

Via Certified Mail 7005 0390 0003 7115 5426

Mr. Ken Walker
Sony DADC
1800 N. Fruitridge Ave.
Terre Haute, IN 47804

August 17, 2007

Re: 167-24913-00032
Second Administrative Amendment to
FESOP No: F167-15123-00032

Dear Mr. Walker:

Sony DADC was issued a Federally Enforceable State Operating Permit (FESOP) on February 1, 2005. A letter requesting to add seven (7) small boilers and five (5) emergency generators was received on June 1, 2007. Pursuant to the provisions of 326 IAC 2-8-10, the permit is hereby administratively amended. A summary of changes is as follows:

- a. Seven (7) small boilers and five (5) emergency generators have been added to Sections A.1, D.1, and D.2 of the permit. Permit conditions and quarterly reports have been updated to reflect these additions.
- b. All occurrences of IDEM's mailing addresses have been revised to include a mail code (MC).

All other conditions of the permit shall remain unchanged and in effect. Please find the enclosed copy of the revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Mr. Scott Sines, at (812) 462-3433, extension 12.

Sincerely,

// Original Signed By//

George M. Needham
Director
Vigo County Air Pollution Control

Attachments

SBS

cc: IDEM - Mindy Hahn
IDEM - Winter Bottum

**Indiana Department of Environmental Management
Office of Air Quality
and Vigo County Air Pollution Control**

Technical Support Document (TSD) for an Administrative Amendment (AA)
to a Federally Enforceable State Operating Permit (FESOP).

Source Description and Location
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Source Name:	Sony DADC
Source Location:	1800 N. Fruitridge Ave., Terre Haute, IN 47804
County:	Vigo
SIC Code:	3652
Operation Permit No.:	F 167-15123-00032
Operation Permit Issuance Date:	February 1, 2005
Administrative Amendment No.:	167-24913-00032
Permit Reviewer:	Scott Sines

The Office of Air Quality (OAQ) and Vigo County Air Pollution Control (VCAPC) have received an application from Sony DADC related to an administrative amendment to an existing manufacturing plant for optical discs.

Existing Approvals

The source was issued FESOP No. 167-15123-00032 on February 1, 2005. The source has since received the following approvals:

Administrative Amendment No. 167-21955-00032, issued on November 17, 2005.

County Attainment Status

The source is located in Vigo County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO ₂	Maintenance Attainment
NO ₂	Attainment
8-hour Ozone	Maintenance Attainment
CO	Attainment
Lead	Attainment

- (a) Vigo County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions. See the State Rule Applicability – Entire Source section.

- (b) Volatile organic compounds (VOC) and nitrogen oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Vigo County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) Vigo County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 redesignating Delaware, Greene, Jackson, Vanderburgh, Vigo and Warrick Counties to attainment for the eight-hour ozone standard.
- (e) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (f) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward the determination of PSD applicability.

Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed administrative amendment, after consideration of all enforceable limits established in the effective permits:

Pollutant	Emissions (tons/year)
PM	Less than 100
PM10	Less than 100
SO ₂	Less than 100
VOC	Less than 100
CO	Less than 100
NO _x	Less than 100

This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

The table below summarizes the potential to emit HAPs for the entire source, prior to the proposed administrative amendment, after consideration of all enforceable limits established in the effective permits:

HAPs	Potential To Emit (tons/year)
Xylene	0.004
Toluene	0.004
Total	0.008

This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section

112 of the Clean Air Act (CAA).

Description of Proposed Administrative Amendment

The Office of Air Quality (OAQ) and VCAPC have reviewed an administrative amendment application, submitted by Sony DADC on June 1, 2007, relating to the addition of seven (7) small industrial boilers and five (5) emergency generators. The following is a list of the proposed emission units:

- h) One (1) boiler, installed in 2007, identified as Unit 014, with a maximum heat input capacity of 4.19 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 014.
- i) One (1) boiler, installed in 2007, identified as Unit 015, with a maximum heat input capacity of 4.50 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 015.
- j) One (1) boiler, installed in 2007, identified as Unit 016, with a maximum heat input capacity of 4.00 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 016.
- k) One (1) boiler, installed in 2007, identified as Unit 017, with a maximum heat input capacity of 8.36 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 017.
- l) One (1) boiler, installed in 2007, identified as Unit 018, with a maximum heat input capacity of 8.36 million BTU per hour, firing natural gas and utilizing #2 fuel oil as back-up, using no control, and exhausting to stack 018.
- m) One (1) boiler, installed in 2007, identified as Unit 019, with a maximum heat input capacity of 7.19 million BTU per hour, firing natural gas and utilizing #2 fuel oil as back-up, using low NO_x burners, and exhausting to stack 019.
- n) One (1) boiler, installed in 2007, identified as Unit 020, with a maximum heat input capacity of 8.80 million BTU per hour, firing natural gas only, using low NO_x burner, and exhausting to stack 020.

This stationary source also includes the following insignificant activities:

- k) Emergency generators as follows: Diesel generators not exceeding 1600 horsepower including:
 - 6) One (1) diesel generator identified as Unit 021, installed in 2007, with a maximum capacity of 884 BHP, firing #2 fuel only, using no control and exhausting to stack 021.
 - 7) One (1) diesel generator identified as Unit 022, installed in 2007, with a maximum capacity of 150 BHP, firing #2 fuel only, using no control and exhausting to stack 022.
 - 8) One (1) diesel generator identified as Unit 023, installed in 2007, with a maximum capacity of 54 BHP, firing #2 fuel only, using no control and exhausting to stack 023.
 - 9) One (1) diesel generator identified as Unit 024, installed in 2007, with a maximum capacity of 150 BHP, firing #2 fuel only, using no control and exhausting to stack 024.

- 10) One (1) diesel generator identified as Unit 025, installed in 2007, with a maximum capacity of 54 BHP, firing #2 fuel only, using no control and exhausting to stack 025.

Enforcement Issues

There are no pending enforcement actions.

Emission Calculations

See Appendix A, pages 1 - 25 of this document for detailed emission calculations.

Permit Level Determination – FESOP Revision

Pursuant to 326 IAC 2-7-1(29), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-8-10. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	PTE of revision (worst case) (tons/year)
PM	1.72
PM10	1.72
SO ₂	35.82
VOC	1.64
CO	18.68
NO _x	29.46
HAPs	Less than 10

The new units are of the type already permitted and will comply with the same applicable requirements and permit terms and conditions as the existing emission units. Therefore, pursuant to 326 IAC 2-8-10(a)(14) these new units are being added to the permit with an administrative amendment.

