

**AIR QUALITY**  
MANAGEMENT DISTRICT**STATEMENT OF BASIS FOR  
RENEWAL OF THE TITLE V FEDERAL OPERATING PERMIT**

<b>TITLE V PERMIT NO.:</b>	<u>TV2010-16-01</u>
<b>DATE:</b>	<u>February 2, 2011</u>
<b>REVIEWING ENGINEER:</b>	<u>Jeff Weiss</u>

**A. FACILITY INFORMATION:**

<b><u>FACILITY NAME:</u></b>	University of California, Davis Medical Center (UCDMC)
<b><u>LOCATION:</u></b>	4800 2nd Avenue Sacramento, CA 95817
<b><u>MAILING ADDRESS:</u></b>	4800 2 <sup>nd</sup> Avenue, Suite 2500 Sacramento, CA 95817
<b><u>RESPONSIBLE OFFICIAL:</u></b>	Vincent Johnson Chief Operating Officer – Medical Center (916) 703-5470
<b><u>CONTACT PERSON:</u></b>	John Danby Environmental Programs Specialist Environment Health and Safety (916) 734-7329

**B. PURPOSE OF THIS STATEMENT OF BASIS**

The Title V Federal Operating Permit is intended to be a document containing only enforceable terms and conditions as well as any additional information, such as the identification of emission units, emission points, emission sources and processes that makes the terms meaningful. 40 CFR Part 70.7(a)(5) requires that each Title V permit have an accompanying "...statement that sets forth the legal and factual basis for the draft permit conditions." The purpose of this Statement of Basis is to satisfy the above requirement by providing pertinent details regarding the permit/application data and permit conditions in a more easily understandable format. This Statement of Basis also includes background narrative and explanations of regulatory decisions made by the SMAQMD. It should be emphasized that this Statement of Basis, while based on information contained in the permit, is a separate document and is not, itself, an enforceable term and condition of the permit.

### C. Permit Action History

This Statement of Basis is for the 2nd renewal of UCDMC's existing Title V Federal Operating Permit No. TV2005-16-02. The existing permit expires on June 14, 2011.

The following permit actions have occurred since the initial Federal Operating Permit No. TV1999-16-01 was issued:

<u>Permit Action</u>	<u>Date</u>	<u>Permit No.</u>
Initial Title V Federal Operating Permit	06-14-2001	TV1999-16-01
1st Minor Modification	04-09-2002	TV1999-16-02
2nd Minor Modification	03-18-2003	TV1999-16-03
3rd Minor Modification	08-10-2004	TV1999-16-04
4th Minor Modification	07-11-2005	TV1999-16-05
1st Permit Renewal	06-14-2006	TV2005-16-01
1st Minor Modification	06-08-2010	TV2005-16-02

This 2nd permit renewal action will be assigned the permit number TV2010-16-01.

As part of this permit renewal, UCDMC has requested a change in the responsible official from Dr. Shelton Duruisseau to Mr. Vincent Johnson. UCDMC has also requested that the following equipment be added to the permit.

IC Engine Bldg. 34, Emergency Use, 1502 hp.

IC Engine PET Trailer, Emergency Use, 157 hp

UCDMC has also requested that the following revisions be made to permit for the following pieces of equipment

IC Engine Lot 7, Emergency Use, 750 hp  
Emission factor change for ROC, NOx, PM10, and CO from USEPA AP-42 values to more accurate manufacturer's data.

Gasoline Dispensing Facility  
Equipment was retrofitted with state mandated Phase II enhanced vapor recovery (EVR) equipment.

## D. Facility Description

*The following facility description is for informational purposes only and does not contain any applicable federally enforceable requirements.*

The University of California, Davis operates the UC Davis Medical Center in Sacramento. The UC Davis Medical Center is a health care provider for the community and a teaching hospital for the UC Davis School of Medicine.

The UC Davis Medical Center is located on 140 acres in central Sacramento, three miles from the state Capitol and 20 miles from the main UC Davis campus. The University established the Medical Center in 1973 to support the clinical and research missions of the then new UC Davis School of Medicine. Licensed for 613 beds and fully accredited, UC Davis Medical Center is one of the region's Level I comprehensive adult and pediatric trauma center.

Electrical power for the facility is generated from an on-site cogeneration central power plant. The electrical generation plant uses a natural gas fueled gas turbine to generate electricity. Heat generated from the equipment is captured and used to produce steam for heating and cooling. In addition, four large boilers (with emergency use diesel fuel) and eight smaller natural gas fueled boilers provide steam when the gas turbine capacity is exceeded or the gas turbine is out of service.

Emergency electrical power is provided by ten diesel fueled internal combustion engines driving electrical generators. Emergency water pumping for fire fighting is provided by one internal combustion engine driving a fire pump.

A gasoline dispensing facility is used to fuel vehicles that are used both on-site and off-site.

## E. Significant Emissions Unit Information

### 1. GAS TURBINE SYSTEM

#### Gas Turbine

SMAQMD Permit No.: P/O 17549  
Manufacturer: General Electric  
Model No.: LM2500  
Type: Combined Cycle  
Heat Input Rating: 260 MMBTU/hour  
Fuel: Natural gas  
Power Rating: 24 MW  
Location: Central Plant  
Equipped with: 4 cooling towers rated at 9500 gpm/cell

#### NOx Air Pollution Control System Serving the Gas Turbine

SMAQMD Permit No.: P/O 10909  
Control Device: Selective catalytic reduction  
Manufacturer: Babcock and Wilcox  
Location: Central Plant

#### CO Air Pollution Control System Serving the Gas Turbine

SMAQMD Permit No.: P/O 10910  
Control Device: Oxidation catalyst  
Manufacturer: Engelhard Corporation, Model Catco 620HC  
Location: Central Plant

### 2. BOILER NO. 1

SMAQMD Permit No.: P/O 20216  
Make: Johnston Boiler Company  
Model: PFTA750-4LG-150S  
Serial No.: 9357-04  
Rating: 31.5 MMBTU/hour  
Fuel: Natural Gas  
Emergency fuel: Diesel No. 2  
Location: Central Plant

### 3. BOILER NO. 2

SMAQMD Permit No.: P/O 20217  
Make: Johnston Boiler Company  
Model: PFTA750-4LG-150S  
Serial No.: 9357-03  
Rating: 31.5 MMBTU/hour  
Fuel: Natural Gas  
Emergency fuel: Diesel No. 2  
Location: Central Plant

**E. Significant Emissions Unit Information (continued)**

**4. BOILER NO. 3**

SMAQMD Permit No.: P/O 20218  
Make: Johnston Boiler Company  
Model: PFTA750-4LG-150S  
Serial No.: 9357-02  
Rating: 31.5 MMBTU/hour  
Fuel: Natural Gas  
Emergency fuel: Diesel No. 2  
Location: Central Plant

**5. BOILER NO. 4**

SMAQMD Permit No.: P/O 20219  
Make: Johnston Boiler Company  
Model: PFTA750-4LG-150S  
Serial No.: 9357-01  
Rating: 31.5 MMBTU/hour  
Fuel: Natural Gas  
Emergency fuel: Diesel No. 2  
Location: Central Plant

**6. 8 BOILERS, NOS. 1- 8 (CALIFORNIA SPECIALS)**

SMAQMD Permit No.: P/O 12979  
Make: Bryan  
Model: MOD-400S-100-G  
Serial No.: 52790, 52791, 52797, 52805, 52858, 52859, 52865, & 52868  
Rating: 0.4 MMBTU/hour each boiler  
Fuel: Natural Gas  
Location: Building 01/02 Main Hospital

**7. IC ENGINE NO. 1, EMERGENCY USE**

SMAQMD Permit No.: P/O 18533  
Manufacturer: Caterpillar  
Model: 3516B DITA SC 140F  
Serial No.: 6HN00135  
Engine BHP: 2876 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
US EPA Family No.: N/A  
EPA Tier Standard: Tier 0  
Driving: Emergency Electrical generator  
Location: Central Plant

**E. Significant Emissions Unit Information (continued)**

**8. IC ENGINE NO. 2, EMERGENCY USE**

SMAQMD Permit No.: P/O 18534  
Manufacturer: Caterpillar  
Model: 3516B DITA SC 140F  
Serial No.: 6HN00136  
Engine BHP: 2876 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
U.S EPA Family No.: N/A  
EPA Tier Standard: Tier 0  
Driving: Emergency Electrical generator  
Location: Central Plant

**9. IC ENGINE NO. 3, EMERGENCY USE**

SMAQMD Permit No.: P/O 18535  
Manufacturer: Caterpillar  
Model: 3516B DITA SC 140F  
Serial No.: 6HN00137  
Engine BHP: 2876 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
U.S EPA Family No.: N/A  
EPA Tier Standard: Tier 0  
Driving: Emergency Electrical generator  
Location: Central Plant

**10. IC ENGINE NO. 4, EMERGENCY USE**

SMAQMD Permit No.: P/O 18536  
Manufacturer: Caterpillar  
Model: 3516B DITA SC 140F  
Serial No.: 6HN00134  
Engine BHP: 2876 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
U.S EPA Family No.: N/A  
EPA Tier Standard: Tier 0  
Driving: Emergency Electrical generator  
Location: Central Plant

**11. IC ENGINE NO. 5, EMERGENCY USE**

SMAQMD Permit No.: P/O 14475  
Manufacturer: Caterpillar  
Model: 3516B DITA SC 140F  
Serial No.: 6HN00361  
Engine BHP: 2876 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
EPA Non-Road Tier Std.: N/A  
EPA Tier Standard: Tier 0  
Driving: Emergency Electrical generator  
Location: Central Plant

**E. Significant Emissions Unit Information (continued)**

**12. IC ENGINE LOT 7, EMERGENCY USE**

SMAQMD Permit No.: P/O 22314  
Manufacturer: Cummins  
Model: KTTA19G2  
Serial No.: 37124440  
Engine BHP: 750 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
U.S EPA Family No.: N/A  
EPA Tier Standard: Tier 0  
Driving: Emergency Electrical generator  
Location: Building 64

**13. IC ENGINE FIRE PUMP, EMERGENCY USE**

SMAQMD Permit No.: P/O 10707  
Manufacturer: Caterpillar  
Model: FM/ULI/3208DINA  
Serial No.: 90N72000  
Engine BHP: 156 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
U.S EPA Family No.: N/A  
EPA Tier Standard: Tier 0  
Driving: Emergency Fire Pump  
Location: Building 92

**14. IC ENGINE PORTABLE 890 HP, EMERGENCY USE**

SMAQMD Permit No.: P/O 11494  
Manufacturer: Caterpillar  
Model: 3412  
Serial No.: 81Z08979  
Engine BHP: 890 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
U.S EPA Family No.: N/A  
EPA Tier Standard: Tier 0  
Driving: Emergency Electrical generator  
Location: Portable

**15. IC ENGINE PORTABLE 68 HP, EMERGENCY USE**

SMAQMD Permit No.: P/O 13421  
Manufacturer: Cummins  
Model: 4B3.9-G  
Serial No.: 44982109  
Engine BHP: 68 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
U.S EPA Family No.: N/A  
EPA Tier Standard: Tier 0  
Driving: Emergency Electrical generator  
Location: Portable

**E. Significant Emissions Unit Information (continued)**

**16. IC ENGINE PET TRAILER, EMERGENCY USE**

SMAQMD Permit No.: P/O 19775  
Manufacturer: John Deere  
Model: 4045H275H  
Serial No.: PE4045H378606  
Engine BHP: 157 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
U.S EPA Family No.: 4JDXL06.8039  
EPA Tier Standard: Tier 2  
Driving: Emergency Electrical generator  
Location: Pet Scanner Trailer

**17. IC ENGINE BUILDING 34, EMERGENCY USE**

SMAQMD Permit No.: P/O 22060  
Manufacturer: Caterpillar  
Model: C32  
Serial No.: SYC02850  
Engine BHP: 1502 bhp @ 1800 rpm  
Fuel Type: CARB Diesel No. 2  
U.S EPA Family No.: 8CPXL32.0ESW  
EPA Tier Standard: Tier 2  
Driving: Emergency Electrical generator  
Location: Building 34

**18. GASOLINE/METHANOL STORAGE AND DISPENSING FACILITY**

SMAQMD Permit No.: P/O 21510  
Two 10,000 gallon underground gasoline/methanol storage tanks with three vapor recovery nozzles. The underground gasoline storage tanks have California Air Resources Board (CARB) certified Phase 1 EVR vapor recovery equipment. The dispensing equipment has a CARB certified Phase 2 EVR vapor recovery system.

