Bay Area Air Quality Management District

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San Francisco, CA 94109
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Permit Evaluation
and
Statement of Basis
for
Significant and Minor Revisions of

MAJOR FACILITY REVIEW PERMIT

for

ConocoPhillips – San Francisco Refinery
Facility #A0016

Facility Address:
1380 San Pablo Avenue
Rodeo, CA 94572

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1380 San Pablo Avenue
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March 2005

Application Engineer: Brenda Cabral
Site Engineer: Brenda Cabral

Application: 11626

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Title V Statement of Basis

A. Background

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Title 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. It is a major facility because it has the "potential to emit," as defined by BAAQMD Regulation 2-6-218, of more than 100 tons per year of a regulated air pollutant.

Major Facility Operating permits (Title V permits) must meet specifications contained in 40 CFR Part 70 as contained in BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility identifier that consists of a letter and a 4-digit number. This identifier is also considered to be the identifier for the permit. The identifier for this facility is A0016.

This facility received its initial Title V permit on December 1, 2003. The permit was reopened and re-issued on December 16, 2004. This application is for significant and minor revisions to the permit. The proposed permit shows all changes to the permit in strikeout/underline format. This statement of basis addresses only the proposed changes to the permit. The statements of basis for the permits issued on December 1, 2003 and December 16, 2004 contain the basis for the rest of the permit.

These revisions to the Major Facility Review permit incorporate the changes to the facility and permit conditions authorized by the District in Applications 11293 and 11630. The changes approved in Application 11293 require a significant revision to the permit. The changes approved in Application 11630 require significant and minor revisions to the permit. The minor revisions are effective upon proposal. The significant revision is not effective until the public comment and EPA review process are over and the permit is issued. In this case, the public comment period and the EPA review period will run concurrently.

Application 11293 allows the existing S437/S438 hydrogen plant to allow greater use of liquid feeds (isopentane and butane), resulting in an increase in hydrogen gas production capacity from 25 MM scf/day to 28.5 MM scf/day. S437 is the source number assigned to the overall hydrogen plant, while S438 is the source number assigned to the hydrogen reforming furnace within S-437. The throughput increase is a significant revision because the BACT analysis for

S438 is a case-by-case emission limit determination in accordance with BAAQMD Regulation 2-6-223.5.

The detail of the changes is in the engineering evaluation for Application 11293, which is in Appendix B and which hereby is incorporated into this statement of basis. The Authority to Construct was issued on February 16, 2005.

The evaluation for Application 11293 contained two errors in the discussion of toxic risk management. The risk screening trigger level for copper shown in the summary table of toxic emissions was incorrectly shown as 0.046 lb/yr (4.6 E-02), when it should have been 460 lb/yr (4.6 E+02). Nonetheless, the conclusion that a risk screening was not triggered by copper emissions was correct.

Also, the summary table of toxic emissions includes a listing for hexavalent chromium emissions (0.0071 lb/yr). As discussed in Section 4.1 of the evaluation, toxic emission factors used in the evaluation of Application 11293 were the same as were used in the risk assessment for Application 5814 where S-438 was originally permitted. In Application 5814, an emission factor for chromium, but not for hexavalent chromium, was used. Therefore, the listing in the summary table of toxic emissions in Application 5814 should have been for chromium and not for hexavalent chromium. Because chromium has no assigned risk screening trigger level, the conclusion that a risk screening was not triggered by chromium emissions was correct.

Application 11630 allows 2 combustion devices (S36 and S461) to operate without normal selective catalytic reduction (SCR) abatement, as long as all applicable emission limits and other requirements are satisfied. This is a minor revision.

Application 11630 also allows ConocoPhillips to monitor TRS concentration at S36 and S461 in a similar manner to the monitoring of TRS in Condition 1694, part 3a. In that case, the total sulfur in refinery fuel gas is monitored 3 times per day as a surrogate for TRS. Once a month, the gas is analyzed to determine the ratio of total sulfur to TRS, which is defined as hydrogen sulfide, methyl mercaptan, methyl sulfide, and dimethyl disulfide. This test applies to all the gas in the refinery fuel gas system.

In this case, refinery fuel gas from the main fuel gas header is processed through two new caustic scrubbers of a novel design before combustion at S36 and S461 in order to meet lower BACT limits for TRS. Since this is a new system, the facility will be allowed to use total sulfur as a surrogate for TRS, but will be required to determine the TRS level whenever the total sulfur level exceeds the annual limit for TRS. Since TRS must be below the total sulfur, this monitoring is equivalent. This is a minor revision because the monitoring is equivalent and is not a relaxation.

However, the equivalent monitoring is not feasible for every sample. An outside lab in Sacramento that only works Mondays through Fridays performs the TRS analysis. The samples cannot be held for more than 36 hours before they deteriorate. Since the analysis is not feasible on Saturdays and Sundays, the facility will not be required to analyze any samples pulled on Friday and Saturday.

This is a significant revision of the Title V permit because the monitoring is not equivalent and therefore, it is a relaxation of monitoring pursuant to BAAQMD Regulation 2-6-226.3.

The reason for the revision is that the facility does not have the capability of monitoring TRS directly at these sources. Since the total sulfur is expected to be extremely low, the District does not expect that determination of TRS will be necessary for every sample.

Additionally, Application 11630 proposes an addition to the custom schedule of compliance. S36 and S461 are subject to the SO2 limit and H2S monitoring in Subpart J. The sources will comply with the limit but will not comply with the requirement for continuous monitoring of SO2 or HS2. The facility has submitted a petition for alternative monitoring to EPA, Region 9. Until the petition is approved, the facility will be out of compliance with Subpart J. Therefore, a custom schedule of compliance is required. The changes to the schedule of compliance are shown in Section C.V of this statement of basis. This is not a significant revision because no emission limit or monitoring requirement is changed.

The detail of the changes is in the engineering evaluation for Application 11630, which is in Appendix C and which hereby is incorporated into this statement of basis.

There will be no change in emissions due to Application 11630. There will be a small change in emissions for Application 11293, which is shown below:

Pollutant	Amount, tons/year
POC	0.30
NOx	0.62
SO2	0.12
CO	1.72
PM10	0.30
NH3	0.46

B. Facility Description

This facility is an oil refinery. For a complete description, see the Statement of Basis for Application 9296.

C. Permit Content

The legal and factual basis for the permit revision follows. The permit sections are described in the order presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities.

Changes to permit

There are no changes to Section I in this action.

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S24).

Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Rule 2-1-302.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Rule 2-6-222, per year or 400 pounds of a "hazardous air pollutant," as defined in BAAQMD Rule 2-6-210, per year.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-24). .

The equipment section is considered to be part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Changes to permit:

Table II A - Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
437	Hyd~~1~~rogen Manufacturing Unit			**28.5**~~25~~ million scf/day
438	U110, H-1 (H2 Plant Reforming) Furnace (natural gas, refinery fuel gas, PSA offgas)	**John Zinc PFFG burners**~~Claudius Peters~~	reforming furnace	**250**~~210~~ MM BTU/hr

Table II B – Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency

Table II B – Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
46	SCR System	S438	BAAQMD Condition 1694, Part E	NOx, O2 CEMs	7~~10~~ ppmv NOx at 3% O2 (~~13~~-hr average)

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. They may, however, be specifically described in a Title V permit if they are considered significant sources pursuant to the definition in BAAQMD Rule 2-6-239.