Permit Level Determination – FESOP

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Pollutant	PTE of the entire source after revision (tons/year)
PM	Less than 100
PM10	Less than 100
SO ₂	Less than 100
VOC	Less than 100
CO	Less than 100
NO _x	Less than 100
Single HAP	Less than 10
Combined HAPs	Less than 25

This administrative amendment to an existing minor stationary source is not major because the emissions increase is less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

After this administrative amendment, this source is still a minor source pursuant to the Part 70 Permit program.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this administrative amendment:

- (a) The seven (7) boilers are not subject to the requirements of the New Source Performance Standard for Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc, as the maximum rated capacity of each boiler is less than 10 MM Btu/hour.
- (b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, Subpart ZZZZ as the source is not a major source of HAPs.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 (PSD)

PSD applicability is discussed under the Permit Level Determination - PSD section.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this manufacturing plant for optical discs will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake or Porter Counties, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-8 (Federally Enforceable State Operating Permit Program)

In order to render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable, the following limits shall apply:

- (a) The usage of No. 2 fuel oil with a sulfur content of 0.5% and No. 2 fuel oil equivalents in the boilers (Units 001 through 006, the Cleaver Brooks Boiler, and Units 014 through 020) shall be limited to 206,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit, combined with all other SO₂ emissions at this source, shall limit the source-wide potential to emit SO₂ to less than 100 tons per year and render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

For the purposes of determining compliance, every MMCF of natural gas burned shall be equivalent to 8.45 gallons of No. 2 fuel oil based on SO₂ emissions, such that the total gallons of No. 2 fuel oil and No. 2 fuel oil equivalent input does not exceed the limit specified;

- (b) The usage of natural gas and natural gas equivalents in the boilers (Units 001 through 006, the Cleaver Brooks Boiler, and Units 014 through 020) shall be limited to 750 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit, combined with all other NO_x emissions at this source, shall limit the source-wide potential to emit NO_x to less than 100 tons per year and render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

For purposes of determining compliance, every 1,000 gallons of No. 2 distillate fuel oil burned shall be equivalent to 0.2 MMCF of natural gas burned based on NO_x emissions, such that the total MMCF of natural gas and natural gas equivalent input does not exceed the limit specified;

- (c) The usage of fuel oil with a sulfur content of 0.5% by weight for the generators (Units 007, 008, 009, 010, the 620 BHP generator, and Units 021 - 025) combined shall not exceed 200,000 gallons of #2 fuel oil per 12-consecutive month period, with compliance determined at the end of each month. This limitation, in combination with the natural gas and fuel oil limitations on the boilers make the requirements of 326 IAC 2-7 not applicable.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

All of the boilers DADC operates are subject to the requirements of 326 IAC 6-2-4. This rule sets particulate matter emission limitations based on the total source wide boiler capacity. The formula for this is: $Pt = 1.09/Q^{0.26}$ with Pt being the particulate matter limit in pounds per million BTU and Q being the cumulative total capacity. The following table describes the specific limitations.

Boiler Description	Date Installed	Individual Capacity (MMBtu/Hr)	Cumulative Capacity (Q) (MMBtu/Hr)	PM Limit (Lbs/MMBTU)
Kewanee Boilers (2)	1983	10.46	20.92	0.49
Burnham Boilers (2)	1986	9.86	40.64	0.42
Superior Boilers (2)	1992	16.80	74.24	0.36
Cleaver Brooks Boiler (1)	1997	6.00	80.24	0.35
Unit 014	2007	4.19	125.64	0.31
Unit 015	2007	4.50	125.64	0.31
Unit 016	2007	4.00	125.64	0.31
Unit 017	2007	8.36	125.64	0.31

Boiler Description	Date Installed	Individual Capacity (MMBtu/Hr)	Cumulative Capacity (Q) (MMBtu/Hr)	PM Limit (Lbs/MMBTU)
Unit 018	2007	8.36	125.64	0.31
Unit 019	2007	7.19	125.64	0.31
Unit 020	2007	8.80	125.64	0.31

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (c) This source is not located in the area of Vigo County referenced in 326 IAC 5-1-1(c)(8).

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

326 IAC 6.5-1-1 (Particulate Emission Limitations)

Pursuant to FESOP 167-15123-00032, issued on February 1, 2005, the source-wide limited potential to emit PM and PM10 are each less than 10 tons per year. Therefore, with actual PM and PM10 emissions each less than 10 tons per year, the source is exempt from 326 IAC 6.5-1-1.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The potential to emit SO₂ from the proposed modification is less than twenty-five (25) tons per year or ten (10) pounds per hour. Therefore, the modification is not subject to the requirements of 326 IAC 7-1.1.

326 IAC 7-4-3 (Vigo County sulfur dioxide emission limitations)

This source is not listed in 326 IAC 7-4-3, Vigo County sulfur dioxide emission limitations. Therefore, the requirements of that rule are not applicable.

326 IAC 8-1-6 (New Facilities; general reduction requirements)

The source is not subject to 326 IAC 8-1-6 for new sources of VOC emissions. Pursuant to 326 IAC 8-1-6 new facilities are subject only if they have potential emissions of 25 tons of VOC or more per year. This administrative amendment has potential emissions of less than 25 tons per year of VOC.

326 IAC 9-1 (Carbon Monoxide Emission Limits)

There is no emission limitation established in 326 IAC 9-1-2 for boilers. Therefore, the requirements of 326 IAC 9-1 are not applicable.

326 IAC 10 (Nitrogen Oxides Rules)

The source is not located in either Lake or Floyd County. Therefore, it is not subject to the requirements of 326 IAC 10.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ and VCAPC, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

1. The boilers capable of combusting fuel oil (2 Kewanee Boilers, 2 Burnham Boilers, 2 Superior Boilers, and Units 018 and 019) have applicable compliance monitoring conditions as specified below:
 - (a) Once per day, visible emissions notations of the boiler stacks shall be performed once per day during normal daylight operations when burning #2 fuel oil. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C- Response to Excursions or Exceedances shall be considered a deviation from this permit.

These monitoring conditions are necessary in order to ensure compliance with the applicable opacity standard (326 IAC 5-1) and the applicable particulate emission limitations for source of indirect heating (326 IAC 6-2).

Proposed Changes

The changes listed below have been made to FESOP Operating Permit No.: F167-15123-00032. Deleted language appears as ~~strike throughs~~ and new language appears in **bold**:

1. All occurrences of IDEM's mailing addresses have been revised to include a mail code (MC) as follows:

**Asbestos Section
Compliance Branch
Permits Branch**

**MC 61-52 IGCN 1003
MC 61-53 IGCN 1003
MC 61-53 IGCN 1003**

2. IDEM, OAQ and VCAPC have determined that it is no longer necessary to identify the Authorized Individual in permits. Therefore, Condition A.1 has been revised to remove this reference to the Authorized Individual.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary manufacturing plant for optical discs.

