PERMITS TO CONSTRUCT & OPERATE (PC/PO) for:

1. **Fuel Gas Filters, Hydrocracking Unit, AN 471343**
2. **Flare, AN 471344**
3. **VRS, AN 471345**

PERMITS TO OPERATE (PO no PC) for:

4. **Fuel Gas Filters, Delayed Coking Unit, AN 422369**
5. **Fuel Gas Filters, Hydrogen Production Unit, AN 422169**
6. **Fuel Gas Filters, Steam Generation Process, AN 422177**
7. **Fuel Gas Filters, Steam Generation Process, AN 422935**

COMPANY NAME: EXXONMOBIL OIL CORP.
COMPANY ID: 800089
MAILING ADDRESS: 3700 W. 190th St., Torrance, CA 90509-2929
EQUIP LOCATION: Same as mailing address

I. EVALUATION SUMMARY:

There are nine (9) pending applications submitted by ExxonMobil (EM) for the fuel gas filters/separators (FGF) serving the combustion equipment. Two applications will be cancelled and that this evaluation includes seven (7) applications processed for permit to construct/operate (PC/PO) and permit to operate (PO) as listed in Table 1 below.

Table 1 - List of 9 applications:

#	AN/ Permit	Process/System/Description	Associated Combust Equip (fuel gas from DEA FGT Unit 75 unless noted)
1	471343 PC/PO	P7: Hydrocracking Unit S3: FGF (Newly created system)	Heaters 3F-1A/B & 3F-2A/B
2	471344 PC/PO	P19: APC S1: Refinery Emergency Relief System	
3	471345 PC/PO	P19: APC S3: VRS	
4 *5*	422369 PO no PC *422361*	P2: Coking & Residual Conditioning. S9: FGF (Newly created system) *To be cancelled & consolidated into 422369*	Heaters 22F-1, F-2 & F-3 (Unit 2) & Heaters 21F-6, F-7 & F-8 (Unit 1)
6	422169 PO no PC	P6: Hydrogen Production Units S6: FGF (Newly created system)	Heater 4F-1
7 *8* 9	422177 PO no PC *422176* 422935 PO no PC	P16: Steam Generation Process S3: FGF (Newly created system) *To be cancelled & consolidated into 422177* S3: FGF (Newly created system)	Boilers 30F-1 & F-2 (fuel gas from Units 8 & 27) Boiler 75F-1

II. EQUIPMENT DESCRIPTION:

Section D:

Equipment	ID No.	Connected	RECLAIM	Emissions & Requirments	Condition
Process 7: Hydrocracking Unit					P13.1
System 3: Fuel Gas Filter Separators					S13.2, S15.1, S31.2
Filter, separator, 3C-201, refinery fuel gas, vessel type, with dual lower barrels for storage of the removed liquid, serves 4 heaters (3F-1A & B, 3F-2A & B), Ht: 9 Ft 4 In; Dia: 1 Ft 4 In AN: 471343 (PC/PO)	Dx3C				
Fugitive emissions, miscellaneous AN: 471343 (PC/PO)	Dx1fug			HAP: (10)[40CFR 63 Subpart CC, #5A,6-23-2003]	H23.36
Process 19: Air Pollution Control Process					
System 1: Refinery Emergency Relief System					S13.2, S18.1
Flare, elevated with steam injection, East, 65F-4, Ht: 200 Ft; Dia: 4 Ft AN: ~~383364~~ 471344 (PC/PO)	C892			CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]	B61.5, D12.6, D323.2, E193.2, *H23.13*, H23.35, ~~H.1~~
System 3: Coker Offgas/Central Vapor Recovery Compressor System					S7.5, S13.2, S15.1, S15.14, S18.8
Compressor, 22K-36, vapor recovery gas, reciprocating, 1500 hp motor A/N: ~~450318~~ 471345 (PC/PO)	D981				E71.6, H23.34
Process 2: Coking & Residual Conditioning					P13.1
System 9: Fuel Gas Filter Separators					S13.2, S15.1, S31.x5
Filter, separator, 21J-22, refinery fuel gas, vessel type, with a lower barrel for storage of the removed liquid, serves 3 heaters (21F-6, 21F-7 & 21F-8) AN: 422369	Dx21J				
Filter, separator, 22J-28, refinery fuel gas, vessel type, with a lower barrel for storage of the removed liquid, serves Heaters 22F-1, 22F-2 & 22F-3 AN: 422369	Dx22J				

Fugitive emissions, miscellaneous AN: 422369	Dx2fug			HAP: (10)[40CFR 63 Subpart CC, #5A,6-23-2003]	H23.34
Process 6: Hydrogen Production Units					
System 6: Fuel Gas Filter Separators				S13.2, S15.1, S31.x5	
Filter, separator, 4C-30, refinery fuel gas, vessel type, serves Heater 4F-1, Ht: 10 Ft 8 In; Dia: 2 Ft 8 In AN: 422169	Dx4C				
Fugitive emissions, miscellaneous AN: 422169	Dx3fug			HAP: (10)[40CFR 63 Subpart CC, #5A,6-23-2003]	H23.34
Process 16: Steam Generation Process					
System 3: Fuel Gas Filter Separators				S13.2, S15.1, S31.x5	
Knock out pot, 30C-4, fuel gas mix, common to Boilers 30F-1 & 30F-2, Ht: 8 Ft 9 In; Dia: 3 Ft 6 In AN: 422177	Dx30C-4				
Filter, separator, 30J-3, refinery fuel gas, vessel type, with a lower barrel for storage of the removed liquid, serves Boiler 30F-1, Ht: 6 Ft 11 In; Dia: 1 Ft AN: 422177	Dx30J-3				
Filter, separator, 30J-4, refinery fuel gas, vessel type, with a lower barrel for storage of the removed liquid, serves Boiler 30F-2, Ht: 6 Ft 11 In; Dia: 1 Ft AN: 422177	Dx30J-4				
Filter, separator, 75J-7, refinery fuel gas, vessel type, with a lower barrel for storage of the removed liquid, serves Boiler 75F-1 AN: 422935	Dx75J-7				
Fugitive emissions, miscellaneous AN: 422177	Dx4fug			HAP: (10)[40CFR 63 Subpart CC, #5A,6-23-2003]	H23.34

