Chevron

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November 17, 2010

Mr. Greg Solomon
Senior Air Quality Engineer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

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MANAGEMENT DISTRICT

Response to BAAQMD Letter, dated October 6, 2010
Request for Renewal of Chevron Energy & Hydrogen Renewal Project
Authority to Construct – District Regulation 2-1-407
Application No. 12842, Plant 10

Dear Mr. Solomon:

Chevron's responses to your letter of October 6, 2010, regarding Chevron's September 15, 2010 request for renewal of the Authority to Construct (ATC) for the Energy & Hydrogen Renewal Project are provided below.

Fee Calculation and Hydrogen Plant Flare (S-6021):
Chevron concurs with the District's fee calculation for the ATC renewal application. A revised fee estimate is provided in Attachment 1. A corresponding check in the amount of $190,715.53 is enclosed with this letter.

Chevron did not include the Hydrogen Plant Flare (S-6021) in the initial fee estimate because the flare is listed as an abatement device in the ATC. Upon further review, we understand that S-6021 also qualifies as a source subject to Regulation 3 fees. S-6021 has been included in the revised fee estimate.

BAAQMD Comment No 1:
For all sources contained in Attachment 3 of your letter that are claiming substantial use, please provide information that demonstrates Substantial Use per Regulation 2-1-227.

2-1-227 Substantial Use: Substantial use of an Authority to Construct consists of one or more of the following: purchase or acquisition of the equipment that constitutes the source; ongoing construction activities other than grading or installation of utilities or foundations; a contract or commitment to complete construction of the source within two years.

Chevron Response:
The District issued the Renewal Project ATC on September 19, 2008. The project progressed until September 2009 when the Environmental Impact Report (EIR) appeal litigation forced construction to cease. Substantial contracting, mobilization, equipment procurement and construction took place during this time. The procurement and construction work completed for eight units listed below meets the Regulation 2-1-227 substantial use definition. Photographs are provided in Attachment 2 documenting that "purchase or acquisition of the equipment that constitutes the source" have taken place for those sources.

Source No.	Unit
S-4449	H2 Plant #1
S-4450	H2 Plant #2
S-4451	H2 Recovery Unit
S-4471	H2 Plant Reformer Furnace #1
S-4472	H2 Plant Reformer Furnace #2
S-4465	H2 Plant Cooling Tower
S-6021/A-6021	H2 Plant Flare
S-4253	TKC/FCC Feed Hydrotreater

BAAQMD Comment No 2:
The District will need to verify per 2-1-407 that the requested renewal complies with the current BACT and Offset requirements. Please submit any information you have regarding the current BACT for the sources of this request.

Chevron Response:
BACT compliance for the project is covered fully in the District Engineering Evaluation dated September 19, 2008. District Condition No. 24136 for the project contains all BACT compliant permit conditions for project sources. Chevron has additionally submitted all required emission offsets. As a result, Chevron is presently unaware of any subsequent BACT determinations more stringent than those that are implemented for the Renewal Project.

BAAQMD Comment No 3:
For combustion sources with selective catalytic reduction (SCR), the PM10 emissions limits will require some additional clarification to address ammonium sulfate emissions. Currently, 3.202 tpy of PM10 emissions offsets are still owed. However, if the PM10 limits for sources with SCR are not to include ammonium sulfate then additional offsets shall be required and additional limits would need to be added to the permit conditions to adequately address PM10 emissions limits. If the only change is to include ammonium sulfate within the PM10 emissions limits for sources with SCR, then only 3.202 tpy PM10 offsets are due.

Chevron Response:
As part of permitting for the project, Chevron developed and utilized an emission factor for combustion sources controlled by SCR. That source testing followed District source test policy. As described in Attachment 3, that policy does not include back-half ammonium sulfate emissions when setting PM10 limits for refinery combustion sources utilizing SCR abatement. As explained in the attached document, ammonium sulfate created in the back-half (impinger) section of the sampling train is a product of the test method and not representative of the PM10 emissions from such sources. The PM10 limits specified in District Condition No. 24136 should therefore remain unchanged for the project.

Chevron confirms that an additional 3.202 tpy PM10 offsets remain due to the District. As explained in Chevron's prior emission reduction banking certificate submittals, those offsets will be provided as contemporaneous reductions from shutdown of an existing Hydrogen Plant furnace.