Changes to permit
The address for the EPA's SIP website has been moved to this page.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules
- SIP Rules (if any) are listed following the corresponding District rules. SIP rules are District rules that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are “federally enforceable” and a “Y” (yes) indication will appear in the “Federally Enforceable” column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the “Federally Enforceable” column will have a “Y” for “yes”. If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion will be federally enforceable; the non-SIP version will not be federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.

- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Changes to permit:
The address for the EPA's SIP website has been moved to this page.

Following are the proposed changes in Section IV for S36 and S461:

Table IV – A.24
Source-specific Applicable Requirements
S36 – UNIT 200, B-102 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (5/2/01)**		startup date
1-520	Continuous Emission Monitoring	Y	startup date
1-520.8	Monitors pursuant to Regulation 2-1-403	Y	startup date
1-521	Monitoring May Be Required	Y	startup date
1-522	Continuous Emission Monitoring and Recordkeeping Procedures		startup date
1-522.4	reporting of inoperative CEMs	Y	startup date
1-522.5	CEM calibration requirements	Y	startup date
1-522.6	CEM accuracy requirements	Y	startup date
1-522.7	emission limit exceedance reporting requirements	N	startup date
1-522.8	monitoring data submittal requirements	Y	startup date
1-522.9	recordkeeping requirements	Y	startup date
1-522.10	Regulation 1-521 monitors shall meet requirements specified by District	Y	startup date
1-602	Area and Continuous Monitoring Requirements	N	startup date
SIP Regulation 1	**PROVISIONS NO LONGER IN CURRENT RULE General Provisions and Definitions (6/28/99)**		startup date
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y – note 1	startup date
1-522.7	emission limit exceedance reporting requirements	Y - note 1	startup date
BAAQMD Regulation 2, Rule 1	**Regulation 2, Rule 1 - Permits, General Requirements (5/2/01; SIP approved 1/26/99 {adopted 11/01/89})**		startup date
2-1-403	Permit conditions requiring measurement of emissions	N	startup date
2-1-501	Monitors shall comply with Volume V of the Manual of Procedures	Y	startup date

Table IV – A.24
Source-specific Applicable Requirements
S36 – UNIT 200, B-102 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
SIP Regulation 2, Rule 1	**PROVISIONS NO LONGER IN CURRENT RULE Permits, General Requirements (1/26/99 {adopted 11/01/89})**		startup date
2-1-403	Permit conditions requiring measurement of emissions	Y – note 1	startup date
BAAQMD Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**		startup date
6-301	Ringelmann #1 Limitation	Y	startup date
6-305	Visible Particles	Y	startup date
6-310.3	Particulate Weight Limitation	Y	startup date
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	startup date
40 CFR 60 Subpart A	**General Provisions (03/16/1994)**		
60.13	**Monitoring Requirements**	**Y**	
60.13(i)	**Approval of Alternative Monitoring**	**Y**	
NSPS 40 CFR 60 Subpart J	**Standards of Performance for Petroleum Refineries (7/1/00)**		startup date
60.100	Applicability	Y	startup date
60.104	Standards for Sulfur Oxides: Compliance Schedule	Y	startup date
60.104(a)(1)	fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	Y	startup date
60.105	Monitoring of Emissions and Operations	Y	startup date
~~60.105(a)(4)~~	~~monitoring requirement for H2S (dry basis) in fuel gas prior to combustion (in lieu of separate combustion device exhaust SO2 monitors as required by 60.105(a)(3))~~	~~Y~~	~~startup date~~
60.105(e)(3)(ii)	Excess H2S emission definitions for 60.7(c)	Y	startup date
60.106(a)	Test methods and procedures	Y	startup date
60.106(e)(1)	Method 11 shall be used to verify compliance with 60.104(a)(1)	Y	startup date
NSPS 40 CFR 60 Appendix A	**Appendix A to Part 60 – Test Methods**	Y	startup date
~~**NSPS 40 CFR 60 Appendix B**~~	~~**Performance Specifications**~~		~~startup date~~

Table IV – A.24
Source-specific Applicable Requirements
S36 – UNIT 200, B-102 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
~~Performance Specification 7~~	~~H2S continuous emission monitoring systems~~	~~Y~~	~~startup date~~
BAAQMD Condition 1694			
Part A.2a	**Fuel restrictions [Basis: Regulation 2, Rule 1]**	**Y**	
Part A.4	**SO2 emission limit [Basis: SO2 Bubble]**	**Y**	
Part A.5c	**Records of SO2 emissions [Basis: Regulation 2, Rule 1; SO2 Bubble; Regulation 2-6-409.2]**	**Y**	
BAAQMD Condition 21097			startup date
Part 1	Fuel restrictions [Basis: BACT, Cumulative Increase]	Y	startup date
Part 2	Heat ratings, annual firing limits [Basis: Cumulative Increase]	Y	startup date
Part 3a	Abatement requirement [Basis: BACT, Cumulative Increase]	Y	after initial performance test
Part 3b	Emission rate limits [Basis: BACT, Cumulative Increase, Toxic Management]	Y, except for ammonia limit (Toxic Management)	after initial performance test
Part 4	Continuous fuel monitor requirement [Basis: Cumulative Increase]	Y	startup date
Part 5a	NOx, O2 CEM requirement [Basis: BACT, Cumulative Increase]	Y	startup date
Part 5b	Annual CO source test requirement [Basis: BACT, Cumulative Increase]	Y	startup date
Part 6	Fuel gas TRS concentration limit [Basis: BACT, Cumulative Increase, SO2 bubble]	Y	startup date
Part 7a	TRS testing requirement [Basis: BACT, Cumulative Increase, SO2 Bubble]	Y	startup date
Part 7b	TRS records requirement [Basis: BACT, Cumulative Increase, SO2 Bubble]	Y	startup date
Part 8	Initial source test requirement [Basis: BACT, Cumulative Increase, Toxic Management]	Y, except for ammonia limit (Toxic Management)	90 days after startup
Part 9	Initial source test procedures TRS reporting requirements [Basis: BACT, Cumulative Increase, Toxic Management]	Y, except for ammonia limit (Toxic Management)	90 days after startup

Table IV – A.24
Source-specific Applicable Requirements
S36 – UNIT 200, B-102 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 10	**Recordkeeping [2-6-503]**	**Y**	
BAAQMD Condition 21099			
Part 1	Light hydrocarbon control valve requirements [Basis: BACT]	Y	startup date
Part 2	Light hydrocarbon flange/connector requirements [Basis: BACT]	Y	startup date
Part 3	Centrifugal compressor requirements [Basis: BACT]	Y	startup date
Part 4	Light hydrocarbon centrifugal pump requirements [Basis: BACT]	Y	startup date
Part 5	Monitoring and repair program requirement [Basis: BACT]	Y	startup date
Part 6	ULSD project component count report requirement [Basis: BACT, Cumulative Increase, Toxic Management Policy]	Y	startup date