III. BACKGROUND:

As listed in Table 1, there are 9 pending applications submitted by EM as follows:

In 2003, EM submitted six PO no PC applications (ANs 422369, *422361*, 422169, 422177, *422176 &* 422935) for existing FGF/separator systems serving the combustion equipment (heaters and boilers). Two applications will be cancelled (ANs 422361 & 422176) and consolidated as shown in Table 1, leaving four FGF systems applications being evaluated for PO issuance.

In 2007, EM submitted three other applications (ANs 471343-45) for permits to construct a new FGF system venting to flare/VRS equipment serving the hydrocracking unit heaters. This proposed FGF and associated flare/VRS applications will be evaluated for PC/PO issuance.

These seven pieces of equipment (five FGF and flare/VRS) are operated 24 hours per day, 7 days per week, and 52 weeks per year.

IV. ENFORCEMENT RECORD REVIEW:

There is no NOV or NTC issued by the district to these FGF equipment in the past two years.

V. PROCESS DESCRIPTION:

Sour gas treatment systems and refinery fuel gas conditioning systems:

From the refinery process units, the sour gas streams are routed to the fuel gas treating systems to remove sulfur compounds utilizing DEA, MEA, and/or caustic. The treated fuel gas is then sent to the refinery fuel gas conditioning systems (fuel gas mix drum/vessel) before being consumed in various combustion equipment in the refinery. The purpose of the refinery fuel gas conditioning systems is to provide a supply of fuel gas to combustion equipment at a regulated pressure and reasonably constant heating value. *See AN 455166, PO issued 2/20/2008, for complete process off-gas/fuel gas treating and conditioning description.*

Fuel gas filtration/separation systems:

Since the ultra low-NOx burners require better filtration than older burner technology, several filter separators applying coalescing technology have been installed downstream of the fuel gas conditioning systems to remove solid particulates and liquid aerosols. Such filter separator(s) is permitted as fuel gas filter separator and listed in a separate system of the facility permit.

As shown in Figure 1, for the hydrocracking unit (Unit 3), the proposed FGF system served the hydrocracking unit heaters, will filter the fuel gas from fuel gas mix vessel (Vessel 64C-4). The associated knock out pot is also illustrated:

Figure 1 – Proposed FGF Separator at Hydrocracking Unit:

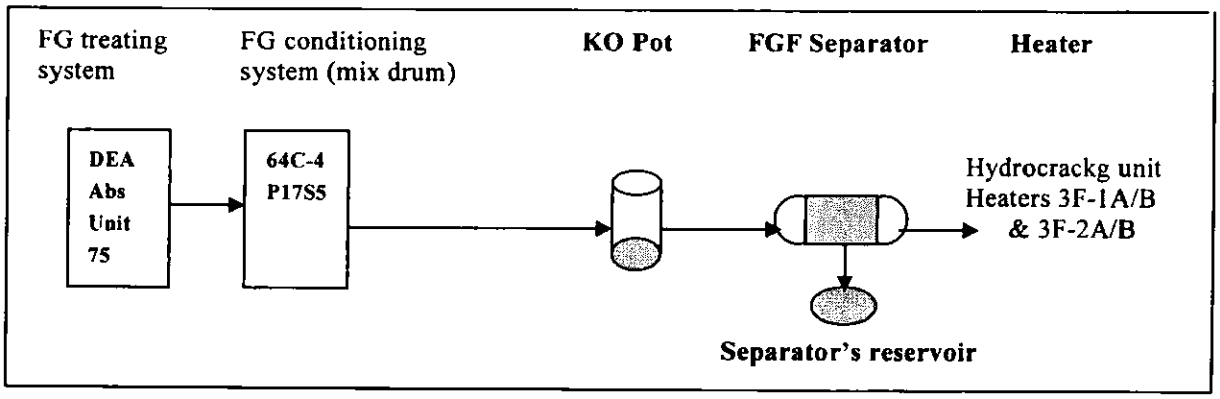

Table 2 includes the equipment shown in Figure 1 for the proposed FGF as well as four other existing FGF systems. It's noted that the knock out pots are not listed in the permit as for permit simplifying.

