



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

February 8, 2013

Mr. Gerardo Rios  
Chief – Permits Office  
U. S. EPA, Region IX  
75 Hawthorne Street, Air 3  
San Francisco, CA 94105

Subject: Harbor Cogeneration Company, LLC (ID 156741) – Title V Permit Revision

Dear Mr. Rios:

Harbor Cogeneration Company, LLC has proposed to revise its Title V permit by a change of conditions for the gas turbine (Device No. D1). This proposed permit revision is considered as a “minor permit revision” to their Title V (A/N 539799) permit. Attached for your review is the evaluation and permit for this proposed revision. With your receipt of the proposed revision today, we will note that the EPA 45-day review period begins on February 8, 2013.

If you have any questions or need additional information regarding the proposed permit revision, please call Mr. Kenneth L. Coats (909) 396-2527.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Brian L. Yeh', is written over a diagonal line that extends from the top right towards the bottom left.

Brian L. Yeh  
Senior Manager  
Mechanical, Chemical, and Public Services

cc: Greg Trewitt, Southwest Generation

BLY:AYL:JTY:KLC  
Attachments

|  |                           |                   |
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| SOUTH COAST AIR QUALITY MANAGEMENT<br>DISTRICT | PAGES<br>7                | PAGE<br>1         |
|  | APPL. NO.<br>539367       | DATE<br>1/24/2013 |
| STATIONARY SOURCE COMPLIANCE                   | PROCESSED BY<br>Ken Coats |                   |
| APPLICATION PROCESSING AND CALCULATIONS        |                           |                   |

**PERMIT TO OPERATE**

**COMPANY NAME AND ADDRESS**

Contact: Greg Trewitt, (303) 623-4111

Harbor Cogeneration Company, LLC  
505 Pier B Avenue  
Wilmington, CA 90744  
SCAQMD ID #156741

**EQUIPMENT LOCATION**

Same As Above

**EQUIPMENT DESCRIPTION**

Section D of the facility permit:

| <b>PROCESS 1: INTERNAL COMBUSTION</b>   |        |              |   |   |  |
|---|--------|--------------|---|---|--|
| Equipment   | ID No. | Connected To | RECLAIM Source Type/<br>Monitoring Unit | Emissions And Requirements  | Conditions   |
| GAS TURBINE, NATURAL GAS, GENERAL ELECTRIC, MODEL PG711EA, FRAME 7, WITH STEAM OR WATER INJECTION, 1,080 MMBTU/HR, WITH A/N 525894-539367 | D1     | C2           | NOX: MAJOR SOURCE                       | CO: 10 PPMV (4) [BACT];<br>CO: 2000 PPMV (5) [RULE 407];<br>NOX: 7.5 PPMV (4) [BACT];<br>NOX: 78 PPMV (8) [40 CFR 60 SUBPART GG];<br>PM: 0.01 GRAINS/SCF (5B) [RULE 475]; PM: 0.1 GRAINS/SCF (5) [RULE 409];<br>PM: 11 LB/HR (5A) [RULE 475];<br>SOX: 150 PPMV (8) [40 CFR 60 SUBPART GG] | A99.1, A99.2<br>A327.1, B59.1<br>D12.1, E73.2<br>H23.1 H23.4,<br>K40.1 |
| COMPRESSOR, 2,000 HP FUEL BOOSTER   |        |              |   |   |  |
| COMPRESSOR, 1500 HP FUEL BOOSTER  |        |              |   |   |  |
| GENERATOR, 82.3 MW  |        |              |   |   |  |
| BOILER, UNFIRED, HEAT RECOVERY STEAM, 280,000 LB/HR   |        |              |   |   |  |
| TURBINE, STEAM  |        |              |   |   |  |
| GENERATOR, 56 MW  |        |              |   |   |  |

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| <i>STATIONARY SOURCE COMPLIANCE</i>            |                           |                   |
| APPLICATION PROCESSING AND CALCULATIONS        |                           |                   |