Table IV – A.35
Source-specific Applicable Requirements
S461 – UNIT 250, B-701 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 1	**General Provisions and Definitions (5/2/01)**		startup date
1-520	Continuous Emission Monitoring	Y	startup date
1-520.8	Monitors pursuant to Regulation 2-1-403	Y	startup date
1-521	Monitoring May Be Required	Y	startup date
1-522	Continuous Emission Monitoring and Recordkeeping Procedures		startup date
1-522.4	reporting of inoperative CEMs	Y	startup date
1-522.5	CEM calibration requirements	Y	startup date
1-522.6	CEM accuracy requirements	Y	startup date
1-522.7	emission limit exceedance reporting requirements	N	startup date
1-522.8	monitoring data submittal requirements	Y	startup date
1-522.9	recordkeeping requirements	Y	startup date
1-522.10	Regulation 1-521 monitors shall meet requirements specified by District	Y	startup date
1-602	Area and Continuous Monitoring Requirements	N	startup date
SIP Regulation 1	**PROVISIONS NO LONGER IN CURRENT RULE General Provisions and Definitions (6/28/99)**		startup date
1-522	Continuous Emission Monitoring and Recordkeeping Procedures	Y – note 1	startup date
1-522.7	emission limit exceedance reporting requirements	Y - note 1	startup date
BAAQMD	**Regulation 2, Rule 1 - Permits, General Requirements (5/2/01;**		startup date

Table IV – A.35
Source-specific Applicable Requirements
S461 – UNIT 250, B-701 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Regulation 2, Rule 1	**SIP approved 1/26/99 {adopted 11/01/89})**		
2-1-403	Permit conditions requiring measurement of emissions	N	startup date
2-1-501	Monitors shall comply with Volume V of the Manual of Procedures	Y	startup date
SIP Regulation 2, Rule 1	**PROVISIONS NO LONGER IN CURRENT RULE Permits, General Requirements (1/26/99 {adopted 11/01/89})**		startup date
2-1-403	Permit conditions requiring measurement of emissions	Y – note 1	startup date
BAAQMD Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**		startup date
6-301	Ringelmann #1 Limitation	Y	startup date
6-305	Visible Particles	Y	startup date
6-310.3	Particulate Weight Limitation	Y	startup date
BAAQMD Manual of Procedures, Volume V	**Continuous Emission Monitoring Policy and Procedures (1/20/82)**	Y	startup date
40 CFR 60 Subpart A	**General Provisions (03/16/1994)**		
60.13	**Monitoring Requirements**	**Y**	
60.13(i)	**Approval of Alternative Monitoring**	**Y**	
NSPS 40 CFR 60 Subpart J	**Standards of Performance for Petroleum Refineries (7/1/00)**		startup date
60.100	Applicability	Y	startup date
60.104	Standards for Sulfur Oxides: Compliance Schedule	Y	startup date
60.104(a)(1)	fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions	Y	startup date
60.105	Monitoring of Emissions and Operations	Y	startup date
~~60.105(a)(4)~~	~~monitoring requirement for H2S (dry basis) in fuel gas prior to combustion (in lieu of separate combustion device exhaust SO2 monitors as required by 60.105(a)(3))~~	~~Y~~	~~startup date~~
60.105(e)(3)(ii)	Excess H2S emission definitions for 60.7(c)	Y	startup date
60.106(a)	Test methods and procedures	Y	startup date
60.106(e)(1)	Method 11 shall be used to verify compliance with 60.104(a)(1)	Y	startup date
NSPS 40 CFR 60	**Appendix A to Part 60 – Test Methods**	Y	startup date

Table IV – A.35
Source-specific Applicable Requirements
S461 – UNIT 250, B-701 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Appendix A			
~~**NSPS 40 CFR 60 Appendix B**~~	~~**Performance Specifications**~~		~~startup date~~
~~Performance Specification 7~~	~~H2S continuous emission monitoring systems~~	~~Y~~	~~startup date~~
BAAQMD Condition 1694			
Part A.2a	**Fuel restrictions [Basis: Regulation 2, Rule 1]**	**Y**	
Part A.4	**SO2 emission limit [Basis: SO2 Bubble]**	**Y**	
Part A.5c	**Records of SO2 emissions [Basis: Regulation 2, Rule 1; SO2 Bubble; Regulation 2-6-409.2]**	**Y**	
BAAQMD Condition 21096			startup date
Part 1	Fuel restrictions [Basis: BACT, Cumulative Increase]	Y	startup date
Part 2	Heat ratings, annual firing limits [Basis: Cumulative Increase]	Y	startup date
Part 3a	Abatement requirement [Basis: BACT, Cumulative Increase]	Y	after initial performance test
Part 3b	Emission rate limits [Basis: BACT, Cumulative Increase, Toxic Management]	Y, except for ammonia limit (Toxic Management)	after initial performance test
Part 4	Continuous fuel monitor requirement [Basis: Cumulative Increase]	Y	startup date
Part 5a	NOx, O2 CEM requirement [Basis: BACT, Cumulative Increase]	Y	startup date
Part 5b	Annual CO source test requirement [Basis: BACT, Cumulative Increase]	Y	startup date
Part 6	Fuel gas TRS concentration limit [Basis: BACT, Cumulative Increase, SO2 bubble]	Y	startup date
Part 7a	TRS testing requirement [Basis: BACT, Cumulative Increase, SO2 Bubble]	Y	startup date
Part 7b	TRS records requirement [Basis: BACT, Cumulative Increase, SO2 Bubble]	Y	startup date
Part 8	Initial source test requirement [Basis: BACT, Cumulative Increase, Toxic Management]	Y, except for ammonia limit (Toxic Management)	90 days after startup

Table IV – A.35
Source-specific Applicable Requirements
S461 – UNIT 250, B-701 HEATER

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
Part 9	Initial source test procedures TRS reporting requirements [Basis: BACT, Cumulative Increase, Toxic Management]	Y, except for ammonia limit (Toxic Management)	90 days after startup
Part 10	**Recordkeeping [2-6-503]**	**Y**	
BAAQMD Condition 21099			
Part 1	Light hydrocarbon control valve requirements [Basis: BACT]	Y	startup date
Part 2	Light hydrocarbon flange/connector requirements [Basis: BACT]	Y	startup date
Part 3	Centrifugal compressor requirements [Basis: BACT]	Y	startup date
Part 4	Light hydrocarbon centrifugal pump requirements [Basis: BACT]	Y	startup date
Part 5	Monitoring and repair program requirement [Basis: BACT]	Y	startup date
Part 6	ULSD project component count report requirement [Basis: BACT, Cumulative Increase, Toxic Management Policy]	Y	startup date

A relaxation of the TRS monitoring was approved in Application 11630. This is a significant revision to the permit in accordance with BAAQMD Regulation 2-6-223.3. The details are in Section C.VI, Permit Conditions, of this statement of basis.

Alternative monitoring for H2S in fuel gas for compliance with Subpart J, Section 104(a)(1), is proposed in Application 11630. The facility has also submitted a petition to EPA for approval. Therefore, this action proposes to delete 40 CFR 60, Subpart J, Section 105(a)(4), and Appendix B to 40 CFR 60 and to add 40 CFR 60, Subpart A, Section 60.13(i), Alternative Monitoring. This proposal will be finalized when EPA approves alternative monitoring.

BAAQMD and SIP Regulations 1-520 and 1-522 will still apply if there is no requirement for a CEM for H2S because the sources have CEMs for NOx.

In addition, BAAQMD Condition 1694, parts A.2a, A.4, and A.5c regarding the SO2 bubble regarding fuel restrictions and the SO2 bubble have been added because they apply to the sources and have been omitted in error.