[The facility also has one 10,000 gallon underground diesel tank with two diesel nozzles that are exempt equipment.]

**F. Insignificant Emissions Unit Information**

<b>Equipment Description</b>	<b>Basis for the Exemption</b>
A. Vehicles	SMAQMD Rule 201, Section 111.1 Vehicles used to transport passengers or freight.
B. Internal combustion engines	SMAQMD Rule 201, Section 112.1 Engines rated at 50 hp or less
C. Combustion equipment	SMAQMD Rule 201, Section 112.2 Equipment rated less than 1 million BTU/hr and fired exclusively with natural gas or liquefied petroleum gas
D. Refrigeration, air conditioning, ventilating, water cooling towers or vacuum cleaning systems not designed to remove air contaminants.	SMAQMD Rule 201 Section 115 Equipment does not require a permit under SMAQMD Rule 201
E. Ovens, kilns or furnaces fired by electricity and used exclusively for the heating, curing, softening or annealing of plastics or ceramics (Not applicable to fiberglass reinforced plastics)	SMAQMD Rule 201, Section 116 Equipment emits 5 lb/day or less of volatile organic compounds in any one day.
F. Containers or tanks	SMAQMD Rule 201, Section 117.1 Equipment is used exclusively for the storage of liquefied or compressed gases
G. Containers or tanks	SMAQMD Rule 201, Section 117.2 Equipment is used exclusively for the storage of unheated organic materials with an initial boiling point of 302 degrees F or greater or with an organic vapor pressure of 0.1 psia or less (at 20 degrees C)
H. Containers, tanks, or associated transfer equipment	SMAQMD Rule 201, Section 117.3 Equipment is used exclusively for the storage of organic liquids with a vapor pressure of 1.5 psia or less (at 20 degrees C) and having a storage capacity of 6076 gallons or less
I. Solvent dispensing containers	SMAQMD Rule 201, Section 117.4 Containers are unheated and have a capacity of 100 gallons or less

**F. Insignificant Emissions Unit Information (continued)**

<b>Equipment Description</b>	<b>Basis for the Exemption</b>
J. Surface coating operations	SMAQMD Rule 201, Section 118.2 Operation used a combined total of 1 gallon/day or less of coating materials and solvents
K. Solvent rinsing containers or coating dip tanks	SMAQMD Rule 201, Section 118.3 Equipment is unheated, non-conveyorized, and have capacities of 100 gallons or less
L. Food processing equipment and exhaust systems	SMAQMD Rule 201, Section 119 Equipment is used in eating establishments for the purpose of preparing food for human consumption
M. Laboratory equipment	SMAQMD Rule 201 Section 120 Equipment is used exclusively for chemical and physical analysis and bench scale tests, including associated vacuum producing equipment.
N. Repair and maintenance Operations	SMAQMD Rule 201 Section 121 Operations do not involve changes to any equipment for which a permit has been granted under Section 301 of SMAQMD Rule 201
O. Other equipment which emits any pollutants, without the benefit of air pollution control devices, at a rate less than 2 pounds in any 24 hour period	SMAQMD Rule 201 Section 122 Equipment emits less than 2 lb of air pollutants in any 24 hour period and has not been deemed by the SMAQMD Air Pollution Control Officer as requiring a permit.
P. Abrasive blast cabinet/dust filter units	SMAQMD Rule 201 Section 122 Equipment has an internal cabinet volume of 53 cubic feet or less
Q. Wood sanding processes	SMAQMD Rule 201 Section 122 Equipment is vented to a cyclone or baghouse with an exhaust flow rate of 1,500 cfm or less
R. Wood shaping/sizing processes, not involving wood sanding processes, vented to a cyclone or baghouse with an exhaust flow rate of 12,000 cfm or less	SMAQMD Rule 201 Section 122 Operations are wood shaping and sizing processes, not involving wood sanding processes, vented to a cyclone or baghouse with an exhaust flow rate of 12,000 cfm or less
S. Medical waste microwave disinfection	SMAQMD Rule 201 Section 122 Equipment emits less than 2 lb of air pollutants within a 24 hour period

**G. Alternate Operating Scenarios**

None requested by the permittee.

**H. Facility Emissions**

Maximum Allowable Emissions (tons/year)							
Equipment	ROC	NOx	SO <sub>2</sub>	PM10	CO	Single HAP	Total HAPs
Gas Turbine	26.5 (A)	21.2 (B)	0.7	12.2 (C)	40.8	1.0	1.8
Large Boilers (4)	2.2 (A)	6.0 (B)	0.4	5.5 (C)	39.4	0.3	0.3
Large IC Engines (5), Emergency Use	1.7	65.8	0.7	1.4	6.3	0.1	0.3
Small Boilers (8)	0.1 (A)	1.4 (B)	0.01	0.2 (C)	4.2	0.0	0.0
Small IC Engines (6), Emergency Use	0.4	6.5	0.2	0.3	1.9	0.0	0.1
Gasoline Dispensing Facility	0.4 (A)	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Emissions</b>	<b>29.5</b>	<b>99.7</b>	<b>2.0</b>	<b>16.3</b>	<b>92.6</b>	<b>1.4</b>	<b>2.5</b>

- (A) The gas turbine, (4) large boilers, (8) small boilers and gasoline dispensing are limited to a combined maximum ROC emission of 150 lb/day by permit condition (equivalent to 27.4 tons/year of ROC).
- (B) The gas turbine, (4) large boilers and (8) small boilers are limited to a combined maximum NOx emission of 150 lb/day by permit condition (equivalent to 27.4 tons/year of NOx).
- (C) The gas turbine, (4) large boilers and (8) small boilers are limited to a combined maximum PM10 emission of 80 lb/day by permit condition (equivalent to 14.6 tons/year of PM10).

<b>I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS</b> <b>Facility-wide Requirements</b>
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**SMAQMD Rule 105 - Emission Statement**

SIP Approved: 06-06-2008 (73 FR 32240)  
*09-05-1996 rule version is SIP approved*

Rule Description: This rule requires the facility to provide annual emission data.

Compliance Status: The permittee has provided annual emission data as required and is in compliance.

**SMAQMD Rule 201 - General Permit Requirements**

SIP Approved: 07-13-1987 (52 FR 26148)  
*11-20-1984 rule version is SIP approved*  
*08-24-2006 rule version is the current version and is not SIP approved*

Rule Description: This rule provides an orderly procedure for the review of new sources of air pollution and of the modification and operation of existing sources through the issuance of permits.

Compliance Status: The permittee has active permits for all sources that require permits.

**SMAQMD Rule 202 - New Source Review**

SIP Approved: 06-19-1985 (50 FR 25417)  
*11-20-1984 rule version is SIP approved*  
*02-24-2005 rule version is the current version and is not SIP approved*

Rule Description: This rule sets the procedures for review of new and modified stationary sources and provides the mechanisms for evaluating the applicability of BACT and/or offset requirements.

Compliance Status: The facility's equipment has been reviewed pursuant to this rule. BACT and/or emission offsets have been provided as required by the rule.

**SMAQMD Rule 207 - Title V Federal Operating Permits**

SIP Approved: 11-21-2003 (68 FR 65637) (part of Title V program approval)  
*04-26-2001 rule version is SIP approved*

Rule Description: This rule sets forth the procedures for review, issuance and renewal of Title V operating permits.

<b>I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS</b> <b>Facility-wide Requirements</b>
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Compliance Status: The permittee has submitted a timely and complete Title V permit renewal application. The expiration date of the current Title V Operating Permit is therefore extended to the time that the SMAQMD makes a decision regarding approving the renewal of the Title V Operating Permit.

**SMAQMD Rule 301 - Permit Fees - Stationary Source**

SIP approved: Not SIP approved.

Rule Adopted: 10-27-2005  
08-01-08 (Latest Revision)

Rule Description: This rule requires the facility to pay fees associated with the issuance and renewal of SMAQMD Rule 201 permits and U.S. EPA Title V permits. **Only Section 313 and the Title V references in Section 314 are federally enforceable.**

Compliance Status: The permittee has paid permit fees as required and is in compliance.

**SMAQMD Rule 401 - Ringelmann Chart**

SIP Approved: 02-01-1984 (49 FR 3987)  
*04-19-1983 rule version is SIP approved*

Rule Description: This rule limits the discharge of air contaminants into the atmosphere through visible emissions and opacity limitations.

Compliance Status: All equipment is expected to comply with the visible emission requirement.

**SMAQMD Rule 403 - Fugitive Dust**

SIP Approved: 12-05-1984 (49 FR 47490)  
*08-03-1977 rule version is SIP approved*

Rule Description: This rule regulates operations which may cause fugitive dust emissions into the atmosphere.

Compliance Status: The facility complies with this rule by taking the necessary precautions to ensure that fugitive dust is not airborne beyond the property line.

**SMAQMD Rule 404 – Particulate Matter**

SIP Approved: 07-13-1987 (52 FR 26148)  
*11-20-1984 rule version is SIP approved*

<b>I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS</b> <b>Facility-wide Requirements</b>
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Rule Description: This rule limits the quantity of particulate matter emitted into the atmosphere through an emission concentration limit.

Compliance Status: The facility complies with this rule by not emitting particulate matter in excess of 0.1 grains per dry standard cubic foot.

**SMAQMD Rule 406 – Specific Contaminants**

SIP Approved: 12-05-1984 (49 FR 47490)  
*12-06-1978 rule version is SIP approved*

Rule Description: This rule regulates emissions of sulfur compounds and combustion contaminants by limiting emission concentrations of SO<sub>2</sub> and particulate matter (PM).

