 mmBTU/hr Bellmouth 10 X 10 natural gas air heater
P001	EAT01-B057 - Drying beds with natural gas burners having a total maximum heat input of 160 mmBtu/hr (direct heat transfer)
P901	EAT02-B088 - 240 mmBtu/hr natural gas burner (drying beds with direct heat transfer)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	See b)(2)a. below.
b.	OAC rule 3745-17-11(B)	See b)(2)b. below.

(2) Additional Terms and Conditions

a. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

b. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.

c. This emissions unit is exempt from the NOx RACT requirements required under OAC rule 3745-110-03 as specified by OAC rules 3745-110-03(J)(11) and 3745-110-03(J)(12).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) None.

f) Testing Requirements

(1) None.

g) Miscellaneous Requirements

(1) Emissions unit B022 was installed 6/1/1964.

(2) Emissions unit P001 was installed 6/1/1972.

(3) Emissions unit P901 was installed 6/1/1954.

5. B023, HEAT22-B039(Z120)

Operations, Property and/or Equipment Description:

31.86 mmBtu/hr natural gas-fired heater (8x6 - supersonic wind tunnel air heating)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) PTI #13-3436 issued 11/23/1998	Visible particulate emissions shall not exceed 5% opacity as a 6-minute average. Particulate emissions (PE) shall not exceed 0.64 pound per hour and 2.8 tons per year (TPY). Carbon monoxide (CO) emissions shall not exceed 2.68 pounds per hour and 11.7 TPY. Nitrogen oxides (NOx) emissions shall not exceed 3.19 pounds per hour and 14.0 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-10(B)(1).
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-10(B)(1)	Particulate emissions (PE) shall not exceed 0.020 lb/mmBtu of actual heat input.

(2) Additional Terms and Conditions

a. The uncontrolled NOx emissions from this emissions unit do not exceed 25 TPY. The requirements of OAC rule 3745-110-03 paragraphs (A) through (F) do not apply to this emissions unit as specified under OAC rule 3745-110-03(J)(15).

c) Operational Restrictions

(1) The permittee shall only burn natural gas in this emission unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI #13-3436]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quality of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI #13-3436]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emission unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI #13-3436]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation</u>:

Visible particulate emissions shall not exceed 5% opacity as a 6-minute average.

<u>Applicable Compliance Method</u>:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

[Authority for term: OAC rules 3745-77-07(C)(1) and PTI #13-3436]

b. Emission Limitation:

PE shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 1.9 pounds of particulates/mmscf by the emissions unit's maximum hourly natural gas firing capacity (0.03186 mmscf/hr) and dividing by the emissions unit's rated heat input capacity (31.86 mmBtu/hr). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-10(B)(1), and PTI #13-3436]

c. Emission Limitation:

PE shall not exceed 0.64 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be determined by multiplying an emission factor of 7.6 pounds/mmscf by the emissions unit's maximum hourly natural gas burning capacity (0.03186 mmscf/hr). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2(7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5.

d. Emission Limitation:

CO emissions shall not exceed 2.68 pounds per hour.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 84 pounds/mmscf by the emissions unit's maximum hourly natural gas burning capacity (0.03186 mmscf/hr). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1(7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05, and PTI #13-3436]

e. Emission Limitation:

NOx emissions shall not exceed 3.19 pounds per hour.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 100 pounds of NOx/mmscf by the emissions unit's maximum hourly natural gas burning capacity (0.03186 mmscf/hr). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05, and PTI #13-3436]

f. Emission Limitation:

PE shall not exceed 1.05 TPY.

CO emissions shall not exceed 11.7 TPY.

NOx emissions shall not exceed 14.0 TPY.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the individual hourly emission rate by 8760 hours of operation per year and dividing by 2000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pound per hour limitations.

g) Miscellaneous Requirements

(1) This emissions unit was installed 7/1/1998.

6. Three natural gas-fired air heaters (wind tunnel air heating)

Operations, Property and/or Equipment Description:

B024	HEAT25-B099(Z123) 180 mmBtu/hr natural gas-fired heater (wind tunnel air heating)
B025	HEAT26-B124(Z124) 60 mmBtu/hr auxiliary natural gas heater #1 for PSL (wind tunnel air heating)
B026	HEAT27-B124(Z125) 60 mmBtu/hr auxiliary natural gas heater #2 for PSL (wind tunnel air heating)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
b.	OAC rule 3745-17-10(B)(1)	Particulate emissions (PE) shall not exceed 0.020 lb/mmBtu of actual heat input.

(2) Additional Terms and Conditions

a. This emissions unit is exempt from the NOx RACT requirements required under OAC rule 3745-110-03 as specified by OAC rules 3745-110-03(J)(11) and 3745-110-03(J)(12).

c) Operational Restrictions

(1) The permittee shall burn only natural gas in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-03(B)(1)(a)]

b. Emission Limitation:

PE shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance may be determined by multiplying an emission factor of 1.9 pounds of particulates/mmscf by the emissions unit's maximum hourly natural gas firing capacity (mmscf/hr) and dividing by the emissions unit's rated heat input capacity (mmBtu/hr). This emission factor is specified in U.S. EPA reference document

AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

[Authority for term: OAC rules 3745-77-07(C)(1)] and 3745-17-10(B)(1)]

g) Miscellaneous Requirements

(1) Emissions unit B024 was installed 6/1/1960.

(2) Emissions units B025 and B026 were installed 11/1/1972.

7. B027, Heat28-B124

Operations, Property and/or Equipment Description:

B027 - 50 mmBtu/hr natural gas-fired air heater.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) PTI 13-03921 issued 3/5/2002	Visible particulate emission shall not exceed 5 % opacity as a six minute average. Particulate emissions (PE) shall not exceed 1.0 pound per hour and 4.38 tons per year (TPY). Nitrogen oxide (NOx) emissions shall not exceed 5.0 pounds per hour and 21.9 TPY. Carbon monoxide (CO) emissions shall not exceed 4.2 pounds per hour and 18.4 TPY. Sulfur dioxide (SO_2) emissions shall not exceed 0.03 pound per hour and 0.13 TPY. Organic compound (OC) emissions shall not exceed 0.55 pound per hour and 2.41 TPY.
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-10(B)(1)	The particulate emission limitation established pursuant to this rule is equivalent to the particulate emission limitation established under OAC rule 3745-31 05(A)(3).

(2) Additional Terms and Conditions

a. The uncontrolled NOx emissions from this emissions source do not exceed 25 TPY. The requirements of OAC rule 3745-110-03 paragraphs (A) through (F) do not apply to this emissions unit as specified under OAC rule 3745-110-03(J)(15).

c) Operational Restrictions

(1) The permittee shall burn only natural gas in this emission unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI 13-03921]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas the permittee shall maintain a record of the type and quantity of fuel burned in this emission unit.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03921]

e) Reporting Requirements

(1) The permittee shall submit deviation, excursion reports that identify each day when a fuel other than natural was burned in this emission unit. Each report shall be submitted within 30 days after deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03921]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible particulate emissions shall not exceed 5% opacity as a six minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observation performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1), 3745-17-03(B)(1)(a), and PTI 13-03921]

b. Emission Limitation:

PE shall not exceed 1.0 pound per hour and 4.38 TPY.

Applicable Compliance Method:

Compliance with the pound per hour limitation shall be determined by multiplying an emission factor of 1.9 pounds of particulate/mmscf by the emissions unit's rated heat capacity (50 MM Btu/hr) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, fifth edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

The TPY limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03921]

c. Emission Limitation:

NOx emissions shall not exceed 5.0 pounds per hour and 21.9 TPY.

Applicable Compliance Method:

Compliance shall be determined by multiplying an emission factor of 100 pounds NOx/mmscf by the emissions unit's maximum rated heat capacity (50 MM Btu/hr) and dividing by 1000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7

The TPY limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03921]

d. Emission Limitation:

CO emissions shall not exceed 4.2 pounds per hour and 18.4 TPY.

Applicable Compliance Method:

Compliance shall be determined by multiplying an emission factor of 84 pounds of CO/mmscf by the emissions unit's maximum rated heat capacity (50 MM Btu/hr) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, fifth edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

The TPY limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03921]

e. Emission Limitation:

SO_2 emissions shall not exceed 0.03 pound per hour and 0.13 TPY.

Applicable Compliance Method:

Compliance shall be determined by multiplying an emission factor of 0.6 pound of SO_2/mmscf by the emissions unit's maximum rated heat capacity (50 MM Btu/hr) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, fifth edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

The TPY limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03921]

f. Emission Limitation:

OC emissions shall not exceed 0.55 pound per hour and 2.41 TPY.

Applicable Compliance Method:

Compliance shall be determined by multiplying an emission factor of 11 pounds of OC/mmscf by the emissions unit's maximum rated heat capacity (50 MM Btu/hr) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, fifth edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25.

The TPY limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03921]

g) Miscellaneous Requirements

(1) This emissions unit was installed 9/1/2003.

8. B028, Heat29-B5

Operations, Property and/or Equipment Description:

31 mmBTU/hr natural gas fired air heater

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) PTI 13-03995 issued 6/18/2002	Visible particulate emission shall not exceed 5 % opacity as a six minute average. Particulate emissions (PE) shall not exceed 0.62 pound per hour and 2.72 tons per year (TPY). Nitrogen oxide (NOx) emissions shall not exceed 3.1 pounds per hour and 13.6 TPY. Carbon monoxide (CO) emissions shall not exceed 2.6 pounds per hour and 11.4 TPY. Sulfur dioxide (SO_2) emissions shall not exceed 0.02 pound per hour and 0.09 TPY. Organic compound (OC) emissions shall not exceed 0.34 pound per hour and 1.5 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-10(B)(1).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 lb/mmBtu of actual heat input.