Following are the proposed changes in Section IV for S438:

Table IV – A.34
Source-specific Applicable Requirements
S438 – UNIT 110, H-1 FURNACE

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Condition 1694			
Part A.1	Heat ratings, firing limits [Basis: Regulation 2-1-234.3]	N	
Part A.2a	Fuel restrictions [Basis: Regulation 2, Rule 1]	Y	
Part A.3a	TRS testing requirement [Basis: SO2 Bubble]	Y	
Part A.3b	TRS reporting requirements [Basis: SO2 Bubble]	Y	
Part A.4	SO2 emission limit [Basis: SO2 Bubble]	Y	
Part A.5	Records [Basis: Regulation 2, Rule 1; SO2 Bubble; Regulation 2-6-409.2]	Y	
Part E.1	S438 abatement requirement [Basis: BACT, Cumulative Increase]	Y	
Part E.2	S438 annual firing limit [Basis: Cumulative Increase]	Y	
Part E.3	S438 PSA offgas fuel TRS limit [Basis: BACT, Cumulative Increase]	Y	
Part E.4	S438 NOx~~, and~~ CO **and POC** emission limits [Basis: BACT, Cumulative Increase]	Y	
Part E.5	S438 fuel gas TRS limit [Basis: BACT, Cumulative Increase]	Y	
Part E.6	S438 Records [Basis: **Cumulative Increase**~~Recordkeeping~~]	Y	
Part E.7	S438 **modification startup source test requirement [Basis: BACT, Cumulative Increase]**	**Y**	**90 days after** S438 **startup following modification**
Part E.8	S438 **modification startup source test requirement [Basis: BACT, Cumulative Increase]**	**Y**	**prior to conducting source test in part E.7**

The basis for BAAQMD Condition 1694, part E.6 was corrected from "Recordkeeping" to "Cumulative Increase."

An emission limit for POC was added in part E.4. This is a cumulative increase requirement.

Source test requirements for NOx, CO, and POC were added in parts E.7 and E.8.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10 which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

The District has determined that the facility is out of compliance with the requirement to monitor H2S continuously in accordance with 40 CFR 60, Subpart J, at the following sources: S36, S425, S426, and S461. The facility has petitioned EPA for alternate monitoring for all four sources. The petition for S425 and S426 was submitted on May 11, 2004. A schedule of compliance for these sources was added to the permit when it was re-issued on December 16, 2004.

As of March 8, 2005, new sources S36 and S461 have not started up.

The District has approved non-continuous monitoring in Application 5814 that is not in compliance with Subpart J. In addition, the periodic monitoring is for TRS, not H2S. In regards to the limit, this would assure compliance because H2S is a subset of TRS, and the TRS limit is lower than EPA's limit for H2S. The monitoring does not comply because it is not continuous and because H2S is not measured.

Furthermore, this action proposes monitoring total sulfur content as a surrogate, with TRS analysis of many, but not all, samples for which total sulfur is above the TRS limit. Again, the monitoring does not comply because it is not continuous and because H2S is not measured.

Because the gas burned at S36 and S461 goes through a second desulfurization step through caustic scrubbers, the gas is expected to comply with the emission limit in Subpart J. The facility has petitioned EPA to accept the reduction in monitoring because the gas is low in H2S. To acknowledge non-compliance and to ensure reasonable progress towards compliance, the following additional schedule of compliance is proposed:

C. CUSTOM SCHEDULE OF COMPLIANCE

The owner/operator is out of compliance with the requirement in 40 CFR 60 Subpart J 60.105(a)(4) to verify the H2S concentration in gas combusted at S36 and S461, Heaters. Therefore, the District is imposing the following Schedule of Compliance.

Milestones

The proposed alternative monitoring plan was submitted to U.S. EPA in a letter dated February 3, 2005.

Reporting Requirements

Progress reports shall be submitted on the last day of every month to the Director of Enforcement until a monitoring program is established. The progress reports shall

contain the date by which the item in the custom schedule of compliance was achieved or an explanation of why the item was not achieved by the above date and any corrective measures adopted.

VI. Permit Conditions

The Major Facility Review permit contains conditions that are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

When necessary to meet Title V requirements, additional monitoring, recordkeeping, or reporting has been added to the permit.

Each permit condition is identified with a unique numerical identifier, up to five digits.

All changes to existing permit conditions that are proposed in this action are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out" language will be deleted and all "underline" language will be retained, subject to consideration of comments received.

Changes to permit:

The District approved the following changes in permit conditions through Applications 11292 and 11630. The engineering evaluations for these applications are attached and are considered part of this statement of basis.

The text of BAAQMD Condition 1694, parts A.2a, A.4, and A.5c is included here because they were added to the requirements for S36 and S461.

CONDITION 1694

CONDITIONS FOR COMBUSTION SOURCES AND SO2 CAP, EXCEPT FOR GAS TURBINES AND DUCT BURNERS

A. Heater Firing Rate Limits and General Requirements

1. Each heater listed below shall not exceed the indicated daily firing rate limit (based on higher heating value of fuel), which are considered maximum sustainable firing rates. The indicated hourly firing rate is the daily limit divided by 24 hours and is the basis for permit fees and is the rate listed in the District database.

District Firing Source Number	Refinery ID Number	Daily Firing Limit (MM BTU/day)	Hourly Rate (MM BTU/hr)
S-2	U229/B301	528	22

S-3	U230/B201	1,488	62
S-4	U231/B101	2,304	96
S-5	U231/B102	2,496	104
S-7	U231/B103	1,536	64
S-8	U240/B1	6,144	256
S-9	U240/B2	1,464	61
S-10	U240/B101	5,352	223
S-11	U240/B201	2,592	108
S-12	U240/B202	1,008	42
S-13	U240/B301	4,656	194
S-14	U240/B401	13,344	556
S-15 thru S19	U244/B501 thru B505	5,754	239.75
S-20	U244/B506	552	23
S-21	U244/B507	194.4	8.1
S-22	U248/B606	744	31
S-29	U200/B5	2,472	103
S-30	U200/B101	1,200	50
S-31	U200/B501	480	20
S-43	U200/B202	5,520	230
S-44	U200/B201	1,104	46
S-336	U231/B104	2,664	111
S-337	U231/B105	816	34
S-351	U267	2,424	101
S-371/372	U228/B520 and B521	1,392	58
S438	U110	**6,000**~~5,040~~	**250**~~210~~

[Regulation 2-1-234.3 **except for** S438**, Cumulative Increase for** S438]

2a. All sources shall use only refinery fuel gas and natural gas as fuel, EXCEPT for S438 which may also use pressure swing adsorption (PSA) off gas as fuel, and EXCEPT for S-3 and S-7 which may also use naphtha fuel.
[Regulation 9-1-304 (sulfur content), Regulation 2, Rule 1]

4. Emissions of SO2 shall not exceed ~~1,611~~**1612** lb/day on a monthly average basis from non-cogeneration sources burning fuel gas or liquid fuel. [SO2 Bubble]

5. The following records shall be maintained in a District-approved log for at least 5 years and shall be made available to the District upon request:

a. Daily and monthly records of the type and amount of fuel combusted at each source listed in Part A.1. [Regulation 2, Rule 1]
b. TRS sample results as required by Part A.3 [SO2 Bubble]
c. SO2 emissions as required by Part A.4 [SO2 Bubble]
d. The operator shall keep records of all visible emission monitoring required by Part 2b, shall identify the person performing the monitoring and shall describe all corrective actions taken.
[Regulation 2-6-409.2]
e. The operator shall keep records of all visible emission monitoring required by Part 2c, of the results of required visual monitoring and Method 9 evaluations on these sources, shall identify the person performing the monitoring and shall describe all corrective actions taken.
[Regulation 2-6-409.2]

E. S438 FURNACE

1. The S438 furnace shall be abated by the A-46 SCR unit at all times, except that S438 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S438 NOx emission rate whenever S438 operates without abatement. All emission limits applicable to S438 shall remain in effect whether or not it is operated with SCR abatement. [BACT, Cumulative Increase]

2. Total fuel fired in S438 shall not exceed **2.19**~~2.04~~ E 12 BTU in any rolling consecutive 365 day period. [Cumulative Increase]

3. Pressure swing adsorption (PSA) off gas used as fuel at S438 shall not exceed 1.0 ppm (by weight) total reduced sulfur (TRS). TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl disulfide. [BACT, Cumulative Increase]

4. The following emission concentration limits from S438 shall not be exceeded. These limits shall not apply during startup periods not exceeding 24 hours (72 hours when drying refractory or during the first startup following catalyst replacement) and shutdown periods not exceeding 24 hours. The District may approve other startup and shutdown durations.