Table 2 – FGF Separator Systems:

FG Treating System	FG Conditioning	KO Pot	FGF Separator	KO Pot	Combustion Equipment
DEA Abs Unit 75	Mix Vessel 64C-4, D838	None	03C-201, vertical w/ integrated dual barrel liquid reservoir	None	Heaters 3F-1A/B & 3F-2A/B
DEA Abs Unit 75	Mix Vessel 64C-4, D838	21C-56	21J-22, horizontal w/ liquid reservoir	21C-28	Heater 21F-6
				21C-27	Heater 21F-7
				21C-26	Heater 21F-8
DEA Abs Unit 75	Mix Vessel 64C-4, D838	21C-56	22J-28, horizontal w/ liquid reservoir	21C-25	Heater 22F-1
					Heater 22F-2
					Heater 22F-3
DEA Abs Unit 75	Mix Vessel 64C-4, D838	4C-27	4C-30, vertical vessel w/o integrated liquid reservoir	None	Heater 4F-1
DEA Abs Unit 8 (8C-5) & MEA Abs Unit 27	Mix Vessel 30C-4, Dx30C-4	None	30J-3, horizontal w/liquid reservoir	None	Boiler 30F-1
			30J-4, horizontal w/liquid reservoir		Boiler 30F-2
DEA Abs Unit 75	Mix Vessel 64C-4, D838	75C-27	75J-7, horizontal w/liquid reservoir	None	75F-1

From the distribution header, the refinery fuel gas is sent to the knockout pot for liquid removal. Leaving the knockout pot, the fuel gas is sent to the filter separator containing filter-coalescing elements to remove solid and liquid particles before entering the heaters/boilers' burner tips. The filter separators are operated at 150 psig with a lower barrel/reservoir used for storage of the removed liquid as shown in Figure 1 (except Heater 4F-1).

Under emergency case, vapors from the filter separators are vent to the VRS/flare, which is currently covered by the system Condition S15.1.

E. VRS – AN 471345 & flare – AN 471344:

Vapors collected from the low pressure equipment (storage tanks, desalter tailwater handling) as well as process off gas streams from high pressure equipment (desalting unit) under normal operating conditions, are vented to the VRS, which collects and transfers the vapors to the fuel gas treating system. The proposed FGF installation will not impact the capacity of the existing VRS compressors.

The VRS consists of four reciprocating compressors (Device IDs D981, D982, D983, and D984 of Process 19, System 3), knockout pots, interstage coolers, and other ancillary equipment. Driven by 1500 bhp electric motor, each compressor is designed to compress 4.9 MMSCFD of vapors from 9 to 150 psig. The collected vapors are transferred to the fuel gas treating system to remove sulfur compounds.
The compressors are also connected to the flare system. In case of emergency (e.g., process upset caused the collected vapor volume exceeds the recovery capacity), the system pressure increases and the excess vapors are vented to the flare instead of to the fuel gas treating system.

EM's flares were brought into full compliance with R1118 monitoring requirements (e.g., HHV, flow rate, sulfur compounds analysis, etc.) and therefore, current Condition I1.1 is removed.

VI. EMISSION CALCULATIONS – VOC Fugitive Emissions:

Proposed Unit 3 Heaters' FGF – AN 471343: The addition of the FGF with the associate fugitive components will cause the increase in VOC fugitive emissions in the amount of 0.79 pounds per day as summarized below.

Source Unit	No. of Source	Cont Emis Factors, lb/yr	Emission, Lb/yr	Lb/d
Valves, bellows seal, gas/vapor, light liquid	+13	0	+0	
Valves, live loaded with dual seal, gas/vapor	+11	23	+253	
Pumps, light/ heavy liquid	+0	80	+0	
Flanges, ANSI/API Standards	+53	1.5	+79.5	
Connectors	+0	1.5	+0	
PRVs, closed vent system	+0	0	+0	
Total			**+332.5**	**+0.91**

Existing four FGFs: Four P/O no P/C applications submitted for four existing FGFs, the number of components counted and emission calculations for each application are provided in Attachment 2. These existing valves are not sealed bellows, but comply with 500 ppmv VOC limit as BACT for low emission valves. The emission factors listed in Attachment 3 – "Proposed Emission Factors for Fugitive New Source Units with BACT" were used in calculations, which form the basis to impose System Condition S31.x5. The emission offsets are also included in Table 3 below.

Table 3 – Existing PO no PC FGF Offsets

AN	FGF	Combustion Equipment	Emissions, lb/d	Offset, lb/d
422369	21J-22	Heater 21F-6 Heater 21F-7 Heater 21F-8	2.09	3
	22J-28	Heater 22F-1 Heater 22F-2 Heater 22F-3		
422169	4C-30	Heater 4F-1	0.39	0
422177	30J-3	Boiler 30F-1	2.04	2
	30J-4	Boiler 30F-2		
422935	75J-7	Boiler 75F-1	0.912	1

VII. RULE EVALUATION:

Rule 212: R212(c)(1):

The equipment is not located within 1000 feet from the boundery of a school. Therefore, public notice required under R212(c)(1) does not apply.

R212(c)(2):

The equipment modification does not result in an emission increase exceeding any of the daily limits specified under R212(g). Therefore, public notice required under R212(c)(2) does not apply.

R212(c)(3):

The equipment modification does not result in an toxic emission increase. Therefore, public notice required under R212(c)(3) does not apply.

R212(g):

The equipment modification project of this RECLAIM facility does not result in an emission increase exceeding any of the daily limits specified under R212(g). Therefore, public notice required under R212(g) does not apply.

Rule 301: For four existing FGF equipment, the application fees were submitted with the fee schedule assigned to the refinery process units. The FGF equipment, however, is evaluated under the treating unit of Fee Schedule B, Rule 301 amended 06/06/03 (Attachment 4), as $1,411.74 + $705.87 of 50% penalty = $2,117.61. The FRG equipment is listed in a separate system and the application fees are adjusted as shown in Table 4 below.