(2) Additional Terms and Conditions

a. This emission unit is not subject to NSPS Subpart Dc, it is exempted as a process heater per the definition.

b. The uncontrolled NOx emissions from this emissions source do not exceed 25 TPY. The requirements of OAC rule 3745-110-03 paragraphs (A) through (F) do not apply to this emissions unit as specified under OAC rule 3745-110-03(J)(15).

c) Operational Restrictions

(1) The permittee shall burn only natural gas in this emission unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI 13- 03995]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas the permittee shall maintain a record of the type and quantity of fuel burned in this emission unit.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13- 03995]

e) Reporting Requirements

(1) The permittee shall submit deviation, excursion reports that identify each day when a fuel other than natural was burned in this emission unit. Each report shall be submitted within 30 days after deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13- 03995]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible particulate emissions shall not exceed 5% opacity as a six minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observation performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1), 3745-17-03(B)(1)(a), and PTI 13-03995]

b. Emission Limitation:

PE shall not exceed 0.62 pound per hour.

Applicable Compliance Method:

Compliance shall be determined by multiplying an emission factor of 1.9 pounds of PE/mmscf by the emissions unit's rated heat capacity (31 mm Btu/hour) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, fifth edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03995]

c. Emission Limitation:

PE shall not exceed 2.72 TPY.

Applicable Compliance Method:

Compliance shall be determined by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pounds per hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03995]

d. Emission Limitation:

NOx emissions shall not exceed 3.1 pounds per hour.

Applicable Compliance Method:

Compliance shall be determined by multiplying an emission factor of 100 pounds of NOx/mmscf by the emissions unit's maximum rated heat capacity (31 mm Btu/hour) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, fifth edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03995]

e. Emission Limitation:

NOx emissions shall not exceed 13.6 TPY

Applicable Compliance Method:

Compliance shall be determined by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pounds per hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03995]

f. Emission Limitation:

CO emissions shall not exceed 2.6 pounds per hour.

Applicable Compliance Method

Compliance shall be determined by multiplying an emission factor of 84 pounds CO/mmscf by the emissions unit's maximum rated heat capacity (31 mm Btu/hour) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, fifth edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03995]

g. Emission Limitation:

CO emissions shall not exceed 11.4 TPY.

Applicable Compliance Method:

Compliance shall be determined by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pounds per hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03995]

h. Emission Limitation:

SO_2 emissions shall not exceed 0.02 pound per hour.

Applicable Compliance Method:

Compliance shall be determined by multiplying an emission factor of 0.6 pound of SO_2/mmscf by the emissions unit's maximum rated heat capacity (31 mm Btu/hour) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, fifth edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03995]

i. Emission Limitation:

SO_2 emissions shall not exceed 0.09 TPY

Applicable Compliance Method:

Compliance shall be determined by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pounds per hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03995]

j. Emission Limitation:

OC emissions shall not exceed 0.34 pound per hour.

Applicable Compliance Method:

Compliance shall be determined by multiplying an emission factor of 11 pounds of OC/mmscf by the emissions unit's maximum rated heat capacity (31 mm Btu/hour) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, fifth edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25.

[Authority for term: OAC rules 3745-77-07(C)(1) and PTI 13-03995]

k. Emission Limitation:

OC emissions shall not exceed 1.5 TPY.

Applicable Compliance Method:

The TPY limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pounds per hour limitation.

[Authority for term: OAC rules 3745-77-07(C)(1) and PTI 13-03995]

l. Emission Limitation:

PE shall not exceed 0.020 pound per mmBtu.

Applicable Compliance Method:

Compliance shall be determined by multiplying an emission factor of 1.9 pounds of particulates/mmscf by the emissions unit's maximum hourly natural gas firing capacity (0.0310 mmscf/hour) and dividing by the emissions unit's rated heat input capacity (31 mmBtu/hour). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with the emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-10(B)(1)]

g) Miscellaneous Requirements

(1) This emissions unit was installed 3/1/2004.

9. B030, Generator-10x10 B114

Operations, Property and/or Equipment Description:

10 X 10 Diesel Generator (280 Horsepower) with a maximum heat input of 2.3 mmBtu/hr

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) PTI 13-04353 issued 2/9/2006	Nitrogen oxide (NOx) emissions shall not exceed 10.14 pounds per hour. Carbon monoxide (CO) emissions shall not exceed 2.19 pounds per hour. Sulfur dioxide (SO_2) emissions shall not exceed 0.7 pound per hour. The requirements of this rule include compliance with OAC rules 3745-17-07(A),and 3745-17-11(B)(5)(a), and 3745-31-05(C).
b.	OAC rule 3745-31-05(C) Synthetic Minor to avoid PSD and Nonattainment NSR	PE shall not exceed 2.58 tons per year (TPY)* NOx emissions shall not exceed 36.8 TPY* CO emissions shall not exceed 7.5 TPY* SO_2 emissions shall not exceed 2.4 TPY* *TPY limits are based on a rolling, 12-month summation of the annual hours of operation. See c)(2) below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the exhaust stack serving this engine shall not exceed twenty percent opacity, as a six-minute average, except as specified by rule
d.	OAC rule 3745-17-11(B)(5)(a)	Particulate emissions (PE) shall not exceed 0.310 lb/mmBtu of actual heat input
e.	OAC rule 3745-18-06	The SO_2 emission limitation specified in this rule is less stringent than the SO_2 emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).
f.	40 CFR Part 63 Subpart ZZZZ (40 CFR 63.6580 to 63.6675) In accordance with 40 CFR 63.6585, this emissions unit is a stationary reciprocating internal combustion engine (RICE) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The existing stationary compression ignition (CI) RICE, located at an area source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ no later than May 3, 2013.
g.	40 CFR 63.6603(a) Table 2d #1 to Subpart ZZZZ	By 5/3/13, comply with the maintenance / operational requirements from the NESHAP for existing area source CI RICE less than or equal to 300 horsepower (HP).
h.	40 CFR 80.510(b)	The sulfur content of the diesel fuel burned in this engine shall not exceed 15 ppm or 0.0015% sulfur by weight.

(2) Additional Terms and Conditions

a. The requirements of OAC rule 3745-110-03 paragraphs (A) through (F) do not apply to this emissions unit as specified under OAC rule 3745-110-03(J)(3).

b. The quality of the diesel fuel burned in this engine shall meet the following specifications on an “as received” basis:

i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0015 pound sulfur dioxide/MMBtu actual heat input; and 15 ppm sulfur or 0.0015% sulfur by weight;

ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent; and

iii. a heating value greater than 135,000 Btu/gallon.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or oil supplier for each shipment of oil.

c. The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6595(a)(1)	The compliance date for Part 63 Subpart ZZZZ for existing CI RICE is 5/3/13.
Applicable Tables from Part 63, Subpart ZZZZ	Compliance requirements in Table 2d #1; continuous compliance in Table 6 #9; general provision from Subpart A in Table 8.
40 CFR 63.6603(a)	Maintain compliance with operational limitations in Table 2d #1 (inspection and maintenance requirements) to Part 63 Subpart ZZZZ.
40 CFR 63.6665	Meet all of the general provisions of Subpart A, from Sections 63.1 through 63.15, that apply to the CI RICE, as identified in Table 8 to Subpart ZZZZ.

c) Operational Restrictions

(1) The permittee shall only combust diesel fuel oil, with a maximum sulfur content of 0.0015% sulfur by weight in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI 13- 04353]

(2) The maximum annual operating hours for this emissions unit shall not exceed 7000 hours, based upon a rolling, 12-month summation of the operating hours.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI 13- 04353]

(3) Following the compliance date of the NESHAP, 5/3/13, unless meeting the requirements of 40 CFR 63.6625(i), the permittee shall change the oil and filter every 1,000 hours of operation or annually, whichever comes first; shall inspect the air cleaner every 1,000

hours of operation or annually, whichever comes first; and shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace them as necessary. A log shall be maintained for the hours of operation between each oil and filter change and the date of each oil/filter change and inspection.

[Authority for term: 40 CFR 63.6603(a)], [40 CFR 63.6625(i)], and [Part 63, Subpart ZZZZ Table 2d #1]

(4) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 80.510(b)	Compliance with 80.510(b) for the quality of diesel fuel burned CI RICE. Standard for diesel fuel oil.
40 CFR 63.6605	General duty to minimize emissions, with good air pollution control practices for minimizing emissions; and compliance required at all times.
40 CFR 63.6625(e)	Operate & maintain RICE according to mfg. instructions and develop a facility maintenance plan for the RICE that meets the requirements of Subpart ZZZZ Table 2d #1.
40 CFR 63.6625(h)	Minimize idle and startup time, not to exceed 30 minutes.
40 CFR 63.6625(i)	Oil analysis program, option to extend the oil change frequency.

[Authority for term: 40 CFR 80.510(b) and 40 CFR Part 63, Subpart ZZZZ]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain records of the sulfur content of all fuels received for use in this emission unit.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTI 13- 04353]

(2) For each day during which the permitee combusts a fuel other than diesel fuel with a maximum sulfur content of 0.0015% sulfur by weight in this emissions unit, the permittee shall maintain a record of the type and quantity of fuel burned.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTI 13- 04353]

(3) The permittee shall maintain monthly records of the following information for this emissions unit:

a. the operating hours for each month; and

b. the rolling, 12-month summation of the operating hours.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTI 13- 04353]

(4) For each shipment of oil received for burning in this engine, the permittee shall maintain records of the total quantity of the diesel oil received and the oil supplier's (or permittee's) analyses for sulfur content, in parts per million (40 CFR 80.510) or percent by weight. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR 80.580, using the appropriate ASTM methods. These records shall be retained for a minimum of 5 years and shall be available for inspection by the Director or his/her representative.

[Authority for term: 40 CFR 80.510(b); 40 CFR 63.6660; and 40 CFR 63.10(b)(1)]

(5) The permittee shall maintain a record of the diesel fuel burned in this RICE during each calendar year. The fuel oil usage can be calculated at the end of each year using the best method available to estimate the annual throughput which might include, but shall not be limited to: any flow meter installed on the engine, records of the volume of diesel fuel oil received with each delivery, the fuel oil levels recorded from the diesel storage tank, and/or the recorded or estimated hours of operation along with the manufacture's documentation of the fuel flow rate.