### **FACILITY BACKGROUND**

Harbor Cogeneration Company, LLC (HCC) is an existing combined cycle power generation facility located in the Port of Long Beach industrial complex. The site is on an approximate 4-acre parcel and consists of a natural gas fired General Electric Frame 7 combustion turbine producing approximately 83 MW, a heat recovery steam generator, (HRSG), and two backpressure steam turbines each producing 11.5 MW and 12 MW. The air pollution control equipment consists of CO and SCR catalysts using aqueous ammonia for control of CO and NOx emissions, respectively. The total net electrical output (MW) from the facility is approximately 106.5 MW. Harbor Cogeneration Company, LLC has modified the facility in June 2012 by replacing the existing unfired HRSG and the two backpressure steam turbines with a new unfired HRSG and a single larger condensing steam turbine, and the addition of a 4-cell mechanical draft cooling tower. The modification allowed for more energy extraction from the available waste heat and at the same time increase the overall plant efficiency. The modification also allowed HCC to increase electrical generation efficiency which will also provide additional power output. The plant heat rate will be reduced from the present 11,200 BTU/kw-hr to approximately 7,500 BTU/kw-hr, with an expected overall efficiency improvement of 33%. The resulting maximum net electrical output of the project will be 138 MW, or an increase of approximately 28 MW in total generating capacity.

### **PROCESS DESCRIPTION**

The plant operates to supply electrical power to the grid on a demand basis and operates in combined cycle. The high and low pressure steam produced in the waste heat recovery boiler is exhausted through separate non-condensing steam turbine generators each rated at 12.5 MW and 11.5 MW. The total electricity produced is based on the electrical output of the gas turbine generator and the two steam turbine generators. Emissions are controlled through water injection into the gas turbine compressor for control of NOx emissions. Catalyst modules for carbon monoxide oxidation as well as NOx reduction are contained in the heat recovery boiler within the turbine exhaust flow path. The CO catalyst will reduce CO emissions to BACT levels and ammonia injection is used in the exhaust stream to further reduce NOx emissions to BACT levels.

### **COMPLIANCE RECORD**

A review of the District compliance database indicates that there were two NCs (D12212 and E01210) issued to HCC 8/9/2011. NC D12212 was issued to provide the additional information regarding compliance and NC E01210 was issued to provide the following information for the 2012 compliance year for each 15-minute segment: the average NOx ppm value, the count of all valid data points and the count of all points greater than the range of the analyzer. The database indicates that the facility is now in compliance and there are no outstanding NCs or NOV's.

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### **PROPOSED CHANGE OF CONDITIONS**

HCC submitted A/N 539367 for a change of conditions to revise the existing permit wording in Conditions A99.1 and A99.2 to add language to account for a failed turbine start-up (turbine trip) while retaining the currently permitted maximum of 2 turbine start-up events per day. At the present time, AQMD does not have a formalized definition for what constitutes a failed turbine start-up. As such, AQMD and the facility have agreed to process the application for change of conditions to account for essentially a third start-up event, bringing the total maximum start-up events to 3 per day. HCC also submitted A/N 539799 for Title V Minor Modification.

HCC does not plan to make any additional modifications to the equipment or changes to existing permit conditions other than the request for a 3 start-up per day. Table 1 below lists the applications submitted to AQMD for the proposed modifications:

Table 1 – Applications for Proposed Change of Conditions

| A/N                         | Equipment                  | Processing Fee |
|-----------------------------|----------------------------|----------------|
| 539367                      | Gas Turbine > 50 MW        | \$11,328.26    |
| 539799                      | Title V Minor Modification | \$1,747.19     |
| Total Permit Processing Fee |                            | \$13,075.45    |

### **EMISSIONS**

There will also be no increase in fuel consumption to the gas turbine as a result of the proposed change of conditions. Therefore the emissions prior to the change of conditions will equivalent to the emissions after the proposed change of conditions and are shown in Table 2 below:

Table 6 – Facility Emissions

| Pollutant | Uncontrolled<br>lb/hr | Controlled<br>lb/hr | Uncontrolled<br>lb/day | Controlled<br>lb/day | lb/month  | lb/year    | 30DA   |
|-----------|-----------------------|---------------------|------------------------|----------------------|-----------|------------|--------|
| CO        | 22.0                  | 2.2                 | 1,010.03               | 101.03               | 3,031.84  | 36,840.00  | 101.03 |
| NOx       | 242.0                 | 24.2                | 4,344.40               | 434.44               | 13,467.60 | 157,860.00 | 434.44 |
| PM10      | 2.5                   | 2.5                 | 30.97                  | 30.97                | 960.00    | 11,220.00  | 30.97  |
| VOC       | 1.0                   | 1.0                 | 12.39                  | 12.39                | 384.00    | 4,500.00   | 12.39  |
| SOx       | 2.8                   | 2.8                 | 34.68                  | 34.68                | 1,075.20  | 12,580.00  | 34.68  |

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## **RULES EVALUATION**

### **RULE 212 – Standards for Approving Permits**

This equipment is not located within 1,000 feet of a school, the maximum MICR is not expected to increase as a result of the proposed modification, and there is no increase in criteria pollutant emissions. Therefore, no public notice is required.