Table 4 – Fee Adjustments

AN	PO no PC Fee Paid, $/Schedule	Refund, $ = Paid - Corrected Fee ($2,117.61)
422369	3543.20 + 1771.60 = 5,314.80 / E	3197.19
422169	7058.71 + 3529.36 = 10,588.07 / F	8470.46
422177	1771.6 + 885.8 = 2,657.40 / E	539.79
422935	3543.20 + 1771.60 = 5,314.80 / E	3197.19

Rule 401: With proper operation and maintenance of the FGFs, opacity is not expected.

Rule 402: With proper operation and maintenance of the FGFs, nuisance is not expected.

Rule 407: The refinery gases going through the FGF systems are sweet gases as sulfur compounds were removed. Compliance with 500 ppmv calculated as SO2 is expected under normal operating condition.

Regulation IX – New Source Performance Standards (NSPS):

40CFR60 Subpart GGG & GGGa– Fugitive components: Under CD dated 12/13/05, the fugitive components from Torrance refinery plant are subject to the Leak Detection and Repair Program under 40CFR60 Subpart GGG. As such, the fugitive components associated with the existing four FGFs are subject to Section 60.592 - Standards of Subpart GGG, which references to Subpart VV standards. These existing fugitive components are expected to meet the control, monitoring, inspection, and repair requirements specified under Subpart VV.

In a letter to the EPA dated 08/24/09, EM has notified the EPA of its decision to comply with the requirements of 40CFR60 Subpart GGGa for all effected facilities at the Torrane refinery to streamline federal fugitive requirements, instead of complying with GGG and GGGa separately. Permit Condition H23.34 was imposed in the Initial Title V permit tagging with R1173, GGGa, and CD. (See Statement of Basis prepared for the Initial Title V permit, dated 12/30/09, for complete discussion). This condition H23.34 will be imposed on these existing FGF systems.

The proposed Hydrocracking unit FGF is subject to 40CFR Subpart GGGa and compliance with this subpart is expected. Condition H23.36 addressed R1173 & GGGa, tagged with R1173 & GGGa, will be imposed on the proposed FGF equipment.

Rule 1173: Fugitive components of the FGF systems are subject to R1173 and operated in compliance with this rule requirements.

Regulation XIII – New Source Review (NSR):
Rule 1303(a) – BACT:

This rule applies to any new, modified, or relocated source which results in an emission increase of any nonattainment air contaminant, any ozone depleting compound, or ammonia. The proposed FGF unit installation will result in the VOC emission increases of 0.91 lb/day. The fugitive components will be equipped with BACT. A list of such components is provided in Section VI – Emission Calculations.

For four existing FGF systems' VOC fugitive components, BACT does apply as well as the equipment leak inspection and monitoring requirements (I & M) of Rule 1173 do apply. Under such I & M, the leak rate shows 500 ppm BACT limit, discussed in the Attachment 3, is achieved. This forms the basis to impose Condition S31.x5.

Rule 1303(b)(2) – Emission Offsets:

The proposed and four existing FGF systems result in VOC emissions increases and will be offset as follows:

AN	Increase, VOC, lb/d	Offset, 1.2 factor, lb/d	ERC Certificate No.
471343	0.91	1	AQ006366
422369	6.11	7	AQ006366
422169	0.77	1	AQ006366
422177	2.64	3	AQ006366
422935	1.16	1	AQ006366

Rule 1401: There is no toxic compound content in the treated refinery fuel gases streams going through these FGF systems.

Reg XVII: Regulation XVII: Prevention of Significant Deterioration (PSD) Requirements Standard Prepared Statement by the District

Limited Authority: Effective July 25, 2007, the district was granted a limited delegation authority from the EPA (excluding PSD project). These FGF systems emissions are less than Reg XVII limit.

Reg XXX - Title V Permits:

R3005 – "Permit Revision":

The initial Title V permit was issued to EM and in effect beginning January 25, 2010. The proposed and existing FGF systems are treated as de minimis significant permit revision pursuant to R3005(e). The permit revision does not require public notification under R3006(b), but requires a 45-day review by EPA.

VII. CONCLUSION AND RECOMMENDATION:

The FGF systems and associated APC flare/VRS are expected to comply with all applicable AQMD and federal Rules and Regulations. A combined Permit to Construct/Permit to Operate is recommended for the proposed FGF system and Permits to Operate (Section D) are recommended for the four existing FGF systems, subject to the following conditions:

Section D Conditions:

Process/System	System Cond	Device Cond
P7/S3, AN 471343	S13.2, S15.1, S31.2	Dx1fug: H23.36
P19/S1, AN 471344	S13.2, S18.1	C892: B61.5, D12.6, D323.2, E193.2, H23.13, H23.35, ~~H.1~~
P19/S3, AN 471343	S7.5, S13.2, S15.1, S15.14, S18.8	D981: E71.6, H23.34
P2/S9, AN 422369 P6/S6, AN 422169 P16/S3, AN 422177 & 422935	S13.2, S15.1, S31.x5	Dx2fug – Dx5fugs: H23.34

S7.5 The following conditions shall apply to all refinery operation and related devices from this system:

The operator shall only operate this equipment if it complies with all applicable mitigation measures stipulated in the "Mitigation Monitoring Plan" document which is part of the AQMD Certified Environmental Impact Report dated 12-October-2001.

The operator shall maintain records in a manner approved by the District, to demonstrate compliance with the applicable measures stipulated in the "Mitigation Monitoring Plan" document.
[CA PRC CEQA, 11-23-1970]

[Systems subject to this condition : Process 8, System 5; Process 13, System 1 , 3 , 4 , 11; Process 19, System 3]

S15.14 The vent gases from all affected devices of this process/system shall be vented as follows:

All sour gases shall be directed to the absorber located in the Fuel Gas Treating Unit (P11/S3), the Unsaturate Gas Plant (P9/S2), or the DEA Absorption System (P11/S5).