   NOx: 7~~10~~ ppmv @ 3% oxygen, averaged over any **1-hr**~~3 hour~~ period
   CO: 32 ppmv @ 3% oxygen, averaged over any calendar day
   POC: 0.0023 lb/MM BTU of fuel used [BACT, Cumulative Increase]

5. The concentration of TRS in the blended fuel gas shall not exceed **14**~~50~~ ppmv averaged over any calendar month. [~~BACT,~~ **SO2 Bubble,** Cumulative Increase]

6. Daily records of the type and amount of fuel combusted at S438 and of the TRS and hydrogen sulfide concentration in the blended fuel gas, and monthly records of average blended fuel gas TRS concentration, shall be maintained for at least five years and shall be made available to the District upon request. [**Cumulative Increase**~~Recordkeeping~~]

7. **No later than 90 days from the startup of the** S438**, the owner/operator shall conduct District-approved source tests to determine initial compliance with the limits in Part 4 for NOx, CO and POC. The owner/operator shall conduct the source tests in accordance with Part 8. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. [BACT, Cumulative Increase]**

8. **The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase]**

The changes resulting from Application 11292 to BAAQMD Condition 1694 are a significant revision to the Major Facility Review permit because a case-by-case determination for BACT for NOx was made in accordance with BAAQMD Regulation 2-6-226.5.

In this action, the basis for BAAQMD Condition 1694, part 5 is being corrected from "BACT, Cumulative Increase" to "SO2 Bubble, Cumulative Increase." No BACT determination was made for SO2.

The basis for all changes to BAAQMD Condition 1694 is given in Application 11292. The engineering evaluation is in Appendix B and is part of this statement of basis.

Condition 21096:
CONDITIONS FOR S461 HEATER

1. The owner/operator of the S461 heater shall fire only refinery fuel gas or natural gas at this unit. [BACT, Cumulative Increase]

2. Based on refinery gas HHV, the owner/operator of S461 shall not exceed the following firing rates:

   a. 50.2 million BTU/hr
   b. 439,800 million BTU in any consecutive 12-month period. [Cumulative Increase]

3a. The owner/operator of S461 shall abate emissions from S461 at the A-461 SCR system whenever S461 is operated, except that S461 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S461 NOx emission rate whenever S461 operates without abatement. All emission limits applicable to S461 shall remain in effect whether or not it is operated with SCR abatement. [BACT, Cumulative Increase]

3b. The owner/operator of A-461 shall not exceed the following emission rates from S461/A-461 except during startups and shutdowns. Startups and shutdowns shall not exceed 24 consecutive hours. The 24 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 72 consecutive hours.

NOx	10 ppmv @ 3% oxygen (3 hr average)	[BACT, Cumulative Increase]
CO	28 ppmv @ 3% oxygen (8 hr average) at 25.1 MM BTU/hr and higher firing rates, 50 ppmv @ 3% oxygen (8 hr average) at firing rates below 25.1 MM BTU/hr	[BACT, Cumulative Increase]
POC	5.5 lb/MM ft3	[Cumulative Increase]
PM10	7.6 lb/MM ft3	[Cumulative Increase]
ammonia	10 ppmv @ 3% oxygen (8 hr average)	[Toxic Management]

Note: Parts 3a and 3b shall not apply until after the conclusion of the initial startup of S461.

4. The owner/operator shall equip S461 with a District-approved continuous fuel flow monitor and recorder in order to determine fuel consumption. A parametric monitor as defined in Regulation 1-238 is not acceptable. The owner/operator shall keep continuous fuel flow records for at least five years and shall make these records available to the District upon request. [Cumulative Increase]

5a. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for NOx and O2. The owner/operator shall keep NOx and O2 data for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]

5b. Following the initial source test required in Part 8, the owner/operator shall monitor compliance with the CO emission rate limit in Part 3b with a District-approved semi-annual source test, with at least one source test per year deemed by the District to be representative of normal operation. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. The time interval between source tests shall not exceed 8 months. CO source tests performed by the District may be substituted for semi-annual CO source tests. If two or more CO source tests, over any consecutive five year period, indicate a CO emission rate of 200 ppmv @ 3% O2 or higher, the owner/operator shall install and operate a District-approved continuous CO monitor/recorder within the time period specified in the District Manual of Procedures.[BACT, Cumulative Increase]

6. The owner/operator shall use only refinery fuel gas at S461 ~~which~~ **that** does not exceed the following limits:

a. 100 ppmv totaled reduced sulfur (TRS), averaged over a calendar day
b. 45 ppmv TRS, averaged over any rolling consecutive 365-day period.

[BACT, Cumulative Increase]

7a. The owner/operator shall test refinery fuel gas prior to combustion at S461 to determine total reduced sulfur (TRS) concentration by GC analysis at least once per 8-hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, dimethyl disulfide. As an alternative to GC TRS analysis, the fuel gas total sulfur content may be measured with a dedicated total sulfur analyzer (Houston Atlas or equivalent). If the measured total sulfur concentration exceeds 45 ppm, the owner/operator shall analyze the sample for TRS, provided that:

a. Only one sample per day shall be analyzed;
b. If more than one sample on one day is over 45 ppm of total sulfur concentration, the highest sample for that day shall be analyzed;
c. Analysis shall only be performed on samples that are collected on Sundays through Thursday.
d. If all samples are under 45 ppm of total sulfur concentration, one sample per week shall be analyzed.

Within 2 months of startup, the owner/operator shall submit a report to the Engineering Division and to the Compliance and Enforcement division that contains the following information:

d. The total sulfur for all samples collected in the two months;
e. The TRS results for all samples that are analyzed in the two months.

7b. If the TRS value, averaged over any rolling consecutive 365-day period, exceeds 35 ppmv, the owner/operator shall install and operate a District-approved continuous monitor/recorder to determine the total reduced sulfur content of the refinery fuel gas prior to combustion in S461 within the time period specified in the District Manual of Procedures. [BACT, Cumulative Increase]

8. No later than 90 days from the startup of the S461, the owner/operator shall conduct District-approved source tests to determine initial compliance with the limits in Part 3b for NOx, CO, POC, PM10 and ammonia. The owner/operator shall conduct the source tests in accordance with Part 9. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. [BACT, Cumulative Increase, Toxic Management]

9. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase, Toxic Management]

10. The owner/operator shall record the duration of all startups, shutdowns, and heater dryout/warmup periods to determine compliance with part 3b. The owner/operator shall keep the records for at least five years and shall make these records available to the District upon request. [2-6-503]

CONDITION 21097
CONDITIONS FOR S36 HEATER

1. The owner/operator of the S36 heater shall fire only refinery fuel gas or natural gas at this unit. [BACT, Cumulative Increase]

2. Based on refinery gas HHV, the owner/operator of S36 shall not exceed the following firing rates:

   a. 82.1 million BTU/hr
   b. 719,200 million BTU in any consecutive 12-month period. [Cumulative Increase]

3a. The owner/operator of S36 shall abate emissions from S36 at the A-36 SCR system whenever S36 is operated, except that S36 may operate without SCR abatement on a temporary basis for periods of planned or emergency maintenance. A District-approved NOx CEM shall monitor and record the S36 NOx emission rate whenever S36 operates without abatement. All emission limits applicable to S36 shall remain in effect ~~whether or not~~ even if it is operated without SCR abatement. [BACT, Cumulative Increase]

3b. The owner/operator of S36 shall not exceed the following emission rates from S36/A-36 except during startups and shutdowns. Startups and shutdowns shall not exceed 24 consecutive hours. The 24 consecutive-hour startup period is in addition to heater dryout/warmup periods, which shall not exceed 72 consecutive hours.