### **RULE 401 – Visible Emissions**

Visible emissions are not expected under normal operation of this equipment.

### **RULE 402 – Nuisance**

Nuisance problems are not expected under normal operation of this equipment.

### **RULE 407–Liquid and Gaseous Air Contaminants**

CO and NOx emission limits will be in compliance with the use of natural gas.

### **RULE 409 – Combustion Contaminants**

The Rule requires the PM emissions to be at 0.1 gr/scf @12% CO2. The gas turbine is expected to meet this limit based on the following calculations:

|                      |               |
|----------------------|---------------|
| Exhaust flow rate    | 31.8 mmscf/hr |
| Maximum PM emissions | 2.5 lb/hr     |
| %CO2 in exhaust      | 3%            |

$$\text{Grain Loading} = (2.5 \text{ lb/hr} * 7,000 \text{ gr/lb}) / (12/3) / 31.8 \text{ mmscfh} = 0.0022 \text{ gr/scf}$$

$$0.0022 \text{ gr/scf} \ll 0.1 \text{ gr/scf}$$

Compliance is expected

### **RULE 431.1 – Sulfur Content of Gaseous Fuels**

The equipment will use pipeline quality natural gas as fuel. Compliance is expected.

### **RULE 475 – Electric Power Generating Equipment**

The rule requires compliance with a PM emission limit of either 11 lb/hr or 0.01 gr/scf. Compliance is demonstrated either the mass emission limit or the concentration emission limit is met. Emissions from the gas turbine are 2.5 lb/hr and 0.0022 gr/scf. Compliance is expected.

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### REGULATION XIII – New Source Review

#### BACT

HCC is a Title V facility and is therefore subject to Major Source BACT. There will be no increase in maximum daily emissions from VOC, PM10 or SOx as a result of the additional requested third start-up. Therefore, no additional BACT requirements will be imposed, and continued compliance is expected.

#### Modeling

The applicant has submitted modeling which indicates that the proposed change of conditions will not cause a violation or make significantly worse, an existing violation of any state or national ambient air quality standard at any receptor location within the AQMD. As such, compliance with the modeling requirement is expected.

#### Offsets

There will be no emission increase for VOC, PM10 or SOx as a result of the proposed change of conditions. Therefore no offsets for these pollutants are required.

Compliance with NSR is expected.

#### RULE 1401– New Source Review for Toxic Air Contaminants

There is no increase in emissions of toxic air contaminants due to the proposed modification. Therefore the facility is exempt under Rule 1401(g)(1)(B).

#### RULE 2005 – NSR for RECLAIM

There is no increase in NOx emissions from the proposed modification. Therefore, NSR is not triggered.

#### RULE 2012 – Requirements for Monitoring, Reporting and Recordkeeping for Oxides of Nitrogen (NOx) Emissions

The facility is currently in compliance with the applicable monitoring reporting and recordkeeping requirements in this rule.

#### Reg XVII - PSD

Co is an attainment pollutant. The current CO BACT limit of 10 ppmv @ 15% O2 cannot be achieved during the cold start-up period because the CO catalyst has not achieved proper operating temperature. As such, the duration (in minutes) of each start-up will be limited to the minimum amount necessary prior to onset of steady state operations. In addition, there will be no increase in maximum daily CO emissions during steady state operations. Therefore compliance with CO BACT is expected.

In addition, CO is an attainment pollutant and facility emissions are within the PSD thresholds. As such, no offsets for CO are required.

|  |                           |                   |
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Regulation XXX – Title V

The facility is currently subject to the Title V requirements. Since the proposed change of conditions is a minor modification, the facility is subject to a 45-day EPA review.