This process/system shall not be operated unless the absorber is in full use and has a valid permit to receive vent gases from this system.
[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996]

[Systems subject to this condition : Process 19, System 3]

S13.2 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant Rule Rule/Subpart

VOC District Rule 1123

[RULE 1123, 12-7-1990]

[Systems subject to this condition : Process 1, System 1, 2, 3, 4, 7; Process 2, System 1, 2, 4, 5, 9; Process 3, System 1; Process 4, System 1, 3, 5; Process 5, System 1, 2; Process 6, System 1, 2, 6; Process 7, System 1, 3; Process 8, System 1, 2, 3, 4, 6; Process 9, System 1, 2, 3, 4, 5, 6; Process 11, System 1, 2, 3, 5, 6, 7, 8, 9, 10, 11; Process 16, System 3; Process 17, System 5, 18; Process 19, System 1, 3, 7; Process 22, System 1]

S15. 1 The vent gases from all affected devices of this process/system shall be vented as follows:

All emergency vent gases shall be directed to a VRS/flare system except Devices IDs D35, D1250, D2145, D57 to D62, D71, D68, D86-D91, D98, D152, D237, D349, D360, D629, D630, D631, D657, D638, D668, D671, D1503-D1505, D1507 that vent to the atmosphere.

This process/system shall not be operated unless the VRS/flare system is in full use and has a valid permit to receive vent gases from this system.

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

[Systems subject to this condition : Process 1, System 1, 2, 3, 4, 7; Process 2, System 1, 2, 4, 5, 9; Process 3, System 1; Process 4, System 1, 3, 5; Process 5, System 1, 2; Process 6, System 1, 2, 6; Process 7, System 1, 3; Process 8, System 1, 2, 3, 4, 6; Process 9, System 1, 2, 3, 4, 5; Process 11, System 1 , 2 , 3 , 5 , 6 , 7 , 8 , 9 , 10 , 11; Process 12, System 1 , 2 , 3 , 4; Process 13, System 1, 2, 3, 4; Process 16, System 3; Process 17, System 5, 8, 11, 18; Process 19, System 3]

S18.1 All affected devices listed under this process/system shall be used only to receive, recover and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

Loading/Unloading Process (Process: 13, System: 1, 2, 3 & 4)
Hydrogen Production (Process: 6, System: 1, 2 & 6)
Gas Production Process (Process: 9, System: 1, 2, 3, 4, 5 & 6)
Catalytic Reforming (Process: 5, System: 1 & 2)
Treating/Stripping Process (Process: 11, System: 1, 2, 3, 5, 6, 7, 8, 9, 10 & 11)
Fluid Catalytic Cracking Unit (Process: 3, System: 1)
Petroleum Miscellaneous Process (Process: 17, System: 5, 8, 11 & 18)
Hydrocracking Unit (Process: 7, System: 1 & 3)

Air Pollution Control Process (Process: 19, System: 3)
Crude Distillation Unit (Process: 1, System: 1, 2, 4 & 7)
Coking and Residual Conditioning (Process: 2, System: 1, 2, 4, 5 & 9)
Hydrotreating Process (Process: 4, System: 1, 3 & 5)
Alkylation Unit (Process: 8, System: 1, 2, 3, 4 & 6)
Sulfur Production Process (Process: 12, System: 1, 2, 3 & 4)
Steam Generation Process (Process: 16, System: 3)

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

[Systems subject to this condition : Process 19, System 1]

S18.8 All affected devices listed under this process/system shall be used only to receive, recover and/or dispose of vent gases routed from the system(s) or process(es) listed below, in addition to specific devices identified in the "connected to" column:

Loading/Unloading Process (Process: 13, System: 1, 2, 3 & 4)
Catalyst Regeneration Process (Process: 10, System: 1)
Hydrogen Production (Process: 6, System: 1, 2 & 6)
Gasoline Blending (Process: 20, System: 1)
Gas Production Process (Process: 9, System: 1, 2, 3, 4, 5 & 6)
Catalytic Reforming (Process: 5, System: 1 & 2)
Treating/Stripping Process (Process: 11, System: 1, 2, 3 & 5)
Fluid Catalytic Cracking Unit (Process: 3, System: 1)
Petroleum Miscellaneous Process (Process: 17, System: 5, 8, 11 & 18)
Hydrocracking Unit (Process: 7, System: 1 & 3)
Crude Distillation Unit (Process: 1, System: 1, 2, 3 & 4)
Coking and Residual Conditioning (Process: 2, System: 1, 2, 4, 5 & 9)
Hydrotreating Process (Process: 4, System: 1, 3 & 5)
Alkylation Unit (Process: 8, System: 1, 2, 3 & 4)
Dehydrator Unit (Process: 17, System: 16)
Steam Generation Process (Process: 16, System: 3)

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

[Systems subject to this condition: Process 19, System 3]

B61.5 The operator shall not use (or combust) vent gas containing the following specified compounds:

Compound	ppm by volume
H2S greater than	160

[RULE 1118, 11-4-2005]

[Devices subject to this condition : C891, C892, C894, C1558]

D12.6 The operator shall install and maintain a(n) infrared flame detector to accurately indicate the presence of a flame at the pilot light.