~~Authorized individual: Vice President and General Manager~~

Source Address: 1800 North Fruitridge Avenue, Terre Haute, Indiana 47804

Mailing Address: 1800 North Fruitridge Avenue, Terre Haute, Indiana 47804

General Source Phone: (812) 462-8100

SIC Code: 3652

Source Location Status: Vigo County

Maintenance Attainment for Sulfur Dioxide

~~Basic Nonattainment for 8-hour Ozone~~

Maintenance Attainment for 8-hour Ozone

Attainment for all other criteria pollutants

Source Status:

Federally Enforceable State Operating Permit (FESOP)

Minor Source, under PSD or Emission Offset Rules;

Minor Source for Nonattainment NSR

Minor Source, Section 112 of the Clean Air Act

3. Seven (7) new boilers have been added to Condition A.2.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- a) Kewanee Boiler Corp. boiler, installed in 1983, identified as Unit 001, with a maximum heat input capacity of 10.462 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack S19.
- b) Kewanee Boiler Corp. boiler, installed in 1983, identified as Unit 002, with a maximum heat input capacity of 10.462 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack S13.
- c) Burnham Corp. boiler, installed in 1986, identified as Unit 003, with a maximum heat input capacity of 9.863 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack S4.
- d) Burnham Corp. boiler, installed in 1986, identified as Unit 004, with a maximum heat input capacity of 9.863 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack S3.
- e) Superior Boiler Works boiler, installed in 1992, identified as Unit 005, with a maximum heat input capacity of 16.8 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack 001.
- f) Superior Boiler Works boiler, installed in 1992, identified as Unit 006, with a maximum heat input capacity of 16.8 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack 002.

- g) Cleaver Brooks Corp. boiler, installed in 1997, with a maximum heat input capacity of 6.0 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 012.
 - h) **One (1) boiler, installed in 2007, identified as Unit 014, with a maximum heat input capacity of 4.19 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 014.**
 - i) **One (1) boiler, installed in 2007, identified as Unit 015, with a maximum heat input capacity of 4.50 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 015.**
 - j) **One (1) boiler, installed in 2007, identified as Unit 016, with a maximum heat input capacity of 4.00 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 016.**
 - k) **One (1) boiler, installed in 2007, identified as Unit 017, with a maximum heat input capacity of 8.36 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 017.**
 - l) **One (1) boiler, installed in 2007, identified as Unit 018, with a maximum heat input capacity of 8.36 million BTU per hour, firing natural gas and utilizing #2 fuel oil as back-up, using no control, and exhausting to stack 018.**
 - m) **One (1) boiler, installed in 2007, identified as Unit 019, with a maximum heat input capacity of 7.19 million BTU per hour, firing natural gas and utilizing #2 fuel oil as back-up, using low NO_x burners, and exhausting to stack 019.**
 - n) **One (1) boiler, installed in 2007, identified as Unit 020, with a maximum heat input capacity of 8.80 million BTU per hour, firing natural gas only, using low NO_x burner, and exhausting to stack 020.**
4. Five (5) new emergency generators have been added to Condition A.3.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- a) Space heaters, process heaters, or boilers using the following fuels: Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) BTU per hour.
- b) The following VOC and HAP storage containers:
 - (a) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids; and
 - (b) Packaging lubricants and greases.
- c) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6.
- d) Closed loop heating and cooling systems.
- e) Exposure chambers (Atowers@, Acolumns@), for curing of ultraviolet inks and ultraviolet coatings where heat is the intended discharge.

- f) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.
- g) Replacement or repair of electrostatic precipitators, bags in baghouse, and filters in other air filtration equipment.
- h) Paved and unpaved roads and parking lots with public access.
- i) Enclosed systems for conveying plastic raw materials and plastic finished goods.
- j) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling towers.
- k) Emergency generators as follows: Diesel generators not exceeding 1600 horsepower including:
 - 1) Onan Corp. diesel generator, installed in 1983, identified as Unit 007, with a maximum capacity of 115 BHP, firing #2 fuel only, using no control, and exhausting to stack 007.
 - 2) Onan Corp. diesel generator, installed in 1986, identified as Unit 008, with a maximum capacity of 122 BHP, firing #2 fuel only, using no control, and exhausting to stack 008.
 - 3) Onan Corp. diesel generator, installed in 1992, identified as Unit 009, with a maximum capacity of 188 BHP, firing #2 fuel only, using no control, and exhausting to stack 009.
 - 4) Caterpillar Corp. diesel fire pump, installed in 1986, identified as Unit 010, with a maximum capacity of 200 BHP, firing #2 fuel only, using no control, and exhausting to stack 010.
 - 5) Onan Corp. diesel generator, installed in 1998, with a maximum capacity of 620 BHP, firing #2 fuel only, using no control, and exhausting to stack 013.
 - 6) **One (1) diesel generator identified as Unit 021, installed in 2007, with a maximum capacity of 884 BHP, firing #2 fuel only, using no control and exhausting to stack 021.**
 - 7) **One (1) diesel generator identified as Unit 022, installed in 2007, with a maximum capacity of 150 BHP, firing #2 fuel only, using no control and exhausting to stack 022.**
 - 8) **One (1) diesel generator identified as Unit 023, installed in 2007, with a maximum capacity of 54 BHP, firing #2 fuel only, using no control and exhausting to stack 023.**
 - 9) **One (1) diesel generator identified as Unit 024, installed in 2007, with a maximum capacity of 150 BHP, firing #2 fuel only, using no control and exhausting to stack 024.**
 - 10) **One (1) diesel generator identified as Unit 025, installed in 2007, with a maximum capacity of 54 BHP, firing #2 fuel only, using no control and exhausting to stack 025.**
- l) Stationary fire pumps.
- m) Other insignificant activities with VOC and HAP emissions below 15 lbs/day (VOC), and below 5 lbs/day or 1 ton/year (single HAP) and below 12.5 lbs/day or 2.5 ton/year (combination HAPs) including:

- (1) Tank T1 - 550 gallon #2 fuel oil storage tank
- (2) Tank T2 - 5,000 gallon #2 fuel oil storage tank
- (3) Tank T3 - 5,000 gallon #2 fuel oil storage tank
- (4) Five (5) DVD Offset Printing machines (0.783 lbs/day, total VOC)
- (5) Three (3) DVD Silk Screen Printing machines (3.17 lbs/day, total VOC)
- (6) Eleven (11) CD Silk Screen Printing machines (14.3 lbs/day, total VOC)
- (7) Five (5) CD Offset Printing machines (0.521 lbs/day, total VOC)
- (8) One (1) Photoresist Coater (11.3 lbs/day VOC)
- (9) One (1) Jig Washer
- (10) Three (3) seven gallon IPA storage tanks

Note: Total HAPs are 0.644 tons/yr (3.53 lbs/day), therefore, the above equipment is consider insignificant.