If you have any questions, please contact Bob Chamberlin (510) 242-1466.

Sincerely,

Jeff Hartwig

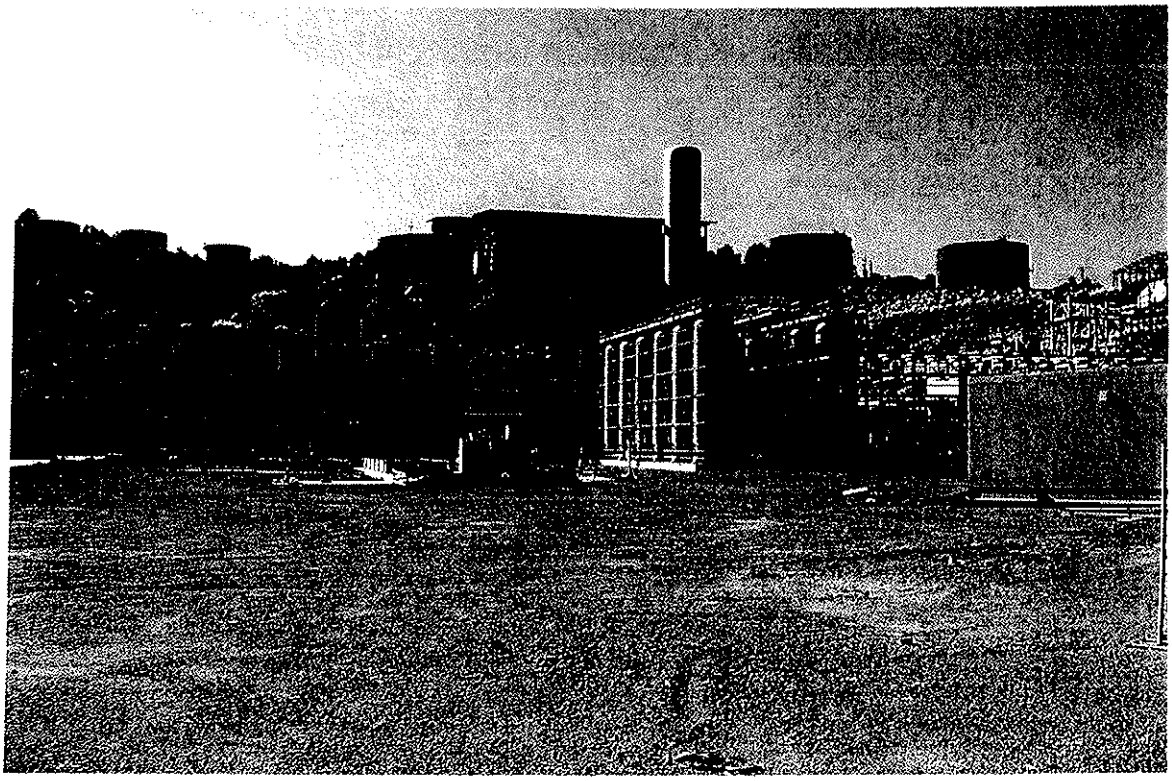
Jeff W. Hartwig

ATTACHMENT - 1

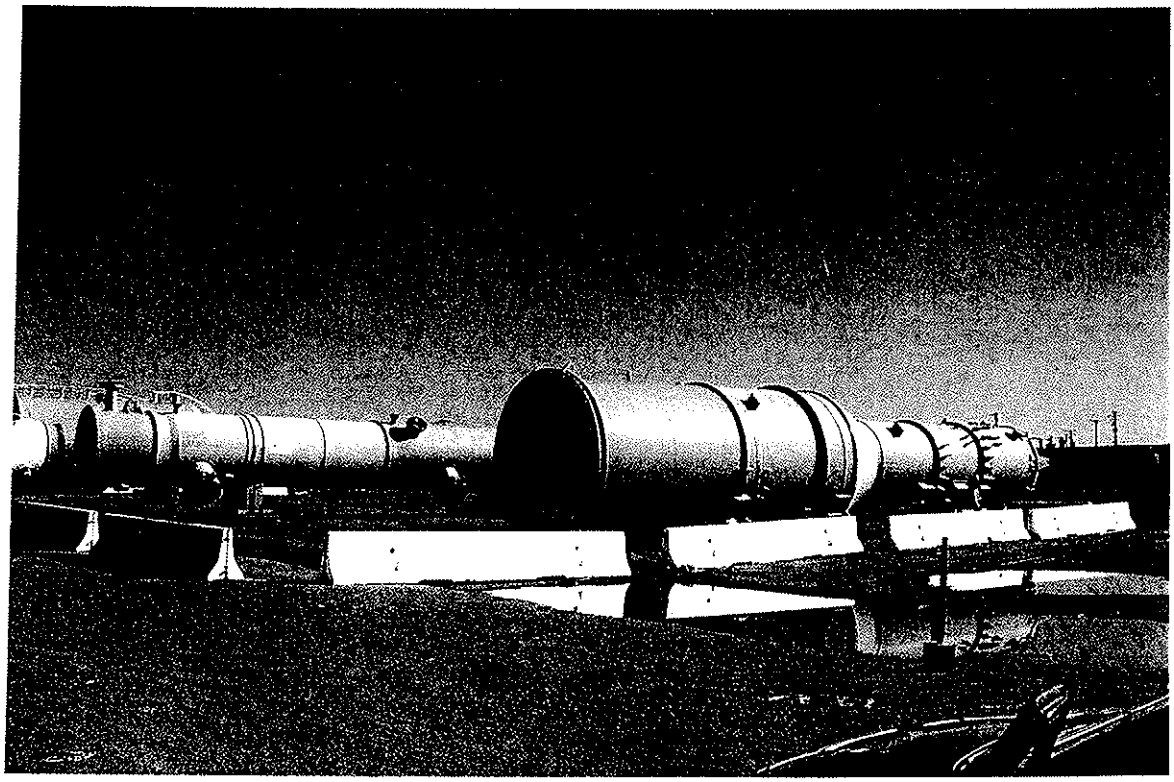
ATTACHMENT-1

Chevron Energy & Hydrogen Renewal Project Authority to Construct Renewal Fee Estimate					Oct. 27, 2010
Source No.	Unit	ATC Status	Reg. 3 Schedule	Initial Fee	Reg. 3-330 ATC Renewal Fee
S-4449	H2 Plant #1	Substantial Use	G-1	$ 2,120.00	$ 1,060.00
S-4450	H2 Plant #2	Substantial Use	G-1	$ 2,120.00	$ 1,060.00
S-4451	H2 Recovery Unit	Substantial Use	G-1	$ 2,120.00	$ 1,060.00
S-4471	H2 Plt Reformer Furnace #1	Substantial Use	B	$ 42,237.00	$ 21,118.50
S-4472	H2 Plt Reformer Furnace #2	Substantial Use	B	$ 42,237.00	$ 21,118.50
S-4465	H2 Plt Cooling Tower	Substantial Use	F	$ 344.00	$ 172.00
S-6021/A-6021	H2 Plt. Flare	Substantial Use	G-5	$ 39,136.00	$ 19,568.00
S-4452	CCRR	No	G-1	$ 2,120.00	$ 1,060.00
S-4477	Reformer Furnace #1	No	B	$ 8,936.46	$ 4,468.23
S-4478	Reformer Furnace #2	No	B	$ 17,872.92	$ 8,936.46