NOx	10 ppmv @ 3% oxygen (3 hr average)	[BACT, Cumulative Increase]
CO	28 ppmv @ 3% oxygen (8 hr average)	[BACT, Cumulative Increase]
POC	5.5 lb/MM ft3	[Cumulative Increase]
PM10	7.6 lb/MM ft3	[Cumulative Increase]
ammonia	10 ppmv @ 3% oxygen (8 hr average)	[Toxic Management]

Note: Parts 3a and 3b shall not apply until after the conclusion of the initial startup of S36.

4. The owner/operator shall equip S36 with a District-approved continuous fuel flow monitor and recorder in order to determine fuel consumption. A parametric monitor as defined in Regulation 1-238 is not acceptable. The owner/operator shall keep continuous fuel flow records for at least five years and shall make these records available to the District upon request. [Cumulative Increase]

5a. The owner/operator shall install, calibrate, maintain, and operate a District-approved continuous emission monitor and recorder for NOx and O2. The owner/operator shall keep NOx and O2 data for at least five years and shall make these records available to the District upon request. [BACT, Cumulative Increase]

5b. Following the initial source test required in Part 8, the owner/operator shall monitor compliance with the CO emission rate limit in Part 3b with a District-approved semi-annual source test, with at least one source test per year deemed by the District to be representative of normal operation. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. The time interval between source tests shall not exceed 8 months. CO source tests performed by the District may be substituted for semi-annual CO source tests. If two or more CO source tests, over any consecutive five year period, indicate a CO emission rate of 200 ppmv @ 3% O2 or higher, the owner/operator shall install and operate a District-approved continuous CO monitor/recorder within the time period specified in the District Manual of Procedures. [BACT, Cumulative Increase]

6. The owner/operator shall use only refinery fuel gas at S36 ~~which~~ **that** does not exceed the following limits:

a. 100 ppmv totaled reduced sulfur (TRS), averaged over a calendar day
b. 45 ppmv TRS, averaged over any rolling consecutive 365-day period.
[BACT, Cumulative Increase]

7a. The owner/operator shall test refinery fuel gas prior to combustion at S36 to determine total reduced sulfur (TRS) concentration by GC analysis at least once per 8-hour shift (3 times per calendar day). At least 90% of these samples shall be taken each calendar month. No readable samples or sample results shall be omitted. TRS shall include hydrogen sulfide, methyl mercaptan, methyl sulfide, and dimethyl disulfide. As an alternative to GC TRS analysis, the fuel gas total sulfur content may be measured with a dedicated total sulfur analyzer (Houston Atlas or equivalent). If the measured total sulfur concentration exceeds 45 ppm, the owner/operator shall analyze the sample for TRS, provided that:

a. Only one sample per day shall be analyzed;
b. If more than one sample on one day is over 45 ppm of total sulfur concentration, the highest sample for that day shall be analyzed;
c. Analysis shall only be performed on samples that are collected on Sundays through Thursday. No sample will be analyzed on a holiday.
d. If all samples are under 45 ppm of total sulfur concentration, one sample per week shall be analyzed.

Within 2 months of startup, the owner/operator shall submit a report to the Engineering Division and to the Compliance and Enforcement division that contains the following information:

d. The total sulfur for all samples collected in the two months;
e. The TRS results for all samples that are analyzed in the two months.

7b. If the TRS value, averaged over any rolling consecutive 365-day period, exceeds 35 ppmv, the owner/operator shall install and operate a District-approved continuous monitor/recorder to determine the total reduced sulfur content of the refinery fuel gas prior to combustion in S36 within the time period specified in the District Manual of Procedures. [BACT, Cumulative Increase]

8. No later than 90 days from the startup of the S36, the owner/operator shall conduct District-approved source tests to determine initial compliance with the limits in Part 3b for NOx, CO,

POC, PM10 and ammonia. The owner/operator shall conduct the source tests in accordance with Part 9. The owner/operator shall submit the source test results to the District staff no later than 60 days after the source test. [BACT, Cumulative Increase, Toxic Management]

9. The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emissions monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section, in writing, of the source test protocols and projected test dates at least 7 days prior to testing. [BACT, Cumulative Increase, Toxic

10. The owner/operator shall record the duration of all startups, shutdowns, and heater dryout/warmup periods to determine compliance with part 3b. The owner/operator shall keep the records for at least five years and shall make these records available to the District upon request. [2-6-503]

The basis for all changes to BAAQMD Conditions 21096 and 21097 is given in Application 11630. The engineering evaluation is in Appendix C and is part of this statement of basis.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Changes to permit:

Table VII – A.24
Applicable Limits and Compliance Monitoring Requirements
S36 – UNIT 200, B-102 HEATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx		Y	startup	CEM for NOx and O2 (or CO2)	BAAQMD 1-520.8	C	CEM
NOx	BAAQMD Condition 21097, Part 3b	Y	after initial perfor-mance test	10 ppmv NOx at 3% O2 (3 hour average), except startups and shutdowns	BAAQMD Condition 21097, Part 5a	C	CEM
~~All combustion emissions~~ **Heat input**	BAAQMD Condition 21097, Part 2	Y	Startup	~~heat ratings, firing limits~~ **82.1 MMbtu/hr; 719,200 MMbtu/12-month period**	BAAQMD Condition 21097, Part 4	C	continuous fuel flow monitor

Table VII – A.24
Applicable Limits and Compliance Monitoring Requirements
S36 – UNIT 200, B-102 HEATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
O2		Y	startup	No limit	BAAQMD Condition 21097, Part 5a	C	O2 Monitor
CO	BAAQMD Condition 21097, Part 3b	Y	after initial perfor-mance test	28 ppmv CO at 3% O2 (8 hour average), except startups and shutdowns	BAAQMD Condition 21097, Part 5b	P/SA	source test
POC	BAAQMD Condition 21097, Part 3b	Y	after initial perfor-mance test	5.5 lb POC per MM ft3 of fuel	BAAQMD Condition 21097, Part 8	E/startup	source test
PM10	BAAQMD Condition 21097, Part 3b	Y	after initial perfor-mance test	7.6 lb PM10 per MM ft3 of fuel	BAAQMD Condition 21097, Part 8	E/startup	source test
ammonia	BAAQMD Condition 21097, Part 3b	N	after initial perfor-mance test	10 ppmv ammonia at 3% O2 (8 hour average), except startups and shutdowns	BAAQMD Condition 21097, Part 8	E/startup	source test
Opacity	BAAQMD 6-301	Y	startup	Ringelmann 1 for no more than 3 minutes in any hour	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-305	Y	startup	Prohibition of nuisance	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-310.3	Y	startup	0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None