5. IDEM phone numbers have been changed in Condition B.13.(b)(4) to read:

- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ and VCAPC, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

IDEM

Telephone No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section) or,

Telephone No.: 317-~~233-5674~~ **233-0178** (ask for Compliance Section)

Facsimile No.: 317-~~233-5967~~ **233-6865**

6. IDEM phone numbers have been changed in Condition B.22(c) to read:

- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or ~~317-233-4320~~ **317-233-4230** (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

7. Seven (7) new boilers have been added to Section D.1.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- 1) Kewanee Boiler Corp. boiler, installed in 1983, identified as Unit 001, with a maximum heat input capacity of 10.462 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack S19.
- 2) Kewanee Boiler Corp. boiler, installed in 1983, identified as Unit 002, with a maximum heat input capacity of 10.462 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack S13.
- 3) Burnham Corp. boiler, installed in 1986, identified as Unit 003, with a maximum heat input capacity of 9.863 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack S4.
- 4) Burnham Corp. boiler, installed in 1986, identified as Unit 004, with a maximum heat input capacity of 9.863 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack S3.
- 5) Superior Boiler Works boiler, installed in 1992, identified as Unit 005, with a maximum heat input capacity of 16.8 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack 001.

- 6) Superior Boiler Works boiler, installed in 1992, identified as Unit 006, with a maximum heat input capacity of 16.8 million BTU per hour, firing natural gas with #2 fuel oil for backup, using no control, and exhausting to stack 002.
 - 7) Cleaver Brooks Corp. boiler, installed in 1997, with a maximum heat input capacity of 6.0 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 012.
 - 8) **One (1) boiler, installed in 2007, identified as Unit 014, with a maximum heat input capacity of 4.19 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 014.**
 - 9) **One (1) boiler, installed in 2007, identified as Unit 015, with a maximum heat input capacity of 4.50 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 015.**
 - 10) **One (1) boiler, installed in 2007, identified as Unit 016, with a maximum heat input capacity of 4.00 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 016.**
 - 11) **One (1) boiler, installed in 2007, identified as Unit 017, with a maximum heat input capacity of 8.36 million BTU per hour, firing natural gas only, using no control, and exhausting to stack 017.**
 - 12) **One (1) boiler, installed in 2007, identified as Unit 018, with a maximum heat input capacity of 8.36 million BTU per hour, firing natural gas and utilizing #2 fuel oil as back-up, using no control, and exhausting to stack 018.**
 - 13) **One (1) boiler, installed in 2007, identified as Unit 019, with a maximum heat input capacity of 7.19 million BTU per hour, firing natural gas and utilizing #2 fuel oil as back-up, using low NO_x burners, and exhausting to stack 019.**
 - 14) **One (1) boiler, installed in 2007, identified as Unit 020, with a maximum heat input capacity of 8.80 million BTU per hour, firing natural gas only, using low NO_x burner, and exhausting to stack 020.**
- (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

8. Condition D.1.2 is amended as follows:

D.1.2 Particulate Matter Limitation (PM) [326 IAC 6-2-3][326 IAC 6-2-4]

- (a) Pursuant to 326 IAC 6-2-3 (Particulate emission limitations for sources of indirect heating), the Kewanee Boilers are limited by the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}} = 1.39 \text{ lbs/MMBtu}$$

- Where: C = Maximum Ground Level Concentration of PM (Assumed to be 50 µg/M³) = 50
Q = The total source capacity in MMBtu/hr. = 20.92
N = Number of stacks = 2
a = Plume rise factor. (A value of 0.67 is used for Q values < 1,000 MMBtu/hr) = 0.67
h = Stack height in feet. = 37

Using 326 IAC 6-2-3(e), the Kewanee Boilers (Units 001 and 002) shall not exceed 0.6 Lbs/MMBtu

- (b) Pursuant to 326 IAC 6-2-4 (Particulate emission limitations for sources of indirect heating), the boilers are limited by the equation $Pt=1.09/Q^{0.26}$, with Pt being the allowable particulate emission rate in pounds per million BTU and Q being the total plant wide boiler capacity at the time of installation. Thus, the calculated particulate limits by boilers are:

Burnham Boilers (Units 003 and 004) shall each not exceed 0.42 Lbs/MMBTU
Superior Boilers (Units 005 and 006) shall each not exceed 0.36 Lbs/MMBTU
Cleaver Brooks Boiler shall not exceed 0.35 Lbs/MMBTU

Units 014 - 020 shall not exceed 0.31 Lbs/MMBTU

9. The boiler fuel use limitations have been revised to "equivalent" natural gas and "equivalent" fuel oil limit based on NO_x and SO₂ potential emissions. Conditions D.1.5 and D.1.6 are amended as follows:

D.1.5 Fuel Use Limitation [326 IAC 2-8-4]

In order to render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable, the following limits shall apply:

- (a) **The usage of No. 2 fuel oil with a sulfur content of 0.5% and No. 2 fuel oil equivalents in the boilers (Units 001 through 006, the Cleaver Brooks Boiler, and Units 014 through 020) shall be limited to 206,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit, combined with all other SO₂ emissions at this source, shall limit the source-wide potential to emit SO₂ to less than 100 tons per year and render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.**

For the purposes of determining compliance, every MMCF of natural gas burned shall be equivalent to 8.45 gallons of No. 2 fuel oil based on SO₂ emissions, such that the total gallons of No. 2 fuel oil and No. 2 fuel oil equivalent input does not exceed the limit specified;

- (b) **The usage of natural gas and natural gas equivalents in the boilers (Units 001 through 006, the Cleaver Brooks Boiler, and Units 014 through 020) shall be limited to 750 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit, combined with all other NO_x emissions at this source, shall limit the source-wide potential to emit NO_x to less than 100 tons per year and render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.**

For purposes of determining compliance, every 1,000 gallons of No. 2 distillate fuel oil burned shall be equivalent to 0.2 MMCF of natural gas burned based on NO_x emissions, such that the total MMCF of natural gas and natural gas equivalent input does not exceed the limit specified;

- ~~(a) The fuel oil usage for the boilers (Units 001, 002, 003, 004, 005, 006) combined shall not exceed 200,000 gallons of #2 fuel oil per 12 consecutive month period, with compliance determined at the end of each month. This limitation, in combination with the natural gas limitation and the generator fuel oil limitation makes the requirements of 326 IAC 2-7 not applicable.~~
- ~~(b) The natural gas usage for the boilers (Units 001, 002, 003, 004, 005, 006, the Cleaver Brooks) combined shall not exceed 706,000,000 cubic feet (706 million cubic feet) per 12 consecutive month period, with compliance determined at the end of each month. This limitation, in combination with the fuel oil limitation and the generator fuel oil limitation makes the requirements of 326 IAC 2-7 not applicable.~~

D.1.6 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities (Unit 001, 002, 003, 004, 005, 006, and the Cleaver Brooks boiler) and their control devices.