S-4479	Reformer Furnace #3	No	B	$ 8,936.46	$ 4,468.23
S-4480	Reformer Furnace #4	No	B	$ 8,936.46	$ 4,468.23
S-4473	3rd Cogen Gas Turbine	No	B	$ 24,453.00	$ 12,226.50
S-4474	3rd Cogen HRSG	No	B	$ 15,561.00	$ 7,780.50
S-4454	#6 H2S Plant Recycle Amine Generator	No	G-1	$ 2,120.00	$ 1,060.00
S-4490	Sulfur Loading Rack	No	G-1	$ 2,120.00	$ 1,060.00
S-4456	Fresh Amine Storage Tank	No	C	$ 121.10	$ 60.55
S-3227	Lean Amine Storage Tank	No	C	$ 224.90	$ 112.45
S-3328	Caustic Storage Tank	No	C	$ 346.00	$ 173.00
S-3229	Spent Caustic Storage Tank	No	C	$ 692.00	$ 346.00
S-4436	F-2170 Stack Gas Heater No. 1 SRU	No	B	$ 1,418.27	$ 709.14
S-4437	F-2270 Stack Gas Heater No. 2 SRU	No	B	$ 1,418.27	$ 709.14
S-4438	F-2370 Stack Gas Heater No. 3 SRU	No	B	$ 2,494.21	$ 1,247.10
S-4253	TKC/FCC Feed Hydrotreater	Substantial Use	G-1	$ 2,120.00	$ 1,060.00
S-4435	No. 5 H2S Plant	No	G-1	$ 2,120.00	$ 1,060.00
S-4227	SRU #1 w/TGU A-0020	No	G-4	$ 49,702.00	$ 24,851.00
S-4228	SRU#2 w/TGU A-0021	No	G-4	$ 49,702.00	$ 24,851.00
S-4229	SRU #3 w/TGU A-0022	No	G-4	$ 49,702.00	$ 24,851.00
				Total:	$ 190,715.53