Table VII – A.24
Applicable Limits and Compliance Monitoring Requirements
S36 – UNIT 200, B-102 HEATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
SO2	BAAQMD Condition 1694, Part A.4	Y	startup	1,611 lb/day SO2 over any month **from non-cogeneration sources burning fuel gas or liquid fuel**	BAAQMD Condition 1694, Part A.3a	P/3 times per day	TRS analysis
TRS	BAAQMD Condition 21097, Part 6	Y	Startup	100 ppmv TRS (1 day average), 45 ppmv TRS (annual average)	BAAQMD Condition 21097, Part 7a, 7b	**P/3 times/day** ~~C~~	**Analysis of total sulfur, followed by analysis of TRS as** stipulated **by Condition 21097, if necessary** ~~T RS analysis~~
H2S	40 CFR 60 Subpart J 60.104(a)(1)	Y	Startup	fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset ~~or gas burned at flares from relief valve leaks or other emergency malfunctions; this requirement applies to sources installed/modified after 6/11/73 and burning refinery gas~~	40 CFR 60 Subpart J ~~60.105(a)(4)~~ **60.105(i)(12) ; Condition 21097, part 7a, 7b**	~~C~~**P/3 times/day**	~~H2S analyzer~~ **Analysis of total sulfur, followed by analysis of TRS as** stipulated **by Condition 21097, if necessary**
Duration of startup	**BAAQMD Condition 21096, Part 3b**	**Y**		**24 consecutive hours**	**Condition 21097, part 10**	**P/E**	**records**
Duration of shutdown	**BAAQMD Condition 21096, Part 3b**	**Y**		**24 consecutive hours**	**Condition 21097, part 10**	**P/E**	**records**

Table VII – A.24
Applicable Limits and Compliance Monitoring Requirements
S36 – UNIT 200, B-102 HEATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Duration of heater dryout/ warmup periods	**BAAQMD Condition 21096, Part 3b**	**Y**		**72 consecutive hours**	**Condition 21097, part 10**	**P/E**	**records**

The "type of limit" for BAAQMD Condition 21097, part 2 has been changed from "all combustion emissions" to "heat input," which is more appropriate. The hourly and daily limits have been added, instead of having the section refer to the permit condition.

A note has been added to BAAQMD Condition 1694, part A.4, that the SO2 "bubble" applies only to non-cogeneration sources that burn fuel gas or liquid fuel.

The monitoring for BAAQMD Condition 21097, part 6, has been changed from "C," meaning "continuous" to "P/3 times per day," meaning "periodic, 3 times per day." The "TRS" analysis has been changed to an analysis of total sulfur, followed by analysis of TRS if necessary, as stipulated in Condition 21097, part 7a.

The note about the exemptions for upset gas or gas burned at flares in Subpart J was deleted because this gas will not be burned at this source. The monitoring for 40 CFR 60, Subpart J, Section 104(a)(1) has been changed from a continuous H2S monitor to the total sulfur analysis monitoring, etc., above. See the discussion in Section C.V.

Limits on duration of startups, shutdowns, and heater dryout/warmup periods that are in BAAQMD Condition 21096, part 3b, have been added to this table. A recordkeeping condition has been added as part 10.

Table VII – A.35
Applicable Limits and Compliance Monitoring Requirements
S461 – UNIT 250, B-701 HEATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx		Y	startup	CEM for NOx and O2 (or CO2)	BAAQMD 1-520.8	C	CEM
NOx	BAAQMD Condition 21096, Part 3b	Y	after initial performance test	10 ppmv NOx at 3% O2 (3 hour average), except startups and shutdowns	BAAQMD Condition 21096, Part 5a	C	CEM

Table VII – A.35
Applicable Limits and Compliance Monitoring Requirements
S461 – UNIT 250, B-701 HEATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
~~All combustion emissions~~ **Heat input**	BAAQMD Condition 21096, Part 2	Y	startup	**52 MMbtu/hr; 439,800 MMbtu/12-month period** ~~heat ratings, firing limits (see condition)~~	BAAQMD Condition 21096, Part 4	C	continuous fuel flow monitor
O2		Y	startup	No limit	BAAQMD Condition 21096, Part 5a	C	O2 Monitor
CO	BAAQMD Condition 21096, Part 3b	Y	after initial performance test	28 ppmv CO at 3% O2 (8 hour average) when fired 50% capacity or more and 50 ppmv CO at 3% O2 (8 hour average) when fired less than 50% capacity, except startups and shutdowns	BAAQMD Condition 21096, Part 5b	P/SA	source test
POC	BAAQMD Condition 21096, Part 3b	Y	after initial performance test	5.5 lb POC per MM ft3 of fuel	BAAQMD Condition 21096, Part 8	E/startup	source test
PM10	BAAQMD Condition 21096, Part 3b	Y	after initial performance test	7.6 lb PM10 per MM ft3 of fuel	BAAQMD Condition 21096, Part 8	E/startup	source test
ammonia	BAAQMD Condition 21096, Part 3b	N	after initial performance test	10 ppmv am**m**onia at 3% O2 (8 hour average), except startups and shutdowns	BAAQMD Condition 21096, Part 8	E/startup	source test
Opacity	BAAQMD 6-301	Y	startup	Ringelmann 1 for no more than 3 minutes in any hour	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-305	Y	startup	Prohibition of nuisance	None for gaseous-fueled sources	N	None

Table VII – A.35
Applicable Limits and Compliance Monitoring Requirements
S461 – UNIT 250, B-701 HEATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
FP	BAAQMD 6-310.3	Y	startup	0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None
SO2	BAAQMD Condition 1694, Part A.4	Y	startup	1,611 lb/day SO2 over any month **from non-cogeneration sources burning fuel gas or liquid fuel**	BAAQMD Condition 1694, Part A.3a	P/3 times per day	TRS analysis
TRS	BAAQMD Condition 21096, Part 6	Y	startup	100 ppmv TRS (1 day average), 45 ppmv TRS (annual average)	BAAQMD Condition 21096, Part 7a, 7b	**P/3 times/day~~C~~**	**Analysis of total sulfur, followed by analysis of TRS as** stipulated **by Condition 21097, if necessary~~TRS analysis~~**
H2S	40 CFR 60 Subpart J 60.104(a)(1)	Y	startup	fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) except for gas burned as a result of process upset ~~or gas burned at flares from relief valve leaks or other emergency malfunctions; this requirement applies to sources installed/modified after 6/11/73 and burning refinery gas~~	40 CFR 60 Subpart J ~~60.105(a)(4)~~ **60.105(i)(12) ; Condition 21096, part 7a, 7b**	**P/3 times/day~~C~~**	~~H2S analyzer~~ **Analysis of total sulfur, followed by analysis of TRS as** stipulated **by Condition 21096, if necessary**
Duration of startup	**BAAQMD Condition 21096, Part 3b**	**Y**		**24 consecutive hours**	**Condition 21097, part 10**	**P/E**	**records**

Table VII – A.35
Applicable Limits and Compliance Monitoring Requirements
S461 – UNIT 250, B-701 HEATER

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Duration of shutdown	BAAQMD Condition 21096, Part 3b	Y		24 consecutive hours	Condition 21097, part 10	P/E	records
Duration of heater dryout/ warmup periods	BAAQMD Condition 21096, Part 3b	Y		72 consecutive hours	Condition 21097, part 10	P/E	records

The "type of limit" for BAAQMD Condition 21096, part 2 has been changed from "all combustion emissions" to "heat input," which is more appropriate. The hourly and daily limits have been added, instead of having the section refer to the permit condition.