40 CFR 63 Subpart YYYY - National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

This NESHAP applies to all stationary gas turbines located at a major source of HAP emissions. A major source of HAP emissions is a source that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year. The AQMD database shows the 2011 HAP emissions from HCC and are shown in the table below in lb/year:

Based on 2011 Actual Reported Emissions

|          |   |          |
|----------|---|----------|
| 106990   | 1,3-Butadiene                             | 0.052    |
| 7664417  | Ammonia                                   | 1285.489 |
| 7440382  | Arsenic                                   | 0.000    |
| 71432    | Benzene                                   | 1.438    |
| 7440439  | Cadmium                                   | 0.000    |
| 18540299 | Chromium (VI)                             | 0.000    |
| 50000    | Formaldehyde                              | 16.516   |
| 7439921  | Lead (inorganic)                          | 0.000    |
| 91203    | Naphthalene                               | 0.156    |
| 7440020  | Nickel                                    | 0.000    |
| 1151     | PAHs, total, with components not reported | 0.109    |

The total HAP emissions are 1,303.76 lb/year \*1 ton/2,000 lb = 0.651 TPY << 25 TPY

The maximum single pollutant HAP rate is 1,285.489 lb/year \*1 ton/2,000 lb = 0.643 TPY << 10 TPY

Based on Facility Potential to Emit

| Pollutant     | Maximum Heat Input (MMBTU/hr) | AP-42 Emission Factor (lb/MMBTU) | HAP Emissions (lb/hr) | HAP Emissions (TPY) |
|---------------|-------------------------------|----------------------------------|-----------------------|---------------------|
| 1,3 Butadiene | 1,080                         | 0.00000043                       | 0.0004644             | 0.00                |
| Acetaldehyde  | 1,080                         | 0.00004000                       | 0.0432000             | 0.19                |
| Acrolein      | 1,080                         | 0.00000640                       | 0.0069120             | 0.03                |
| Benzene       | 1,080                         | 0.00001200                       | 0.0129600             | 0.06                |
| Ethylbenzene  | 1,080                         | 0.00003200                       | 0.0345600             | 0.15                |
| Formaldehyde  | 1,080                         | 0.00007100                       | 0.0766800             | 0.34                |
| Naphthalene   | 1,080                         | 0.00000130                       | 0.0014040             | 0.01                |
| PAHs          | 1,080                         | 0.00000220                       | 0.0023760             | 0.01                |

|  |                           |                   |
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|                 |       |            |           |      |
|-----------------|-------|------------|-----------|------|
| Propylene Oxide | 1,080 | 0.00002900 | 0.0313200 | 0.14 |
| Toluene         | 1,080 | 0.00013000 | 0.1404000 | 0.61 |
| Xylenes         | 1,080 | 0.00006400 | 0.0691200 | 0.30 |
| TOTAL HAP PTE   |       |            |           | 1.84 |

The total HAP emissions are = 1.84 TPY << 25 TPY

The maximum single pollutant HAP rate is = 0.61 TPY << 10 TPY

Therefore based on both actual HAP and PTE HAP emissions, 40 CFR 63 Subpart YYY is not applicable to this facility

**CONCLUSION:**

Upon completion of the EPA 45-day review period, issue a Permit to Operate for the gas turbine with revised conditions A 99.1 and A99.2 as follows:

**CONDITIONS:**

A99.1 The 10 PPM CO emission limit(s) shall not apply during turbine start-up and shutdown periods. Start-up time shall not exceed 120 minutes per start-up. Shutdown time shall not exceed 60 minutes per shutdown. The turbine shall be limited to a maximum of 2-3 start-ups per day and 2-3 shutdowns per day. During start-up, the CO emissions shall not exceed 58.9 lb. During shutdown, the CO emissions shall not exceed 29.4 lb. Written records of start-ups and shutdowns shall be maintained and made available upon request from the Executive Officer.

A99.2 The 7.5 PPM NOx emission limit(s) shall not apply during turbine start-up and shutdown periods. Start-up time shall not exceed 120 minutes per start-up. Shutdown time shall not exceed 60 minutes per shutdown. The turbine shall be limited to a maximum of 2-3 start-ups per day and 2-3 shutdowns per day. During start-up, the CO emissions shall not exceed 147.8 lb. During shutdown, NOx emissions shall not exceed 73.9 lb. Written records of start-ups and shutdowns shall be maintained and made available upon request from the Executive Officer.

## FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

| Equipment  | ID No. | Connected To | RECLAIM Source Type/<br>Monitoring Unit | Emissions*<br>And Requirements  | Conditions   |
|--|--------|--------------|---|---|--|
| <b>Process 1: INTERNAL COMBUSTION, INDUSTRIAL</b>  |        |              |   |   |  |
| GAS TURBINE, NATURAL GAS,<br>GENERAL ELECTRIC, MODEL<br>PG711 IEA, FRAME 7, WITH STEAM<br>OR WATER INJECTION, 1080<br>MMBTU/HR WITH<br>A/N: 525894<br><br><br><br><br><br><br><br><br><br><br>COMPRESSOR, 2000 HP FUEL<br>BOOSTER<br><br>COMPRESSOR, 1500 HP FUEL<br>BOOSTER<br><br>GENERATOR, 82.3 MW<br><br>BOILER, HEAT RECOVERY<br>STEAM, UNFIRED, 280,000 LB/HR<br><br>TURBINE, STEAM<br><br>GENERATOR, 56 MW | D1     | C2           | NOX: MAJOR<br>SOURCE**                  | CO: 10 PPMV (4) [RULE 1303(a)<br>(1)-BACT, 5-10-1996]; CO: 2000<br>PPMV (5) [RULE 407, 4-2-1982];<br>NOX: 7.5 PPMV (4) [RULE<br>1303(a)(1)-BACT, 5-10-1996];<br>NOX: 78 PPMV (8) [40CFR 60<br>Subpart GG, 3-6-1981]; PM: 0.01<br>GRAINS/SCF (5B) [RULE 475,<br>10-8-1976; RULE 475, 8-7-1978];<br>PM: 0.1 GRAINS/SCF (5) [RULE<br>409, 8-7-1981]; PM: 11 LBS/HR<br>(5A) [RULE 475, 10-8-1976;<br>RULE 475, 8-7-1978]; SOX: 150<br>PPMV (8) [40CFR 60 Subpart<br>GG, 3-6-1981] | A99.1, A99.2,<br>A327.1,<br>B59.1, D12.1,<br>E73.2, H23.1,<br>H23.4, K40.1 |
| OXIDIZER, CATALYST, CARBON<br>MONOXIDE, WIDTH: 39 FT 5 IN;<br>HEIGHT: 35 FT; LENGTH: 4 IN<br>A/N: 487077   | C2     | D1 C3        |   |   |  |

- \* (1) (1A) (1B) Denotes RECLAIM emission factor
- (2) (2A) (2B) Denotes RECLAIM emission rate
- (3) Denotes RECLAIM concentration limit
- (4) Denotes BACT emission limit
- (5) (5A) (5B) Denotes command and control emission limit
- (6) Denotes air toxic control rule limit
- (7) Denotes NSR applicability limit
- (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
- (9) See App B for Emission Limits
- (10) See section J for NESHAP/MACT requirements

\*\* Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

## FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

| Equipment  | ID No. | Connected To | RECLAIM Source Type/<br>Monitoring Unit | Emissions*<br>And Requirements   | Conditions                 |
|--|--------|--------------|---|--|----------------------------|
| <b>Process 1: INTERNAL COMBUSTION, INDUSTRIAL</b>  |        |              |   |  |                            |
| SELECTIVE CATALYTIC REDUCTION. HONEYCOMB CATALYST BED, WIDTH: 39 FT 5 IN, HEIGHT: 35 FT ; LENGTH: 2 FT 9 IN WITH<br><br>AMMONIA INJECTION<br><br>A/N: 487077 | C3     | C2 S4        |   | NH3: 20 PPMV NATURAL GAS<br>(4) [RULE 1303(a)(1)-BACT, 5-10-1996]                                | D12.3, D29.1, E73.1, K40.1 |
| STACK<br>A/N: INACTIVE   | S4     | C3           |   |  | D82.1                      |
| <b>Process 2: R-219 EXEMPT EQUIPMENT SUBJECT TO SOURCE SPECIFIC RULES</b>  |        |              |   |  |                            |
| RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS   | E10    |              |   | ROG: (9) [RULE 1113, 11-8-1996; RULE 1113, 7-13-2007; RULE 1171, 11-7-2003; RULE 1171, 2-1-2008] | K67.1                      |
| RULE 219 EXEMPT EQUIPMENT, COOLING TOWERS  | E18    |              |   |  | H23.5                      |
| RULE 219 EXEMPT EQUIPMENT, AIR CONDITIONING UNITS  | E11    |              |   |  | H23.3                      |
| RULE 219 EXEMPT EQUIPMENT, HALON UNIT  | E13    |              |   |  | H23.2                      |