Compliance Status: The facility complies with this rule by not emitting sulfur compounds in excess of 0.2% by volume and combustion contaminants in excess of 0.1 grains per dry standard cubic foot.

**SMAQMD Rule 420 – Sulfur Content of Fuels**

SIP Approved: 12-05-1984 (49 FR 47490)  
*12-06-1978 rule version is SIP approved*

Rule Description: This rule limits the emission of sulfur compounds from the combustion of fuels.

Compliance Status: The facility complies with this rule by limiting sulfur content to no more than 50 grains per 100 cubic feet of gaseous fuel and 0.5% by weight of sulfur for liquid or solid fuels.

**SMAQMD Rule 442 - Architectural Coatings**

SIP Approved: 11-09-1998 (63 FR 60214)  
*09-05-1995 rule version is SIP approved*  
*05-24-2001 rule version is the current version and is not SIP approved*

Rule Description: This rule limits the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application or manufactured for use within the District.

Compliance Status: The affected coatings used by the permittee are received and stored in containers that display the required manufacturer's labels and demonstrate compliance with the rule's requirements.

<b>I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS</b> <b>Facility-wide Requirements</b>
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**SMAQMD Rule 466 – Solvent Cleaning**

SIP Approved: 05-05-2010 (75 FR 24406)  
05-23-2002 rule version is SIP approved  
10-28-2010 rule version is the current version and is not SIP approved

Rule Description: This rule limits emissions of volatile organic compounds from solvent cleaning activities and from the storage and disposal of new and spent cleaning solvents.

Compliance Status: The affected architectural coating application equipment solvent cleaning materials used by the facility are received and stored in containers that display the required manufacturer's labels and demonstrate compliance with the rule's requirements.

Although the 10-28-2010 rule version has not been SIP approved, this rule requires more stringent VOC content limits on solvent cleaning materials than the previous rule version and has already been submitted for, and is expected to receive, SIP approval. Therefore, pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the most stringent requirements are the permit conditions based on SMAQMD Rule No. 466 rule version 10-28-201, which will be included in the Title V permit.

**40 CFR 68 (begin at 68.1) - Chemical Accident Prevention Provisions**

Promulgated: 01-31-1994 (59 FR 4493)  
[04-09-2004 (69 FR 18831) most recent amendment]

Rule Description: This regulation specifies requirements for owners or operators of stationary sources concerning the prevention of accidental chemical releases.

An owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, must comply with the requirements of 40 CFR Part 68. 40 CFR 68.215 requires that the air permitting authority include in the Title V permit for a facility specified statements regarding the regulation. Those statements are included in the Federally Enforceable Requirements - General section of the permit.

Compliance Status: The permittee does not store regulated substances in quantities exceeding the thresholds specified in 40 CFR 68 and is in compliance with the requirements of the regulation.

<b>I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS</b> <b>Facility-wide Requirements</b>
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**40 CFR 82 Subpart F (begin at 82.150) - Protection of Stratospheric Ozone - Recycling and Emissions Reduction**

Promulgated: 05-14-1993 (58 FR 28712)  
[04-13-2005 (70 FR 19278) most recent amendment]

Rule Description: The purpose of this subpart is to reduce emissions of class I and class II refrigerants and their substitutes to the lowest achievable level by maximizing the recapture and recycling of such refrigerants during the service, maintenance, repair and disposal of appliances and restricting the sale of refrigerants consisting in whole or in part of a class I and class II ODS in accordance with Title VI of the Clean Air Act.

This subpart applies to any person servicing, maintaining or repairing appliances. This subpart also applies to persons disposing of appliances, including small appliances and motor vehicle air conditioners. In addition, this subpart applies to refrigerant reclaimers, technician certifying programs, appliance owners and operators, manufacturers of appliances, manufacturers of recycling and recovery equipment, approved recycling and recovery equipment testing organizations, persons selling class I or class II refrigerants or offering class I or class II refrigerants for sale and persons purchasing class I or class II refrigerants.

As indicated in 40 CFR 70.6, Title V permits need to assure compliance with all applicable requirements at the time of permit issuance. Part 70 defines as an applicable requirement, "Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the Act, unless the Administrator has determined that such requirements need not be contained in a Title V permit." [40 CFR 70.2(12)]. The applicable requirements of Title VI are included in the Federally Enforceable Requirements - General section of the permit.

Compliance Status: The permittee employs qualified contractors to maintain equipment that contains class I or class II refrigerants; maintains records for appliances requiring 50 lb of refrigerant or greater, and makes reports to the U.S. EPA as required.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements**  
**Gas Turbine with Associated Cooling Towers**

**SMAQMD Rule 201 Permits to Operate Nos. 17549, 10909, and 10910**

Condition Description: The conditions on the SMAQMD Rule 201 Permit to Operate for the gas turbine, cooling towers, NOx SCR air pollution control device, and the CO catalyst air pollution control device limit emission concentrations, limit mass emissions and require recordkeeping and reporting.

The following table indicates the conditions on the SMAQMD Rule 201 permits that are not applicable federally enforceable requirements.

Equipment	SMAQMD Rule 201 Permit No.	Permit conditions that are not federally enforceable
Gas turbine, cooling towers, and air pollution control equipment.	P/O Nos. 17549, 10909, & 10910.	Condition Nos. 1, 2, 3, 4, and 5 (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation. All other permit conditions are federally enforceable.)

Compliance Status: The permittee's equipment complies with the SMAQMD Rule 201 permit conditions.

**SMAQMD Rule No. 404 - Particulate Matter**

SIP approved: 07-13-1987 (52 FR 26148)  
 [11-20-1984 amended version]

Rule Description: This rule regulates emissions of particulate matter by limiting the emission concentration of particulate matter (PM).

Compliance Status: This rule limits particulate matter (PM) from non-combustion sources and food processing facilities. The following table illustrates compliance with the rule for the cooling towers.

The permittee's equipment complies with this rule.

**PM10**

Equipment	SMAQMD Rule 404 Allowable Particulate Matter (PM) Emissions (grains/dscf)	Expected Particulate Matter (PM) Emissions from Cooling Towers (grains/dscf)
Gas Turbine with Associated Cooling Tower	0.1	0.00001 (A)

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

(A) In the following calculation, all particulate emissions from the cooling tower are assumed to be PM.

Assumptions for calculations:

Total Rated Flow Rate for All Cooling Towers = 27,000 gallons/minute

Maximum Drift Rate = 0.0005% (permit limit)

Maximum Total Dissolved Solids = 4000 ppmw (permit limit)

Water Density = 8.4 lb/gallon

Total Air Flow Rate = 2,816,500 cfm (from 4 towers)

Total Dissolved Solids = 2850 ppmw

$$= \frac{27,000 \text{ gallons}}{\text{minute}} \times 0.000005 \times \frac{2850 \text{ lb PM}}{1,000,000 \text{ lb water}} \times \frac{8.34 \text{ lb}}{\text{gallon}} \times \frac{60 \text{ minutes}}{\text{hour}}$$

$$= 0.1925 \text{ lb PM/hour}$$

$$= \frac{0.1925 \text{ lb PM}}{\text{hour}} \times \frac{\text{minute}}{2,816,500 \text{ cf}} \times \frac{1 \text{ hour}}{60 \text{ minutes}} \times \frac{7000 \text{ grains}}{1 \text{ lb}}$$

$$= 0.000008 \text{ grains/cf}$$

(See discussion of streamlining of multiple applicable requirements at the end of this section.)

**SMAQMD Rule 406 - Specific Contaminants**

SIP Approved: 12-05-1984 (49 FR 47490)  
 12-06-1978 rule version is SIP approved

Rule Description: This rule regulates emissions of sulfur compounds and combustion contaminants by limiting emission concentrations of SO<sub>2</sub> and particulate matter (PM).

Compliance Status: The following tables illustrate (a) the SMAQMD Rule 406 emission limits for sulfur compounds (measured as SO<sub>2</sub>) and combustion contaminants (measured as PM) and (2) the expected emissions from the equipment at the facility.

The permittee's equipment complies with this rule.

**SO<sub>2</sub> Emission Concentration**

Equipment	SMAQMD Rule 406 Allowable Sulfur Compounds Emissions (% SO <sub>2</sub> by volume)	Expected Sulfur Compounds Emissions From Facility Equipment (% SO <sub>2</sub> by volume)
Gas Turbine	0.2	0.000013 (A)

(A) The following calculation converts sulfur compounds in the natural gas combusted in the turbine from units of lb/MMBTU to percent:

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

Assumptions for calculations:

Natural gas fuel F-factor = 8710 dscf/MMBTU (at 0% O<sub>2</sub>, by definition of F factor)

Molecular weight of SO<sub>2</sub> = 64 grams/gram mole

Standard molar volume = 385.3 dscf/lb mole (at 68 degrees F and 1 atm)

SO<sub>2</sub> emission factor for natural gas = 0.0006 lb SO<sub>2</sub>/MMBTU

Outlet oxygen = 14.4% (from 11-2-10 source test)

$$= \frac{0.0006 \text{ lb SO}_2}{\text{MMBTU}} \times \frac{1 \text{ MMBTU @ 0\% O}_2}{8710 \text{ dscf}} \times \frac{385.3 \text{ cf/mole}}{64 \text{ lb/lb mole}}$$

$$= 0.414 \text{ ppmv at 0\% O}_2$$

$$= 0.129 \text{ ppmv at 14.4\% O}_2$$

$$= 0.0000129\% \text{ SO}_2 \text{ by volume}$$

**Particulate Matter Emission Concentration**

Equipment	SMAQMD Rule 406 Allowable Combustion Contaminants (PM) Emissions (grains/dscf at 12% CO <sub>2</sub> )	Expected Combustion Contaminants (PM) Emissions from Equipment	
		(grains/dscf at 3.751% CO <sub>2</sub> )	(grains/dscf at 12% CO <sub>2</sub> )
Gas Turbine	0.1	0.00084 (A)	0.00044

(A) Value is from November 2, 2010 source test.

**SMAQMD Rule 413 - Stationary Gas Turbines**

**SIP Approved:** 01-10-2008 (73 FR 1819)  
 03-24-2005 rule version is SIP approved

**Rule Description:** This rule limits emission concentrations of NO<sub>x</sub> emissions from stationary gas turbines with a heat input of 3 MMBTU/hour or greater and operated on gaseous and/or liquid fuel.

**Compliance Status:** The gas turbine is required to meet a BARCT NO<sub>x</sub> emission concentration limit of 9 ppmvd at 15% oxygen. The NO<sub>x</sub> emission concentration limit in the Title V permit is 5 ppmvd at 15% oxygen which is stricter than the 9 ppmvd NO<sub>x</sub> emission limitation of SMAQMD Rule 413.

The gas turbine complies with the requirements of the rule.

**SMAQMD Rule 420 - Sulfur Content of Fuels**

**SIP Approved:** 12-05-1984 (49 FR 47490)  
 08-13-1981 rule version is SIP approved

**Rule Description:** This rule regulates emissions of sulfur compounds from the combustion of fuels by limiting the sulfur content of the fuel.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

Compliance Status: The rule limits the sulfur content of gaseous fuels to less than 50 grains per 100 cubic feet and for liquid fuels less than 0.5 percent by weight.