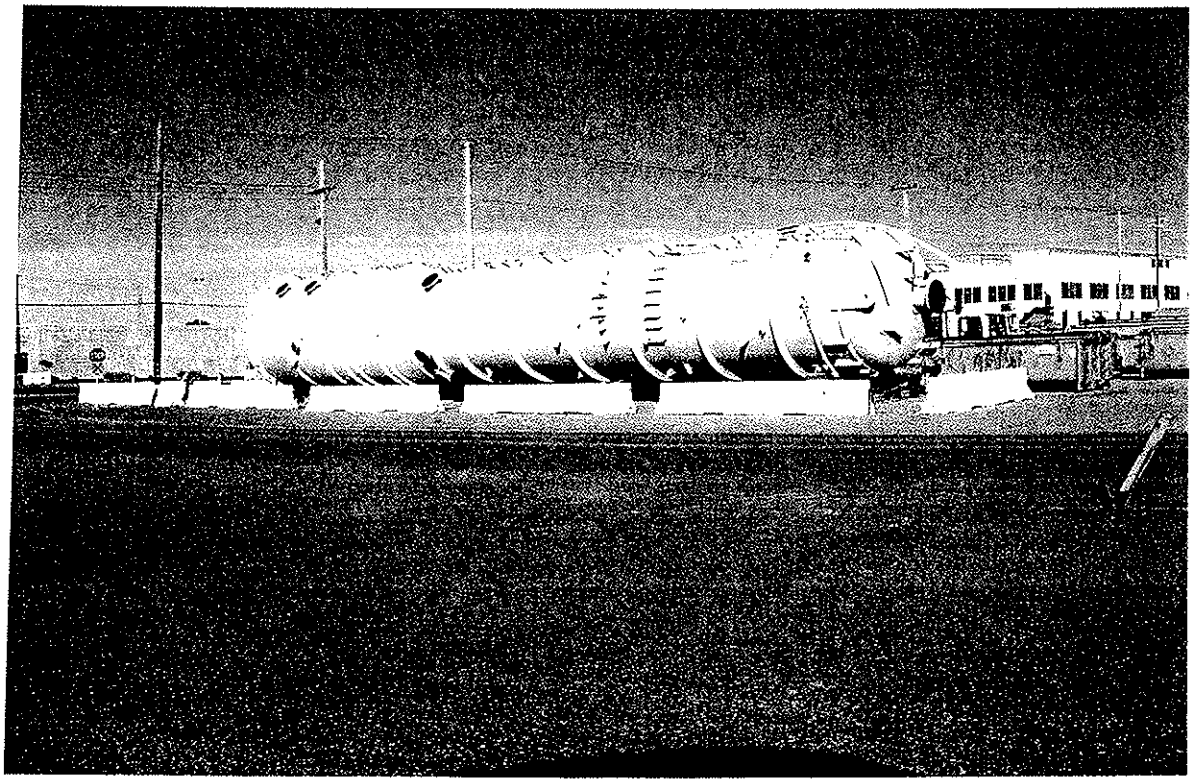
ATTACHMENT - 2



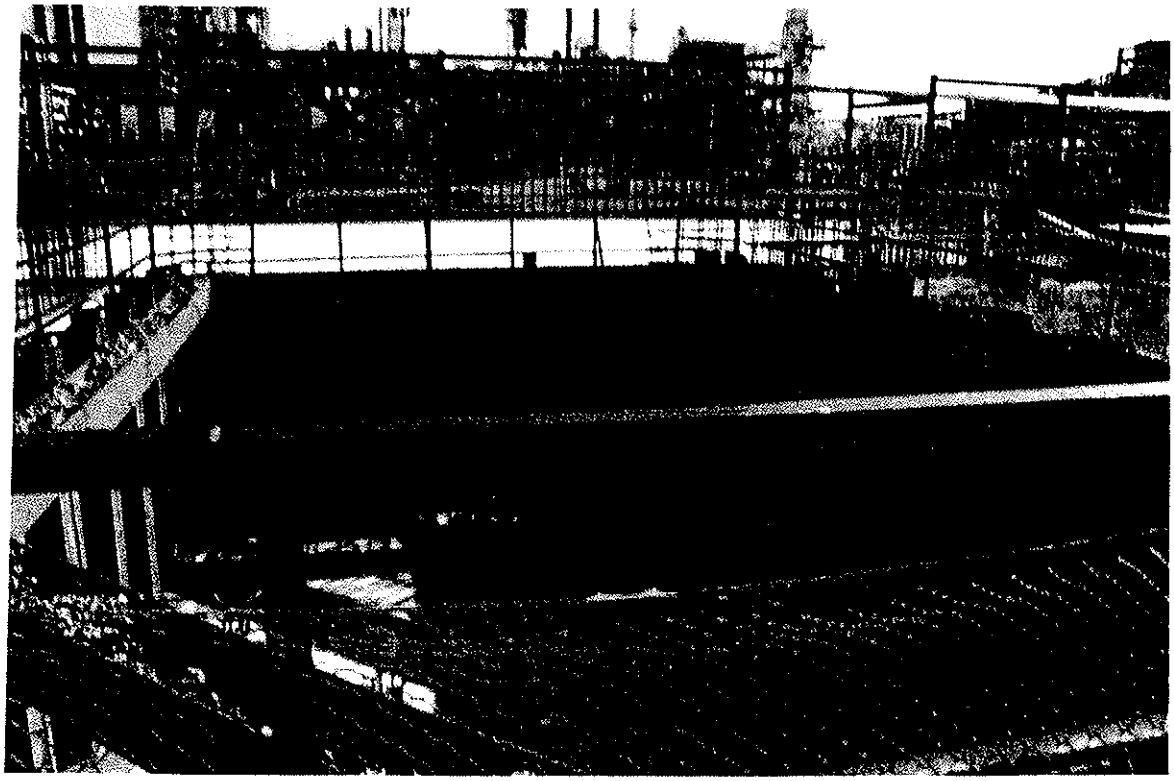
**Hydrogen Plant Reformer Furnaces (S-4471/S-4472) &
Hydrogen Recovery Unit (S-4451)**