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

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; 40CFR 63 Subpart A, 5-16-2007; CONSENT DECREE CIVIL CASE No. 05 C 5809, 12-13-2005]

[Devices subject to this condition : C891, C892, C1558]

D323.2 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a bi-weekly basis, at least, unless the equipment did not operate during the entire bi-weekly period. The routine bi-weekly inspection shall be conducted while the equipment is in operation and during daylight hours.

If any visible emissions (not including condensed water vapor) are detected that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or

2). Have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures in the CARB manual "Visible Emission Evaluation", within three business days and report any deviations to AQMD in accordance with the reporting requirements in Section K of this permit and the following records:

1). Stack or emission point identification;

2). Description of any corrective actions taken to abate visible emissions;

3). Date and time visible emission was abated; and

4). All visible emission observation records by operator or a certified smoke reader.

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 401, 3-2-1984; RULE 401, 11-9-2001]

[Devices subject to this condition: C891, C892, C894]

E71.6 The operator shall only maintain a vacuum pressure of 4 inches Hg or higher in this equipment during normal operations.

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

[Devices subject to this condition: D981, D982, D983, D984]

E193.2 The operator shall operate and maintain this equipment according to the following specifications:

The operator shall comply with all applicable requirements specified in Subpart A of the 40CFR60

[40CFR 60 Subpart A, 5-16-2007; CONSENT DECREE CIVIL CASE No. 05 C 5809, 12-13-2005]

[Devices subject to this condition: C891, C892, C894, C1558]

H23.13 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
H2S	40CFR60, SUBPART	J

[40CFR 60 Subpart J, 6-24-2008; CONSENT DECREE CIVIL CASE No. 05 C 5809, 12-13-2005]

[Devices subject to this condition : D83, D84, D85, D120, C164, D231, D232, D234, D235, D269, D270, D367, C626, C686, C687, D803, D805, D833, C891, C892, C894, D913, D914,

D917, D918, D920, D922, D924, D927, D928, D929, D930, D931, D949, D950, C952, D1236, D1239, D1403, C1558]

H23.34 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District	Rule 1173
VOC	40CFR60, SUBPART	GGGa

This equipment was subject to the applicable requirements of 40CFR60 Subpart GGG per Consent Decree Civil Case No. 05 C 5809 dated 12-13-2005. This equipment is now subject to the applicable requirements of 40CFR60 Subpart GGGa per ExxonMobil's notification to EPA dated 08-24-2009

[RULE 1173, 5-13-1994; RULE 1173, 2-6-2009; **40CFR 60 Subpart GGGa, 6-2-2008; CONSENT DECREE CIVIL CASE No. 05 C 5809, 12-13-2005]**

[Devices subject to this condition : D119, D355, D356, D390, D525, D542, D574, D869, D980, D981, D982, D983, D984, D985, D986, D1298, D1475, D1527, D1556, D1740, D1788, D1789, D1790, D1791, D1792, D1793, D1794, D1800, D1803, D1805, D1807, D1808, D1809, D1810, D1811, D1815, D1819, D1825, D1826, D1827, D1828, D1829, D1830, D1831, D1834, D1838, D1839, D1840, D1842, D1844, D1845, D1849, D1850, D1851, D1853, D1860, D1862, D1863, D1864, D1865, D1877, D1888, D1889, D1890, D1891, D1892, D1895, D1936, D1937, D1938, D1939, D1955, D1956, D1957, D1983, D1987, D1988, D2009, D2010, D2231, D2256, D2259, D2330, D2366, D2367, D2368, D2369, D2370, D2371, D2372, D2373, D2374, D2375, D2376, D2377, D2378, D2379, D2380, D2383, Dx2fug – Dx5fug]

H23.35 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
SOX	District Rule	1118

[RULE 1118, 11-4-2005]

[Devices subject to this condition: C891, C892, C894, C1558]

H23.36 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	1173
VOC	40CFR60, SUBPART	GGGa

[RULE 1173, 5-13-1994; RULE 1173, 2-6-2009; **40CFR 60 Subpart GGGa, 6-2-2008]**

[Devices subject to this condition: D2235, D2254, Dx1fug]

S31.2??The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 384499, 385155, 389291, 389292, 411508, 411586, 422931, 435110, 435111 & 471343:

All valves shall be bellow-sealed except in the following applications: valves in heavy liquid service, control valves, instrument piping/tubing valves, valves requiring torsional stem motion, situations where valve failure could pose safety hazard (e.g., drain valves with stems in the horizontal position), retrofit/special application valves with space limitation and valves not commercially available. District shall approve all exceptions to this requirement.

All valves and new major components shall be physically identified in the field with special markings that distinguish the components from non-BACT components. Additionally, all new components shall be identified as BACT components in the record.

All valves shall be inspected monthly using EPA Reference Method 21. The operator may revert to quarterly inspection upon District approval, after two consecutive monthly inspections in which only two percent or less are found to be leaking above 500 ppmv. For leaks greater than 500 ppmv above background, repair shall be attempted within five (5) days of detection. Repair or replacement shall be completed within 15 days, unless demonstrated otherwise.

The operator shall keep records of the monthly inspections, subsequent repairs and reinspections, if any, in a manner approved by the District.

The operator shall provide the following information to the District no later than 60 days after initial startup of the equipment in the system:

a) Piping and instrumentation diagrams (or some other equivalent District-approved diagrams) that identify all valves. The operator shall also provide a listing of all valves (bellows and non-bellows) categorized by location, type, size, accessibility, and service; and

b) Recalculation of fugitive emissions based on actual fugitive components installed and removed from service. All valves shall be categorized by tag number, type, size, body material, service, and reason(s) why bellow seal valves were not used.