The commercial natural gas supplied to the permittee has a sulfur content of 0.22 grains per 100 cubic feet. Therefore, the equipment complies with this rule.

**40 CFR 60 Subpart GG (begin at 60.330) - NSPS for Stationary Gas Turbines**

Promulgated: 09-10-1979 (44 FR 52798)  
[02-24-2006 (71 FR 9457) most recent amendment]

Rule Description: The NSPS affects stationary gas turbines with maximum design heat input equal to or greater than 10 MMBTU/hour. The NSPS limits the emission concentration of nitrogen oxides to no greater than 75 ppmv at 15% O<sub>2</sub>. The NSPS limits the sulfur content of the fuel to no greater than 0.8% by weight.

On July 08, 2004 the NSPS was amended to allow a NO<sub>x</sub> CEMS in lieu of a water-to-fuel ratio monitor. In the initial Title V permit process, the SMAQMD had determined that the NO<sub>x</sub> CEMS installed at the permittee's facility was equivalent to monitoring water-to-fuel ratio and did not require a water-to-fuel ratio monitor. The CEMS requirement in the Title V permit will remain in place and a monitoring equivalency determination by the SMAQMD is no longer required.

The NSPS requires that the sulfur content of the gas turbine natural gas fuel be monitored on a daily basis unless the sulfur content is less than 20 grains/100 cubic feet. The natural gas fuel used by the UCDMC gas turbine is commercial pipeline natural gas with a sulfur content of 0.22 grains/100 cubic feet. Therefore, there will be no requirement to monitor sulfur content on a daily basis.

Compliance Status: The NO<sub>x</sub> emission concentration from the turbine exhaust complies with the NSPS requirement. The sulfur content of the natural gas fuel complies with the NSPS requirement.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

**Streamlining Multiple Applicable Requirements:**

The turbine is regulated by the NSPS, SIP approved rules and NSR permit conditions. The respective requirements are:

Basis of Requirement	Applicable Requirements NOx
40 CFR 60 Subpart GG – NSPS for Stationary Gas Turbine	≤ 75 ppmv at 15% O <sub>2</sub>
SMAQMD Rule No. 413 – Stationary Gas Turbines	≤ 9 ppmv at 15% O <sub>2</sub>
SMAQMD Rule No. 201 permit conditions based on: SMAQMD Rule No. 202 – New Source Review	≤ 5 ppmv at 15% O <sub>2</sub>

Pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the above applicable requirements will be streamlined. The most stringent requirements are the permit conditions based on SMAQMD Rule Nos. 201 and 202, which will be included in the Title V permit.

Basis of Requirement	Applicable Requirements SO <sub>2</sub>
40 CFR Subpart GG NSPS for Stationary Gas Turbine	Total sulfur content of the fuel shall be ≤ 0.8% by weight (8000 ppmw) (equivalent to 0.71 lb SO <sub>2</sub> /MMBTU) (A)
SMAQMD Rule No. 406 - Combustion Contaminants	Sulfur compounds shall be ≤ 0.2% by volume, measured as SO <sub>2</sub> (equivalent to 32.9 lb SO <sub>2</sub> /MMBTU) (B)
SMAQMD Rule No. 420 - Sulfur Content of Fuels	Gaseous fuel shall contain ≤ 50 grains of sulfur compounds per 100 cf, measured as H <sub>2</sub> S. (C)

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

Basis of Requirement	Applicable Requirements SO <sub>2</sub>
SMAQMD Rule No. 201 permit conditions based on: SMAQMD Rule No. 202 – New Source Review	The gas turbine shall only use natural gas as fuel. Typical natural gas fuel has a sulfur compound content of less than 0.0006 lb/MMBTU. Therefore, sulfur emissions from the fuel shall be < 0.0006 lb/MMBTU

(A) The calculation for determining the equivalent lb SO<sub>2</sub>/MMBTU based on the fuel's sulfur content by weight is:

$$\frac{\text{lb SO}_2}{\text{MMBTU}} = \frac{(0.008 \text{ lb S/lb nat. gas}) \times (0.0446 \text{ lb nat. gas/cf nat. gas}) \times (2 \text{ lb SO}_2/\text{lb S})}{(1 \text{ MMBTU}/1000 \text{ cf nat. gas})} = 0.71 \text{ lb SO}_2/\text{MMBTU}$$

(B) The calculation for determining the equivalent lb SO<sub>2</sub>/MMBTU based on 0.2% SO<sub>2</sub> by volume in the exhaust gas is:

76.135 MMBTU/hour is used in the calculation below because the 2010 source test data that provided the exhaust airflow rate is based on the gas turbine operating at that heat input.

$$\frac{\text{lb SO}_2}{\text{MMBTU}} = \frac{(0.002 \text{ parts SO}_2/1 \text{ part exhaust}) \times (125,666 \text{ ft}^3 \text{ exhaust/min}) \times (60 \text{ min/hr}) \times (1 \text{ lb mol}/385 \text{ ft}^3) \times (64 \text{ lb SO}_2/\text{mol})}{76.110 \text{ MMBTU/hour}}$$

$$= \frac{2507 \text{ lb SO}_2/\text{hour}}{76.110 \text{ MMBTU/hour}}$$

$$= 32.9 \text{ lb SO}_2/\text{MMBTU}$$

(C) The calculation for determining the equivalent lb SO<sub>2</sub>/MMBTU based on the fuel's sulfur content by weight is:

$$\frac{\text{lb SO}_2}{\text{MMBTU}} = \frac{50 \text{ grain H}_2\text{S}}{100 \text{ cf nat. gas}} \times \frac{1 \text{ cf nat. gas}}{1000 \text{ BTU}} \times \frac{1,000,000 \text{ BTU}}{1 \text{ MMBTU}} \times \frac{1 \text{ lb}}{7000 \text{ grains}} \times \frac{32 \text{ lb/lb-mol SO}_2}{18 \text{ lb/lb-mol H}_2\text{S}}$$

$$= 0.1270 \text{ lb SO}_2/\text{MMBTU}$$

Pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the above applicable requirements will be streamlined. The most stringent requirements are the permit conditions based on SMAQMD Rule Nos. 201 and 202.

Basis of Requirement	Applicable Requirements PM
SMAQMD Rule No. 406 - Combustion Contaminants	≤ 0.1 grains/dscf, corrected to 12% CO <sub>2</sub>

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

Basis of Requirement	Applicable Requirements PM
SMAQMD Rule No. 201 permit conditions based on: SMAQMD Rule No. 202 – New Source Review	Gas turbine shall emit $\leq 2.8$ lb PM10/hour (equivalent to $\sim 0.00012$ grains/dscf corrected to 12% CO <sub>2</sub> )

Pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the above applicable requirements will be streamlined. The most stringent requirements are the permit conditions based on SMAQMD Rule Nos. 201 and 202, which will be included in the Title V permit.

The cooling towers are regulated by SIP approved rules and NSR permit conditions. The respective requirements are:

Basis of Requirement	Applicable Requirements PM
SMAQMD Rule No. 404 – Particulate Matter	$\leq 0.1$ grains/dscf
SMAQMD Rule No. 201 permit conditions based on: SMAQMD Rule No. 202 – New Source Review	Cooling towers shall have a drift rate $\leq 0.0005\%$ and total dissolved solids in the cooling water $\leq 2850$ ppmw. (equivalent to $\sim 0.00001$ grains/dscf.

Pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the above applicable requirements will be streamlined. The most stringent requirements are the permit conditions based on SMAQMD Rule Nos. 201 and 202, which will be included in the Title V permit.

***The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:***

**40 CFR 60 Subpart D (begin at 60.40) - NSPS for Electric Utility Steam Generating Units for Which Construction Is Commenced After August 17, 1971:**

Promulgated: 06-14-1974 (39 FR 20791)  
 [06-13-2007 (72 FR 32717) most recent amendment]

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

Rule Description: This federal regulation applies to any fossil fuel fired steam generating unit with a heat input greater than 250 MMBTU. It limits PM emissions to 0.1 lb/MMBTU, NOx to 0.20 lb/MMBTU and opacity to 20% except for one six minute period per hour of not more than 27% opacity.

Compliance Status: The gas turbine is not subject to this rule because it is not a fossil fuel fired steam generating unit as defined in 40 CFR 60.41(a).

"Fossil-fuel fired steam generating unit means a furnace or boiler used in the process of burning fossil fuel for the purpose of producing steam by heat transfer."

Each gas turbine is not a "furnace or boiler" and is therefore **not subject** to the rule.

***The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:***

**40 CFR 60 Subpart Da (begin at 60.40a) - NSPS for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978:**

Promulgated: 06-11-1979 (44 FR 33613)  
[06-13-2007 (72 FR 32717) most recent amendment]

Rule Description: This federal regulation applies to any steam electric generating unit capable of combusting 250 MMBTU/hour of fossil fuel and supplying more than 1/3 of its potential output capacity and more than 25 MW electrical output to any utility power distribution system for sale. It limits PM emissions to 0.03 lb/MMBTU, NOx to 0.20 lb/MMBTU and opacity to 20% (6-minute average) except for one six minute period per hour of not more than 27% opacity.

Compliance Status: The gas turbine **is not subject** to this rule because it is not a steam generating unit as defined in 40 CFR 60.41Da.

"Steam generating unit means any furnace, boiler, or other device used for combusting fuel for the purpose of producing steam (including fossil-fuel-fired steam generators associated with combined cycle gas turbines; nuclear steam generators are not included)".

***The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:***

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

**40 CFR 60 Subpart Db (begin at 60.40b) - NSPS for Industrial - Commercial - Institutional Steam Generating Units:**

Promulgated: 11-25-1986 (51 FR 42768)  
[06-13-2007 (72 FR 32742) most recent amendment]

Rule Description: This federal regulation applies to any steam generating unit capable of combusting greater than 100 MMBTU/hour of fuels. The regulation limits NO<sub>x</sub>, PM, SO<sub>2</sub> and opacity emissions.

Compliance Status: The gas turbine **is not subject** to this rule because it is not a "steam generating unit" as defined in 40 CFR 60.41b.

*"Steam generating unit means a device that combusts any fuel or byproduct/waste and produces steam or heats water or any other heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart."*

***The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:***

**40 CFR 60 Subpart Dc (begin at 60.40c) - NSPS for Small Industrial - Commercial - Institutional Steam Generating Units:**

Promulgated: 09-12-1990 (55 FR 37683)  
[01-28-2009 (74 FR 5090) most recent amendment]

Rule Description: This federal regulation applies to any steam generating unit capable of combusting between 10 and 100 MMBTU/hour of fuels. The regulation limits PM, SO<sub>2</sub> and opacity emissions.

Compliance Status: The gas turbine **is not subject to this rule** because it is not a "steam generating unit" as defined in 40 CFR 60.41c.