10. Upon further review, IDEM and VCAPC have determined that once per day monitoring of the control device (or of visible emission notations) is generally sufficient to ensure proper operation of the control device. IDEM and VCAPC have also determined that monitoring these parameters once per day is sufficient to satisfy the requirements. This change also makes the record keeping provisions consistent with the permit conditions. Condition D.1.9 was changed as follows:

D.1.9 Visible Emissions Notations

- (a) Visible emission notations of each boiler (units 001, 002, 003, 004, 005, 006, **018, and 019**) stack exhaust shall be performed once per ~~shift~~ **day** during normal daylight operations when combusting fuel oil ~~when venting to the atmosphere~~. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

11. Condition D.1.10 is amended as follows:

D.1.10 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.3 and D.1.4 the Permittee shall maintain records in accordance with (1) through (6) below. Note that pursuant to 40 CFR 60 Subpart Dc, the fuel oil sulfur limit applies at all times including periods of startup, shutdown, and malfunction.
- (1) Calendar dates covered in the compliance determination period;
- (2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions;
- (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period, the natural gas fired boiler certification does require the certification by the ~~authorized individual~~ as defined by 326 IAC 2-1.1-1(1); and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

- (4) Fuel supplier certifications.
- (5) The name of the fuel supplier; and
- (6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all

calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (b) To document compliance with Condition D.1.9, the Permittee shall maintain records of visible emission notations of the boiler stack exhausts once per shift (when combusting fuel oil). **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).**
- (c) To document compliance with Condition D.1.5, the Permittee shall maintain records of the fuel oil and natural gas combusted in the boilers (Units 001, 002, 003, 004, 005, 006, 007, and **Units 014 - 020**) during each calendar month. This data will then be combined with the 11 preceding months to show 12-month rolling totals.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

12. Five (5) new emergency generators have been added to Section D.2.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- 1) Onan Corp. diesel generator, installed in 1983, identified as Unit 007, with a maximum capacity of 115 BHP, firing #2 fuel oil only, using no control, and exhausting to stack 007.
- 2) Onan Corp. diesel generator, installed in 1986, identified as Unit 008, with a maximum capacity of 122 BHP, firing #2 fuel oil only, using no control, and exhausting to stack 008.
- 3) Onan Corp. diesel generator, installed in 1992, identified as Unit 009, with a maximum capacity of 188 BHP, firing #2 fuel oil only, using no control, and exhausting to stack 009.
- 4) Caterpillar Corp. diesel fire pump, installed in 1986, identified as Unit 010, with a maximum capacity of 200 BHP, firing #2 fuel oil only, using no control, and exhausting to stack 010.
- 5) Onan Corp. diesel generator, installed in 1998, with a maximum capacity of 620 BHP, firing #2 fuel oil only, using no control, and exhausting to stack 013.
- 6) **One (1) diesel generator identified as Unit 021, installed in 2007, with a maximum capacity of 884 BHP, firing #2 fuel only, using no control and exhausting to stack 021.**
- 7) **One (1) diesel generator identified as Unit 022, installed in 2007, with a maximum capacity of 150 BHP, firing #2 fuel only, using no control and exhausting to stack 022.**
- 8) **One (1) diesel generator identified as Unit 023, installed in 2007, with a maximum capacity of 54 BHP, firing #2 fuel only, using no control and exhausting to stack 023.**
- 9) **One (1) diesel generator identified as Unit 024, installed in 2007, with a maximum capacity of 150 BHP, firing #2 fuel only, using no control and exhausting to stack 024.**
- 10) **One (1) diesel generator identified as Unit 025, installed in 2007, with a maximum capacity of 54 BHP, firing #2 fuel only, using no control and exhausting to stack 025.**

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

13. Condition D.2.1 is amended as follows:

D.2.1 Fuel Use Limitation [326 IAC 2-8]

- (b) The fuel oil usage for the generators (Units 007, 008, 009, 010, the 620 BHP generator, **and Units 021 - 025**) combined shall not exceed 200,000 gallons of #2 fuel oil per 12-consecutive month period, with compliance determined at the end of each month. This limitation, in combination with the natural gas and fuel oil limitations on the boilers make the requirements of 326 IAC 2-7 not applicable.

- (c) The sulfur content of the fuel oil shall not exceed five-tenths percent (0.5%) by weight.
- (d) The Sulfur Dioxide emissions shall not exceed 0.5 pounds per million Btu (lbs./MMBtu).

14. Condition D.2.2 is amended as follows:

D.2.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities (~~Unit 007, Unit 008, Unit 009, Unit 010, and the Onan Corp. diesel generator~~) and their control devices.

15. Condition D.2.3 is amended as follows:

D.2.3 Record Keeping Requirements

- (a) To document compliance with Condition D.2.1, the Permittee shall maintain records of the fuel oil combusted in the generators (Units 007, 008, 009, 010, the 620 BHP generator, and **Units 021 - 025**) during each calendar month. This data will then be combined with the 11 preceding months to show 12-month rolling totals.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

16. The FESOP Quarterly Reports have been updated to reflect the new fuel use limitation, boilers and/or emergency generators.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION
 and
 VIGO COUNTY AIR POLLUTION CONTROL**

FESOP Quarterly Report

Source Name: Sony DADC
 Source Address: 1800 N. Fruitridge Avenue, Terre Haute, Indiana 47804
 Mailing Address: 1800 N. Fruitridge Avenue, Terre Haute, Indiana 47804
 FESOP No.: F167-15123-00023
 Facility: Boilers (Units 001, 002, 003, 004, 005, 006)
 Parameter: Fuel Oil Use
 Limit: 200,000 gallons of #2 fuel oil per 12-consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2	% Sulfur
	This Month	Previous 11 Months	12 Month Total	Monthly avg.
Month 1				
Month 2				
Month 3				

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION
 and
 VIGO COUNTY AIR POLLUTION CONTROL**

FESOP Quarterly Report

Source Name: Sony DADC
Source Address: 1800 N. Fruitridge Avenue, Terre Haute, Indiana 47804
Mailing Address: 1800 N. Fruitridge Avenue, Terre Haute, Indiana 47804
FESOP No.: F167-15123-00023
Facility: Boilers (Units 001 through 006, the Cleaver Brooks Boiler, and Units 014 though 020)
Parameter: No. 2 fuel oil and No. 2 fuel oil equivalents usage limit to limit SO₂ emissions
Limit: The usage of No. 2 fuel oil with a sulfur content of 0.5% and No. 2 fuel oil equivalents in the boilers (Units 001 through 006, the Cleaver Brooks Boiler, and Units 014 though 020) shall be limited to 206,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. For the purposes of determining compliance, every MMCF of natural gas burned shall be equivalent to 8.45 gallons of No. 2 fuel oil based on SO₂ emissions, such that the total gallons of No. 2 fuel oil and No. 2 fuel oil equivalent input does not exceed the limit specified;

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	No. 2 fuel oil and equivalents usages this month (gallons)	No. 2 fuel oil and equivalents usages previous 11 months (gallons)	No. 2 fuel oil and equivalents usages 12 month total (gallons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION**