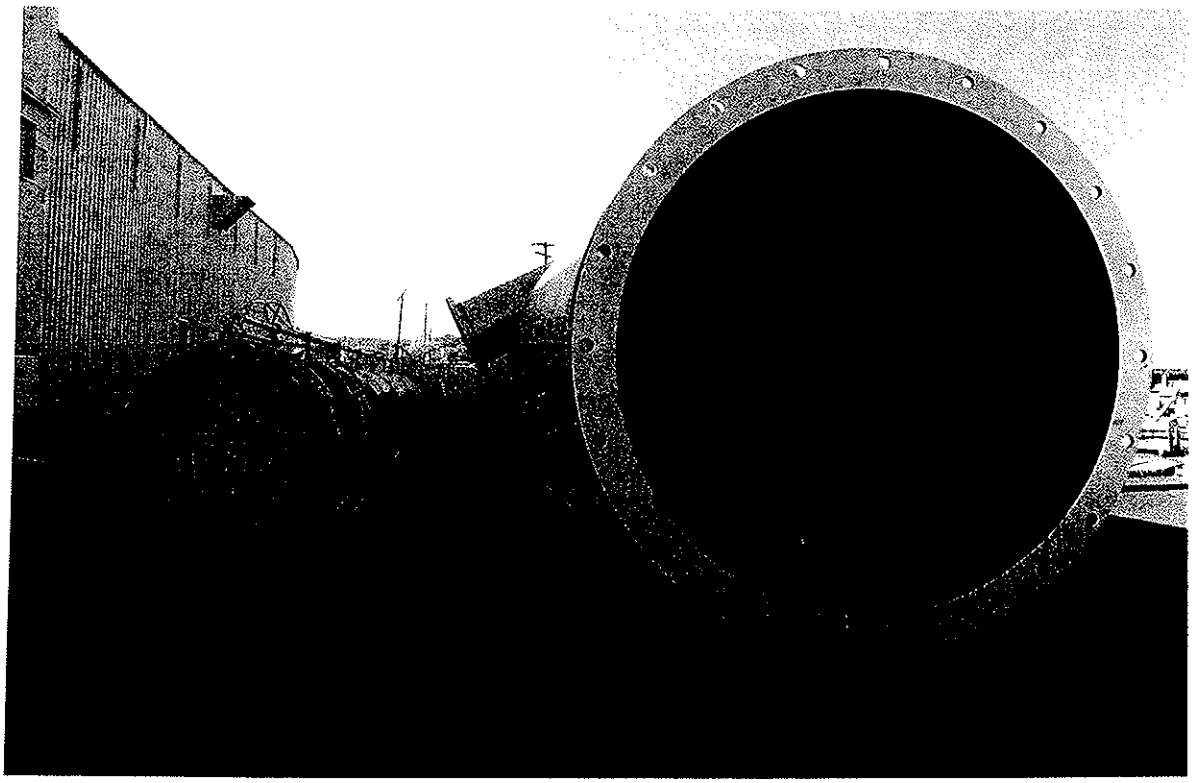
TKC Amine Absorber (S-4253)



Amine Regenerator Column (S-4253)



Hydrogen Plant Cooling Tower (S-4465)



Hydrogen Plant Flare (S-6021/A-6021)

ATTACHMENT - 3

Memorandum

November 03, 2005

TO: AFFECTED PARTIES

FROM KEN KUNANIEC, ENGINEERING MANAGER, SOURCE TEST SECTION KMK 11/03/05

SUBJECT SOURCE TEST POLICY

DETERMINATION OF PARTICULATE EMISSIONS FROM PETROLEUM REFINERY COMBUSTION SOURCES USING REFINERY FUEL-GAS AND ABATED BY SCR UTILIZING AMMONIA INJECTION

The purpose of this policy memorandum is to specify the source test method and protocol to be used to determine compliance with particulate limits for petroleum refinery combustion sources (heaters, furnaces, turbines, and boilers) that use refinery fuel-gas and are abated by Selective Catalytic Regeneration and ammonia injection for control of oxides of nitrogen (NO_X).

Background

Particulate sampling trains typically consist of a filter portion and an impinger portion. A sample is drawn isokinetically through a nozzle, the particulate filter maintained at 250 ± 25°F (front-half), and the impingers (back-half) that are immersed in an ice bath to maintain the temperature in the impingers at, or below, the dew point.

Ammonia injection associated with SCR technology to reduce NO_x emissions results in the formation of ammonium-sulfate in fuel-gas fired devices. Some of this ammonium sulfate is a particulate at the collection temperature of 250 ± 25°F and is captured in the particulate filter. Some ammonium sulfate is created in the back-half due to the ice bath required by the test method. This portion of the particulate measured by the source test does not represent particulate emissions from the source, rather it is an artifact of the test method.

Limitations on particulate emissions are typically imposed either as Total Suspended Particulate (TSP) or particulate of 10 microns or less (PM_{10}). For TSP limits, the applicable USEPA Method 5 series is used and only the filterable particulate (front-half) is used in the determination of particulate emissions. For PM_{10} limits, USEPA Method 201 and Method 202 are used. Method 201 uses a device to separate and collect the PM_{10} on a filter. Method 202 quantifies the back-half emissions and appropriate laboratory analysis can provide speciation of the back-half condensable necessary to correct for the particulate artifacts that do not represent actual emissions from the source. For limits codified into regulations, the test method is specified in the regulation. For limitations imposed in a Permit to Operate, however, the test method(s) may not be specified. This memorandum is intended to specify the test method(s) and protocol for those particulate limits imposed on fuel-gas fired petroleum refinery heaters, furnaces, turbines, or boilers abated by SCR and ammonia injection where the test method is not otherwise specified.