[Authority for term: 40 CFR Part 63, Subpart ZZZZ]

(6) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6635	Except for monitor malfunctions, associated repairs, and required quality assurance activities, must continuously monitor that the RICE is operating. Must use all valid data (not recorded during malfunctions, repairs, or required quality assurance or control activities) in calculations used to report emissions or operating levels.
40 CFR 63.6655(a)	Keep records of: 1. each notification and report submitted to comply with Subpart ZZZZ; 2. the occurrence and duration of each malfunction of the RICE; and 3. corrective actions taken during each period of malfunction to minimize emissions and restore normal operations.
40 CFR 63.6640(a) and 40 CFR 63.6655(d)	Keep the records required in #9 of Table 6 to Subpart ZZZZ to demonstrate continuous compliance.

40 CFR 63.6655(e)(3)	Records of maintenance and inspections conducted in order to demonstrate compliance with Table 2d and to demonstrate that the RICE was operated and maintained according to the facility's maintenance plan.
40 CFR 80.510(b)	Maintain records for the quality of diesel fuel burned in the CI RICE, i.e., for the standards identified in 40 CFR 80.510(b).
40 CFR 63.6625(h)	Maintain a record of each idle and/or startup time that exceeded 30 minutes.
40 CFR 63.6660	Records readily available and retained for at least 5 years after the date of occurrence or date of report according to 63.10(b)(1).

[Authority for term: 40 CFR Part 63, Subpart ZZZZ]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports to the Cleveland Division of Air Quality (Cleveland DAQ) that identify each day when a fuel other than diesel fuel with a maximum sulfur content of 0.0015% sulfur by weight was combusted in this emission unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13- 04353]

(2) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ which identify the following:

a. any exceedance of the hours of operation limitation; and

b. any exceedance of the fuel sulfur content restriction.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13- 04353]

(3) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 80.510(b)	Identify in the quarterly report any period of time (date and number of hours), during the reporting period, that the quality of oil burned in this engine did not meet the requirements established in 40 CFR 80.510(b).
40 CFR 63.6640(b)	Submit in the quarterly report each instance in which the operational requirements in Table 2d were not met.

40 CFR 63.6640(e)	Submit in the quarterly report each instance in which the applicable requirements in Table 8 to Subpart ZZZZ, the general provisions from Subpart A, were not met.

[Authority for term: 40 CFR Part 63, Subpart ZZZZ]

(4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

NOx emissions shall not exceed 10.14 pounds per hour

Applicable Compliance Method:

Compliance shall be determined by multiplying the maximum heat input of 2.3 mmBtu/hr by the emission factor specified in AP-42, 5th Edition, Section 3.3, Table 3.3-1, 4.41 lbs NOx/mmBtu, to arrive at the pound/hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13- 04353]

b. Emission Limitation:

CO emissions shall not exceed 2.19 pounds per hour

Applicable Compliance Method:

Compliance shall be determined by multiplying the maximum heat input of 2.3 mmBtu/hr by the emission factor specified in AP-42, 5th Edition, Section 3.3, Table 3.3-1, 0.95 lb CO/mmBtu, to arrive at the pound/hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13- 04353]

c. Emission Limitation:

SO_2 emissions shall not exceed 0.7 pound per hour.

Applicable Compliance Method:

Compliance shall be determined by multiplying the maximum heat input of 2.3 mmBtu/hour by the emission factor specified in AP-42, 5th Edition, Section 3.3, Table 3.3-1, 0.29 lb SO_2/mmBtu, to arrive at the pound per hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13- 04353]

d. Emission Limitation:

PE shall not exceed 0.31 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance shall be based on the emission factor specified in AP-42, 5th Edition, Section 3.3, Table 3.3-1 of 0.31 lb PE/mmBtu.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-11(B)(5)(a), and PTI 13- 04353]

e. Emission Limitations:

NOx emissions shall not exceed 36.8 TPY

CO emissions shall not exceed 7.5 TPY

SO_2 emissions shall not exceed 2.4 TPY

PE shall not exceed 2.58 TPY

Applicable Compliance Methods:

Compliance with the ton/year limitations shall be determined by multiplying the pound / hour limit by the actual annual hours of operation, based on a rolling, 12-month summation, determined from the record keeping specified in d) above and dividing by 2,000 pounds/ton.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13- 04353]

f. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance with the opacity limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1), 3745-17-03(B)(1)(a), and PTI 13-04353]

g) Miscellaneous Requirements

(1) This emissions unit was installed 1/1/1981.

(2) This emissions unit was physically altered (de-rated) to maximum rating of 270 horsepower. The citation of 280 horsepower in the unit description is used only as a conservative estimate.

10. B032, Generator-8x6 B053 (Z204)

Operations, Property and/or Equipment Description:

8 X 6 269 Horsepower Diesel Generator with a maximum heat input of 1.12 mmBtu/hr

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) PTI 13-04353 issued 2/9/2006	Particulate emissions (PE) shall not exceed 1.5 tons per year (TPY). Nitrogen oxide (NOx) emissions shall not exceed 4.94 pounds per hour and 21.6 TPY. Carbon monoxide (CO) emissions shall not exceed 1.06 pounds per hour and 4.7 TPY. Sulfur dioxide (SO_2) emissions shall not exceed 0.32 pound per hour and 1.4 TPY. The requirements of this rule include compliance with OAC rules 3745-17-07(A), and 3745-17-11(B)(5)(a).
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the exhaust stack serving this engine shall not exceed twenty percent opacity, as a six-minute average, except as specified by rule.
c.	OAC rule 3745-17-11(B)(5)(a)	PE shall not exceed 0.310 lb/mmBtu of actual heat input.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-18-06	The SO_2 emission limitation specified in this rule is less stringent than the SO_2 emission limitation established pursuant to 3745-31-05(A)(3).
e.	40 CFR Part 63 Subpart ZZZZ (40 CFR 63.6580 to 63.6675) In accordance with 40 CFR 63.6585, this emissions unit is a stationary reciprocating internal combustion engine (RICE) subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The existing stationary compression ignition (CI) RICE, located at an area source for hazardous air pollutants (HAPs), shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ no later than May 3, 2013.
f.	40 CFR 63.6603(a) Table 2d #1 to Subpart ZZZZ	By 5/3/13, comply with the maintenance / operational requirements from the NESHAP for existing area source CI RICE less than or equal to 300 horsepower (HP).
g.	40 CFR 80.510(b)	The sulfur content of the diesel fuel burned in this engine shall not exceed 15 ppm or 0.0015% sulfur by weight.

(2) Additional Terms and Conditions

a. The quality of the diesel fuel burned in this engine shall meet the following specifications on an “as received” basis:

i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.0015 pound sulfur dioxide/MMBtu actual heat input; and 15 ppm sulfur or 0.0015% sulfur by weight;

ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent; and

iii. a heating value greater than 135,000 Btu/gallon.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or oil supplier for each shipment of oil.

b. The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6595(a)(1)	The compliance date for Part 63 Subpart ZZZZ for existing CI RICE is 5/3/13.
Applicable Tables from Part 63, Subpart ZZZZ	Compliance requirements in Table 2d #1; continuous compliance in Table 6 #9; general provision from Subpart A in Table 8.
40 CFR 63.6603(a)	Maintain compliance with operational limitations in Table 2d #1 (inspection and maintenance requirements) to Part 63 Subpart ZZZZ.
40 CFR 63.6665	Meet all of the general provisions of Subpart A, from Sections 63.1 through 63.15, that apply to the CI RICE, as identified in Table 8 to Subpart ZZZZ.

c. The uncontrolled NOx emissions from this emissions source do not exceed 25 TPY. The requirements of OAC rule 3745-110-03 paragraphs (A) through (F) do not apply to this emissions unit as specified under OAC rule 3745-110-03(J)(15).

c) Operational Restrictions

(1) The permittee shall only combust diesel fuel with a maximum sulfur content of 0.0015% sulfur in this emission unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI 13-04353]

(2) Following the compliance date of the NESHAP, 5/3/13, unless meeting the requirements of 40 CFR 63.6625(i), the permittee shall change the oil and filter every 1,000 hours of operation or annually, whichever comes first; shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first; and shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace them as necessary. A log shall be maintained for the hours of operation between each oil and filter change and the date of each oil/filter change and inspection.

[Authority for term: 40 CFR 63.6603(a), 40 CFR 63.6625(i), and Part 63, Subpart ZZZZ Table 2d #1]

(3) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
OAC rule 3745-31-05(A)(3); and 40 CFR 80.510(b)	Compliance with 80.510(b) for the quality of diesel fuel burned CI RICE. Standard for diesel fuel oil.
40 CFR 63.6605	General duty to minimize emissions, with good air pollution control practices for minimizing emissions; and compliance required at all times.
40 CFR 63.6625(e)	Operate & maintain RICE according to mfg. instructions and develop a facility maintenance plan for the RICE that meets the requirements of Subpart ZZZZ Table 2d #1.
40 CFR 63.6625(h)	Minimize idle and startup time, not to exceed 30 minutes.
40 CFR 63.6625(i)	Oil analysis program, option to extend the oil change frequency.

[Authority for term: 40 CFR Part 63, Subpart ZZZZ]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee combusts a fuel other than diesel fuel, with a maximum sulfur content of 0.0015% by weight the permittee shall maintain a record of the type and quantity of fuel burned in this emission unit. The permittee shall also maintain documentation of the sulfur contents of all fuels used.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04353]

(2) For each shipment of oil received for burning in this engine, the permittee shall maintain records of the total quantity of the diesel oil received and the oil supplier's (or permittee's) analyses for sulfur content, in parts per million (40 CFR 80.510) or percent by weight. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR 80.580, using the appropriate ASTM methods. These records shall be retained for a minimum of 5 years and shall be available for inspection by the Director or his/her representative.

[Authority for term: 40 CFR 80.510(b); 40 CFR 63.6660; and 40 CFR 63.10(b)(1)]

(3) The permittee shall maintain a record of the diesel fuel burned in this RICE during each calendar year. The fuel oil usage can be calculated at the end of each year using the best method available to estimate the annual throughput which might include, but shall not be limited to: any flow meter installed on the engine, records of the volume of diesel fuel oil received with each delivery, the fuel oil levels recorded from the diesel storage

tank, and/or the recorded or estimated hours of operation along with the manufacture's documentation of the fuel flow rate.