A note has been added to BAAQMD Condition 1694, part A.4, that the SO2 "bubble" applies only to non-cogeneration sources that burn fuel gas or liquid fuel.

The monitoring for BAAQMD Condition 21096, part 6, has been changed from "C," meaning "continuous" to "P/3 times per day," meaning "periodic, 3 times per day." The "TRS" analysis has been changed to an analysis of total sulfur, followed by analysis of TRS if necessary, as stipulated in Condition 21096, part 7a.

The note about the exemptions for upset gas or gas burned at flares in Subpart J was deleted because this gas will not be burned at this source. The monitoring for 40 CFR 60, Subpart J, Section 104(a)(1) has been changed from a continuous H2S monitor to the total sulfur analysis monitoring, etc., above. See the discussion in Section C.V.

Limits on duration of startups, shutdowns, and heater dryout/warmup periods that are in BAAQMD Condition 21096, part 3b, have been added to this table. A recordkeeping condition has been added as part 10.

Table VII – N
Applicable Limits and Compliance Monitoring Requirements

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type

Table VII – N
Applicable Limits and Compliance Monitoring Requirements

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
throughput	BAAQMD Condition 20989, Part A	Y		S-304: 3.47 E 6 bbl/yr (only until modified in accordance with A/C 5814) S-305: 9.23 E 6 bbl/yr S-306: 5.66 E 6 bbl/yr S-307: 1.39 E 7 bbl/yr S-435: 6.6 E 6 bbl/yr S-436: 4.7 E 6 bbl/yr S-437: **10.**~~49.1~~ E 9 ft3/yr	BAAQMD Condition 20989, Part A	P/M	records

The annual throughput for S-437 was increased in this table.

Table VII – A.34
Applicable Limits and Compliance Monitoring Requirements
S438 – UNIT 110, H-1 FURNACE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
NOx	BAAQMD Condition 1694, Part E.4	Y		**7**~~10~~ ppmv NOx at 3% O2 over any **1**~~3~~ hour~~s~~, except startups and shutdowns~~, at~~ S438	None	C	CEM
~~All combustion emissions~~ **Heat input**	BAAQMD Condition 1694, Part A.1	N		~~heat ratings, firing limits (see condition)~~ **250 MMbtu/hr, 6,000 MMbtu/day**	BAAQMD Condition 1694, Part A.5	P/D	records
~~All combustion emissions~~ **Heat input**	BAAQMD Condition 1694, Part E.2	Y		**2.19**~~2.04~~ E 12 BTU/yr fuel combustion~~ at~~ S438	BAAQMD Condition 1694, Part E.6	P/D	records
O2		Y		No limit	None	C	O2 Monitor
CO	BAAQMD Condition 1694, Part E.4	Y		32 ppmv CO at 3% O2 over any 24 hr, except startups and shutdowns, at S438	None	N	None

Table VII – A.34
Applicable Limits and Compliance Monitoring Requirements
S438 – UNIT 110, H-1 FURNACE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
TRS	BAAQMD Condition 1694, Part E.3	Y		1 ppmw TRS in PSA offgas used as fuel~~, at S438~~	Overall fuel TRS monitored by BAAQMD Condition 1694, Part E.5	P/D	records
TRS	BAAQMD Condition 1694, Part E.5	Y		**150** ppmv TRS over any month, in fuel gas~~, at S438~~	BAAQMD Condition 1694, Part E.5	P/3 times per day	TRS analysis
Opacity	BAAQMD 6-304	Y		During tube cleaning, Ringelmann No. 2 for 3 min/hr and 6 min/billion BTU in 24 hours; applies to sources rated over 140 MM BTU/hr (with tubes)	None for gaseous-fueled sources	N	None
Opacity	BAAQMD 6-301	Y		Ringelmann 1 for no more than 3 minutes in any hour	None for gaseous-fueled sources	N	None
FP	BAAQMD 6-305	Y		Prohibition of nuisance	None	N	None
FP	BAAQMD 6-310.3	Y		0.15 grain/dscf @ 6% O2	None for gaseous-fueled sources	N	None
SO2	BAAQMD Condition 1694, Part A.4	Y	startup of S-36, S-461 for modified limit	1,558 lb/day SO2 over any month (1,611 lb/day after startup of S-36 and S-461**, 1,612 lb/day after modification of** S438)	BAAQMD Condition 1694, Part A.3a	P/3 times per day	TRS analysis

Table VII – A.34
Applicable Limits and Compliance Monitoring Requirements
S438 – UNIT 110, H-1 FURNACE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
H2S	40 CFR 60 Subpart J 60.104(a)(1)	Y		fuel gas H2S concentration limited to 230 mg/dscm (0.10 gr/dscf) ~~except for gas burned as a result of process upset or gas burned at flares from relief valve leaks or other emergency malfunctions; this requirement applies to sources installed/modified after 6/11/73 and burning refinery gas~~	40 CFR 40 CFR 60.105(a)(4)	C	H2S analyzer

The "type of limit" for BAAQMD Condition 1694, part E.2 has been changed from "all combustion emissions" to "heat input," which is more appropriate. The hourly, daily, and annual limits have been added, instead of having the section refer to the permit condition.

The TRS limit for this source was lowered from 50 ppmw to 14 ppmw to lessen the impact on the SO2 "bubble."

The SO2 bubble was increased from 1558 lb/day to 1,612 lb/day.

The note about the exemptions for upset gas or gas burned at flares in Subpart J was deleted because this gas will not be burned at this source.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to permit
No changes are proposed to this section in this action.

IX. Permit Shield:

Changes to permit:

This action proposes no changes to permit shields.

X. Revision History

Changes to permit:

Significant Revision (Application 11626): [enter approval date]

XI. Glossary

Changes to permit:

The glossary was updated.

XII. Appendix A - State Implementation Plan

This section has been deleted. The address for EPA's website is now found in Sections III and IV.

D. Alternate Operating Scenarios:

No alternate operating scenario has been requested for this facility.

E. Compliance Status:

See Section C.V above.

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APPENDIX A

GLOSSARY

ARB
Air Resources Board

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

Basis
The underlying authority that allows the District to impose requirements.

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CEM
Continuous Emission Monitor

CEQA
California Environmental Quality Act

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO
Carbon Monoxide

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date pursuant to BAAQMD Rule 2-1-403, Permit Conditions (as amended by the District Board on 7/17/91) and SIP Rule 2-1-403, Permit Conditions (as approved by EPA on 6/23/95). Cumulative increase is used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

dscf
Dry Standard Cubic Feet

EPA
The federal Environmental Protection Agency.

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAPs), Part 63 (MACT), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP
Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

MOP
The District's Manual of Procedures.

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63.

NH3
Ammonia

NOx
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

SCR
Selective Catalytic Reduction

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2
Sulfur dioxide

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TRMP
Toxic Risk Management Plan

VOC
Volatile Organic Compounds

Units of Measure:

bhp	=	brake-horsepower
btu	=	British Thermal Unit
cfm	=	cubic feet per minute
g	=	grams

gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
m^2	=	square meter
min	=	minute
mm	=	million
MMbtu	=	million btu
MMcf	=	million cubic feet
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scfm	=	standard cubic feet per minute
yr	=	year

APPENDIX B

ENGINEERING EVALUATION APPLICATION 11293

APPENDIX C

ENGINEERING EVALUATION APPLICATION 11630