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

[Systems subject to this condition: Process 4, System 1 , 3; Process 6, System 2; Process 7, System 3; Process 9, System 6; Process 13, System 1 , 3 , 4 , 11; Process 18, System 1]

S31.x5 The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 384499, 385155, 389291, 389292, 411508, 411586, 422931, 435110, 435111, 422369, 422169, 422177, 422935 & 422371:

All valves and major components shall be physically identified in the field with special markings that distinguish the components from non-BACT components. Additionally, all components shall be identified as BACT components in the record.

All valves shall be inspected monthly using EPA Reference Method 21. The operator may revert to quarterly inspection upon District approval, after two consecutive monthly inspections in which only two percent or less are found to be leaking above 500 ppmv. For leaks greater than 500 ppmv above background, repair shall be attempted within five (5) days of detection. Repair or replacement shall be completed within 15 days, unless demonstrated otherwise.

The operator shall keep records of the monthly inspections, subsequent repairs and reinspections, if any, in a manner approved by the District.

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

[Systems subject to this condition: Process 2, System 9; Process 4, System 1 , 3; Process 6, System 2 & 6; Process 9, System 6; Process 13, System 1 , 3 , 4 , 11; Process 16, System 3; Process 17, System 18; Process 18, System 1]

A/N 422369 Fugitive Component Count
Units 21 and 22, Process 2, System 9

Component	Component Type	Service	Notes	Number of Components	EF* (lb/yr)	Total Emissions (lb/yr)
Valves	Sealed bellows	Gas/vapor; light liquid	A	0	0	0
	Live loaded with dual seal system or low emission valves =<500 ppm	Gas/vapor	B	0	23	0
		Light liquid	B	34	19	646
		Heavy liquid	B	0	3	0
Pumps	Sealless type	Light liquid	C	0	0	0
	Double or tandem mech. seal w/ barrier fluid (or dry running) with closed vent system	Light liquid	D	0	104	0
	Single mech. seal w/ flush cooling	Heavy liquid hot	D	0	80	0
Compressors	Closed vent system	Gas/vapor	E	0	514	0
	To atmosphere (Form R-3 EF)	Gas/vapor		0	2570	0
Flanges	ANSI/API standards	All	F	77	1.5	115.5
Threaded Connectors		All		0	1.5	0
PRVs	Closed vent system	All	G	0	0	0
	Rupture disc if applicable	All	G	0	0	0
Process drains	P-trap or seal pot	Liquid	H	0	80	0
Total:				**111**		**762**

* Emission factors provided by AQMD

A, C - Assume 100% control efficiency for sealless equipment, but it can be a large source of emission in the event of equipment failure

B - EPA-450/3-81-015a except heavy liquid.

D, E, H - Assumes an 80% reduction from Form R-3.

F - BAAQMD.

G - Assume 100% control eff. Under normal operating conditions.

Atta. 2 (No Atta. 1)
1/4

A/N 422169 Fugitive Component Count
Unit 4, Process 6, System 6

Component	Component Type	Service	Notes	Number of Components	EF* (lb/yr)	Total Emissions (lb/yr)
Valves	Sealed bellows	Gas/vapor; light liquid	A	0	0	0
	Live loaded with dual seal system or low emission valves =<500 ppm	Gas/vapor	B	0	23	0
		Light liquid	B	6	19	114
		Heavy liquid	B	0	3	0
Pumps	Sealless type	Light liquid	C	0	0	0
	Double or tandem mech. seal w/ barrier fluid (or dry running) with closed vent system	Light liquid	D	0	104	0
	Single mech. seal w/ flush cooling	Heavy liquid hot	D	0	80	0
Compressors	Closed vent system	Gas/vapor	E	0	514	0
	To atmosphere (Form R-3 EF)	Gas/vapor		0	2570	0
Flanges	ANSI/API standards	All	F	20	1.5	30
Threaded Connectors		All		0	1.5	0
PRVs	Closed vent system	All	G	0	0	0
	Rupture disc if applicable	All	G	0	0	0
Process drains	P-trap or seal pot	Liquid	H	0	80	0
Total:				**26**		**144**

* Emission factors provided by AQMD

A, C - Assume 100% control efficiency for sealless equipment, but it can be a large source of emission in the event of equipment failure

B - EPA-450/3-81-015a except heavy liquid.

D, E, H - Assumes an 80% reduction from Form R-3.

F - BAAQMD.

G - Assume 100% control eff. Under normal operating conditions.

AH 2
2/4

A/N 422177 Fugitive Component Count
Unit 30, Process 16, System 3

Component	Component Type	Service	Notes	Number of Components	EF* (lb/yr)	Total Emissions (lb/yr)
Valves	Sealed bellows	Gas/vapor; light liquid	A	0	0	0
	Live loaded with dual seal system or low emission valves =<500 ppm	Gas/vapor	B	28	23	644
		Light liquid	B	0	19	0
		Heavy liquid	B	0	3	0
Pumps	Sealless type	Light liquid	C	0	0	0
	Double or tandem mech. seal w/ barrier fluid (or dry running) with closed vent system	Light liquid	D	0	104	0
	Single mech. seal w/ flush cooling	Heavy liquid hot	D	0	80	0
Compressors	Closed vent system	Gas/vapor	E	0	514	0
	To atmosphere (Form R-3 EF)	Gas/vapor		0	2570	0
Flanges	ANSI/API standards	All	F	66	1.5	99
Threaded Connectors		All		0	1.5	0
PRVs	Closed vent system	All	G	0	0	0
	Rupture disc if applicable	All	G	0	0	0
Process drains	P-trap or seal pot	Liquid	H	0	80	0
Total:				94		743

* Emission factors provided by AQMD

A, C - Assume 100% control efficiency for sealless equipment, but it can be a large source of emission in the event of equipment failure

B - EPA-450/3-81-015a except heavy liquid.