FESOP Quarterly Report

Source Name: Sony DADC
Source Address: 1800 N. Fruitridge Avenue, Terre Haute, Indiana 47804
Mailing Address: 1800 N. Fruitridge Avenue, Terre Haute, Indiana 47804
FESOP No.: F167-15123-00023
Facility: Boilers (Units 001 through 006, the Cleaver Brooks Boiler, and Units 014 though 020)
Parameter: Natural gas and natural gas equivalents usage limit to limit NO_x emissions
Limit: The usage of natural gas and natural gas equivalents in the boilers (Units 001 through 006, the Cleaver Brooks Boiler, and Units 014 though 020) shall be limited to 750 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. For purposes of determining compliance, every 1,000 gallons of No. 2 distillate fuel oil burned shall be equivalent to 0.2 MMCF of natural gas burned based on NO_x emissions, such that the total MMCF of natural gas and natural gas equivalent input does not exceed the limit specified;

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Natural gas and equivalents usages this month (MMCF)	Natural gas and equivalents usages previous 11 months (MMCF)	Natural gas and equivalents usages 12 month total (MMCF)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION
 and
 VIGO COUNTY AIR POLLUTION CONTROL**

FESOP Quarterly Report

Source Name: Sony DADC
 Source Address: 1800 N. Fruitridge Avenue, Terre Haute, Indiana 47804
 Mailing Address: 1800 N. Fruitridge Avenue, Terre Haute, Indiana 47804
 FESOP No.: F167-15123-00023
 Facility: Generators (Units 007, 008, 009, 010, the 620 BHP generator, **and Units 021 - 025**)
 Parameter: Fuel Oil Use
 Limit: 200,000 gallons of #2 fuel oil per 12-consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2	% Sulfur
	This Month	Previous 11 Months	12 Month Total	Monthly avg.
Month 1				
Month 2				
Month 3				

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

Attach a signed certification to complete this report.

17. Page numbers on the Table of Contents and pages 5 - 41 have been re-numbered accordingly.

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed FESOP Administrative Amendment No. 167-24913-00032. The staff recommends to the Commissioner that this FESOP Administrative Amendment be approved.

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Pit ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

4.2
EU 014

36.7

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.0	0.1	0.0	1.8	0.1	1.5

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler
 HAPs Emissions**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

EU 014

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.854E-05	2.202E-05	1.376E-03	3.303E-02	6.240E-05

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	9.176E-06	2.019E-05	2.569E-05	6.974E-06	3.854E-05

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Pit ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

4.5
EU 015

39.4

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.0	0.1	0.0	2.0	0.1	1.7

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler
 HAPs Emissions**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

EU 015

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.139E-05	2.365E-05	1.478E-03	3.548E-02	6.701E-05

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	9.855E-06	2.168E-05	2.759E-05	7.490E-06	4.139E-05

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Pit ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

4.0
EU 016

35.0

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.0	0.1	0.0	1.8	0.1	1.5

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler
 HAPs Emissions**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

EU 016

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.679E-05	2.102E-05	1.314E-03	3.154E-02	5.957E-05

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	8.760E-06	1.927E-05	2.453E-05	6.658E-06	3.679E-05

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Pit ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

8.4
EU 017

73.2

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.1	0.3	0.0	3.7	0.2	3.1

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler
 HAPs Emissions**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

EU 017

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	7.690E-05	4.394E-05	2.746E-03	6.591E-02	1.245E-04

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.831E-05	4.028E-05	5.126E-05	1.391E-05	7.690E-05

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Pit ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

8.4
EU 018

73.2

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.1	0.3	0.0	3.7	0.2	3.1

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler
 HAPs Emissions**

**Company Name: Sony DADC
 Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
 Permit Number: 167-24913-00032
 Pit ID: 167-00032
 Reviewer: Scott Sines
 Date: July 6, 2007**

EU 018

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	7.690E-05	4.394E-05	2.746E-03	6.591E-02	1.245E-04

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.831E-05	4.028E-05	5.126E-05	1.391E-05	7.690E-05

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Pit ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

8.8
EU 020

77.1

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	50.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.1	0.3	0.0	1.9	0.2	3.2

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler
 HAPs Emissions**

**Company Name: Sony DADC
 Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
 Permit Number: 167-24913-00032
 Pit ID: 167-00032
 Reviewer: Scott Sines
 Date: July 6, 2007**

EU 020

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	8.094E-05	4.625E-05	2.891E-03	6.938E-02	1.310E-04

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.927E-05	4.240E-05	5.396E-05	1.465E-05	8.094E-05

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil

Company Name: Sony DADC
Address, City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

Heat Input Capacity Potential Throughput S = Weight % Sulfur
MMBtu/hr kgals/year 0.5

8.4 525.6

EU 018

Emission Factor in lb/kgal	Pollutant				
	PM*	SO2	NOx	VOC	CO
	2.0	71 (142.0S)	20.0	0.34	5.0
Potential Emission in tons/yr	0.5	18.7	5.3	0.1	1.3

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil
HAPs Emissions

Company Name: Sony DADC
Address, City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

EU 018

	HAPs - Metals				
Emission Factor in lb/mmBtu	Arsenic 4.0E-06	Beryllium 3.0E-06	Cadmium 3.0E-06	Chromium 3.0E-06	Lead 9.0E-06
Potential Emission in tons/yr	1.47E-04	1.10E-04	1.10E-04	1.10E-04	3.31E-04

	HAPs - Metals (continued)			
Emission Factor in lb/mmBtu	Mercury 3.0E-06	Manganese 6.0E-06	Nickel 3.0E-06	Selenium 1.5E-05
Potential Emission in tons/yr	1.10E-04	2.21E-04	1.10E-04	5.52E-04

Methodology

No data was available in AP-42 for organic HAPs.
 Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton

**Appendix A: Emission Calculations
Internal Combustion Engines - Diesel Fuel
Turbine (>600 HP)**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Heat Input Capacity
MM Btu/hr

S= 0.5 = WEIGHT % SULFUR

6.2
EU 021

Emission Factor in lb/MMBtu	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	0.1	0.0573	0.5 (1.01S)	3.2 **see below	0.1	0.85
Potential Emission in tons/yr	0.2	0.1	0.8	5.0	0.1	1.3

**NOx emissions: uncontrolled = 3.2 lb/MMBtu, controlled with ignition timing retard = 1.9 lb/MMBtu

B. Emissions calculated based on output rating (hp)

Heat Input Capacity
Horsepower (hp)

Potential Throughput
hp-hr/yr

S= 0.5 = WEIGHT % SULFUR

884.0

442000.0

Emission Factor in lb/hp-hr	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	0.0007	not provided	0.0040 (.00809S)	0.024 **see below	0.00071	0.00550
Potential Emission in tons/yr	0.2	0.0	0.9	5.3	0.2	1.2

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr
 Note that the PM10 emission factor in lb/hp-hr is not provided in the Supplement B update of AP-42.
 An average conversion factor of 1hp-hr = 7,000Btu is provided below.