*"Steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart."*

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

*The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:*

**40 CFR 60 Subpart KKKK (begin at 60.4300) - Standards of Performance for Stationary Combustion Turbines:**

Promulgated: 07-06-2006 (71 FR 38497)  
[04-20-2009 (74 FR 11861) most recent amendment]

Rule Description: This NSPS establishes emission standards for the control of NO<sub>x</sub> and SO<sub>2</sub> emissions from stationary combustion turbines that commenced construction, modification or reconstruction after February 18, 2005.

Compliance Status: **The gas turbine is not subject to this NSPS** since it was not constructed or modified after February 18, 2005.

*The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:*

**40 CFR 63 Subpart Q - National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers:**

Promulgated: 09-08-1994 (59 FR 46339)

Rule Description: This federal regulation prohibited the use of chromium in cooling tower water, at major sources of HAP, beginning September 08, 1994.

Compliance Status: Each cooling tower **is not subject** to the federal NESHAP for Industrial Process Cooling Towers because it is not located at a facility that is a major source for HAP.

*The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:*

**40 CFR 63 Subpart YYYY (begin at 63.6080) - National Emission Standards for Hazardous Air Pollutants for Stationary Gas Turbines:**

Promulgated: 03-05-2004 (69 FR 10511)  
04-20-2006 (71 FR 20467) most recent amendment

Rule Description: This federal regulation limits the emission of HAP from stationary gas turbines located at major sources of HAP.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gas Turbine with Associated Cooling Towers**

Compliance Status: The gas turbine **is not subject** to the federal NESHAP for Stationary Gas Turbines because it is not located at a facility that is a major source for HAP.

***The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:***

**40 CFR 64 (begin at 64.1) Compliance Assurance Monitoring:**

Promulgated: 10-22-1997 (52 FR 54940)

Rule Description: This federal regulation specifies monitoring requirements for Title V sources that will assure compliance with emission limitations or standards.

Compliance Status: **ROC, SO<sub>2</sub>, and PM<sub>10</sub>**  
Applicability of the Compliance Assurance Monitoring regulation requires that:

"The unit uses a control device to achieve compliance with any such emission limitation or standard"  
[40 CFR 64.2(a)(2)]

The gas turbine does not use a control device for compliance with ROC, SO<sub>2</sub>, and PM<sub>10</sub> emissions limits and is therefore not subject to 40 CFR Part 64 Compliance Assurance Monitoring for ROC and PM<sub>10</sub>.

**NO<sub>x</sub> and CO**

This federal regulation exempts pollutant specific emissions units that are regulated by:

"Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in §64.1"  
[40 CFR 64.2(b)(1)(vi)]

Since the gas turbine is subject to a continuous emission monitoring requirement for CO in the Title V permit, they are exempt from 40 CFR Part 64 Compliance Assurance Monitoring for CO.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Boilers**

**SMAQMD Rule 201 Permits to Operate Nos. 12979, 20216, 20217, 20218, 20219.**

Condition Description: The conditions on the SMAQMD Rule 201 Permits to Operate 20216 to 20219 for the boilers limit emission concentrations, hours of operation when back-up fuel is used, and require recordkeeping. The conditions on SMAQMD Rule 201 Permit to Operate 12979 limits the type of fuel combusted in the boilers

The following table indicates the conditions on the SMAQMD Rule 201 permits that are not applicable, federally enforceable requirements.

<b>Equipment</b>	<b>SMAQMD Rule 201 Permit No.</b>	<b>Permit conditions that are not federally enforceable</b>
Boilers	P/O Nos. 20216, 20217, 20218, 20219	Condition Nos. 1, 2, 3 and 4. (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation. All other permit conditions are federally enforceable.)
Boilers	P/O No. 12979	Condition Nos. 1, 2 and 3. (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation. All other permit conditions are federally enforceable.)

Compliance Status: UCDMC is currently in compliance with all of the conditions on SMAQMD Rule 201 Permits to Operate Nos. 12979, 20216, 20217, 20218, 20219.

**SMAQMD Rule 406 - Specific Contaminants**

SIP Approved: 12-05-1984 (49 FR 47490)  
 12-06-1978 rule version is SIP approved

Rule Description: This rule regulates emissions of sulfur compounds and combustion contaminants by limiting emission concentrations of SO<sub>2</sub> and particulate matter (PM).

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Boilers**

Compliance Status: The following tables illustrate (1) the SMAQMD Rule 406 emission limits for sulfur compounds (measured as SO<sub>2</sub>) and combustion contaminants (measured as PM) and (2) the expected emissions from the boilers. Compliance was determined using diesel fuel as emergency fuel since diesel fuel provides for a highest concentration of both SO<sub>2</sub> and particulate matter (PM) than natural gas.

The permittee's equipment complies with this rule.

(Refer to discussion of streamlining of multiple applicable requirements at the end of this section.)

**SO<sub>2</sub> Emission Concentration**

Equipment	SMAQMD Rule 406 Allowable Sulfur Compounds Emissions (% SO <sub>2</sub> by volume)	Expected Sulfur Compounds Emissions from Facility Equipment (% SO <sub>2</sub> by volume)
Boilers	0.2	0.0010 (A)

(A) The following calculation converts sulfur compounds in the diesel fuel combusted in the boiler from units of lb/1000 gallon to percent by volume in the exhaust gas:

Assumptions for calculations:

Diesel fuel F-factor = 9190 dscf/MMBTU (at 0% O<sub>2</sub>, by definition of F factor)

Molecular weight of SO<sub>2</sub> = 64 grams/gram mole

Standard molar volume = 385.3 dscf/lb mole (at 68 degrees F and 1 atm)

SO<sub>2</sub> emission factor = 2.8 lb SO<sub>2</sub>/1000 gallons of diesel fuel

Outlet oxygen = 4.7% (from November 2010 source test)

$$= \frac{2.8 \text{ lb SO}_2}{1000 \text{ gal}} \times \frac{1 \text{ gal fuel oil}}{137,000 \text{ BTU}} \times \frac{1 \text{ MMBTU @ 0\% O}_2}{9190 \text{ dscf}} \times \frac{385.3 \text{ cf/mole}}{64 \text{ lb/lb mole}} \times \frac{1,000,000 \text{ BTU}}{1 \text{ MMBTU}}$$

$$= 13 \text{ ppmv at 0\% O}_2$$

$$= 10 \text{ ppmv at 4.7\% O}_2$$

$$= 0.0010\% \text{ SO}_2 \text{ by volume}$$

**Particulate Matter Emission Concentration**

Equipment	SMAQMD Rule 406 Allowable Combustion Contaminants (PM) Emissions (grains/dscf at 12% CO <sub>2</sub> )	Expected Combustion Contaminants (PM) Emissions from Facility Equipment (grains/dscf at 12% CO <sub>2</sub> )
Boilers	0.1	0.008 (A)

(A) The following calculation is based on U.S. EPA AP-42, Table 1.3-1 and 1.3-2 when combusting Diesel No. 2:

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Boilers**

F Factor = 9190 dscf/MMBTU (at 0% O<sub>2</sub>, by definition of F factor)  
Diesel fuel heat content = 137,000 BTU/gal  
PM Emission Factor = 3.3 lb PM/1000 gallon from AP-42  
Assume 15.59% CO<sub>2</sub> in exhaust gas based on F-Factor of 9190 dscf/mmBTU, diesel HHV of 19,300 Btu/lb, 87% carbon in the diesel fuel, and a carbon to CO<sub>2</sub> conversion of 99%.

$$\begin{aligned} &= \frac{3.3 \text{ lb PM}}{1000 \text{ gal}} \times \frac{1 \text{ gal fuel oil}}{137,000 \text{ BTU}} \times \frac{1 \text{ MMBTU}}{9190 \text{ dscf}} \times \frac{7000 \text{ grains}}{\text{lb}} \times \frac{1,000,000 \text{ BTU}}{1 \text{ MMBTU}} \\ &= 0.0183 \text{ grains/dscf} \\ &= 0.0183 \text{ grains/dscf} \times \frac{12\%}{15.59\% \text{ CO}_2 \text{ in exhaust gas}} \\ &= 0.0141 \text{ grains/dscf at 12\% CO}_2 \end{aligned}$$

**SMAQMD Rule 411 – Boiler NO<sub>x</sub>**

SIP Approved: 05-06-2009 (74 FR 20880)  
08-23-2007 rule version is SIP approved

Rule Description: This rule limits emissions of NO<sub>x</sub> and CO from boilers with a heat input rating of 1.0 MMBTU or greater.

Compliance Status: Rule 411, Section 301 limits the emission concentration of the four large boilers for NO<sub>x</sub> to 9 ppm at 3% oxygen and the emissions of CO to 400 ppm at 3% oxygen when burning natural gas fuel. For Diesel No. 2 fuel, the boilers are limited for NO<sub>x</sub> emissions to 150 ppm at 3% oxygen.

The applicant has requested a permit shield from SMAQMD Rule 411, Sections 302 and 403. The reason for the request is due to some ambiguity in the rule regarding the use of nongaseous fuel. To briefly summarize, Section 302 requires emission limits of 40 ppm NO<sub>x</sub> and 400 ppm CO<sub>2</sub> at 3% oxygen when firing with non-gaseous fuel. In addition, Section 403 requires periodic source testing for boilers governed by Section 302. Section 304, on the other hand, allows less stringent emission limits of 150 ppm NO<sub>x</sub> at 3% oxygen if the operator accepts an annual usage limit of 168 hours/year, excluding 48 hours/year for equipment and emissions testing. In addition, Section 403 doesn't require periodic testing for boilers governed by Section 304. While the intent of the rule is clear that compliance with Section 304 (fuel restriction with higher emission limits) precludes the necessity of compliance with Section 302 (unlimited use with lower emission limits), the rule doesn't contain such clarifying language. Therefore, since the boilers are governed by Section 304, a permit shield has been granted from Section 302 and, by extension, Section 403.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Boilers**

The 8 small boilers are not regulated by this rule since each boiler has a fuel input rating of less than 1 MMBTU/hour

The permittee's equipment complies with this rule.

(Refer to discussion of streamlining of multiple applicable requirements at the end of this section)

**SMAQMD Rule 420 - Sulfur Content of Fuels**

SIP Approved: 12-05-1984 (49 FR 47490)

*08-13-1981 rule version is SIP approved*

Rule Description: This rule regulates emissions of sulfur compounds from the combustion of fuels by limiting the sulfur content of the fuel.

Compliance Status: The following table illustrates the SMAQMD Rule 420 sulfur limits for gaseous and liquid fuels and the expected sulfur content of the gaseous and liquid fuels combusted in the boilers.

The permittee's equipment complies with this rule.

(Refer to discussion of streamlining of multiple applicable requirements at the end of this section.)