[Authority for term: 40 CFR Part 63, Subpart ZZZZ]

(4) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 63.6635	Except for monitor malfunctions, associated repairs, and required quality assurance activities, must continuously monitor that the RICE is operating. Must use all valid data (not recorded during malfunctions, repairs, or required quality assurance or control activities) in calculations used to report emissions or operating levels.
40 CFR 63.6655(a)	Keep records of: 1. each notification and report submitted to comply with Subpart ZZZZ; 2. the occurrence and duration of each malfunction of the RICE; and 3. corrective actions taken during each period of malfunction to minimize emissions and restore normal operations.
40 CFR 63.6640(a) and 40 CFR 63.6655(d)	Keep the records required in #9 of Table 6 to Subpart ZZZZ to demonstrate continuous compliance.
40 CFR 63.6655(e)(3)	Records of maintenance and inspections conducted in order to demonstrate compliance with Table 2d and to demonstrate that the RICE was operated and maintained according to the facility's maintenance plan.
40 CFR 80.510(b)	Maintain records for the quality of diesel fuel burned in the CI RICE, i.e., for the standards identified in 40 CFR 80.510(b).
40 CFR 63.6625(h)	Maintain a record of each idle and/or startup time that exceeded 30 minutes.
40 CFR 63.6660	Records readily available and retained for at least 5 years after the date of occurrence or date of report according to 63.10(b)(1).

[Authority for term: 40 CFR Part 63, Subpart ZZZZ]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day during which a fuel other than diesel fuel with a maximum sulfur content of 0.0015% by weight

was combusted in this emission unit. Each report shall be submitted within 30 days of the deviation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04353]

(2) The permittee shall comply with the following applicable requirements identified in 40 CFR Part 63, Subpart ZZZZ:

Applicable Rule	Requirement
40 CFR 80.510(b)	Identify any period of time (date and number of hours), during the reporting period, that the quality of oil burned in this engine did not meet the requirements established in 40 CFR 80.510(b).
40 CFR 63.6640(b)	Submit a report for each instance in which the operational requirements in Table 2d were not met.
40 CFR 63.6640(e)	Submit a report for each instance in which the applicable requirements in Table 8 to Subpart ZZZZ, the general provisions from Subpart A, were not met.

[Authority for term: 40 CFR Part 63, Subpart ZZZZ]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation</u>:

NOx emissions shall not exceed 4.94 pounds per hour

<u>Applicable Compliance Method</u>:

Compliance shall be determined by multiplying the maximum heat input of 1.12 mmBtu/hr by the emission factor specified in AP-42, 5th Edition, Section 3.3, Table 3.3-1, 4.14 lbs NOx/mmBtu, to arrive at the pounds per hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04353]

b. Emission Limitation:

CO emissions shall not exceed 1.06 pounds per hour.

Applicable Compliance Method:

Compliance shall be determined by multiplying the maximum heat input of 1.12 mmBtu/hr by the emission factor specified in AP-42, 5th Edition, Section 3.3, Table 3.3-1, 0.95 lb CO/mmBtu, to arrive at the pounds per hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04353]

c. Emission Limitation:

SO_2 emissions shall not exceed 0.32 pound per hour.

Applicable Compliance Method:

Compliance shall be determined by multiplying the maximum heat input of 1.12 mmBtu/hr by the emission factor specified in AP-42, 5th Edition, Section 3.3, Table 3.3-1, 0.29 lb SO_2/mmBtu, to arrive at the pounds per hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04353]

d. Emission Limitation:

PE shall not exceed 0.31 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance shall be based on the emission factor specified in AP-42, 5th Edition, Section 3.3, Table 3.3-1 of 0.31 lb PE/mmBtu.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-11(B)(5)(a), and PTI 13-04353]

e. Emission Limitations:

PE shall not exceed 1.5 TPY

NOx emissions shall not exceed 21.6 TPY

CO emissions shall not exceed 4.7 TPY

SO_2 emissions shall not exceed 1.4 TPY

Applicable Compliance Methods:

The annual emission limitation was established by multiplying the hourly emission rate by 8,760 hours of operation per year and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pounds per hour limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04353]

f. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance with the opacity limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-03(B)(1)(a), and PTI 13-04353]

g) Miscellaneous Requirements

(1) This emissions unit was installed 6/1/1997.

11. P010, HEAT03-B095

Operations, Property and/or Equipment Description:

PSL 17.6 mmBtu/hr natural gas-fired air drying process (direct heat transfer)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) PTI #13-02958 issued 4/12/1995	Visible particulate emissions shall not exceed 5% opacity as a 6-minute average. Particulate emissions (PE) shall not exceed 0.352 pound per hour, 0.02 lb/mmBtu, and 1.54 tons per year (TPY). Nitrogen oxide (NOx) emissions shall not exceed 2.46 pounds per hour and 10.77 TPY.
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05.
c.	OAC rule 3745-17-10(B)(1)	The particulate emission limitation specified by this rule is equivalent to the particulate emission limitation established pursuant to OAC rule 3745-31-05.

(2) Additional Terms and Conditions

a. The uncontrolled NOx emissions from this emissions source do not exceed 25 TPY. The requirements of OAC rule 3745-110-03 paragraphs (A) through (F) do not apply to this emissions unit as specified under OAC rule 3745-110-03(J)(11) and (15).

c) Operational Restrictions

(1) The permittee shall burn only natural gas in this emission unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI 13-02958]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-02958]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1) PTI 13-02958]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation</u>:

Visible particulate emissions shall not exceed 5% opacity as a 6-minute average.

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-03(B)(1)(a), and PTI 13-02958]

b. Emission Limitations:

PE shall not exceed 0.352 pounds per hour, 0.020 lbs/mmBtu, and 1.54 TPY.

Applicable Compliance Methods:

Compliance with the pound per hour limitation may be determined by multiplying an emission factor of 1.9 pounds of particulates/mmscf by the emissions unit's rated heat capacity (17.6 MM Btu/hr) and dividing by 1,000 Btu/scf. This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with the pound per hour emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

The TPY limitation was established by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-02958]

c. Emissions Limitations:

NOx emissions shall not exceed 2.46 pounds per hour and 10.77 TPY.

Applicable Compliance Method:

Compliance with the pound per hour limitation may be determined by multiplying an emission factor of 100 pounds of nitrogen oxides/mmscf by the emissions unit's rated heat capacity (17.6 mmBtu/hr) and dividing by 1,000 Btu/scf.

This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with the pound per hour emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

The TPY limitation was established by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by

2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-02958]

g) Miscellaneous Requirements

(1) This emissions unit was installed 11/1/1991.

12. Seventeen (17) Jet Engine Test Cells

Operations, Property and/or Equipment Description:

Sixteen (16) jet engine test cells used to perform thruster, material and laser diagnostic research of jet engines while combusting various hydrocarbon-based fuels

P011	CELL06-B024
P012	Bld 35 11A Cell 11
P015	CELLSW21-B038Z313
P016	CELL1B-B102
P017	Jet Engine Test Cell – Atmospheric Burner Rig
P019	ELL21-B035(Z319)
P020	ELL01-B085(Z322)
P021	ELL2A-B102(Z324)
P023	ELL04-B125(Z317)
P024	ELL03-B125(Z316)
P028	6 Test Cell of the 8x6/9x15 Supersonic Wind Tunnel Complex
P903	ELLCE5B1-B005
P904	ELLCE5B2-B005
P905	ELLCE9B-A-B005
P906	ELLCE9B-B-B005
P919	ELL2B-B102(Z325)
P920	ELL1A-B102(Z009)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	See b)(2)a. below.
b.	OAC rule 3745-17-11(B)	See b)(2)b. below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-18-06(E)	See b)(2)c. below.

(2) Additional Terms and Conditions

a. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

b. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.

c. The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels. Pursuant to OAC rule 3745-18-01(B)(13), the liquid jet fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) None.

f) Testing Requirements

(1) None.

g) Miscellaneous Requirements

(1) Emissions units P011, P014 through P016, P019, P012, P023, P024, P903 through P906, and P919 were installed 6/1/1972.

(2) Emissions unit P017 was installed 6/1/1956.

(3) Emissions unit P020 was installed 6/1/1954.

(4) Emissions unit P920 (previously permitted as Z009) was installed 6/1/1972. Test Cell 1A equipment is in storage. Limited items can be present in the facility when neighboring test cells operate due to safety and space constraints. Use P016 (the other 1 side test cell) for estimates

(5) P028 was installed 1/1/1947.

13. P018, CELL01-B145(Z326)

Operations, Property and/or Equipment Description:

Jet engine test cell used to perform thruster, material and laser diagnostic research of jet engines while combusting various commercially available naphtha and kerosene-based distillate fuels (i.e., Jet A, Jet A-1, Jet B, and the military equivalents for these fuels), propane, natural gas, and any other inherently clean fuel.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) PTI #13-03158 issued 10/9/1996	Organic compound (OC) emissions shall not exceed 3 pounds per hour, 15 pounds per day, and 2.74 tons per year (TPY). Particulate emissions (PE) shall not exceed 7.13 pounds per hour and 2.96 TPY. Carbon monoxide (CO) emissions shall not exceed 17.1 pounds per hour and 7.12 TPY. Nitrogen oxides (NOx) emissions shall not exceed 22.78 pounds per hour and 9.47 TPY.
b.	OAC rule 3745-17-07(A)	See b)(2)a. below.
c.	OAC rule 3745-17-11(B)	See b)(2)b. below.
d.	OAC rule 3745-18-06(E)	See b)(2)c. below.