D, E, H - Assumes an 80% reduction from Form R-3.

F - BAAQMD.

G - Assume 100% control eff. Under normal operating conditions.

3/4

Attach 2

A/N 422935 Fugitive Component Count
Unit 30, Process 16, System 3

Component	Component Type	Service	Notes	Number of Components	EF* (lb/yr)	Total Emissions (lb/yr)
Valves	Sealed bellows	Gas/vapor; light liquid	A	0	0	0
	Live loaded with dual seal system or low emission valves =<500 ppm	Gas/vapor	B	0	23	0
		Light liquid	B	15	19	285
		Heavy liquid	B	0	3	0
Pumps	Sealless type	Light liquid	C	0	0	0
	Double or tandem mech. seal w/ barrier fluid (or dry running) with closed vent system	Light liquid	D	0	104	0
	Single mech. seal w/ flush cooling	Heavy liquid hot	D	0	80	0
Compressors	Closed vent system	Gas/vapor	E	0	514	0
	To atmosphere (Form R-3 EF)	Gas/vapor		0	2570	0
Flanges	ANSI/API standards	All	F	32	1.5	48
Threaded Connectors		All		0	1.5	0
PRVs	Closed vent system	All	G	0	0	0
	Rupture disc if applicable	All	G	0	0	0
Process drains	P-trap or seal pot	Liquid	H	0	80	0
Total:				47		333

* Emission factors provided by AQMD

A, C - Assume 100% control efficiency for sealless equipment, but it can be a large source of emission in the event of equipment failure

B - EPA-450/3-81-015a except heavy liquid.

D, E, H - Assumes an 80% reduction from Form R-3.

F - BAAQMD.

G - Assume 100% control eff. Under normal operating conditions.

AH 2
4/4

Atta. 3

DRAFT

PROPOSED EMISSION FACTORS FOR FUGITIVE NEW SOURCE UNITS WITH BACT

July 2, 1993

New Source Unit w/ BACT	Service	Emission Rate w/ 500 ppm monthly I&M (lb/yr)	
Valves			
Sealed Bellows	Gas/vapor and light liquid	0	(A)
Live loaded with dual Seal system or low emission valves ≤500 ppm	Gas/vapor	23	(B)
	Light liquid	19	(B)
	Heavy liquid	3	(B)
Pumps			
Sealless type	Light liquid	0	(C)
Double or tandem mech. seal w/ barrier fluid (or dry running) w/ closed vent system	Light liquid	104	(D)
Single mech. seal w/ flush cooling	Heavy liquid hot	80	(D)
Compressors			
Closed vent system	Gas/vapor	514	(E)
Flanges			
ANSI/API Standards	All	1.5	(F)
Threaded connectors	All	1.5	
PRVs			
Closed vent system ~~(process vessels)~~	All	0	(G)
Rupture disc if applicable ~~(pressure tanks)~~	All	0	(G)
Process Drains			
P-trap or seal pot	liquid	80	(H)

Notes:

(A) and (C)	Assume 100% control efficiency for sealless equipment, but it can be a large source of emission in the event of equipment failure.
(B)	EPA-450/3-81-015a except heavy liquid.
(D), (E), (H)	Assume an 80% reduction from Form R-3.
(F)	BAAQMD.
(G)	Assume 100% control eff. under normal operating conditions.

Atta. 4

SUMMARY PERMIT FEE RATES - PERMIT PROCESSING, CHANGE OF CONDITIONS, ALTERATION/MODIFICATION

Schedule 7/1/03 – 6/30/04	Permit Processing Fee 7/1/03 – 6/30/04	Change of Condition 7/1/03 – 6/30/04	Alteration/ Modification 7/1/03 – 6/30/04
A	885.80	295.37	885.80
A1	885.80	295.37	885.80
B	1,411.74 + 705.87 = 2117.61	699.37	1,411.74
B1	2,232.96	1,210.38	2,232.96
C	2,232.96	1,210.38	2,232.96
D	3,081.85	2,070.06	3,081.85
E	3,543.20	3,039.35	3,543.20
F	7,058.71+T&M	4,437.24	7,058.71+T&M
G	8,664.24+T&M	7,529.71	8,664.24+T&M
H	14,440.38+T&M	9,547.05	14,440.38+T&M

F: T&M = Time and Material charged at $92.28 per hour above 79 hours; not to exceed $17,345.57
G: T&M = Time and Material charged at $92.28 per hour above 97 hours; not to exceed $29,717.02
H: T&M = Time and Material charged at $92.28 per hour above 162 hours; not to exceed $37,785.14

SUMMARY OF ERC PROCESSING RATES, BANKING, CHANGE OF TITLE, ALTERATION/MODIFICATION, and CONVERSION TO SHORT TERM CREDITS

Schedule	Banking Application	Change of Title	Alteration/ Modification	Conversion to Short Term Credits
I	$2,285.68	$403.76	$403.76	$403.76

SUMMARY OF PERMIT FEE RATES CHANGE OF OPERATOR[a]

Small Business	Non-Small Business
$123.02	$307.67

[a] The change of operator fee for Title V (Non-RECLAIM) facilities shall not exceed $3,692.00 per facility and for all other facilities shall not exceed $7,996.51 per facility.