Equipment	Fuel	SMAQMD Rule 420 Allowable Sulfur Content of Fuel	Expected Sulfur Content of Fuel Used
Boilers	Natural Gas	50 grains/100 cubic feet	0.22 grains/100 cubic feet
Boilers	Diesel No. 2	0.5% by weight	0.0015% by weight

**40 CFR 60 Subpart Dc (begin at 60.40c) – NSPS for Small Industrial – Commercial – Institutional Steam Generating Units:**

Promulgated: 09-12-1990 (55 FR 37683)  
 [01-28-2009 (74 FR 5090) most recent amendment]

Rule Description: This federal regulation affects steam generating units with a maximum heat input rating of 10 to 100 MMBTU/hour. The NSPS limits the sulfur content of the distillate fuel oil to a maximum of 0.5% by weight and limits the opacity of the stack emission to a maximum of 20%. The NSPS also requires recordkeeping and reporting.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Boilers**

Compliance Status: This rule is not applicable to the small boilers specified in SMAQMD Permit to Operate 12979 because the boilers are rated less than 10 MMBTU/hour. The remaining 4 large boilers are regulated by this rule.

For the 4 larger boilers, UCDMC has chosen to demonstrate compliance with the distillate fuel oil sulfur content by fuel oil supplier certification (40 CFR 60.44c(h)). The fuel oil supplier certification must contain the following (40 CFR 60.48c(f)):

1. Name of the oil supplier.
2. Statement of the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. [*Distillate oil* means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396-78, "Standard Specifications for Fuel Oils."]
3. The sulfur content or the maximum sulfur content of the oil.

UCDMC must keep records of the fuel oil supplier certification and submit a report every six months that includes (40 CFR 60.48c(e)).

1. Calendar dates covered in the reporting period.
2. Records of fuel oil supplier certification.
3. Certified statement signed by the owner or operator of the affected facility that the records of fuel oil supplier certification submitted represent all of the fuel combusted during the reporting period.

Boilers No. 1, 2, 3, and 4 comply with the NSPS requirements. The requirements of this rule do not apply to the 8 small boilers.

**Streamlining Multiple Applicable Requirements:**

The 4 large boilers (Nos. 1, 2, 3 ,4) are regulated by the NSPS, SIP approved rules, and NSR permit conditions. The respective requirements are:

Basis of Requirement	Applicable Requirements	
	SO <sub>2</sub>	Opacity
40 CFR 60 Subpart Dc – NSPS for Small Boilers	≤ 0.5% S by weight in liquid fuel	≤ 20% averaged over 6 minutes except for one 6 minute period per hour of not more than 27%.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Boilers**

Basis of Requirement	Applicable Requirements	
	SO <sub>2</sub>	Opacity
SMAQMD Rule No. 420 – Sulfur Content of Fuels	≤ 0.5% S by weight in liquid fuel	≤ 20% averaged over 15 seconds except for 3 total minutes per hour with no limit.
SMAQMD Rule No. 201 permit conditions based on: SMAQMD Rule No. 202 – New Source Review	≤ 0.02% S by weight in liquid fuel	≤ 20% averaged over 15 seconds except for 3 total minutes per hour with no maximum limit

Pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the above applicable requirements will be streamlined. The most stringent requirements are the permit conditions based on SMAQMD Rule Nos. 201 and 202, which will be included in the Title V permit.

Basis of Requirement	Applicable Requirements	
	NO <sub>x</sub>	CO
SMAQMD Rule 411 – Boiler NO <sub>x</sub> (Emergency use diesel fuel)	150 ppmvd corrected to 3% O <sub>2</sub>	No Limit Specified
SMAQMD Rule No. 201 permit conditions based on SMAQMD Rule No. 202 – New Source Review (diesel fuel)	40 ppmvd corrected to 3% O <sub>2</sub>	400 ppmvd corrected to 3% O <sub>2</sub>

Pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the above applicable requirements will be streamlined. The most stringent requirements are the permit conditions based on SMAQMD Rule Nos. 201 and 202, which will be included in the Title V permit.

***The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:***

**40 CFR 60 Subpart Dc (60.47c) – Emission Monitoring for Particulate Matter:**

This part of the rule requires a CEMS only for those facilities that combust coal, wood, or residual oil. There is no CEMS requirements for a facility that combusts only distillate oil. Because UCDMC's boilers only combust natural gas and distillate oil, there is no NSPS requirement for a CEMS.

<p><b>I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS</b> <b>Equipment Specific Requirements (continued)</b> <b>Boilers</b></p>
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*The following federal regulation is not an applicable federal requirement but is discussed here to document the non-applicability determination for the record:*

**40 CFR 60 Subpart Dc (60.45c) – Compliance and Performance Test Methods and Procedures for Particulate Matter:**

This part of the rule requires an initial opacity test and then subsequent opacity tests as requested by the Administrator. Because UCDMC's boilers only combust distillate oil as an emergency use fuel and because the NSPS does not require specific periodic monitoring for a facility that combusts only distillate oil, there will be no specific requirement to periodically monitor opacity.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**IC Engines – Emergency Use**

**SMAQMD Rule 201 Permits to Operate Nos. 18533, 18534, 18535, 18536, 14475, 10707, 11494, 13421, 19775, 22060, 22314.**

Condition Description: The conditions on the SMAQMD Rule 201 Permits to Operate for the emergency IC engines limit emission concentrations, limit hours of operation and mass emissions, and require recordkeeping.

The following table indicates the conditions on the SMAQMD Rule 201 permits that are not applicable federally enforceable requirements.

<b>Equipment</b>	<b>SMAQMD Rule 201 Permit No.</b>	<b>Permit conditions that are not federally enforceable</b>
IC Engines – Emergency Use	P/O No. 10707	Condition Nos. 1, 2, 3, 4, and 5 (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation. All other permit conditions are federally enforceable.)
IC Engines – Emergency Use	P/O No. 11494 and 13421	Condition Nos. 1, 2, 3, 4, and 5 (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation. All other permit conditions are federally enforceable.)
IC Engines – Emergency Use	P/O No. 14475	Condition Nos. 1, 2, 3, 4, and 5 (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation.) Condition Nos. 11, 12, and 14 (These are nuisance requirements not contained in any SIP approved rule or other federally enforceable regulation.) All other permit conditions are federally enforceable.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**IC Engines – Emergency Use**

<b>Equipment</b>	<b>SMAQMD Rule 201 Permit No.</b>	<b>Permit conditions that are not federally enforceable</b>
IC Engines – Emergency Use	P/O Nos. 18533, 18534, 18535, 18536,	Condition Nos. 1, 2, 3, 4, and 5 (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation.) Condition No. 12 (This is a nuisance requirement and is not contained in any SIP approved rule or other federally enforceable regulation.) All other permit conditions are federally enforceable.
IC Engines – Emergency Use	P/O No. 19775	Condition Nos. 1, 2, 3, and 4 (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation.) Condition No. 11 (This is a nuisance requirement which is not contained in any SIP approved rule or other federally enforceable regulation.) All other permit conditions are federally enforceable.
IC Engines – Emergency Use	P/O No. 22060	Condition Nos. 1, 2, 3, and 4 (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation. All other permit conditions are federally enforceable.)
IC Engine – Emergency Use	P/O No. 22314	Condition Nos. 1, 2, 3, 4, and 5 (These are administrative requirements not contained in any SIP approved rule or other federally enforceable regulation. All other permit conditions are federally enforceable.)

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**IC Engines – Emergency Use**

Compliance Status: UCDMC is currently in compliance with all of the conditions on SMAQMD Rule 201 Permits to Operate Nos. 18533, 18534, 18535, 18536, 14475, 10707, 11494, 13421, 19775, 22060, 22314.

**SMAQMD Rule 406 - Specific Contaminants**

SIP Approved: 12-05-1984 (49 FR 47490)  
 12-06-1978 rule version is SIP approved

Rule Description: This rule regulates emissions of sulfur compounds and combustion contaminants by limiting emission concentrations of SO<sub>2</sub> and particulate matter (PM).

Compliance Status: The following tables illustrate (1) the SMAQMD Rule 406 emission limits for sulfur compounds (measured as SO<sub>2</sub>) and combustion contaminants (measured as PM) and (2) the expected emissions from the equipment at the facility.

The permittee's equipment complies with this rule.  
 (Refer to discussion of streamlining of multiple applicable requirements at the end of this section titled "Equipment Specific Requirements - IC Engine, Emergency Use)

**SO<sub>2</sub> Emission Concentration**

Equipment	SMAQMD Rule 406 Allowable Sulfur Compounds Emissions (% by volume as SO <sub>2</sub> )	Expected Sulfur Compounds Emissions from Facility Equipment (ppmv as SO <sub>2</sub> )
IC engine, emergency use	0.2	0.000030 (A)

(A) Calculation of SO<sub>2</sub> emission concentration from IC engines:

**Assumptions for calculations:**

- Diesel fuel F-factor = 9,190 dscf/MMBTU (at 0% O<sub>2</sub>, by definition of F factor)
- Molecular weight of SO<sub>2</sub> = 64 grams/gram mole
- Standard molar volume = 0.8493 dscf/gram mole (at 68 degrees F and 1 atm)
- SO<sub>2</sub> emission factor = 0.0049 grams/hp-hr
- IC engine heat rate = 2542.5 BTU/hp-hr at 100% engine efficiency
- IC engine efficiency = 30% (assumed)
- Outlet oxygen = 13.5% (typical for diesel IC engine)
- Outlet carbon dioxide = 6% (typical for diesel IC engine)

SO<sub>2</sub> emissions from the IC engine are calculated by dividing the Volumetric SO<sub>2</sub> Emission Rate by the Volumetric Combustion Gas Emission Rate as shown below. The emission factor of 0.0049 g/hp-hr is based on US EPA AP-42 Table 3.3-1 (10/96) which is the sulfur content of ultra low sulfur diesel. Ultra low sulfur diesel (a.k.a. CARB Diesel or equivalent) is required by the California Air Toxic Control Measure for Stationary Compression Ignition Engines.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**IC Engines – Emergency Use**

Volumetric SO<sub>2</sub> Emission Rate:

= (0.0049 g/hp-hr) (0.8493 dscf/gram mole) (1 gram mole/64 grams)  
 = 0.000065 dscf SO<sub>2</sub>/hp-hr

Volumetric Combustion Gas Emission Rate:

= (9190 dscf/MMBTU) (2542.5 BTU/hp hr) (100%/30% engine efficiency)  
 = 78 dscf of combustion gas/hp-hr at 0% O<sub>2</sub>, by definition of F factor  
 = 220 dscf of combustion gas/hp-hr at 13.5% O<sub>2</sub> <---- correction to 13.5% O<sub>2</sub> for typical actual conditions

% SO<sub>2</sub> by volume:

= (0.000065 dscf SO<sub>2</sub>/hp-hr) (100%)  
 220 dscf/hp-hr  
 = 0.000030% SO<sub>2</sub> by volume

Particulate Matter Emission Concentration

Equipment	SMAQMD Rule 406 Allowable Combustion Contaminants (PM) Emissions (grains/dscf at 12% CO <sub>2</sub> )	Expected Combustion Contaminants (PM) Emissions from Facility Equipment (grains/dscf at 12% CO <sub>2</sub> )
IC engine, emergency use	0.1	0.1 (A)

(A) Calculation of particulate matter concentration from the UCDMC IC engine with the highest particulate concentration.