- \* (1) (3A) (1B) Denotes RECLAIM emission factor
  - (2) (2A) (2B) Denotes RECLAIM emission rate
  - (3) Denotes RECLAIM concentration limit
  - (4) Denotes BACT emission limit
  - (5) (5A) (5B) Denotes command and control emission limit
  - (6) Denotes air toxic control rule limit
  - (7) Denotes NSR applicability limit
  - (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
  - (9) See App B for Emission Limits
  - (10) See section J for NESHAP/MACT requirements
- \*\* Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

**FACILITY PERMIT TO OPERATE  
HARBOR COGENERATION CO, LLC**

**SECTION D: DEVICE ID INDEX**

**The following sub-section provides an index  
to the devices that make up the facility  
description sorted by device ID.**

**FACILITY PERMIT TO OPERATE  
HARBOR COGENERATION CO, LLC  
SECTION D: DEVICE ID INDEX**

| <b>Device Index For Section D</b> |                           |                |               |
|-----------------------------------|---------------------------|----------------|---------------|
| <b>Device ID</b>                  | <b>Section D Page No.</b> | <b>Process</b> | <b>System</b> |
| D1                                | 1                         | 1              | 0             |
| C2                                | 1                         | 1              | 0             |
| C3                                | 2                         | 1              | 0             |
| S4                                | 2                         | 1              | 0             |
| E10                               | 2                         | 2              | 0             |
| E11                               | 2                         | 2              | 0             |
| E13                               | 2                         | 2              | 0             |
| E18                               | 2                         | 2              | 0             |

## **FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC**

### **SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS**

**The operator shall comply with the terms and conditions set forth below:**

#### **FACILITY CONDITIONS**

F9.1 Except for open abrasive blasting operations, the operator shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark or darker in shade as that designated No.1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (a) of this condition.

**[RULE 401, 3-2-1984; RULE 401, 11-9-2001]**

F24.1 Accidental release prevention requirements of Section 112(r)(7):

a). The operator shall comply with the accidental release prevention requirements pursuant to 40 CFR Part 68 and shall submit to the Executive Officer, as a part of an annual compliance certification, a statement that certifies compliance with all of the requirements of 40 CFR Part 68, including the registration and submission of a risk management plan (RMP).

b). The operator shall submit any additional relevant information requested by the Executive Officer or designated agency.

**[40CFR 68 - Accidental Release Prevention, 5-24-1996]**

#### **DEVICE CONDITIONS**

##### **A. Emission Limits**

## **FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC**

### **SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS**

**The operator shall comply with the terms and conditions set forth below:**

A99.1 The 10 PPM CO emission limit(s) shall not apply during turbine start-up and shutdown periods. Start-up time shall not exceed 120 minutes per start-up. Shutdown time shall not exceed 60 minutes per shutdown. The turbine shall be limited to a maximum of 3 start-ups per day and 3 shutdowns per day. During start-up, the CO emissions shall not exceed 58.9 lb. During shutdown, the CO emissions shall not exceed 29.4 lb. Written records of start-ups and shutdowns shall be maintained and made available upon request from the Executive Officer..

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE  
1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]**

[Devices subject to this condition : D1]

A99.2 The 7.5 PPM NOX emission limit(s) shall not apply during turbine start-up and shutdown periods. Start-up time shall not exceed 120 minutes per start-up. Shutdown time shall not exceed 60 minutes. The turbine shall be limited to a maximum of 3 start-ups per day and 3 shutdowns per day. During start-up, NOx emissions shall not exceed 147.8 lb. During shutdown, NOx emissions shall not exceed 73.9 lb. Written records of start-ups and shutdowns shall be maintained and made available upon request from the Executive Officer..

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 2005,  
4-20-2001; RULE 2005, 5-6-2005]**

[Devices subject to this condition : D1]

A327.1 For the purpose of determining compliance with District Rule 475, combustion contaminant emissions may exceed the concentration limit or the mass emission limit listed, but not both limits at the same time.

**[RULE 475, 10-8-1976; RULE 475, 8-7-1978]**

## FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : D1]

#### B. Material/Fuel Type Limits

B59.1 The operator shall only use the following material(s) in this device :

Natural gas with sulfur compounds, calculated as hydrogen sulfide, no greater than 5.0 ppmv.

[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D1]

#### D. Monitoring/Testing Requirements

D12.1 The operator shall install and maintain a(n) flow meter to accurately indicate the fuel usage of the gas turbine.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every 12 months.

[RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D1]

D12.3 The operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature of the gas turbine exhaust measured prior to the inlet of the SCR reactor..

## FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

**The operator shall comply with the terms and conditions set forth below:**

The operator shall also install and maintain a device to continuously record the parameter being measured.

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]**

[Devices subject to this condition : C3]

D29.1 The operator shall conduct source test(s) for the pollutant(s) identified below.

| Pollutant(s) to be tested | Required Test Method(s)                        | Averaging Time | Test Location |
|---------------------------|--|----------------|---------------|
| NH3 emissions             | District method 207.1 and 5.3 or EPA method 17 | 1 hour         | Outlet        |

The test shall be conducted at least annually and the District shall be notified of the date and time of the test at least 7 days prior to the test.

The source test shall be submitted to the District no later than 45 days after the source test was conducted

**[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]**

[Devices subject to this condition : C3]

D82.1 The operator shall install and maintain a CEMS to measure the following parameters:

## FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

#### The operator shall comply with the terms and conditions set forth below:

The CEMS will convert the actual NOX and CO concentrations to mass emission rates (lbs/hr) and record the hourly emission rates on a continuous basis.

NOX concentration in ppmv

CO concentration in ppmv

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

Oxygen concentration in percent volume

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 218, 8-7-1981; RULE 218, 5-14-1999]

[Devices subject to this condition : S4]

#### E. Equipment Operation/Construction Requirements

E73.1 Notwithstanding the requirements of Section E conditions, the operator may, at his discretion, choose not to use ammonia injection if all of the following requirement(s) are met:

Whenever the gas turbine exhaust measured at the inlet of the SCR reactor is less than 650 degrees Fahrenheit.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : C3]

E73.2 Notwithstanding the requirements of Section E conditions, the operator may, at his discretion, choose not to use water injection if any of the following requirement(s) are met:

## FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

During start-up periods.

During shutdown periods.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D1]

#### H. Applicable Rules

H23.1 This equipment is subject to the applicable requirements of the following rules or regulations:

| Contaminant | Rule          | Rule/Subpart |
|-------------|---------------|--------------|
| CO          | District Rule | 218          |

[RULE 218, 8-7-1981; RULE 218, 5-14-1999]

[Devices subject to this condition : D1]

H23.2 This equipment is subject to the applicable requirements of the following rules or regulations:

| Contaminant | Rule          | Rule/Subpart |
|-------------|---------------|--------------|
| Halon       | District Rule | 1418         |

[RULE 1418, 9-10-1999]

[Devices subject to this condition : E13]

## FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

H23.3 This equipment is subject to the applicable requirements of the following rules or regulations:

| Contaminant  | Rule             | Rule/Subpart |
|--------------|------------------|--------------|
| Refrigerants | District Rule    | 1415         |
| Refrigerants | 40CFR82, SUBPART | F            |

[RULE 1415, 10-14-1994; 40CFR 82 Subpart F, 5-14-1993]

[Devices subject to this condition : E11]

H23.4 This equipment is subject to the applicable requirements of the following rules or regulations:

| Contaminant      | Rule          | Rule/Subpart |
|------------------|---------------|--------------|
| Sulfur compounds | District Rule | 431.1        |

[RULE 431.1, 6-12-1998]

[Devices subject to this condition : D1]

H23.5 This equipment is subject to the applicable requirements of the following rules or regulations:

| Contaminant          | Rule          | Rule/Subpart |
|----------------------|---------------|--------------|
| Chromium, Hexavalent | District Rule | 1404         |

[RULE 1404, 4-6-1990]

## FACILITY PERMIT TO OPERATE HARBOR COGENERATION CO, LLC

### SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : E18]

#### K. Record Keeping/Reporting

K40.1 The operator shall provide to the District a source test report in accordance with the following specifications:

Source test results shall be submitted to the District no later than 45 days after the source test was conducted.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]

[Devices subject to this condition : D1, C3]

K67.1 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

For architectural applications where no thinners, reducers, or other VOC containing materials are added, maintain semi-annual records for all coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/l) of materials for low-solids coatings, (c) VOC content as supplied in g/l of coating, less water and exempt solvent, for other coatings.

For architectural applications where thinners, reducers, or other VOC containing materials are added, maintain daily records for each coating consisting of (a) coating type, (b) VOC content as applied in grams per liter (g/l) of materials used for low-solids coatings, (c) VOC content as applied in g/l of coating, less water and exempt solvent, for other coatings.

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997]

[Devices subject to this condition : E10]