(2) Additional Terms and Conditions

a. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.

b. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.

c. The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid jet fuels, propane, natural gas, and other inherently clean fuels. Pursuant to OAC rule 3745-18-01(B)(13), the fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the jet engines or jet engine components that are to be tested. The total weight of the jet engines or jet engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the jet engines or jet engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the jet fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any jet engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).

d. The uncontrolled NOx emissions from this emissions source do not exceed 25 TPY. The requirements of OAC rule 3745-110-03 paragraphs (A) through (F) do not apply to this emissions unit as specified under OAC rule 3745-110-03(J)(15).

c) Operational Restrictions

(1) The permittee shall burn only commercially available naphtha and kerosene-based distillate fuels (i.e., Jet A, Jet A-1, Jet B, and the military equivalents for these fuels), propane, natural gas, and any other inherently clean fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI 13-03158]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than the fuels noted in c)(1) above, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTI 13-03158]

(2) The permittee shall maintain daily and annual records of the total amounts, in pounds, of fuels combusted for this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTI 13-03158]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than the fuels noted in c)(1) above was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

(2) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland Division of Air Quality (Cleveland DAQ) that identify each day during which the OC emissions exceeded 15 lbs/day, and the actual OC emissions for each such day.

The deviation reports shall be submitted in accordance with the Standard Terms and Conditions.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

(3) The permittee shall submit annual reports to the Cleveland DAQ that specify the actual emission totals, in tons per year (TPY), for OC, PE, CO, and NOx from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), and PTI 13-03158]

(4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rules 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitations</u>:

OC emissions shall not exceed 3 pounds per hour and 15 pounds per day.

<u>Applicable Compliance Methods</u>:

Compliance with the hourly emission limitation may be determined by multiplying the maximum hourly fuel usage of 2,500 pounds per hour of fuel by an emission factor* of 0.96 pound OC/1,000 pounds of fuel.

Compliance with the daily emission limitation shall be determined by multiplying the daily fuel usage rate, in pounds, by the emission factor of 0.96 pound of OC/1,000 pounds of fuel.

If required, compliance with the hourly emission limitation shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

b. Emission Limitation:

OC emissions shall not exceed 2.74 TPY

Applicable Compliance Method:

Compliance with the tons per year limitation shall be assumed provided compliance is maintained with the daily emission limitation (the annual limitation was established by multiplying the daily emission limitation by 365 days per year, and then dividing by 2,000 pounds per ton).

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

c. Emission Limitation:

PE shall not exceed 7.13 pounds per hour

Applicable Compliance Method:

Compliance may be determined by multiplying the maximum hourly fuel usage of 2,500 pounds per hour by an emission factor* of 2.85 pounds PE/1,000 pounds of fuel.

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

d. Emission Limitation:

PE shall not exceed 2.96 TPY

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor* of 2.85 pounds of PE/1,000 pounds fuel by the actual annual amount of fuel consumed and dividing by 2,000 pounds/1 ton to determine annual emissions.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

e. Emission Limitation:

CO emissions shall not exceed 17.1 pounds per hour

Applicable Compliance Method:

Compliance may be determined by multiplying the maximum hourly fuel usage of 2,500 pounds per hour by an emission factor* of 6.84 pounds of CO/1,000 pounds of fuel.

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

f. Emission Limitation:

CO emissions shall not exceed 7.12 TPY

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor* of 6.84 pounds CO/1,000 pounds of fuel by the actual annual amount of fuel consumed and dividing by 2,000 pounds per ton to determine annual emissions.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

g. Emission Limitation:

NOx emissions shall not exceed 22.78 pounds per hour

Applicable Compliance Method:

Compliance may be determined by multiplying the maximum hourly fuel usage of 2,500 pounds per hour by an emission factor* of 9.11 pounds of NOx/1,000 pounds of fuel.

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

h. Emission Limitation:

NOx emissions shall not exceed 9.47 TPY

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the emission factor* of 9.11 pounds of NOx/1,000 pounds fuel by the actual annual amount of fuel consumed and dividing by 2,000 pounds/ton to determine annual emissions.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-03158]

* The emission factors noted above for each of the pollutants listed were extrapolated from the U.S. EPA publication entitled "Procedures for Emission Inventory Preparation, Volume IV, Mobile Sources".

g) Miscellaneous Requirements

(1) This emissions unit was installed 9/1/1997.

14. P025, 8x6 Seeding B039

Operations, Property and/or Equipment Description:

8X6 LDV seeding system

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-21-07(M)	See b)(2)a. below.

(2) Additional Terms and Conditions

a. The requirements of OAC rule 3745-21-07(M) do not apply because there is no control device or bake oven associated with this emissions unit.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) The permittee shall submit annual reports to the Cleveland Division of Air Quality (Cleveland DAQ) that specify the total OC/VOC emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) None

g) Miscellaneous Requirements

(1) This emissions unit was installed 1/1/1949.

(2) A PTI has never been issued for this emission unit.

15. P026, PSL 124 Preheater

Operations, Property and/or Equipment Description:

J-57 jet engine (replacement for engine No. 1) for PSL Building 124 Heating System

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001 PTI 13-04747 issued 10/29/2008	Nitrogen oxide (NOx) emissions shall not exceed 118.2 pounds per hour. Sulfur dioxide (SO_2) emissions shall not exceed 104 pounds per hour. See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Particulate emissions (PE) shall not exceed 8.52 tons per year (TPY). Volatile organic compound (VOC) emissions shall not exceed 2.57 TPY. Carbon monoxide (CO) emissions shall not exceed 5.54 TPY. See b)(2)b. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/2006	See b)(2)c. below.
d.	OAC rule 3745-31-05(D)(1)	See b)(2)d. and c)(2) below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)(4)	PE from the turbine's exhaust shall not exceed 0.040 lb/mmBtu of actual heat input
g.	OAC rule 3745-18-06(F)	SO_2 emissions shall not exceed 0.5 lb/mmBtu actual heat input.
h.	OAC rule 3745-31-10(A)(1) "Future Projected Actual" emissions	See b)(2)e. below.

(2) Additional Terms and Conditions

a. The hourly emission limit was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this short term emissions limitation.

b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, VOC, and CO emissions from this air contaminant source since the calculated annual emissions rates for these pollutants are less than 10 TPY taking into account the federally enforceable limits under OAC rule 3745-31-05(D) and the following voluntary restriction:

i. Annual jet fuel usage shall not exceed 800,000 gallons

The permittee has proposed a federally enforceable voluntary restriction on the annual jet fuel usage to ensure that future projected actual emissions will not cause an increase above the major modification thresholds.

d. The total, combined mass emissions from this emissions unit as a rolling, 12-month summation, shall not exceed the following:

NOx 23.63 TPY;

SO_2 20.8 TPY;

PM 8.52 TPY (includes both PM_{10} and $PM_{2.5}$);

CO 5.54 TPY; and

VOC 2.57 TPY.

e. The permittee has proposed that the amount of emissions increase, which is the difference between the future projected actual emissions and current actual emissions, as a result of this project will be less than 100 tons CO/year, 40 tons NOx/year, 40 tons SO_2/year, 15 tons PM_{10}/year, 10 tons $PM_{2.5}$/year, and 40 tons VOC/year. In accordance with OAC rule 3745-31-10(A)(3), the permittee will have to maintain records for the next 10 years that demonstrate that the amount of actual emissions increase stays below these major modification thresholds.

c) This emissions unit is exempt from the permitting requirements required under OAC rule 3745-110-03 as specified by OAC rules 3745-110-03(J)(11) and 3745-110-03(J)(12).Operational Restrictions

(1) The permittee shall burn only commercially available naptha and distillate-based jet fuels (i.e., no experimental jet fuels) in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(2) The amount of commercially available naptha and distillate-based jet fuel burned in this emissions unit shall not exceed 800,000 gallons per year based upon a rolling, 12-month summation of the monthly gallon usage amounts.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI 13-04747]]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall record and maintain monthly records of the name and/or identification number of each fuel used.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTI 13-04747]

(2) The permittee shall maintain monthly records of the following information:

a. the amount of fuel consumed for each month; and

b. the rolling, 12-month summation of the fuel consumed.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTI 13-04747]

(3) In accordance with OAC rule 3745-31-10(A)(3), the permittee shall maintain annual records for ten (10) years after the issuance of this permit of the following:

a. the number of gallons of jet fuel consumed;

b. the total annual NOx, VOC, CO, PM_{10}, and $PM_{2.5}$ (using factor for PM_{10}) emissions for this emissions unit, as calculated by multiplying the emissions factors from the IERA-RS-BR-SR-2001-0010 titled UNITED STATES AIR FORCE IERA Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations by the annual gallons of jet fuel consumed; and

c. the total annual SO_2 emissions for this emissions unit as calculated by multiplying the emissions factors from AP-42 for Distillate Oil Fired Stationary Gas Turbine factors (Table 3.1-2a Emission Factors for Criteria Pollutants and Greenhouse Gases from Stationary Gas Turbines) by the annual gallons of jet fuel consumed.

[Authority for term: OAC rules 3745-77-07(A)(3), 3745-31-10(A)(3), and PTI 13-04747]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports to the Cleveland Division of Air Quality (Cleveland DAQ) that identify each day when a fuel other than commercially available naptha and distillate-based jet fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

(2) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ which identify all exceedances of the rolling, 12-month limitation on the amount of fuel consumption.

These reports shall be submitted in accordance with the reporting requirements specified in the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

(3) In accordance with OAC rule 3745-31-10(A)(5), the permittee shall submit a deviation report to the Cleveland DAQ if the actual annual emissions, in tons/year, exceed the baseline actual emissions by a significant amount for CO, NOx, PM_{10}, $PM_{2.5}$, SO_2, and VOC, as noted in b)(2)d. and b)(2)e. above, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to OAC rule 3745-31-10(A)(1)(c). Such report shall be submitted within 60 days after the end of such year. This condition will remain in effect for ten years after the issuance date of this permit.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(D)(1), and PTI 13-04747]

(4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

NOx emissions shall not exceed 118.2 pounds per hour.

Applicable Compliance Method:

The short term emission limitation was determined by multiplying the worst case scenario emissions factor for NOx (59.0824 lbs/1,000 gallons of fuel burned) by the maximum fuel consumption rate of the unit (2,000 gallons/hour). Emissions factor for Nitrogen Oxides - 59.0824 lbs/1,000 gallons, taken from IERA-RS-BR-SR-2001-0010 titled UNITED STATES AIR FORCE IERA Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

b. Emission Limitation:

SO_2 emissions shall not exceed 104 pounds per hour.

Applicable Compliance Method:

The short term emission limitation was determined by multiplying the worst case scenario emissions factor for SO_2 (52 lbs/1,000 gallons of fuel burned) by the maximum fuel consumption rate of the unit (2,000 gallons/hour).

The emission factor for SO_2 (52 lbs/1,000 gallons), was taken from AP-42 for Distillate Oil Fired Stationary Gas Turbine factors (Table 3.1-2a Emission Factors for Criteria Pollutants and Greenhouse Gases from Stationary Gas Turbines). This factor was converted from the AP-42 for the worst case fuel with a sulfur content of 0.4%, heat content of 18,400 Btu/lb, and density of 7 lbs/gallon. The AP-42 factor is 1.01(S) lb SO_2/mmBtu where S is the sulfur content of the fuel. Using 0.4 for the sulfur content gives an emission factor of 0.404 lb SO_2/mmBtu.

This factor is converted as follows:

0.404 lb SO_2/mmBtu x 0.0184 mmBtu/lb X 7 lbs/gal x 1,000 gal/1,000 gal = 52 lbs SO_2/1,000 gallons

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

c. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1), 3745-17-03(B)(1)(a), and PTI 13-04747]

d. Emission Limitation:

PE shall not exceed 0.040 lb/mmBtu.

Applicable Compliance Method:

The short term emission limitation was determined by dividing the worst case scenario emissions factor for PM (21.29 lbs/1,000 gallons of fuel burned) by the heat content of the fuel (125,000 mmBtu/gallon).

Emission factor for PM: See Miscellaneous Requirements: g)(1)a.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-11(B)(4), and PTI 13-04747]

e. Emission Limitation:

SO_2 emissions shall not exceed 0.5 lbs/mmBtu actual heat input.

Applicable Compliance Method:

The short term emission limitation was determined by dividing the worst case scenario emissions factor for SO_2 (52 lbs/1,000 gallons of fuel burned) by the heat content of the fuel (125,000 mmBtu/gallon).

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

f. Emission Limitation:

NOx emissions shall not exceed 23.63 TPY.

Applicable Compliance Methods:

Compliance shall be determined by the record keeping and reporting requirements in d) and e) above.

Compliance with the annual allowable NOx emission rate shall be determined by multiplying the NOx emission factor (lbs/1,000 gal) times the fuel usage for each month (gallons/month) summed over the most recent 12-month period times (1 ton/2,000 pounds)

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

g. Emission Limitation:

SO_2 emissions shall not exceed 20.8 TPY based upon a rolling, 12-month summation

Applicable Compliance Methods**:**

Compliance shall be determined by the record keeping and reporting requirements in d) and e) above.

Compliance with the allowable SO_2 emission rate shall be determined by multiplying the SO_2 emission factor (lbs/1,000 gallon) times the fuel usage for each month (gallons/month) summed over the most recent 12-month period times (1 ton/2,000 pounds).

The emission factor for SO_2 (52 pounds/1,000 gallons), was taken from AP-42 for Distillate Oil Fired Stationary Gas Turbine factors (Table 3.1-2a Emission Factors for Criteria Pollutants and Greenhouse Gases from Stationary Gas Turbines).

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

h. Emission Limitation:

PM emissions shall not exceed 8.52 TPY based upon a rolling, 12-month summation.

Applicable Compliance Methods:

Compliance shall be determined by the record keeping and reporting requirements in d) and e) above.

Compliance with the allowable PM rate shall be determined by multiplying the PM emission factor (lbs/1,000 gallons) times the fuel usage for each month (gallons/month) summed over the most recent 12-month period times (1 ton/2,000 lbs).

Emission factor for PM: See Miscellaneous Requirements: g)(1)a.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

i. Emission Limitation:

CO emissions shall not exceed 5.54 TPY based upon a rolling, 12-month summation.

Applicable Compliance Methods**:**

Compliance shall be determined by the record keeping and reporting requirements in d) and e) above.

Compliance with the allowable CO emission rate shall be determined by multiplying the CO emission factor (lbs/1,000 gallons) times the fuel usage for each month (gallons/month) summed over the most recent 12-month period times (1 ton/2,000 lbs).

Emission factor for CO: See Miscellaneous Requirements g)(1)b.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

j. Emission Limitation:

VOC emissions shall not exceed 2.57 TPY based upon a rolling, 12-month summation.

Applicable Compliance Methods:

Compliance shall be determined by the record keeping and reporting requirements in d) and e) above.

Compliance with the allowable VOC emission rate shall be determined by multiplying the VOC emission factor (lbs/1,000 gallons) times the fuel usage for each month (gallons/month) summed over the most recent 12-month period times (1 ton/2,000 lbs).

Emission factor for VOC: See Miscellaneous Requirements g)(1)c.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI 13-04747]

g) Miscellaneous Requirements

(1) Calculations and Emission Factors:

IERA-RS-BR-SR-2001-0010 titled UNITED STATES AIR FORCE IERA Air Emission Inventory Guidance Document for Mobile Sources at Air Force Installations

a. PM: 21.29 lbs/1,000 gallons

(21.29 lbs/1,000 gal)(800,000 gal/yr)(1 ton/2,000 lbs) = 8.52 TPY

*PM represents PM_{10}/$PM_{2.5}$ combined emissions.

b. CO: 13.5876 lbs/1,000 gallons

(13.8576 lbs/gal)(800,000 gal/yr)(1 ton/2,000 lbs) = 5.54 TPY

c. VOC: 6.422 lbs/1,000 gallons

(6.42 lbs/1,000 gal)(800,000 gal/yr)(1 ton/2,000 lbs) = 2.57 TPY

(2) This emissions unit was installed 12/31/2008.

16. P907, CELLCPRM-B038Z312

Operations, Property and/or Equipment Description:

68.2 mmBtu/hr preheater for jet engine testing using only commercially available naphtha and kerosene-based distillate fuels (i.e., no experimental jet fuels), with indirect heat transfer

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed twenty per cent opacity as a 6-minute average, except as provided by rule.
b.	OAC rule 3745-17-10(C)(1)	Particulate emissions (PE) shall not exceed 0.22 lb/mmBtu of actual heat input.
c.	OAC rule 3745-18-06(E)	See b)(2)a. below.

(2) Additional Terms and Conditions

a. No process weight rate can be determined because the sulfur dioxide emissions are generated solely from the combustion of liquid fuels (i.e., naphtha and kerosene-based distillate fuels). Therefore, there is no applicable sulfur dioxide emission limitation from this rule.

b. This emissions unit is exempt from the NOx RACT requirements required under OAC rule 3745-110-03 as specified by OAC rules 3745-110-03(J)(11) and 3745-110-03(J)(12).

c) Operational Restrictions

(1) The permittee shall burn only commercially available naphtha and kerosene-based distillate fuels (i.e., no experimental jet fuels) in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than commercially available naphtha and kerosene-based distillate fuels (i.e., no experimental jet fuels), the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(3)]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than a commercially available naphtha and kerosene-based distillate fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation</u>:

PE shall not exceed 0.22 lb/mmBtu of actual heat input.

<u>Applicable Compliance Methods</u>:

Compliance may be determined by multiplying an emission factor of 2.0 lbs of particulates/1,000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (540 gallons/hour) and dividing by the emissions unit's rated heat input capacity (68.2 mmBtu/hr). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-10(C)(1)]

b. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-03(B)(1)(a)]

g) Miscellaneous Requirements

(1) This emissions unit was installed 6/1/1972.

17. P909 CELL02-B124(Z315)

Operations, Property and/or Equipment Description:

One (1) - 137.3 mmBtu/hr preheater for jet engine testing using only commercially available naphtha and kerosene-based distillate fuels (i.e., no experimental jet fuels), with indirect heat transfer

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed twenty per cent opacity as a 6-minute average, except as provided by rule.
b.	OAC rule 3745-17-10(C)(1)	Particulate emissions (PE) shall not exceed 0.18 lb/mmBtu of actual heat input.
c.	OAC rule 3745-18-06(E)	See b)(2)a. below.

(2) Additional Terms and Conditions

a. No process weight rate can be determined because the sulfur dioxide emissions are generated solely from the combustion of liquid fuels (i.e., naphtha and kerosene-based distillate fuels). Therefore, there is no applicable sulfur dioxide emission limitation from this rule.

b. This emissions unit is exempt from the NOx RACT requirements required under OAC rule 3745-110-03 as specified by OAC rules 3745-110-03(J)(11) and 3745-110-03(J)(12).

c) Operational Restrictions

(1) The permittee shall burn only commercially available naphtha and kerosene-based distillate fuels (i.e., no experimental jet fuels) in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than commercially available naphtha and kerosene-based distillate fuels (i.e., no experimental jet fuels), the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(3)]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than a commercially available naphtha and kerosene-based distillate fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rules 3745-77-07(C)(1)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation</u>:

PE shall not exceed 0.18 lb/mmBtu of actual heat input.

<u>Applicable Compliance Method</u>:

Compliance may be determined by multiplying an emission factor of 2.0 pounds of particulates/1,000 gallons of oil fired by the emissions unit's maximum hourly fuel oil firing capacity (1,087 gallons/hour) and dividing by the emissions unit's rated heat input capacity (137.3 mmBtu/hour). This emission factor is specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.3, Table 1.3-1 (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-10(C)(1)]

b. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations

performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-03(B)(1)(a)]

g) Miscellaneous Requirements

(1) This emissions unit was installed 6/1/1972.

18. P027, PSL 124 Preheater #2

Operations, Property and/or Equipment Description:

J57 jet engine (replacement part for PSL Building 124 Heating System)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01 PTI P0106105 issued 10/6/2010	Carbon monoxide (CO) emissions shall not exceed 27.18 pounds per hour. Particulate emissions (PE) (includes PM_{10} and $PM_{2.5}$) emissions shall not exceed 42.58 pounds per hour. Volatile organic compound (VOC) emissions shall not exceed 12.84 pounds per hour. See b)(2)a. below.
b.	Ohio Revised Code (ORC) rule 3704.03(T)	Nitrogen oxide (NOx) emissions shall not exceed 96.0 ppmvd. Sulfur dioxide (SO_2) emissions shall not exceed 0.5 lb/mmBtu.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.
d.	OAC rule 3745-31-05(D)(1) Synthetic Minor to avoid PSD and NNSR	See b)(2)c. and b)(2)d. below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule.
f.	OAC rule 3745-18-06(F)	The SO_2 emission limitation established by this rule is equivalent to the SO_2 emission limitation established under ORC 3704.03(T).

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-

05(A)(3) do not apply to the PE, VOC, and CO emissions from this air contaminant source since the calculated annual emissions rates for these pollutants are less than 10 tpy taking into account the federally enforceable limits under OAC rule 3745-31-05(D).

c. The permittee has proposed a federally enforceable voluntary restriction on the annual jet fuel usage of 800,000 gallons per rolling, 12-months to ensure that future projected actual emissions will not cause an increase above the major modification thresholds.

d. The emissions from this unit as a rolling, 12-month summation, shall not exceed the following:

CO 5.54 TPY

NOx 23.63 TPY;

PE 8.52 TPY (includes both PM_{10} and $PM_{2.5}$);

SO_2 20.8 TPY; and

VOC 2.57 TPY.

e. The quality of the jet fuel burned in this emissions unit shall meet the following specifications on an “as burned" basis:

i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.5 pound sulfur dioxide/MMBtu actual heat input; and

ii. a heating content greater than 128,800 Btu/gallon of fuel.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or fuel supplier for each shipment of fuel.

f. For the purpose of this restriction, all particulate emissions are assumed to be equivalent to or greater than $PM_{2.5}$ and PM_{10} emissions. As better test methods are developed to speciate $PM_{2.5}$, these numbers may change.

g. This emissions unit is exempt from the NOx RACT requirements required under OAC rule 3745-110-03 as specified by OAC rules 3745-110-03(J)(11) and 3745-110-03(J)(12).

c) Operational Restrictions

(1) The permittee shall burn only commercially available naptha and distillate-based jet fuels (i.e., no experimental jet fuels) in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI P0106105]

(2) The amount of commercially available naptha and distillate-based jet fuel burned in this emissions unit shall not exceed 800,000 gallons per year based upon a rolling, 12-month summation of the monthly gallon usage amounts.

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual emission limitation for fuel usage shall be based upon a rolling, 12-month summation of the monthly emissions.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI P0106105]

(3) The quality of the jet fuel burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation specified in this permit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI P0106105)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the following information:

a. the name and/or identification number of each fuel used;

b. the amount of fuel consumed for each month; and

c. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the fuel consumed.

[Authority for term: OAC rules 3745-77-07(A)(3) and PTI P0106105]

(2) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTI P0106105]

(3) For each shipment of jet fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of fuel received, the fuel identification, the permittee's or fuel supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F). A shipment may be comprised of multiple tank truck loads from the same supplier's

batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the fuel for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods, such as D240 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods as approved by the Director.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTI P0106105]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports to the Cleveland Division of Air Quality (Cleveland DAQ) that identify each day when a fuel other than commercially available naptha and distillate-based jet fuel was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI P0106105]

(2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. any exceedance of the 800,000 gallons per rolling, 12-months naptha and distillate-based jet fuel limitation.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI P0106105]

(3) The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Cleveland DAQ.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTI P0106105]

(4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI P0106105]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

CO emissions shall not exceed 27.18 pounds per hour

PM emissions shall not exceed 42.58 pounds per hour

VOC emissions shall not exceed 12.84 pounds per hour

Applicable Compliance Method:

The short term emissions limitation was determined by multiplying the worst case scenario emissions factor for each pollutant by the maximum fuel consumption rate of the unit (2,000 gallons/hour).

Emission Factors:

Emissions factors taken from IERA-RS-BR-SR-2001-0010 titled UNITED

STATES AIR FORCE IERA Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations:

CO - 13.5876 lbs/1,000 gallons

PM - 21.29 lbs/1,000 gallons

VOC - 6.422 lbs/1,000 gallons

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI P0106105]

b. Emission Limitation:

NOx emissions shall not exceed 96.0 ppmvd.

Applicable Compliance Method:

Compliance with this emissions limitation shall be determined through the following calculation:

$ppmv = (mg/m^3)(273.15 + °C) / (12.187)(MW)$

Where:

ppmv - ppm by volume

mg/m^3 - milligrams of gaseous pollutant per cubic meter of ambient air

MW - molecular weight of the gaseous pollutant

°C - ambient air temperature in degrees Centigrade

From SCREEN3 NOx concentration specific to this unit = 137.4 ug/m^3

137.4 ug/m^3 * 0.001mg/1 ug = 0.1374 mg/m^3

(0.1374)(273.15 + 25) / (12.187)(44.02) = 0.076ppmv

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI P0106105]

c. Emission Limitation:

SO_2 emissions shall not exceed 0.5 lb/MMBtu.

Applicable Compliance Method:

Continuous compliance with the allowable sulfur dioxide emission limitation shall be demonstrated by documenting that the sulfur content of each shipment of fuel received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

Sulfur dioxide emissions from liquid fuel samples shall be calculated as follows:

$ER = [(1 \times 10^6) / H] \times D \times S \times 1.974$

where:

ER = the emission rate in pounds of sulfur dioxide per MMBtu;

H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and

S = the decimal fraction of sulfur in the liquid fuel.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI P0106105]

d. Emission Limitations:

CO - 5.54 TPY based upon a rolling, 12-month summation

NOx - 23.63 TPY based upon a rolling, 12-month summation

PM - 8.52 TPY based upon a rolling, 12-month summation

SO_2 - 20.8 TPY based upon a rolling, 12-month summation

VOC - 2.57 TPY based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance with the long term emission limitations shall be determined by multiplying the annual jet fuel consumption (annual consumption shall not exceed 800,000 gallons) in gallons, by the IERA-RS-BR-SR-2001-0010 titled UNITED STATES AIR FORCE IERA Air Emissions Inventory Guidance Document emissions factors from f)(1)a. and below, then dividing by 1 ton/2,000 lbs.

Nitrogen Oxide - 59.0824 lbs/1,000 gallons

Sulfur Dioxide - 52 lbs/1,000 gallons

[Authority for term: OAC rule 3745-77-07(C)(1) and PTI P0106105]

e. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-03(B)(1)(a) and PTI P0106105]

g) Miscellaneous Requirements

(1) Calculations and Emissions Factors

IERA-RS-BR-SR-2001-0010 titled UNITED STATES AIR FORCE IERA Air Emission Inventory Guidance Document for Mobile Sources at Air Force Installations

a. PE*:

(21.29 lbs PE/1,000 gal)(800,000 gal/yr)(1 ton/2,000 lbs) = 8.52 TPY PE

*PE represents $PM_{10}/PM_{2.5}$ combined emissions

b. CO:

(13. 5876lbs CO/1,000gal)(800,000 gal/yr)(1 ton/2,000 lbs) = 5.54 TPY CO

c. VOC:

(6.42 lbs VOC/1,000 gal)(800,000 gal/yr)(1 ton/2,000 lbs) = 2.57 TPY VOC

(2) This emissions unit was installed 12/1/2010.

19. B038, Boiler #3 and B039, Boiler #4

Operations, Property and/or Equipment Description:

B038, Boiler #3	41.97 mmBtu/hr natural gas/#2 fuel oil (back-up fuel source) fired boiler equipped with low NOx burners and flue gas recirculation
B039, Boiler #4	41.97 mmBtu/hr natural gas/#2 fuel oil (back-up fuel source) fired boiler equipped with low NOx burners and flue gas recirculation

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01 PTI P0106967 (B038) and PTI P0106966 (B039) issued 3/9/2011.	When burning natural gas: Nitrogen oxides (NOx) emissions shall not exceed 1.34 pounds per hour and 5.87 tons per year (TPY). Particulate emissions (PE) shall not exceed 0.32 pound per hour and 1.40 TPY. Organic compound (OC) emissions shall not exceed 0.46 pound per hour and 2.01 TPY. Volatile organic compound (VOC) emissions shall not exceed 0.23 pound per hour and 1.01 TPY. When burning No. 2 Fuel Oil: NOx emissions shall not exceed 5.96 pounds per hour.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		PE shall not exceed 0.6 pound per hour. Carbon monoxide (CO) emissions shall not exceed 1.5 pounds per hour. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-10(B), OAC rule 3745-31-05(D), and 40 CFR Part 60, Subpart Dc. See b)(2)b. below.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)c. below.
c.	OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	See b)(2)d. and c)(3) below.
d.	Ohio Revised Code (ORC) rule 3704.03(T)	When burning natural gas: CO emissions shall not exceed 0.08 lb/mmBtu. When burning No. 2 Fuel Oil: SO_2 emissions shall not exceed 0.50 lb /mmBtu
e.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to 40 CFR Part 60 Subpart Dc.
f.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 lb/mmBtu
g.	OAC rule 3745-18-06(D)	When burning No. 2 fuel oil, the SO_2 emissions limitation specified by this rule is less stringent than the SO_2 emission limitation established pursuant to 40 CFR Part 60 Subpart Dc.
h.	OAC rule 3745-110-03(A)	See d)(3) below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
i.	40 CFR Part 60 Subpart Dc	SO_2 emissions shall not exceed 0.50 lb/mmBtu when burning No. 2 fuel oil. Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except for one 6- minute period per hour of not more than 27% opacity.
j.	40 CFR Part 63, Subpart JJJJJJ	See b)(2)f., c)(4), d)(4), and e)(6) below.

(2) Additional Terms and Conditions

a. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency (U.S. EPA), 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency (Ohio EPA).

b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001 in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes. Such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE, OC, VOC, or NOx emissions while (burning natural gas) from this air contaminant source since the uncontrolled potential to emit for PE, OC, VOC, or NOx emissions is less than 10 tons per year, and the calculated annual emission rate for PE, CO and NOx (while burning No. 2 fuel oil) is less than 10 tons per year taking into account the federally enforceable annual usage restriction of 580,000 gallons.

d. When burning No. 2 fuel oil, the emissions from this unit as a rolling, 12-month summation, shall not exceed the following:

NOx 5.8 TPY

CO 1.45 TPY

PE 0.58 TPY (includes both PM_{10} and $PM_{2.5}$); and

SO_2 12.35 TPY

e. The quality of the oil burned in this emissions unit shall meet the following specifications on an “as received " basis:

i. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.5 pounds sulfur dioxide/mmBtu actual heat input; and

ii. greater than 140,000 Btu/gallon of oil.