=  $\frac{\text{PM}_{10} \text{ emission rate (grains/hour)}}{\text{Exhaust volume rate (dscf/hour)}}$   
 =  $\frac{(1.0 \text{ gram/hp-hr}) (15.43 \text{ grains/gram}) (136 \text{ hp})}{(136 \text{ hp}) (2542.5 \text{ BTU/hp-hr}) (100\%/30\% \text{ engine efficiency}) (9190 \text{ dscf/MMBTU})}$   
 =  $\frac{2098 \text{ grains/hour}}{10,592 \text{ dscf/hour}}$   
 = 0.20 grains/dscf at 0% O<sub>2</sub>, by definition of F factor  
 = 0.07 grains/dscf at 13.5% O<sub>2</sub> <---- correction to 13.5% O<sub>2</sub> for typical actual conditions  
 = 0.14 grains/dscf at 12% CO<sub>2</sub> <---- correction to 12% CO<sub>2</sub> as required by SMAQMD Rule 406 {correction factor = 12/6}

The PM emission concentration limit is regulated by SMAQMD Rule 406 to only one decimal place; therefore, the PM emission can be as high as 0.149 grains/dscf and still be in compliance with the rule.

**SMAQMD Rule 412 - Stationary IC Engines Located at Major Stationary Sources of NO<sub>x</sub>**

SIP Approved: 04-30-1996 (61 FR 18959)  
 06-01-1995 rule version is SIP approved

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**IC Engines – Emergency Use**

Rule Description: This rule regulates NOx, CO and ROC emissions from the operation of stationary IC engines located at major stationary sources of NOx. However, emergency use IC engines are only required to install a non-resetting totalizing hour meter (or computerized tracking) and maintain operation records.

Compliance Status: The permittee's equipment complies with this rule.  
  
 (Refer to discussion of streamlining of multiple applicable requirements at the end of this section titled "Equipment Specific Requirements - IC Engine, Emergency Use)

**SMAQMD Rule 420 - Sulfur Content of Fuels**

SIP Approved: 12-05-1984 (49 FR 47490)  
*08-13-1981 rule version is SIP approved*

Rule Description: This rule regulates emissions of sulfur compounds from the combustion of fuels by limiting the sulfur content of the fuel.

Compliance Status: The following table illustrates the SMAQMD Rule 420 sulfur limits for gaseous and liquid fuels and the expected sulfur content of the gaseous and liquid fuels combusted in equipment at the facility.

The permittee's equipment complies with this rule.

(Refer to discussion of streamlining of multiple applicable requirements at the end of this section titled "Equipment Specific Requirements - IC Engine, Emergency Use)

Equipment	Fuel	SMAQMD Rule 420 Allowable Sulfur Content of Fuel (% S by weight)	Expected Sulfur Content of Fuel Used (% S by weight)
IC engine, emergency use	CARB diesel	0.5	0.0015

**40 CFR 60 Subpart IIII (begin at 60.4200) – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines:**

Promulgated: 07-11-2006 (69 FR 33473)

Rule Description: This federal regulation limits the emissions from new Reciprocating Internal Combustion Engines (RICE.)

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**IC Engines – Emergency Use**

Compliance Status: The IC engines specified in SMAQMD Permits to Operate Nos. 19775 and 22060 are subject to this rule because they commenced construction after July 11, 2005 where the engine is manufactured after April 1, 2006 for a non fire pump engine or were manufactured after July 1, 2006 for engines manufactured as a certified National Fire Protection Association (NFPA) fire pump engine.

The emergency IC engines specified in the preceding paragraph comply with the NSPS by meeting or exceeding the emission requirements specified in the NSPS.

The emergency use IC engines specified in SMAQMD Permits to Operate 18533, 18534, 18535, 18536, 14475, 10707, 11494, 13421, and 22314 **are not subject** to the federal NSPS because they were constructed or modified before the dates mentioned in the preceding paragraph.

**40 CFR 63 Subpart ZZZZ (begin at 63.6580) - National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE):**

Promulgated: 06-15-2004 (69 FR 33473)

Rule Description: This federal regulation limits the emission of HAPs from new Reciprocating Internal Combustion Engines (RICE) and major and area sources.

Compliance Status: The emergency IC engines specified in SMAQMD Permits to Operate Nos. 19775 and 22060 are subject to this rule because they commenced construction after June 11, 2006. They comply with the NESHAP by emitting at or below the levels specified in 40 CFR 60 Subpart IIII.

The emergency use IC engines specified in SMAQMD Permits to Operate 18533, 18534, 18535, 18536, 14475, 10707, 11494, 13421, and 22314 **are not subject** to the federal NESHAP for Reciprocating Internal Combustion Engines because they are institutional emergency engines at an area source for HAP that were constructed or reconstructed before June 11, 2006 (40 CFR 63.6590(b)(3)).

**Streamlining Multiple Applicable Requirements:**

A. IC Engine, Emergency Use

Basis of Requirement	Applicable Requirements
SMAQMD Rule No. 406 – Specific Contaminants	≤ 0.1 grains PM/dscf at 12% CO <sub>2</sub> and ≤ 2000 ppmv sulfur compounds as SO <sub>2</sub>

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**IC Engines – Emergency Use**

Basis of Requirement	Applicable Requirements
SMAQMD Rule No. 201 permit conditions based on: SMAQMD Rule No. 202 – New Source Review	$\leq 0.13$ lb PM/hour (equivalent to 0.1 grains/dscf at 12% CO <sub>2</sub> ) and $\leq 0.0015$ ppmw S in the fuel (equivalent to 0.00003 ppmv as SO <sub>2</sub> )

Pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the above applicable requirements will be streamlined. The most stringent requirements are the permit conditions based on SMAQMD Rule Nos. 201 and 202, which will be included in the Title V permit.

Basis of Requirement	Applicable Requirements % S by weight
SMAQMD Rule No. 420 – Sulfur Content of Fuels	$\leq 0.5\%$
SMAQMD Rule No. 201 permit conditions based on: SMAQMD Rule No. 202 – New Source Review	$\leq 0.0015\%$

Pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the above applicable requirements will be streamlined. The most stringent requirements are the permit conditions based on SMAQMD Rule Nos. 201 and 202, which will be included in the Title V permit.

Basis of Requirement	Applicable Requirements
SMAQMD Rule No. 412 – Stationary IC Engines Located at Major Stationary Sources of NO <sub>x</sub>	Operate a non-resetting totalizing hour meter (or computerized tracking) and maintain operation records.
SMAQMD Rule No. 201 permit conditions based on: SMAQMD Rule No. 202 – New Source Review	Operate a non-resetting totalizing hour meter (or computerized tracking) and maintain operation records.

Pursuant to U.S. EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, the above applicable requirements will be streamlined. The permit conditions based on SMAQMD Rule Nos. 201 and 202 are as stringent as the SMAQMD Rule 412 requirements and will be included in the Title V permit.

**I. APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Equipment Specific Requirements (continued)**  
**Gasoline Dispensing Facility**

**SMAQMD Rule 201 Permit to Operate No. 21510**

SMAQMD Permit to Operate No. 21510:

Condition Description: The conditions on the SMAQMD Rule 201 Permit to Operate for the gasoline dispensing facility limit gasoline throughput, gasoline emissions, and require recordkeeping.

The following table indicates the conditions on the SMAQMD Rule 201 permits that are not applicable federally enforceable requirements.

<b>Equipment</b>	<b>SMAQMD Rule 201 Permit No.</b>	<b>Permit conditions that are not federally enforceable</b>
Gasoline Dispensing Facility	P/O No. 21510	Condition Nos. 1, 2, 3, and 4.

Compliance Status: UCDMC is currently in compliance with all of the conditions on SMAQMD Rule 201 Permit to Operate No. 21510.

**SMAQMD Rule 448 – Gasoline Transfer into Stationary Storage Containers**

SIP Approved: 01-23-1996 (61 FR 1716)  
02-02-1995 rule version is SIP approved  
02-26-2009 rule version is not SIP approved

Rule Description: This rule limits emissions resulting from the transfer of gasoline into any stationary storage container or delivery vessel, or from the pump-out of gasoline from any stationary storage container, delivery vessel, or vehicle fuel tank.

Compliance Status: The gasoline dispensing facility is in compliance with all the applicable requirements of this rule

**SMAQMD Rule 449 – Transfer of Gasoline into Vehicle Fuel Tanks**

SIP Approved: 03-24-2003 (68 FR 14156)  
09-26-2002 rule version is SIP approved  
02-26-2009 rule version is not SIP approved

Rule Description: This rule limits the emissions of gasoline vapors into the atmosphere when motor vehicle fuel tanks are filled.

Compliance Status: The gasoline dispensing facility is in compliance with all the applicable requirements of this rule

**J. NON-FEDERALLY ENFORCEABLE REQUIREMENTS**  
**Facility-wide Requirements**

**SMAQMD Rule 306 - Air Toxic Fees**

SIP approved: Not SIP approved.

Rule Adopted: 03-27-2003

Rule Description: This rule requires the facility to pay fees associated with toxic emissions regulated through the California "Toxic Hotspot" Program.

Compliance Status: The permittee has paid toxic fees as required and is in compliance.

**SMAQMD Rule 602 - Breakdown Conditions: Emergency Variance**

SIP approved: Not SIP approved.

Rule Adopted: 12-06-1978

Rule Description: This rule requires the facility to notify the SMAQMD of any equipment breakdowns that cause an emission violation and to follow specific procedures.

Compliance Status: The permittee has complied with the requirements of the rule when equipment breakdowns have caused emission violations.

**Code of California Regulations, Titles 17, Division 3, Chapter 1, Subchapter 7.5, Section 93103, Air Toxic Control Measure (ATCM) - Regulation for Chromate Treated Cooling Towers**

SIP approved: Not SIP approved.

Rule Adopted: 03-09-1989 (Adopted by the California Air Resources Board.)

Rule Description: This rule does not allow hexavalent chromium containing compounds to be added to the cooling tower circulating water.

Compliance Status: The cooling tower does not use hexavalent chromium containing compounds.

**State of California Air Toxic Control Measure – Stationary Compression Ignition Engines (CCR 93115)**

SIP approved: Not SIP approved.

Rule Description: This rule specifies emission limits, fuel limitations, and monitoring requirements for diesel fueled engines over 50 hp.

Compliance Status: The IC engines comply with the requirements of this rule

**K. Recommendation and Title V Permit Conditions**

It is recommended that the University of California, Davis Medical Center Title V Federal Operating permit be renewed.

See proposed Title V Federal Operating Permit TV2010-16-01 for permit conditions.