Source Test Policy

Table 1 shows the testing protocols to be used for the determination of particulate emissions at refinery fuel-gas fired combustion sources abated by SCR and ammonia injection **provided the test methods are not specified** in the Permit to Operate.

TABLE 1

LIMIT	TEST METHODS
TSP	USEPA Method 5 series (front-half only) (Applicable of 5A-5F)
PM_{10}	USEPA Methods 201 and 202 with the back-half ammonium sulfate subtracted.
*PM_{10}	USEPA Methods 5 and 202 with the back-half ammonium sulfated subtracted.

* This option only applies when the owner/operator of the affected facility stipulates that greater than 90 percent of their total particulate emissions are PM_{10}, since Method 5 measures TSP.

Chevron Energy & Hydrogen Renewal Project Authority to Construct Renewal Fee Estimate

Sept. 15, 2010

Source No.	Unit	ATC Status	Reg. 3 Schedule	Initial Fee	Reg. 3-330 ATC Renewal Fee
S-4449	H2 Plant #1	Substantial Use ?	G-1	2,120.00	1,060.00
S-4450	H2 Plant #2	Substantial Use ?	G-1	2,120.00	1,060.00
S-4451	H2 Recovery Unit	Substantial Use ?	G-1	2,120.00	1,060.00
S-4471	H2 Pit Reformer Furnace #1	Substantial Use ?	B	42,237.00	21,119.00
S-4472	H2 Pit Reformer Furnace #2	Substantial Use ?	B	42,237.00	21,119.00
S-4465	H2 Pit Cooling Tower	Substantial Use ?	F	344	172
S-4452	CCRR	No	G-1	2,120.00	1,060.00
S-4477	Reformer Furnace #1	No	B	8,936.46	4,468.00
S-4478	Reformer Furnace #2	No	B	17,872.94	8,937.00
S-4479	Reformer Furnace #3	No	B	8,936.46	4,468.00
S-4480	Reformer Furnace #1	No	B	8,936.46	4,468.00
S-4473	3rd Cogen Gas Turbine	No	B	24,453.00	12,227.00
S-4474	3rd Cogen HRSG	No	B	15,561	7,781.00
S-4454	#6 H2S Plant Recycle Amine Generator	No	G-1	2,120.00	1,060.00
S-4490	Sulfur Loading Rack	No	G-1	2,120.00	1,060.00
S-4456	Fresh Amine Storage Tank	No	C	121	61
S-3227	Lean Amine Storage Tank	No	C	225	113
S-3228	Caustic Storage Tank	No	C	346	173
S-3229	Spent Caustic Storage Tank	No	C	692	346
S-4436	F-2170 Stack Gas heater No. 1 SRU	No	B	1,418.27	709.00
S-4437	F-2270 Stack gas Heater No. 2 SRU	No	B	1,418.27	709.00
S-4438	F-2270 Stack gas Heater No. 3 SRU	No	B	2,494.21	1,247.00
S4253	TKC/FCC Feed Hydrotreater	Substantial Use ?	G-1	2,120.00	1,060.00
S-4435	No. 5 H2S Plant	No	G-1	2,120.00	1,060.00
S-4227	SRU #1 w/TGU A-0020 & A-120	No	G-4	49,702.00	24,851
S-4228	SRU #1 w/TGU A-0021 & A-121	No	G-4	49,702.00	24,851
S-4229	SRU #1 w/TGU A-0022 & A-122	No	G-4	49,702.00	24,851
S-6021	H2 Flare	?	G-5	39,136	19,568
					Total: $190,718

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S-4229	SRU #1 w/TGU A-0022 & A-122	No	B G-4	49,702.00	24,851
S-6021	H2 Flare	?	G-5	39,136	19,568
					Total: $190,718