Methodology

Potential Throughput (hp-hr/yr) = hp * 500 hr/yr

Emission Factors are from AP 42 (Supplement B 10/96)Table 3.4-1 and Table 3.4-2

1 hp-hr = 7000 Btu, AP42 (Supplement B 10/96), Table 3.3-1, Footnote a.

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 500 hr/yr / (2,000 lb/ton)

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*No information was given regarding which method was used to determine the PM emission factor or whether condensable PM is included. The PM10 emission factor is filterable and condensable PM10 combined.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil

Company Name: Sony DADC
Address, City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

Heat Input Capacity Potential Throughput S = Weight % Sulfur
MMBtu/hr kgals/year 0.5

7.19 449.8885714

EU 019

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	71 (142.0S)	20.0	0.34	5.0
Potential Emission in tons/yr	0.4	16.0	4.5	0.1	1.1

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil
HAPs Emissions

Company Name: Sony DADC
Address, City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

EU 019

	HAPs - Metals				
Emission Factor in lb/mmBtu	Arsenic 4.0E-06	Beryllium 3.0E-06	Cadmium 3.0E-06	Chromium 3.0E-06	Lead 9.0E-06
Potential Emission in tons/yr	1.26E-04	9.45E-05	9.45E-05	9.45E-05	2.83E-04

	HAPs - Metals (continued)			
Emission Factor in lb/mmBtu	Mercury 3.0E-06	Manganese 6.0E-06	Nickel 3.0E-06	Selenium 1.5E-05
Potential Emission in tons/yr	9.45E-05	1.89E-04	9.45E-05	4.72E-04

Methodology

No data was available in AP-42 for organic HAPs.
 Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton

**Appendix A: Emission Calculations
Internal Combustion Engines - Diesel Fuel
Turbine (>250 and <600 HP)
Reciprocating**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47805
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Heat Input Capacity
MM Btu/hr

1.1
EU 022

Emission Factor in lb/MMBtu	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.31	0.31	0.29	4.41	0.4	0.95	
Potential Emission in tons/yr	0.08	0.08	0.08	1.16	0.09	0.25

B. Emissions calculated based on output rating (hp)

Heat Input Capacity
Horsepower (hp)

Potential Throughput
hp-hr/yr

150.0

75000.0

Emission Factor in lb/hp-hr	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.0022	0.0022	0.0021	0.0310	0.0025	0.0067	
Potential Emission in tons/yr	0.08	0.08	0.08	1.16	0.09	0.25

Methodology

Potential Throughput (hp-hr/yr) = hp * 500 hr/yr

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 500 hr/yr / (2,000 lb/ton)

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

**Appendix A: Emission Calculations
Internal Combustion Engines - Diesel Fuel
Turbine (>250 and <600 HP)
Reciprocating**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47805
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Heat Input Capacity
MM Btu/hr

0.4
EU 023

Emission Factor in lb/MMBtu	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.31	0.31	0.29	4.41	0.4	0.95	
Potential Emission in tons/yr	0.03	0.03	0.03	0.41	0.03	0.09

B. Emissions calculated based on output rating (hp)

Heat Input Capacity
Horsepower (hp)

Potential Throughput
hp-hr/yr

54.0

27000.0

Emission Factor in lb/hp-hr	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.0022	0.0022	0.0021	0.0310	0.0025	0.0067	
Potential Emission in tons/yr	0.03	0.03	0.03	0.42	0.03	0.09

Methodology

Potential Throughput (hp-hr/yr) = hp * 500 hr/yr

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 500 hr/yr / (2,000 lb/ton)

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

**Appendix A: Emission Calculations
Internal Combustion Engines - Diesel Fuel
Turbine (>250 and <600 HP)
Reciprocating**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47805
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Heat Input Capacity
MM Btu/hr

1.1
EU 024

Emission Factor in lb/MMBtu	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.31	0.31	0.29	4.41	0.4	0.95	
Potential Emission in tons/yr	0.08	0.08	0.08	1.16	0.09	0.25

B. Emissions calculated based on output rating (hp)

Heat Input Capacity
Horsepower (hp)

Potential Throughput
hp-hr/yr

150.0

75000.0

Emission Factor in lb/hp-hr	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.0022	0.0022	0.0021	0.0310	0.0025	0.0067	
Potential Emission in tons/yr	0.08	0.08	0.08	1.16	0.09	0.25

Methodology

Potential Throughput (hp-hr/yr) = hp * 500 hr/yr

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 500 hr/yr / (2,000 lb/ton)

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

**Appendix A: Emission Calculations
Internal Combustion Engines - Diesel Fuel
Turbine (>250 and <600 HP)
Reciprocating**

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47805
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Heat Input Capacity
MM Btu/hr

0.4
EU 025

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	0.03	0.03	0.03	0.41	0.03	0.09

B. Emissions calculated based on output rating (hp)

Heat Input Capacity
Horsepower (hp)

Potential Throughput
hp-hr/yr

54.0

27000.0

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.03	0.03	0.03	0.42	0.03	0.09

Methodology

Potential Throughput (hp-hr/yr) = hp * 500 hr/yr

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2

Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 500 hr/yr / (2,000 lb/ton)

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Appendix A: Emissions Calculations

New Emission Units Potential to Emit

Company Name: Sony DADC
Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
Permit Number: 167-24913-00032
Plt ID: 167-00032
Reviewer: Scott Sines
Date: July 6, 2007

Total PTE - New Units (Emergency Generators Limited to 500 hrs Operation Each)

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
EU 014	0.00	0.10	0.00	1.80	0.10	1.50
EU 015	0.00	0.10	0.00	2.00	0.10	1.70
EU 016	0.00	0.10	0.00	1.80	0.10	1.50
EU 017	0.10	0.30	0.00	3.70	0.20	3.10
EU 018 (Nat Gas)	0.10	0.30	0.00	3.70	0.20	3.10
EU 018 (Fuel Oil)	0.50	--	18.70	5.30	0.10	1.30
EU 019 (Nat Gas)	0.10	0.20	0.00	1.60	0.20	2.60
EU 019 (Fuel Oil)	0.40	--	16.00	4.50	0.10	1.10
EU 020	0.10	0.30	0.00	1.90	0.20	3.20
EU 021	0.20	0.10	0.90	5.30	0.20	1.30
EU 022	0.08	0.08	0.08	1.16	0.09	0.25
EU 023	0.03	0.03	0.03	0.42	0.03	0.09
EU 024	0.08	0.08	0.08	1.16	0.09	0.25
EU 025	0.03	0.03	0.03	0.42	0.03	0.09
Worst Case Totals	1.72	1.72	35.82	29.46	1.64	18.68

Appendix A: Emissions Calculations

Fuel Equivalency Calculations

Company Name: Sony DADC
 Address City IN Zip: 1800 N. Fruitridge Ave. Terre Haute, IN 47804
 Permit Number: 167-24913-00032
 Plt ID: 167-00032
 Reviewer: Scott Sines
 Date: August 3, 2007