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

## **ATTACHMENT A**

**SMAQMD RULES THAT ARE**

**"APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS"**

**FOR THE UNIVERSITY OF CALIFORNIA, DAVIS MEDICAL CENTER**

SMAQMD RULES THAT ARE  
 "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS"  
 FOR THE UNIVERSITY OF CALIFORNIA, DAVIS MEDICAL CENTER

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	101	General Provisions and Definitions 09-03-1998 version	<b>Yes</b> - No related conditions are included in the permit because of general nature of the rule.
●	●	102	Circumvention 11-29-1983 version	<b>Yes</b> - No related conditions are included in the permit because of general nature of the rule.
●	●	103	Exceptions 11-29-1983 version	<b>No</b> - Source does not operate the type of equipment described in this rule.
●	●	104	General Conformity 11-03-1994 version	<b>No</b> - The rule's purpose is to have the SMAQMD review federal conformity findings.
●	●	105	Emission Statement 09-05-1996 version	<b>No</b> - Actual facility emissions of ROC and NOx are less than 25 tons/year.
●	●	107	Alternative Compliance	<b>No</b> - It is not a SIP approved rule.
●	●	108	Minor Violations	<b>No</b> - It is not a SIP approved rule.
●	●	201	General Permit Requirements 11-20-1984 version	<b>Yes</b> - No related conditions are included in the permit because of the general nature of the rule.
●	●	202	New Source Review 11-20-1984 version	<b>Yes</b> - Related conditions are included in the permit.

SMAQMD RULES THAT ARE  
 "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS"  
 FOR THE UNIVERSITY OF CALIFORNIA, DAVIS MEDICAL CENTER

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	*	207	Title V Federal Operating Permit Program	Yes - Related conditions are included in the permit. (* Although this is not a SIP approved rule, it is applicable because it is part of the approved SMAQMD Title V Permit Program.)
		203	Prevention of Significant Deterioration	No - It is not a SIP approved rule.
		204	Emission Reduction Credits	No - It is not a SIP approved rule.
		205	Community Bank and Priority Reserve Bank	No - It is not a SIP approved rule.
		206	Mobile and Transportation Source Emission Reduction Credits	No - It is not a SIP approved rule.
		208	Acid Rain	No - It is not a SIP approved rule. Note: there is an equivalent federal regulation.
		209	Limiting Potential to Emit	No - It is not a SIP approved rule.
		210	Synthetic Minor Source Status	No - It is not a SIP approved rule.
		211	MACT at Major Sources of Hazardous Air Pollutants	No - It is not a SIP approved rule.

SMAQMD RULES THAT ARE  
 "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS"  
 FOR THE UNIVERSITY OF CALIFORNIA, DAVIS MEDICAL CENTER

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
		213	Federal Major Modifications	No - It is not a SIP approved rule.
		215	Agricultural Permit Requirements and New Agricultural Permit Review	No - It is not a SIP approved rule.
		250	Sacramento Carbon Exchange Program	No - It is not a SIP approved rule.
●	*	301	Stationary Source Permit Fees	Yes - Related conditions are included in the permit. (*Although this is not a SIP approved rule, it is applicable because it is part of the approved SMAQMD Title V Permit Program.)
		302	Hearing Board Fees	No - It is not a SIP approved rule.
		303	Agricultural Burning Permit Fees	No - It is not a SIP approved rule.
		304	Plan Fees	No - It is not a SIP approved rule.
		305	Environmental Document Preparation and Processing Fees	No - It is not a SIP approved rule.
●		306	Air Toxics Fees	No - It is not a SIP approved rule.

SMAQMD RULES THAT ARE  
 "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS"  
 FOR THE UNIVERSITY OF CALIFORNIA, DAVIS MEDICAL CENTER

Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	307	Clean Air Act Fees 09-26-2002 version	Yes - No related conditions are included in the permit because of limited applicability.
		310	Permit Fees - Agricultural Source	No - It is not a SIP approved rule
		311	Registration Fees for Agricultural Compression Ignition Engines	No - It is not a SIP approved rule
		350	Greenhouse Gas Program Fees	No - It is not a SIP approved rule
●	●	401	Ringelmann Chart 04-05-1983 version	Yes - Related conditions are included in the permit.
●		402	Nuisance	No - It is not a SIP approved rule.
●	●	403	Fugitive Dust 11-29-1983 version	Yes - Related conditions are included in the permit.
●	●	404	Particulate Matter 11-20-1984 version	Yes - Related conditions are included in the permit. (see discussion of streamlining applicable requirements)
●	●	405	Dust and Condensed Fumes 11-29-1983 version	No - The source does not operate such a process.

SMAQMD RULES THAT ARE  
 "APPLICABLE FEDERALLY ENFORCEABLE REQUIREMENTS"  
 FOR THE UNIVERSITY OF CALIFORNIA, DAVIS MEDICAL CENTER

Rule is Applicable	Rule is SP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	406	Specific Contaminants 11-29-1983 version	<b>Yes</b> - Related conditions are included in the permit. (see discussion of streamlining applicable requirements)
●	●	407	Open Burning 11-29-1983 version	<b>Yes</b> - No related conditions are included in the permit because the source does not conduct open burning.
●	●	408	Incinerator Burning 11-29-1983 version	<b>No</b> - The source does not operate an incinerator.
●	●	409	Orchard Heaters 11-29-1983 version	<b>No</b> - The source does not operate orchard heaters.
●	●	410	Reduction of Animal Matter 11-29-1983 version	<b>No</b> - The source does not operate equipment for the reduction of animal matter.
●	●	411	Boiler NOx 08-23-2007 version	<b>Yes</b> - Related conditions are included in the permit.
●	●	412	Stationary IC Engines at Major Stationary Sources of NOx 06-01-1995 version	<b>Yes</b> - Related conditions are included in the permit.

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Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	413	Stationary Gas Turbines 03-24-2005 version	<b>Yes</b> - Related conditions are included in the permit. (see discussion of streamlining applicable requirements)
●	●	414	Natural Gas Fired Water Heaters 08-01-1996 version	<b>Yes</b> - No related conditions are included in the permit.
		417	Wood Burning Appliances	<b>No</b> - It is not a SIP approved rule.
●	●	420	Sulfur Content of Fuels 11-29-1983 version	<b>Yes</b> - Related conditions are included in the permit. (see discussion of streamlining applicable requirements)
		421	Mandatory Episodic Curtailment of Wood and Other Solid Fuel Burning	<b>No</b> - It is not a SIP approved rule
●	●	441	Organic Solvents 11-29-1983 version	<b>Yes</b> - No related conditions are included in the permit because of limited applicability.
●	●	442	Architectural Coatings 09-05-1996 version	<b>Yes</b> - Related conditions are included in the permit.

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Rule is Applicable	Rule is SP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	443	Leaks from Synthetic Organic Chemical and Polymer Manufacturing 09-05-1996 version	<b>No</b> - The source does not operate synthetic organic chemical or polymer manufacturing equipment.
●	●	444	Petroleum Solvent Dry Cleaning 11-29-1983 version	<b>No</b> - The source does not operate petroleum solvent dry cleaning equipment.
●	●	446	Storage of Petroleum Products 11-16-1993 version	<b>No</b> - The source only stores petroleum products in tanks that are exempt from the rule requirements (< 40,000 gallons.)
●	●	447	Organic Liquid Loading 04-02-1998 version	<b>No</b> - The source does not operate organic liquid loading equipment.
●	●	448	Gasoline Transfer into Stationary Storage Containers 02-02-1995 version	<b>Yes</b> - Related conditions are included in the permit.
●	●	449	Transfer of Gasoline into Vehicle Fuel Tanks 09-26-2002 version	<b>Yes</b> - Related conditions are included in the permit.
●	●	450	Graphic Arts Operations 10-23-2008 version	<b>No</b> - The source does not operate a graphic arts process as defined in the rule.

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Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	451	Surface Coating of Miscellaneous Metal Parts and Products 11-29-1983 version	<b>Yes</b> - No related conditions are included in the permit because of limited applicability.
●	●	452	Can Coating 09-25-2008 version	<b>No</b> - The source does not operate a can coating process.
●	●	453	Cutback and Emulsified Asphalt Paving Materials 11-29-1983 version	<b>No</b> - The source does not manufacture or apply cutback or emulsified asphalt paving materials.
●	●	454	Degreasing Operations 09-25-2008 version	<b>No</b> - The source does not operate degreasers subject to this rule.
●	●	455	Pharmaceuticals Manufacturing 11-29-1983 version	<b>No</b> - The source does not manufacture pharmaceuticals.
●	●	456	Aerospace Coating Operations 10-23-2008 version	<b>No</b> - The source does not coat aerospace parts.
		457	Methanol Compatible Tanks	<b>No</b> - It is not a SIP approved rule.
●	●	458	Large Commercial Bread Bakeries 09-05-1996 version	<b>No</b> - The source does not produce bread products.

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Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●	●	459	Automotive, Truck and Heavy Equipment Refinishing Operations 10-02-1997 version	No - The source does not refinish vehicles.
●		460	Adhesives and Sealants	No - It is not a SIP approved rule.
●	●	463	Wood Products Coatings 09-25-2008 version	Yes - No related conditions are included in the permit because of limited applicability.
●	●	464	Organic Chemical Manufacturing Operations 07-23-1998 version	No - The source does not manufacture organic chemicals.
		465	Polyester Resin Operations	No - It is not a SIP approved rule.
●		466	Solvent Cleaning 05-23-2002 version	Yes - Related conditions are included in the permit.
		485	Municipal Landfill Gas	No - It is not a SIP approved rule.
		496	Large Confined Animal Facilities	No - It is not a SIP approved rule.
●		501	Agricultural Burning 11-29-1983 version	No - The source does not conduct agricultural burning.

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Rule is Applicable	Rule is SIP Approved	Rule No.	Rule Title	Is the Rule an "Applicable Federally Enforceable Requirement"?
●		601	Procedure before the Hearing Board	No - It is not a SIP approved rule.
●		602	Breakdown Conditions: Emergency Variance	No - It is not a SIP approved rule.
●	●	701	Emergency Episode Plan 05-27-1999 version	No - Facility emissions are less than 50 tons/year of ROC and NOx and less than 100 tons/year of CO and PM10.
●		801	New Source Performance Standards	No - It is not a SIP approved rule. <i>Note: there are equivalent federal regulations.</i>
		901	General Requirements	No - It is not a SIP approved rule. <i>Note: there are equivalent federal regulations.</i>
		902	Asbestos	No - It is not a SIP approved rule. <i>Note: there is an equivalent federal regulation.</i>
		903	Mercury	No - It is not a SIP approved rule. <i>Note: there is an equivalent federal regulation.</i>

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●		904	Airborne Toxic Control Measures	<b>No</b> - It is not a SIP approved rule. <i>Note: there are equivalent federal regulations for some of the listed ATCMs.</i>
		1002	Fleet Inventory	<b>No</b> - It is not a SIP approved rule.
		1003	Reduced-Emission Fleet Vehicles/Alternative Fuels	<b>No</b> - It is not a SIP approved rule.
		1005	Mobile Source Emission Reduction Credits/Banking	<b>No</b> - It is not a SIP approved rule.
		1006	Transportation Conformity	<b>No</b> - It is not a SIP approved rule.

## **ATTACHMENT B**

### **SMAQMD RULE 201 PERMITS TO OPERATE FOR THE UNIVERSITY OF CALIFORNIA, DAVIS MEDICAL CENTER**