Compliance with the above-mentioned specifications shall be determined by using the analytical results provided by the permittee or oil supplier for each shipment of oil.

f. This emissions unit is not subject to the requirements 40 CFR Part 63, Subpart JJJJJJ while burning fuel during periods of gas curtailment, gas supply emergencies, or periodic testing on fuel oil.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or No. 2 fuel oil in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTIs P0106966 and P0106967]

(2) The quality of No. 2 fuel oil received for burning in this emissions unit shall have a combination of sulfur content and heat content sufficient to comply with the allowable sulfur dioxide emission limitation of 0.50 lb/mmBtu of actual heat input and the sulfur content limitation for No. 2 fuel oil of less than or equal to 0.3 per cent sulfur.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTIs P0106966 and P0106967]

(3) The maximum annual No. 2 fuel oil usage rate for this emissions unit shall not exceed 580,000 gallons based upon a rolling, 12-month summation of the gallons consumed.

[Authority for term: OAC rule 3745-77-07(A)(1) and PTIs P0106966 and P0106967]

(4) Periodic testing of the fuel oil shall not exceed 48 hours during any calendar year.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain records of the oil burned in this emissions unit in accordance with either Alternative 1 or Alternative 2 described below.

a. Alternative 1:

For each shipment of oil received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lb/mmBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)].

A shipment may be comprised of multiple tank truck loads from the same supplier's batch, and the quality of the oil for those loads may be represented by a single batch analysis from the supplier.

b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emissions unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing." The permittee shall maintain records of the total quantity of oil burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods, such as ASTM methods D240 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels byBomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods as approved by the Director.

c. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Director.

[Authority for term: OAC rule 3745-77-07(A)(3) and PTIs P0106966 and P0106967]

(2) The permittee shall maintain monthly records of the following information:

a. the total number of gallons of No. 2 fuel oil used in this boiler for each month;

b. beginning after the first 12 calendar months of operation, the rolling, 12-month summation of the gallons of No. 2 fuel oil used; and

c. also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative gallons of No. 2 fuel oil burned for each calendar month.

[Authority for term: OAC rules 3745-77-07(A)(3) and PTIs P0106966 and P0106967]

(3) The owner or operator of a small boiler must annually perform a tune-up and maintain, in a permanently bound log book, or other format approved in writing by the director the following information:

a. the date of the last tune-up;

b. the name, title and affiliation of the person who performed the tune-up and made any adjustments; and

c. any other information which the Ohio Environmental Protection Agency may require as a condition of approval of any permit for the boiler.

[Authority for term: OAC rules 3745-77-07(A)(3), 3745-110-03(A), and PTIs P0106966 and P0106967]

(4) The permittee shall maintain annual records of the amount of time in minutes or hours when periodic testing is conducted while burning fuel oil.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) Pursuant to the NSPS, the permittee is required to report the following information at the appropriate times (if the information has not already been reported):

a. construction date (no later than 30 days after such date);

b. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);

c. actual start-up date (within 15 days after such date); and

d. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to the Cleveland Division of Air Quality (Cleveland DAQ) and to:

Ohio Environmental Protection Agency

DAPC - Permit Management Unit

P.O. Box 163669

Columbus, Ohio 43216-3669

[Authority for term: OAC rule 3745-77-07(C)(1) and PTIs P0106966 and P0106967]

(2) The permittee shall notify the Cleveland DAQ in writing of any fuel burned in this emissions unit other than natural gas or No. 2 fuel oil.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee shall notify the Cleveland DAQ in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation and/or sulfur content limitation based upon the record keeping requirements from d)(1) above.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The notifications identified in e)(2) and e)(3) shall include a copy of such record and shall be sent to the Cleveland DAQ within 45 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(5) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. any exceedance of the allowable No. 2 fuel oil usage rate; and

b. any exceedance of the allowable 0.3 weight percent of sulfur for No. 2 fuel oil.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rules 3745-77-07(C)(1) and PTIs P0106966 and P0106967]

(6) The permittee shall notify the Cleveland DAQ in writing of any record which shows a deviation of the allowable 48 hour operating restriction while burning fuel oil during periodic testing.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(7) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTIs P0106966 and P0106967]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

From Natural Gas Combustion

a. Emission Limitations:

NOx emissions shall not exceed 1.34 pounds per hour and 5.87 TPY

PE shall not exceed 0.32 pound per hour and 1.40 TPY

OC emissions shall not exceed 0.46 pound per hour and 2.01 TPY

VOC emissions shall not exceed 0.23 pound per hour and 1.01 TPY

Applicable Compliance Methods:

Compliance for each short term limit shall be based upon multiplying the maximum heat input (41.97 mmBtu/hr) by the appropriate AP-42 emission factor for each pollutant multiplied by the heating value of natural gas:

NOx - 32 lbs NOx/mmscf (LNB & flue gas recirculation AP-42 Table 1.4-1)

PE - 7.6 lbs PM/ mmscf (AP-42 Table 1.4-2)

OC - 11 lbs OC/mmscf (AP-42 Table 1.4-2)

VOC - 5.5 lbs OC/mmscf (AP-42 Table 1.4-2)

Natural Gas heating value - scf/1,000 Btu

Compliance with each annual limit shall be determined by multiplying the amount, in mmcf, of natural gas burned annually, by the appropriate AP-42 emission factor for each pollutant and dividing by 2,000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTIs P0106966 and P0106967]

From No. 2 Fuel Oil Combustion

b. Emission Limitations:

SO_2 emissions shall not exceed 12.35 TPY

PE shall not exceed 0.6 pound per hour and 0.58 TPY

CO emissions shall not exceed 1.5 pounds per hour and 1.45 TPY

NOx emissions shall not exceed 5.96 pounds per hour and 5.8 TPY

Applicable Compliance Methods:

Compliance with each short term limit shall be based upon multiplying the maximum gallons of No. 2 fuel oil used per hour by the appropriate AP-42 emission factor for each pollutant:

SO_2 - 142 * S/1,000 gallons (S = % sulfur content (AP-42 Table 1.3-1))

PM - 2 lbs PM/1,000 gallons (AP-42 Table 1.3-1)

CO - 5 lbs CO/ 1,000 gallons (AP-42 Table 1.3-1)

NOx - 20 lbs NOx/1,000 gallons (AP-42 Table 1.3-1)

Compliance with each annual limit shall be determined by multiplying the amount (in gallons) of No. 2 fuel oil burned annually, by the appropriate AP-42 emission factor for each pollutant and dividing by 2,000 lb/ton.

[Authority for term: OAC rule 3745-77-07(C)(1) and PTIs P0106966 and P0106967]

c. Emission Limitation:

When burning natural gas, CO emissions shall not exceed 0.08 lb/mmBtu.

Applicable Compliance Methods:

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

[Authority for term: OAC rule 3745-77-07(C)(1), ORC rule 3704.03(T), and PTIs P0106966 and P0106967]

d. Emission Limitation:

When burning No. 2 fuel oil, SO_2 emissions shall not exceed 0.5 lb SO_2/mmBtu

Applicable Compliance Methods:

Continuous compliance with the allowable sulfur dioxide emission limitation shall be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

Sulfur dioxide emissions from liquid fuel samples shall be calculated as follows:

$ER = [(1 \times 10^6) / H] \times D \times S \times 1.974$

where:

ER = the emission rate in pounds of sulfur dioxide per MMBtu;

H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and

S = the decimal fraction of sulfur in the liquid fuel.

[Authority for term: OAC rule 3745-77-07(C)(1), ORC rule 3704.03(T), and PTIs P0106966 and P0106967]

e. Emission Limitation:

PE shall not exceed 0.020 lb/mmBtu.

Applicable Compliance Methods:

If required, the permittee shall demonstrate compliance with the lb/mmBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1- 5.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-10(B)(1) and PTIs P0106966 and P0106967]

f. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity as a six-minute average, except for one 6-minute period per hour of not more than 27% opacity.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-03(B)(1)(a), and PTIs P0106966 and P0106967]

g) Miscellaneous Requirements

(1) Potential to Emit (PTE) calculations from natural gas combustion:

a. NOx - with low NOx burners LNB:

41.97 mmBtu/hr * 32 lbs NOx/ mmscf * 1 scf/1,000Btu = 1.34 lbs NOx/hr

1.34 lbs NOx/hr * 8,760hr/year * 1 ton/2000 lbs = 5.87 TPY NOx

b. PM:

41.97 mmBtu/hr * 7.6 lbs PM/mmscf * 1 scf/1,000Btu = 0.32 lb PM/hr

0.32 lb PM/hr * 8,760 hr/yr * 1 ton/2,000 lbs = 1.40 TPY PM

c. OC:

41.97 mmBtu/hr * 11 lbs OC/mmscf * 1 scf/1,000Btu = 0.46 lb OC/hr

0.46 lb OC/hr * 8,760 hr/year * 1 ton/2,000 lbs = 2.01 TPY OC

d. VOC:

41.97 mmBtu/hr * 5.5 lbs VOC/mmscf * 1 scf/1,000Btu = 0.23 lb VOC/hr

0.23 lb VOC/hr * 8,760 hr/year * 1 ton/2,000 lbs = 1.01 TPY VOC

(2) Potential to Emit (PTE) calculations from No. 2 fuel oil combustion:

a. CO:

5 lbs CO/1,000 gal * 580,000 gal/yr * 1 ton/2,000 lbs = 1.45 TPY CO

b. PE:

2 lbs PM/ 1,000 gal * 580,000 gal/yr * 1 ton/2,000 lbs = 0.58 TPY PM

c. SO_2:

Emission factors from AP-42 (Table 1.3-1): 142 * S (S = % sulfur content)

Sulfur content (S) = 0.3

142 * 0.3 = 42.6 lbs SO_2/1,000 gal

42.6 lbs SO_2/1,000 gal * 580,000 gal/yr * 1 ton/2,000 lbs = 12.35 TPY SO_2