Existing Potential to Emit

Natural Gas Limitation = 706 MMCF/yr
 No. 2 Fuel Oil Limitation = 200,000 gal/yr, and 0.50 % sulfur
 Diesel Engine Oil Limitation = 200,000 gal/yr

Limited Potential to Emit After Issuance

Equivalent Natural Gas Limitation = 750 MMCF/yr
 Equivalent No. 2 Fuel Oil Limitation = 206,000 gal/yr, and 0.50 % sulfur
 Diesel Engine Oil Limitation = 200,000 gal/yr

Fuel Equivalency (Based on NOx Emissions)

Natural Gas NOx Emission Factor = 100 lb/MMCF
 No. 2 Fuel Oil NOx Emission Factor = 20.0 lb/kgal
 Natural Gas to No. 2 Fuel Oil Equivalency = 0.20 MMCF Nat Gas / 1000 gal No. 2 Fuel Oil

Fuel Equivalency (Based on SO2 Emissions)

Natural Gas SO2 Emission Factor = 0.6 lb/MMCF
 No. 2 Fuel Oil SO2 Emission Factor = 71.0 lb/kgal at 0.5% sulfur conten
 No. 2 Fuel Oil to Natural Gas Equivalency = 8.45 gal No. 2 Fuel Oil / MMCF of Nat Gas

Criteria Pollutant	Emission Factor (units)			Limited Potential to Emit (tons/yr)			
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Diesel Engine (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Diesel Engine (tons/yr)	Total (tons/yr)
PM	1.9	2	43.4	0.67	0.20	4.34	5.21
PM10	7.6	3.3	43.4	2.68	0.33	4.34	7.35
SO2	0.6	71.0	40.6	0.21	7.10	4.06	11.37
NOx	100	20.0	617.4	35.30	2.00	61.74	99.04
VOC	5.5	0.34	49.00	1.94	0.03	4.90	6.88
CO	84	5.0	133.0	29.652	0.50	13.30	43.45
Hazardous Air Pollutant							
Arsenic	2.0E-04	5.6E-04		7.1E-05	5.60E-05		1.3E-04
Beryllium	1.2E-05	4.2E-04		4.2E-06	4.20E-05		4.6E-05
Cadmium	1.1E-03	4.2E-04		3.9E-04	4.20E-05		4.3E-04
Chromium	1.4E-03	4.2E-04		4.9E-04	4.20E-05		5.4E-04
Cobalt	8.4E-05			3.0E-05			3.0E-05
Lead	5.0E-04	1.3E-03		1.8E-04	1.26E-04		0.00
Manganese	3.8E-04	8.4E-04		1.3E-04	8.40E-05		0.00
Mercury	2.6E-04	4.2E-04		9.2E-05	4.20E-05		1.3E-04
Nickel	2.1E-03	4.2E-04		7.4E-04	4.20E-05		0.001
Selenium	2.4E-05	2.1E-03		8.5E-06	2.10E-04		2.2E-04
1,3-Butadiene			5.47E-03			5.47E-04	5.5E-04
Acetaldehyde			1.07E-01			1.07E-02	1.1E-02
Acrolein			1.30E-02			1.30E-03	1.3E-03
Benzene	2.1E-03		1.31E-01	7.4E-04		1.31E-02	1.4E-02
Dichlorobenzene	1.2E-03			4.2E-04			4.2E-04
Formaldehyde	7.5E-02	6.10E-02	1.65E-01	2.6E-02	6.10E-03	1.65E-02	0.049
Hexane	1.8E+00			0.64			0.635
Toluene	3.4E-03		5.73E-02	1.2E-03		5.73E-03	6.9E-03
Total PAH Haps	negl		2.35E-02	negl		2.35E-02	2.4E-03
Polycyclic Organic Matter		3.30E-03			3.30E-04		3.3E-04
Xylene			3.99E-02			3.99E-03	4.0E-03
Total HAPs				0.67	0.01	0.05	0.73

Criteria Pollutant	Emission Factor (units)			Limited Potential to Emit (tons/yr)			
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Diesel Engine (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	Diesel Engine (tons/yr)	Worst Case PTE (tons/yr)
PM	1.9	2	43.4	0.71	0.21	4.34	5.05
PM10	7.6	3.3	43.4	2.85	0.34	4.34	7.19
SO2	0.6	71.0	40.6	0.23	7.31	4.06	11.37
NOx	100	20.0	617.4	37.50	2.06	61.74	99.24
VOC	5.5	0.34	49.00	2.06	0.04	4.90	6.96
CO	84	5.0	133.0	31.5	0.52	13.30	44.80
Hazardous Air Pollutant							
Arsenic	2.0E-04	5.6E-04		7.5E-05	5.77E-05		7.5E-05
Beryllium	1.2E-05	4.2E-04		4.5E-06	4.33E-05		4.3E-05
Cadmium	1.1E-03	4.2E-04		4.1E-04	4.33E-05		4.1E-04
Chromium	1.4E-03	4.2E-04		5.3E-04	4.33E-05		5.3E-04
Cobalt	8.4E-05			3.2E-05			3.2E-05
Lead	5.0E-04	1.3E-03		1.9E-04	1.30E-04		0.00
Manganese	3.8E-04	8.4E-04		1.4E-04	8.65E-05		0.00
Mercury	2.6E-04	4.2E-04		9.8E-05	4.33E-05		9.8E-05
Nickel	2.1E-03	4.2E-04		7.9E-04	4.33E-05		0.001
Selenium	2.4E-05	2.1E-03		9.0E-06	2.16E-04		2.2E-04
1,3-Butadiene			5.47E-03			5.47E-04	5.5E-04
Acetaldehyde			1.07E-01			1.07E-02	1.1E-02
Acrolein			1.30E-02			1.30E-03	1.3E-03
Benzene	2.1E-03		1.31E-01	7.9E-04		1.31E-02	1.4E-02
Dichlorobenzene	1.2E-03			4.5E-04			4.5E-04
Formaldehyde	7.5E-02	6.10E-02	1.65E-01	2.8E-02	6.28E-03	1.65E-02	0.045
Hexane	1.8E+00			0.68			0.675
Toluene	3.4E-03		5.73E-02	1.3E-03		5.73E-03	7.0E-03
Total PAH Haps	negl		2.35E-02	negl		2.35E-03	2.4E-03
Polycyclic Organic Matter		3.30E-03			3.40E-04		3.4E-04
Xylene			3.99E-02			3.99E-03	4.0E-03
Total HAPs				0.71	0.01	0.05	0.76

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lb)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lb)
 Sources of AP-42 Emission Factors for fuel combustion
 Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 9/98), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 Diesel Engine Oil: AP-42 Chapter 3.3 (dated 10/96), Tables 3.3-1 and 3.3-2

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 SO2 = Sulfur Dioxide
 NOx = Nitrous Oxides
 VOC - Volatile Organic Compounds
 CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon