

# Case Study A

## (ERC Certificate S-4939-1)

SOUTHNT1 PAS - [ERC History S-4939-1]

5-2007484507	T	VOC	ALON BAKERSFIELD REFINING (1068040/106815/11101827/110182)	
5-2007484502	T	VOC	ALON BAKERSFIELD REFINING (1044338/1096386/1104434/110434)	
5-2007484503	T	VOC	ALON BAKERSFIELD REFINING (1044338/1096386/1104434/110434)	
5-2007484504	T	VOC	ALON BAKERSFIELD REFINING (1062625/1062625/1106261/110626)	
5-4791	T	VOC	TRICOR REFINING LLC (1000/670/900/1000)	
5-5981	R	VOC	ALON BAKERSFIELD REFINING (1061853/105425/1105986/1105916)	
5-5981	T	VOC	TRICOR REFINING LLC (0/20/50/0)	
5-7741	T	VOC	TRICOR REFINING LLC (0/20/50/0)	
5-5821	R	VOC	ALON BAKERSFIELD REFINING (1061853/1093885/105916/1105916)	
5-12141	T	VOC	SHELL PIPELINE CO LP (0038/3072/3105/0105)	
5-12151	R	VOC	ALON BAKERSFIELD REFINING (1078015/102252/1102011/1102011)	
5-17841	W/VOC		ALON BAKERSFIELD REFINING (0/1848/0/0)	
5-17851	R	VOC	ALON BAKERSFIELD REFINING (1078015/102252/1102011/1102011)	
5-21801	S	I	VOC	LOS ANGELES COUNTY SANITATION DISTRICT 2 (2350/2630/2630/2630)
5-21891	R	VOC	ALON BAKERSFIELD REFINING (1070125/106863/1100121/1100121)	
5-2281	T	VOC	PACIFIC ETHANOL VISALIA (800/000/000/000)	
5-2501	W/VOC		PACIFIC ETHANOL VISALIA (4701/4701/4701/4701)	
5-2501	R	VOC	PACIFIC ETHANOL VISALIA (1129/129/129/129)	
5-2291	R	VOC	ALON BAKERSFIELD REFINING (1020125/106363/1040121/1040121)	
5-2321	T	VOC	PACIFIC ETHANOL VISALIA (7500/7500/7500/7500)	
5-2751	W/VOC		PACIFIC ETHANOL VISALIA (18/68/68/68)	
5-2761	R	VOC	PACIFIC ETHANOL VISALIA (1412/1412/1412/1412)	
5-3171	W/VOC		PACIFIC ETHANOL VISALIA (1815/3815/3815/3815)	
5-31761	R	VOC	PACIFIC ETHANOL VISALIA (1870/2170/2170/2170)	
5-3381	W/VOC		PACIFIC ETHANOL VISALIA (12/312/312/312)	
5-3381	R	VOC	PACIFIC ETHANOL VISALIA (384/384/384/384)	
5-3321	W/VOC		PACIFIC ETHANOL VISALIA (407/407/407/407)	
5-3321	R	VOC	PACIFIC ETHANOL VISALIA (2147/2147/2147/2147)	
5-4201	W/VOC		PACIFIC ETHANOL VISALIA (148/148/148/148)	
5-4201	R	VOC	PACIFIC ETHANOL VISALIA (220/220/220/220)	
5-4431	W/VOC		PACIFIC ETHANOL VISALIA (728/728/728/728)	
5-4431	R	VOC	PACIFIC ETHANOL VISALIA (227/227/227/227)	
5-4781	W/VOC		PACIFIC ETHANOL VISALIA (1151/1151/1151/1151)	
5-4781	R	VOC	PACIFIC ETHANOL VISALIA (1110/1108/1107/1101)	
5-4771	W/VOC		PACIFIC ETHANOL VISALIA (1191/1191/1191/1191)	
5-4791	R	VOC	PACIFIC ETHANOL VISALIA (851/859/858/852)	
5-2331	R	VOC	ALON BAKERSFIELD REFINING (1062625/105163/108621/108621)	
5-2671	T	VOC	CLON INC (13000/13000/13000/13000)	
5-3101	W/VOC		CLON INC (0/0/0/0)	
5-3121	R	VOC	CLON INC (13000/13000/13000/13000)	
5-4871	W/VOC		CLON INC (318/0/0/0)	
5-4871	R	VOC	CLON INC (852/13000/13000/13000)	
5-2381	R	VOC	ALON BAKERSFIELD REFINING (104825/104163/107321/107321)	
5-2271	T	VOC	ONEILL WINTNERS & DISTILLERS (3016/2016/2016/2016)	
5-2661	W/VOC		ONEILL WINTNERS & DISTILLERS (744/744/744/744)	
5-2621	W/VOC		ONEILL WINTNERS & DISTILLERS (559/559/559/559)	
5-2631	R	VOC	ONEILL WINTNERS & DISTILLERS (714/714/714/714)	
5-2691	W/VOC		ONEILL WINTNERS & DISTILLERS (455/455/455/455)	
5-2691	R	VOC	ONEILL WINTNERS & DISTILLERS (255/255/255/255)	
5-3071	W/VOC		ONEILL WINTNERS & DISTILLERS (252/252/252/252)	
5-3071	R	VOC	ONEILL WINTNERS & DISTILLERS (2/3/2/2)	
5-2071	R	VOC	ALON BAKERSFIELD REFINING (104703/104147/107165/107165)	
5-2411	W/VOC		LOS ANGELES COUNTY SANITATION DISTRICT 2 (3300/3300/3300/3300)	
5-24151	R	VOC	ALON BAKERSFIELD REFINING (104368/1039147/106605/106605)	
5-2421	T	VOC	MIDWAY PEAKING LLC (2363/2363/2363/2363)	
5-2441	W/VOC		MIDWAY PEAKING LLC (2202/2202/2202/2202)	
5-2451	R	VOC	MIDWAY PEAKING LLC (2305/2305/2305/2305)	
5-4231	T	VOC	MIDWAY PEAKING LLC (0/0/0/0)	
5-2431	T	VOC	SCHOTT DAIRY (4500/4500/4500/4500)	
5-1231	W/VOC		SCHOTT DAIRY (4790/4790/4790/4790)	

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5-3091	R	VOC	MIDWAY PEAKING LLC (0/0/0/0)
5-2421	T	VOC	ALON BAKERSFIELD REFINING (104066/103301/105359/105359)
5-2441	T	VOC	SCHOTT DAIRY (4500/4500/4500/4500)
5-3241	W/VOC		SCHOTT DAIRY (4201/4201/4201/4201)
5-3251	R	VOC	MADPHERSON OIL CO (2402/2402/2402/2402)
5-2451	R	VOC	ALON BAKERSFIELD REFINING (102946/102880/110509/110509)
5-2621	T	VOC	KERN OIL & REFINING CO (1390/2900/2900/2900)
5-2631	W/VOC		KERN OIL & REFINING CO (155/155/155/155)
5-2631	R	VOC	KERN OIL & REFINING CO (1633/1633/1634/1634)
5-2651	R	VOC	KERN OIL & REFINING CO (1608/1622/1607/1755)
5-2661	W/VOC		KERN OIL & REFINING CO (236/236/236/236)
5-2621	R	VOC	KERN OIL & REFINING CO (1370/1364/1369/1517)
5-3621	W/VOC		KERN OIL & REFINING CO (419/419/419/419)
5-3631	R	VOC	KERN OIL & REFINING CO (652/652/651/1938)
5-4751	W/VOC		KERN OIL & REFINING CO (486/486/486/487)
5-4751	R	VOC	KERN OIL & REFINING CO (456/470/456/923)
5-4751	W/VOC		KERN OIL & REFINING CO (216/216/216/216)
5-4761	R	VOC	KERN OIL & REFINING CO (240/234/239/308)
5-2461	R	VOC	ALON BAKERSFIELD REFINING (103146/102470/102515/102515)
5-3641	T	VOC	SFPF LP (029/029/029/029)
5-3661	W/VOC		SFPF LP (109/109/101/101)
5-3671	R	VOC	SFPF LP (2516/2516/2516/2516)
5-4181	W/VOC		SFPF LP (142/142/142/142)
5-4181	R	VOC	SFPF LP (2374/2374/2372/2372)
5-2461	R	VOC	ALON BAKERSFIELD REFINING (102521/102076/110523/110523)
5-2451	T	VOC	MIDWAY PEAKING LLC (0/0/0/0)
5-3931	W/VOC		MIDWAY PEAKING LLC (0/500/500/500)
5-2441	R	VOC	ALON BAKERSFIELD REFINING (102021/102021/110520/110520)
5-2551	T	VOC	MALIBU BOATS LLC (0000/0000/5000/5000)
5-2561	T	VOC	CANTOR FITZGERALD (48000/48000/48000/48000)
5-2721	T	VOC	SOUTH KERN INDUSTRIAL CENTER LLC (48000/48000/48000/48000)
5-3051	W/VOC		SOUTH KERN INDUSTRIAL CENTER LLC (48000/47810/47816/48000)
5-3061	R	VOC	SOUTH KERN INDUSTRIAL CENTER LLC (0/190/382/0)
5-2571	T	VOC	NATIONS PETROLEUM USA LTD (1100/1100/1100/1100)
5-2771	W/VOC		NATIONS PETROLEUM USA LTD (1155/1155/1155/1155)
5-2771	R	VOC	NATIONS PETROLEUM USA LTD (45/45/45/45)
5-2671	T	VOC	CALIFORNIA FERTILIZERS PRODUCTION CORP (45/45/45/45)
5-2581	R	VOC	ALON BAKERSFIELD REFINING (074621/86676/95733/95733)
5-2431	W/VOC		LOS ANGELES COUNTY SANITATION DISTRICT 2 (15000/15000/15000/15000)
5-2641	R	VOC	ALON BAKERSFIELD REFINING (0601/601/602/3/602/3)
5-2671	T	VOC	MIDSTREAM ENERGY PARTNERS (USA) LLC (2712/2742/2773/2773)
5-2401	W/VOC		MIDSTREAM ENERGY PARTNERS (USA) LLC (258/258/258/258)
5-2411	W/VOC		MIDSTREAM ENERGY PARTNERS (USA) LLC (419/479/479/479)
5-2421	R	VOC	MIDSTREAM ENERGY PARTNERS (USA) LLC (1306/1351/1361/1361)
5-2381	W/VOC		MIDSTREAM ENERGY PARTNERS (USA) LLC (777/777/777)
5-2381	R	VOC	MIDSTREAM ENERGY PARTNERS (USA) LLC (1229/1269/1269/1269)
5-2381	W/VOC		MIDSTREAM ENERGY PARTNERS (USA) LLC (18/18/18/18)
5-2381	R	VOC	MIDSTREAM ENERGY PARTNERS (USA) LLC (1131/1150/1151/1151)
5-2381	T	VOC	MIDSTREAM ENERGY PARTNERS (USA) LLC (1131/1150/1151/1151)
5-2321	W/VOC		MIDSTREAM ENERGY PARTNERS (USA) LLC (52/52/52/52)
5-2321	R	VOC	MIDSTREAM ENERGY PARTNERS (USA) LLC (1029/1061/1061/1061)
5-2321	T	VOC	MIDSTREAM ENERGY PARTNERS (USA) LLC (1029/1061/1061/1061)
5-2791	R	VOC	ALON BAKERSFIELD REFINING (09919/9491/9495/9495)
5-2701	W/VOC		LOS ANGELES COUNTY SANITATION DISTRICT 2 (10200/1000/1000/1000)
5-2701	R	VOC	ALON BAKERSFIELD REFINING (94809/9391/94856/94856)
5-2751	T	VOC	BULLARD ENERGY CENTER LLC (11377/11378/11378/11377)
5-2801	T	VOC	CLMINT MARKETS LLC (3075/3075/292/3075)
5-3941	T	VOC	MADPHERSON OIL CO (3075/3075/292/3075)
5-4181	W/VOC		MADPHERSON OIL CO (171/171/171)
5-4181	R	VOC	MADPHERSON OIL CO (0/222/222)



5-4251	W/VOC	E & J GALLO WINERY (55/55/55/55/55)
5-4251	R I VOC	E & J GALLO WINERY (4053/4037/4030/4950)
5-4361	W/VOC	E & J GALLO WINERY (121/120/120/120/120)
5-4361	R I VOC	E & J GALLO WINERY (282/282/282/282/282)
5-4451	W/VOC	E & J GALLO WINERY (207/207/207/207/207)
5-4451	R I VOC	E & J GALLO WINERY (185/184/184/184/184)
5-4431	W/VOC	E & J GALLO WINERY (150/150/150/150/150)
5-4431	R I VOC	E & J GALLO WINERY (109/109/109/109/109)
5-4791	W/VOC	E & J GALLO WINERY (112/112/112/112/112)
5-4791	R I VOC	E & J GALLO WINERY (117/117/117/117/117)
5-5031	T V VOC	63 ENTERPRISES (500/500/500/500)
5-5031	R V VOC	E & J GALLO WINERY (162/162/162/162/162)
5-4171	R I VOC	BIG WEST OF CALIFORNIA LLC (808/808/808/808/808)
5-4171	T I VOC	ELEMENT MARKETS LLC (382/381/980/504)
5-4191	T V VOC	BAKERSFIELD CRUDE TERMINAL LLC (282/281/930/594)
5-4281	T I VOC	GUARDIAN INDUSTRIES, LLC (1750/1750/1750/1750)
5-4331	W/VOC	CALIFORNIA RESOURCES PRODUCTION CORP (500/500/500/500)
5-4401	R V VOC	CALIFORNIA RESOURCES PRODUCTION CORP (74/74/74/74)
5-4311	T I VOC	CALIFORNIA RESOURCES PRODUCTION CORP (120/120/120/120/120)
5-4511	W/VOC	CALIFORNIA RESOURCES PRODUCTION CORP (100/100/100/100/100)
5-4541	R V VOC	CALIFORNIA RESOURCES PRODUCTION CORP (170/170/170/170)
5-4301	T I VOC	CALIFORNIA RESOURCES PRODUCTION CORP (100/100/100/100/100)
5-4851	W/VOC	CALIFORNIA RESOURCES PRODUCTION CORP (178/178/178/178/178)
5-4871	R I VOC	CALIFORNIA RESOURCES PRODUCTION CORP (871/871/871/871/871)
5-4911	W/VOC	CALIFORNIA RESOURCES PRODUCTION CORP (100/100/100/100)
5-4921	R V VOC	CALIFORNIA RESOURCES PRODUCTION CORP (861/861/861/861/861)
5-4301	R I VOC	GUARDIAN INDUSTRIES, LLC (4750/4750/4750/4750)
5-4351	T I VOC	KERN RIVER HOLDINGS INC (31/31/31/31/31)
5-4571	W/VOC	KERN RIVER HOLDINGS INC (307/307/307/307/307)
5-4581	R V VOC	KERN RIVER HOLDINGS INC (54/54/54/54)
5-4361	R I VOC	GUARDIAN INDUSTRIES, LLC (162/162/162/162/162)
5-4501	T I VOC	ELEMENT MARKETS LLC (154/152/272/272)
5-4591	R I VOC	LAND OF LAKES INC (164/162/272/272)
5-4501	R I VOC	GUARDIAN INDUSTRIES, LLC (145/145/145/145/145)
5-4301	T V VOC	GUARDIAN INDUSTRIES, LLC (145/145/145/145/145)
5-4281	R I VOC	BIG WEST OF CALIFORNIA LLC (677/676/668/668/694/26/69888)
5-4281	T I VOC	TAUBER OIL CO (500/500/500/500)
5-4331	T V VOC	EVERGREEN BEVERAGE PACKAGING (407/332/241/232)
5-4361	R I VOC	TAUBER OIL CO (405/408/475/478)
5-4371	T V VOC	SENTINEL PEAK RESOURCES LLC (1675/1676/1676/1675)
5-4381	R I VOC	TAUBER OIL CO (2918/2922/393/393)
5-4741	T I VOC	PACIFIC GAS & ELECTRIC CO (1300/1300/1300/1300)
5-4841	W/VOC	PACIFIC GAS & ELECTRIC CO (115/115/115/115/115)
5-4951	R V VOC	PACIFIC GAS & ELECTRIC CO (8/8/8/7)
5-4141	R I VOC	TAUBER OIL CO (171/171/183/183)
5-4931	R I VOC	KERN OIL & REFINING CO (1000/1000/1000/1000)
5-4961	W/VOC	KERN OIL & REFINING CO (115/115/115/115)
5-4811	R I VOC	KERN OIL & REFINING CO (85/85/85/85/85)
5-4811	W/VOC	KERN OIL & REFINING CO (57/58/58/58)
5-4961	R V VOC	KERN OIL & REFINING CO (82/82/82/82/82)
5-4811	R I VOC	TAUBER OIL CO (175/175/183/183)
5-4911	T I VOC	ELEMENT MARKETS LLC (155/174/131/14)
5-4911	T V VOC	PHILLIPS 66 PIPELINE LLC (150/174/130/144)
5-4911	R V VOC	TAUBER OIL CO (50/50/75/75/75)
5-4291	R I VOC	BIG WEST OF CALIFORNIA LLC (524/524/540/540/551/29/53988)
5-4951	T I VOC	BIG WEST OF CALIFORNIA LLC JUDICIAL TRUST (872/859/648/62/691/26/63888)
5-4851	T I VOC	TAUBER OIL CO (500/500/500/500)
5-4421	T I VOC	INGREDION INCORPORATED (2000/2000/2000/2000)
5-4871	W/VOC	INGREDION INCORPORATED (333/331/331/331)
5-4881	W/VOC	INGREDION INCORPORATED (157/156/163/163/163)
5-4881	R I VOC	INGREDION INCORPORATED (16/16/16/16/16)

5-4911	T V VOC	PHILLIPS 66 PIPELINE LLC (150/174/130/144)
5-4921	R V VOC	TAUBER OIL CO (50/50/75/75/75)
5-4361	R I VOC	BIG WEST OF CALIFORNIA LLC (677/676/668/668/694/26/69888)
5-4421	T I VOC	BIG WEST OF CALIFORNIA LLC JUDICIAL TRUST (872/859/648/62/691/26/63888)
5-4421	T I VOC	TAUBER OIL CO (500/500/500/500)
5-4871	W/VOC	INGREDION INCORPORATED (2000/2000/2000/2000)
5-4881	W/VOC	INGREDION INCORPORATED (333/331/331/331)
5-4881	R I VOC	INGREDION INCORPORATED (157/156/163/163/163)
5-4881	R I VOC	INGREDION INCORPORATED (16/16/16/16/16)
5-4921	R I VOC	TAUBER OIL CO (500/500/500/500)
5-4961	T I VOC	INGREDION INCORPORATED (500/500/500/500)
5-4961	W/VOC	INGREDION INCORPORATED (84/85/85/85)
5-4861	R V VOC	INGREDION INCORPORATED (16/16/16/16/16)
5-4781	T I VOC	THE WINE GROUP LLC (500/500/500/500)
5-4781	W/VOC	THE WINE GROUP LLC (101/101/101/101)
5-4781	R V VOC	THE WINE GROUP LLC (101/101/101/101)
5-4821	R I VOC	TAUBER OIL CO (2000/2000/2000/2000)
5-4741	T I VOC	KERN OIL & REFINING CO (1500/1500/1500/1500)
5-4921	W/VOC	KERN OIL & REFINING CO (465/465/465/465)
5-4931	R I VOC	KERN OIL & REFINING CO (1011/1011/1011/1011)
5-4941	W/VOC	KERN OIL & REFINING CO (87/87/87/87)
5-4931	R I VOC	KERN OIL & REFINING CO (82/82/82/82/82)
5-4921	W/VOC	KERN OIL & REFINING CO (102/102/102/102)
5-4921	R I VOC	KERN OIL & REFINING CO (82/82/82/82/82)
5-5081	W/VOC	KERN OIL & REFINING CO (102/102/102/102)
5-5091	R I VOC	KERN OIL & REFINING CO (726/726/726/726)
5-581	W/VOC	KERN OIL & REFINING CO (102/102/102/102)
5-591	R V VOC	KERN OIL & REFINING CO (82/82/82/82/82)
5-4751	R V VOC	TAUBER OIL CO (50/50/50/50/50)
5-4401	R I VOC	BIG WEST OF CALIFORNIA LLC JUDICIAL TRUST (867/858/682/684/26/69888)
5-4471	T I VOC	ELEMENT MARKETS LLC (725/725/725/725)
5-4471	T I VOC	OTE STOCKTON LLC (725/725/725/725)
5-4471	R I VOC	BIG WEST OF CALIFORNIA LLC JUDICIAL TRUST (867/858/682/684/26/69888)
5-4431	T I VOC	BERRY PETROLEUM COMPANY LLC (3980/3980/3980/3980)
5-4521	W/VOC	BERRY PETROLEUM COMPANY LLC (315/315/315/315)
5-4521	R I VOC	BERRY PETROLEUM COMPANY LLC (283/283/283/283/283)
5-4521	W/VOC	BERRY PETROLEUM COMPANY LLC (3071/3071/3071/3071)
5-4521	R I VOC	BERRY PETROLEUM COMPANY LLC (2484/2484/2484/2484)
5-4541	W/VOC	BERRY PETROLEUM COMPANY LLC (973/973/973/973)
5-4551	R I VOC	BERRY PETROLEUM COMPANY LLC (31485/31485/31485/31485)
5-4541	W/VOC	BERRY PETROLEUM COMPANY LLC (1615/1615/1615/1615)
5-4541	W/VOC	BERRY PETROLEUM COMPANY LLC (153/153/153/153)
5-4551	S I VOC	BERRY PETROLEUM COMPANY LLC (153/153/153/153)
5-4951	T V VOC	BERRY PETROLEUM COMPANY LLC (153/153/153/153)
5-4551	W/VOC	BERRY PETROLEUM COMPANY LLC (153/153/153/153)
5-4561	W/VOC	BERRY PETROLEUM COMPANY LLC (4820/4830/4830/4830)
5-4561	R I VOC	BERRY PETROLEUM COMPANY LLC (22180/21780/21780/21780)
5-4961	T V VOC	BERRY PETROLEUM COMPANY LLC (22180/21780/21780/21780)
5-4811	R I VOC	BIG WEST OF CALIFORNIA LLC JUDICIAL TRUST (83883/82107/64755/65221)
5-4821	T I VOC	MD VALLEY DISPOSAL INC (861/861/861/861)
5-4831	W/VOC	MD VALLEY DISPOSAL INC (821/821/821/821)
5-4831	R V VOC	MD VALLEY DISPOSAL INC (86/86/86/86)
5-4831	R I VOC	BIG WEST OF CALIFORNIA LLC JUDICIAL TRUST (82432/81642/81642/81642)
5-4831	T I VOC	FJ MANAGEMENT INC (82432/81642/81642/81642)
5-4631	T I VOC	E & J GALLO WINERY (5000/5000/5000/5000)
5-4631	T I VOC	63 ENTERPRISES (1361/1361/1361/1361)
5-4761	W/VOC	63 ENTERPRISES (1361/1361/1361/1361)
5-4761	R V VOC	63 ENTERPRISES (129/129/129/129)
5-4781	R V VOC	E & J GALLO WINERY (155/155/155/155)
5-4781	W/VOC	E & J GALLO WINERY (155/155/155/155)
5-4721	R I VOC	E & J GALLO WINERY (4835/4835/4835/4835)
5-4821	W/VOC	E & J GALLO WINERY (286/286/286/286)
5-4831	R I VOC	E & J GALLO WINERY (4793/4793/4793/4793)

5-4492-1	T I VDC	MID VALLEY DISPOSAL INC. (8811/8581/8581/8081)
5-4969-1	W/VVDC	MID VALLEY DISPOSAL INC. (8812/8812/8812/8812)
5-4969-1	R V VDC	MID VALLEY DISPOSAL INC. (8812/8812/8812/8812)
5-4493-1	R I VDC	BIG WEST OF CA L.L.C. LIQUIDATING TRUST (8242/8242/8242/8242)
5-4966-1	T I VDC	FJ MANAGEMENT INC. (8242/8242/8242/8242)
5-4836-1	T I VDC	E J J GALLO WINERY (5000/5000/5000/5000)
5-4762-1	T I VDC	G3 ENTERPRISES (1361/1361/1361/1361)
5-4762-1	W/VVDC	G3 ENTERPRISES (1361/1361/1361/1361)
5-4763-1	R V VDC	G3 ENTERPRISES (1361/1361/1361/1361)
5-4763-1	R V VDC	G3 ENTERPRISES (1361/1361/1361/1361)
5-4726-1	W/VVDC	E J J GALLO WINERY (1151/1151/1151/1151)
5-4727-1	R I VDC	E J J GALLO WINERY (4833/4833/4833/4833)
5-4893-1	W/VVDC	E J J GALLO WINERY (298/298/298/298)
5-4893-1	R I VDC	E J J GALLO WINERY (4793/4793/4793/4793)
5-4893-1	W/VVDC	E J J GALLO WINERY (6152/6152/6152/6152)
5-4893-1	R I VDC	E J J GALLO WINERY (4278/4278/4278/4278)
5-4893-1	W/VVDC	E J J GALLO WINERY (810/238/2948)
5-4894-1	R I VDC	E J J GALLO WINERY (4278/4278/4278/4278)
5-4894-1	W/VVDC	E J J GALLO WINERY (823/866/866/866)
5-6027-1	R V VDC	E J J GALLO WINERY (4193/4193/3969/3969)
5-4637-1	R I VDC	FJ MANAGEMENT INC. (8742/8742/8742/8742)
5-4675-1	T I VDC	CENTRAL CALIFORNIA SHEETS LLC (3298/3298/3298/3298)
5-4753-1	W/VVDC	CENTRAL CALIFORNIA SHEETS LLC (3297/3297/3297/3297)
5-4754-1	R V VDC	CENTRAL CALIFORNIA SHEETS LLC (1160/0)
5-4676-1	R I VDC	FJ MANAGEMENT INC. (8758/8758/8758/8758)
5-4736-1	T V VDC	TESORO LOGISTICS OPERATIONS LLC (4937/4938/4937/4938)
5-4737-1	R I VDC	FJ MANAGEMENT INC. (8957/8957/8957/8957)
5-4744-1	T I VDC	E J J GALLO WINERY (8750/11750/11750/11750)
5-4841-1	W/VVDC	E J J GALLO WINERY (1458/1458/1458/1458)
5-4842-1	R I VDC	E J J GALLO WINERY (8030/1160/1160/1160)
5-4842-1	W/VVDC	E J J GALLO WINERY (2893/2893/2894/2894)
5-4895-1	R I VDC	E J J GALLO WINERY (8314/8314/8314/8314)
5-6024-1	W/VVDC	E J J GALLO WINERY (1151/1151/1151/1151)
5-6025-1	R V VDC	E J J GALLO WINERY (6137/11162/11162/11162)
5-4745-1	R I VDC	FJ MANAGEMENT INC. (4886/4886/4886/4886)
5-4895-1	T V VDC	SENTINEL PEAK RESOURCES CA LLC (6000/6000/6000/6000)
5-4896-1	R I VDC	FJ MANAGEMENT INC. (4834/4834/4834/4834)
5-6026-1	T V VDC	FARADAY FUTURE, INC. (12500/12500/12500/12500)
5-6040-1	R I VDC	FJ MANAGEMENT INC. (8930/8930/8930/8930)
5-6040-1	T I VDC	PACIFIC SOUTHWEST CONTAINER LLC (6000/6000/6000/6000)
5-6040-1	W/VVDC	PACIFIC SOUTHWEST CONTAINER LLC (1120/1120/1120/1120)
5-6041-1	R V VDC	PACIFIC SOUTHWEST CONTAINER LLC (4880/4880/4880/4880)
5-3468-1	R I VDC	ALON BAKERSFIELD REFINING (2841/2841/2841/2841)
5-3623-1	W/VVDC	ALON BAKERSFIELD REFINING (614/614/614/614)
5-3623-1	R I VDC	ALON BAKERSFIELD REFINING (3847/3847/3847/3847)
5-4898-1	T I VDC	ELDMERT MARKETS LLC (1480/1480/1480/1480)
5-4718-1	T I VDC	CENTRAL VALLEY EGGS LLC (1480/1480/1480/1480)
5-4864-1	W/VVDC	CENTRAL VALLEY EGGS LLC (891/891/891/891)
5-4895-1	R V VDC	CENTRAL VALLEY EGGS LLC (1718/1718/1718/1718)
5-4893-1	R I VDC	ALON BAKERSFIELD REFINING (2485/2485/2485/2485)
5-4938-1	T V VDC	MATTHEW T. BAKKE (5000/5000/5000/5000)
5-4939-1	R V VDC	ALON BAKERSFIELD REFINING (1985/1985/1985/1985)
5-4101000/501	T I VDC	TEXACO TRADING & TRANS (1495/1500/1518/1518)
5-2773-1	T I VDC	TEXACO TRADING & TRANS (839/848/859/859)
5-2831-1	T I VDC	TEXACO TRADING & TRANS (818/820/823/823)
5-2831-1	T I VDC	SHELL PIPELINE CO LP (82/82/82/82)
5-2071-1	R I VDC	TEXACO TRADING & TRANS (1361/1361/1411/1411)
5-2831-1	T I VDC	TEXACO TRADING & TRANS (849/849/849/849)
5-2831-1	T I VDC	TEXACO TRADING & TRANS (720/728/738/738)
5-4213000/501	T I VDC	LIVE OAK LIMITED (1710/1720/1740/1740)
5-91	R V VDC	LIVE OAK LIMITED (1960/2000/2020)



KERN COUNTY AIR POLLUTION CONTROL DISTRICT

EMISSION REDUCTION CREDIT CERTIFICATE

2700 "M" Street, Suite 275  
 Bakersfield, CA 93301  
 (805) 861-3682



William J. Roddy  
 Air Pollution Control Officer

ISSUE DATE: July 23, 1989	CERTIFICATE NO. 2007148/501
EXPIRATION DATE: July 23, 1991	DATE: July 15, 1986

EMISSION REDUCTION CREDIT IS HEREBY GRANTED TO:

TEXACO REFINING AND MARKETING, INC.

This Emission Reduction Credit (ERC) can only be used in accordance with Kern County Air Pollution Control District New Source Review Rule (NSR) (Rule 210J)

ACTUAL HISTORICAL ERC:

Pollutant: Hydrocarbons

Amount: 12,067.20 lbm/day

*REISSUE SOLICITED  
 12/13/91  
 ERC 2007148/502*

*OK #4*

S	T	R	Location:
28	29S	27E	6500 Refinery Ave., Bakersfield, California

EMISSION REDUCTION CREDIT ACHIEVED BY:

Incineration of the Fluid Coker exhaust in the CO Boiler

Transfer of ownership and all emission reduction credit certificate activity shall be accomplished in accordance with the requirements of Kern County Air Pollution Control District Rule 210.3-Emission Reduction Banking.

Validation Signature :

*Steve W. Lornick*  
 for Manager of Engineering Evaluation

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

EMISSION REDUCTION CREDIT CERTIFICATE

2700 "M" Street, Suite 275  
Bakersfield, CA 93301  
(805) 861-3682



William J. Roddy  
Air Pollution Control Officer

ISSUE DATE: July 23, 1989	CERTIFICATE NO. 2007148/501
EXPIRATION DATE: July 23, 1991	DATE: July 15, 1986

EMISSION REDUCTION CERTIFICATE IS HEREBY GRANTED TO :

TEXACO REFINING AND MARKETING, INC.

This Emission Reduction Credit (ERC) can only be used in accordance with Kern County Air Pollution Control District New Source Review Rule (NSR) (Rule 210.1)

<u>ACTUAL HISTORICAL ERC :</u>			
Pollutant : Hydrocarbons			
Amount : 12,067.20 lbm/day			

S	T	R	Location :
28	29S	27E	6500 Refinery Ave., Bakersfield, California

<u>EMISSION REDUCTION CREDIT ACHIEVED BY :</u>
Incineration of the Fluid Coker exhaust in the CO Boiler

Transfer of ownership and all emission reduction credit certificate activity shall be accomplished in accordance with the requirements of Kern County Air Pollution Control District Rule 210.3-Emission Reduction Banking.

Validation Signature :

*Ray M. Carmick*  
for Manager of Engineering Evaluation

Banking Certificate

NEW FILE REQUEST FORM

Company Name: Texaco Refining & Marketing (Tosco)

Permit Number: 2007148 Project Number: 851028

Description: ERC Banking Certificate

2007148/501, 601

Sec 28; T29S, 27E, Rosedale Highway

File Type (check one): ~~ATC~~ ~~DTO~~

Issue Date: 07/23/91

Permit Processor: PLY  
(Please Sign)

Date of Request: 11/21/91

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

EMISSION REDUCTION CREDIT CERTIFICATE

2700 "M" Street, Suite 275  
Bakersfield, CA 93301  
(805) 861-3682



William J. Roddy  
Air Pollution Control Officer

ISSUE DATE:	July 23, 1991	CERTIFICATE NO.	2007148/501
EXPIRATION DATE:	July 23, 1993	DATE:	July 23, 1991

EMISSION REDUCTION CERTIFICATE IS HEREBY GRANTED TO :

TEXACO REFINING & MARKETING INCORPORATED

This Emission Reduction Credit (ERC) can only be used in accordance with Kern County Air Pollution Control District New Source Review Rule (NSR) (Rule 2101)

<b>ACTUAL HISTORICAL ERC :</b>			
Pollutant :		Hydrocarbons	
Amount :		12,067.20 lbm/day	
S	T	R	Location :
28	29S	27E	6500 Refinery Ave., Bakersfield, California

<b>EMISSION REDUCTION CREDIT ACHIEVED BY :</b>
Incineration of the Fluid Coker exhaust in the CO Boiler

Transfer of ownership and all emission reduction credit certificate activity shall be accomplished in accordance with the requirements of Kern County Air Pollution Control District Rule 2103-Emission Reduction Banking

Validation Signature :

*Blair E. Stephens*  
for \_\_\_\_\_  
Manager of Engineering Evaluation

# EMISSION REDUCTION CREDIT CERTIFICATE

1601 "H" STREET, SUITE 250  
BAKERSFIELD, CA. 93301-5199  
TELEPHONE (805) 861-3882



LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

Certificate Number:

2007148/501

Issue Date: July 23, 1987

Expiration Date: July 23, 1989

Date: July 15, 1986

This certificate entitles TEXACO REFINING AND MARKETING, INC. to the following Emission Reduction Credit (ERC) which may be used in accordance with the KCAPCD New Source Review Rule (NSR)(Rule 210.1):

NSR SPECIFIC LIMITING CONDITION ERC:  
(To be removed upon transfer of ownership)

Pollutant: n/a Amount: 0

ACTUAL HISTORICAL ERC:

Pollutant: Hydrocarbons Amount: 12,067.20 lbm/day

ERC LOCATION:

S 28, T 29S, R 27E 6500 Refinery Ave., Bakersfield, CA

DESCRIPTION OF HOW ERC WAS ACHIEVED:

Incineration of the Fluid Coker exhaust in the CO Boiler

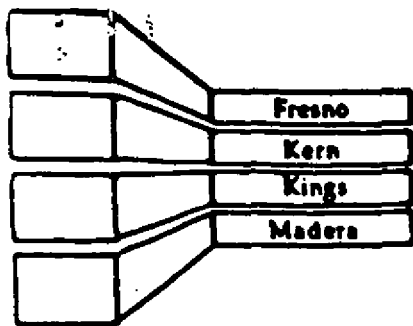
Conditional Permits to Operate are attached which replace current Permits.

Granting of this ERC requires the original certificate owner and all subsequent owners to obtain Authority to Construct and Permit to Operate for the following stationary source category:

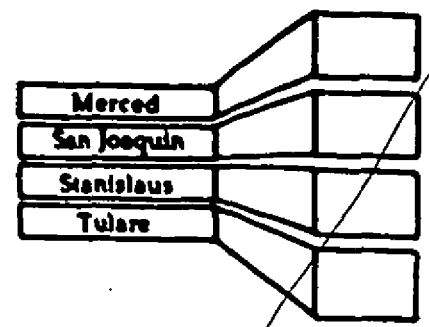
Transfer of ownership and all emission reduction credit certificate activity shall be done in accordance with the requirements of KCAPCD Rule 210.3- Emission Reduction Banking.

Validation Signature:

A handwritten signature in black ink, appearing to be "L. Hebertson", written over a horizontal line.



**San Joaquin Valley  
Unified Air Pollution Control District**  
2314 Mariposa Street  
Fresno, California 93721  
(209) 488-3330  
FAX (209) 488-3134



**ISSUE DATE:** December 23, 1991      **CERTIFICATE NO.** 2007148/601  
**DATE:** July 15, 1986

**EMISSION REDUCTION CERTIFICATE IS HEREBY GRANTED TO:**

TEXACO REFINING AND MARKETING, INC.

*Reissued as one document:  
2007148/603/602 11/21/92 WZLL*

**ACTUAL HISTORICAL ERC:**

**Pollutant:** Carbon Monoxide

**Amount:** 62,793.60 lbm/day

S	T	R	Location:
28	29S	27E	6500 Refinery Avenue, Bakersfield California

**EMISSION REDUCTION CREDIT ACHIEVED BY:**

Incineration of the Fluid Coker exhaust in the CO Boiler.

**Validation Signature:**

*Thomas E. [Signature]*  
for **Manager of Engineering Evaluation**



KERN COUNTY AIR POLLUTION CONTROL DISTRICT

EMISSION REDUCTION CREDIT CERTIFICATE

2700 "M" Street, Suite 275  
Bakersfield, CA 93301  
(805) 861-3682



William J. Roddy  
Air Pollution Control Officer

ISSUE DATE:	July 23, 1991	CERTIFICATE NO.	2007148/601
EXPIRATION DATE:	July 23, 1993	DATE:	July 23, 1991

EMISSION REDUCTION CERTIFICATE IS HEREBY GRANTED TO:

TEXACO REFINING & MARKETING INCORPORATED

This Emission Reduction Credit (ERC) can only be used in accordance with Kern County Air Pollution Control District New Source Review Rule (NSR) (Rule 210.1)

<b>ACTUAL HISTORICAL ERC :</b>			
Pollutant :		Carbon Monoxide	
Amount :		62,793.60 lbm/day	
S	T	R	Location :
28	29S	27E	6500 Refinery Ave., Bakersfield, California

<b>EMISSION REDUCTION CREDIT ACHIEVED BY :</b>
Incineration of the Fluid Coker exhaust in the CO Boiler

Transfer of ownership and all emission reduction credit certificate activity shall be accomplished in accordance with the requirements of Kern County Air Pollution Control District Rule 210.3-Emission Reduction Banking

Validation Signature :

*William J. Roddy*

Manager of Engineering Evaluation

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

EMISSION REDUCTION CREDIT CERTIFICATE

2700 "M" Street, Suite 275  
Bakersfield, CA 93301  
(805) 861-3682



William J. Roddy  
Air Pollution Control Officer

ISSUE DATE: July 23, 1989	CERTIFICATE NO. 2007148/601
EXPIRATION DATE: July 23, 1991	DATE: July 15, 1986

EMISSION REDUCTION CERTIFICATE IS HEREBY GRANTED TO :

TEXACO REFINING AND MARKETING, INC.

This Emission Reduction Credit (ERC) can only be used in accordance with Kern County Air Pollution Control District New Source Review Rule (NSR) (Rule 210J)

<u>ACTUAL HISTORICAL ERC :</u>			
Pollutant: Carbon Monoxide			
Amount: 62,793.60 lbm/day			
S	T	R	Location :
28	29S	27E	6500 Refinery Ave., Bakersfield, California

<u>EMISSION REDUCTION CREDIT ACHIEVED BY :</u>
Incineration of the Fluid Coker exhaust in the CO Boiler

Transfer of ownership and all emission reduction credit certificate activity shall be accomplished in accordance with the requirements of Kern County Air Pollution Control District Rule 210J-Emission Reduction Banking.

Validation Signature :

*Doug Mc Cormick*  
for Manager of Engineering Evaluation

# EMISSION REDUCTION CREDIT CERTIFICATE

160 "H" STREET, SUITE 250  
BAKERSFIELD, CA 93301-5199  
TELEPHONE (805) 861-3882



LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

Certificate Number:

2007148/601

Issue Date: July 23, 1987

Expiration Date: July 23, 1989

This certificate entitles TEXACO REFINING AND MARKETING, INC. to the following Emission Reduction Credit (ERC) which may be used in accordance with the KCAPCD New Source Review Rule (NSR)(Rule 210.1):

NSR SPECIFIC LIMITING CONDITION ERC:  
(To be removed upon transfer of ownership)

Pollutant: n/a Amount: 0

ACTUAL HISTORICAL ERC:

Pollutant: Carbon Monoxide Amount: 62,793.60 lbm/day

ERC LOCATION:

S 28, T 29S, R 27E 6500 Refinery Ave., Bakersfield, CA

DESCRIPTION OF HOW ERC WAS ACHIEVED:

Incineration of the Fluid Coker exhaust in the CO Boiler

Conditional Permits to Operate are attached which replace current Permits.

Granting of this ERC requires the original certificate owner and all subsequent owners to obtain Authority to Construct and Permit to Operate for the following stationary source category:

Transfer of ownership and all emission reduction credit certificate activity shall be done in accordance with the requirements of KCAPCD Rule 210.3- Emission Reduction Banking.

Validation Signature:

# RESOURCE MANAGEMENT AGENCY

**RANDALL L. ABBOTT**  
DIRECTOR

**DAVID PRICE III**  
ASSISTANT DIRECTOR



Air Pollution Control District  
**WILLIAM J. RODDY, APCO**

Environmental Health Services Department  
**STEVE McCALLEY, REHS, DIRECTOR**

Planning & Development Services Department  
**TED JAMES, AICP, DIRECTOR**

## AIR POLLUTION CONTROL DISTRICT

December 26, 1991

Mr. Donald R. Hall  
Plant Manager, Bakersfield Plant  
Texaco Refining & Marketing Inc.  
P.O. Box 1476  
Bakersfield, CA 93302

**SUBJECT: SJVUAPCD ERC Banking Certificate(s)**

Dear Mr. Hall:

Pursuant to San Joaquin Valley Unified Air Pollution Control District Rule 230.1 (Emission Reduction Credit Banking), and the Air Pollution Control Officer's December 12, 1991 implementation policy, all ERC Banking Certificates previously issued in the Kern Zone are to be automatically re-issued as SJVUAPCD Banking Certificates. This policy requires new ERC Banking Certificates to be re-issued without the certificate holder paying a filing fee.

Rule 230.1 does not require actual emission reductions which occurred prior to August 22, 1989 which qualify for banking or re-banking pursuant to Rule 230.1 to be subject to a 10% reduction for the Community Bank.

Enclosed is your re-issued SJVUAPCD Emission Reduction Credit Banking Certificate. Your previously issued Kern County Air Pollution Control District Emission Reduction Banking Certificate is no longer valid for any purpose.

Thank you for your cooperation in this matter. Should you have any questions, please telephone Mr. Thomas Goff of the Engineering Division at (805) 861-3682.

Sincerely,

**WILLIAM J. RODDY**  
AIR POLLUTION CONTROL OFFICER (SED)  
ASST. AIR POLLUTION CONTROL OFFICER (SJVUAPCD)

*Patly Lee Young*  
for **Thomas Paxson, P. E.**  
Manager, Engineering Division

TG/cs  
Enclosures

# RESOURCE MANAGEMENT AGENCY

**RANDALL L. ABBOTT**  
DIRECTOR

**DAVID PRICE III**  
ASSISTANT DIRECTOR



Air Pollution Control District  
**WILLIAM J. RODDY, APCO**

Environmental Health Services Department  
**STEVE McCALLEY, REHS, DIRECTOR**

Planning & Development Services Department  
**TED JAMES, AICP, DIRECTOR**

## AIR POLLUTION CONTROL DISTRICT

August 22, 1991

Mr. Donald R. Hall  
Plant Manager, Bakersfield Plant  
TEXACO REFINING & MARKETING INCORPORATED  
P.O. Box 1476  
Bakersfield, CA 93302

**SUBJECT: Authority to Construct Renewals**

Dear Mr. Hall:

Enclosed please find renewals for the Emission Reduction Credit Certificates listed on the attached sheet. Please attach the enclosed cover sheets to the front of the corresponding existing certificates.

Should you have any questions, please telephone Mr. Glen Stephens of the Engineering Evaluation Section at (805) 861-3682.

Sincerely,

**WILLIAM J. RODDY**  
AIR POLLUTION CONTROL OFFICER (SED)  
ASST. AIR POLLUTION CONTROL OFFICER (SJVUAPCD)

*Glen Stephens*  
for **Thomas Paxson, P.E.**  
Manager, Engineering Division

GES/cs  
Attachment

GES

AUTHORITY TO CONSTRUCT INITIAL BILLING EDIT

8/19/91

TEXACO REFINING & MARKETING  
MR. DONALD HALL  
P O BOX 1476  
BAKERSFIELD CA 93302-0000

JULY 24, 1991

APPLICATION NUMBER	FEE SCH	RATING	TOTAL FEE	FEE PAID	FEE DUE
2007999	(00)	.00-UNKNOWN	.00	60.00	.00

TOTAL FEES DUE	.00
CREDIT	.00
TOTAL AMOUNT DUE	.00

APPLICATION	SOURCE OPERATION DESCRIPTION	QTR/SEC/TUN/RGE
2007999	EQUIPMENT TYPE UNKNOWN	/01/01S/01E



TEXACO REFINING & MARKETING, INCORPORATED  
P.O. Box 1476  
Bakersfield, CA 93302  
(805) 326-4232

Applicant:  
Donald R. Hall  
Plant Manager  
Bakersfield Plant

Application #s:  
2007148/501 & 2007148/601

Project #:  
910724

Project Location:  
Section 28, Township 29 South, Range 27 East MDB&M,  
6500 Refinery Avenue, Bakersfield, California

Project Evaluated by:  
Glen E. Stephens

Application Received:  
July 23, 1991

Project Reviewed by: *FE*  
*8/21/91*

Submittal Date: *0 8/14/91*  
Review Date:

I. PROJECT DESCRIPTION:

Project Proposal:

This project is solely to renew two Emission Reduction Credit (ERC) Certificates. The only evaluation for this project are those to assure compliance with provisions of Rule 210.3, Emission Reduction Banking. Therefore, for this project several normal requirements of an Engineering Analysis are omitted because they are not needed. Sections omitted are: Sections III - Schematics, because none are necessary; Section IV - Equipment Listing, because no active equipment are used in this project; Section V - Engineering Review, because on engineering calculations are needed for this evaluation; Section VI - Calculation of Emissions, because there are no emission calculations and Section VII - Emission Changes, because there are no emission changes.

II. APPLICABLE RULE AND REGULATION:

- A. Rule 210.3 Emission Reduction Banking (*Subsection II. D. 1.*)

VIII. CONCLUSIONS:

Examination of Rule 210.3 shows the ERC/Banking Certificates are not under any provisions that prohibits their renewal. Applications were received on July 23, 1991 and, therefore, have did not expire before they were received.

IX. RECOMMENDATION:

ERC Certificate #s 2007148/501 & 2007148/601 for project# 910724 should be renewed.

Name: \_\_\_\_\_

Date: 9/29/91

Project: 910724

**SUMMARY OF PROBLEMS ENCOUNTERED DURING APPLICATION PROCESSING**

COMPANY NAME: TEXACO R&M I.

PROJECT DESCRIPTION: Renewal of QERC Certificate

**BRIEF DESCRIPTION OF PROBLEMS ENCOUNTERED:**

1. No problems.
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

FRACTION OF TOTAL PROCESSING TIME SPENT ON CORRECTING THE ABOVE: 0

ENGINEERING EVALUATION OF APPLICATIONS FOR AUTHORITY TO CONSTRUCT

BREAKDOWN OF PROCESSING TIME

Company Name: TEXACO RAMI  
Company Number: 2007 Project Number: 910724  
Project Description: Renewal of JERC CERTIFICATES  
Processing Dates, Including Preliminaries: 8/19/91

PROCESSING ACTIVITY:

ACTIVITY TIME (HOURS):

INITIAL:

Initial Contact:      telephone      in person

NA

[Signature]

Project Entry into System 36:

0.5

[Signature]

Preliminary Review:

0.5

[Signature]

Organization/Familiarization:

.1

[Signature]

Project Description/Schematic/Equipment Listing:

X

[Signature]

Listing of Applicable Rules:

X

[Signature]

Design Review of Air Pollution Control Equipment:

X

[Signature]

Calculation of Expected Emissions:

X

[Signature]

Air Quality Impact Assessment Review (Modeling):

X

[Signature]

Preparation of Emission Profiles:

X

[Signature]

CEQA Review:

X

[Signature]

Health Risk Assessment Review:

X

[Signature]

Reworking of Application Due to Changes:

X

[Signature]

Preparation of Rough Draft A's to C:

0.8

[Signature]

Preparation of Written Requests for Information:

X

[Signature]

Telephone and Verbal Requests for Information:

X

[Signature]

General Meetings with Applicant:

X

[Signature]

System 36 Data Entry (Including Emissions):

0.1

[Signature]

NA

[Signature]

TOTAL TIME SPENT ON EVALUATION:

2.0

[Signature]

PROJECT EVALUATION STATUS REPORT

PROJECT # 910724

DATES SUBMITTED: 8/19/91

PROJECT ENGINEER: Glen Stephens ASSIGNMENT DATE: 07/23/91

COMPANY: TEXACO R&M I PROJECT: Renew Bunking Certificate

A TO C NUMBER(S): 2007148/501 2007148/601 RECEIPT DATE: 07/24/91

DATE PACKAGE DEEMED COMPLETE: 08/19/91 180th DAY: 1/1

EVALUATION STATUS SUMMARY:

- Project proposal familiarization completed
- Project proposal description complete
- Listing of applicable Rules and Regulations completed
- Project proposal schematic(s) completed
- Design review of emissions control system(s) completed
- Calculation of expected air contaminant emissions completed
- Preparation of emission profiles completed
- Comprehensive listing of conclusions & recommendations completed
- Rough draft A's to C completed
- Applicant notified of A to C requirements different than proposed
- Project evaluation submitted to Manager of Engineering as complete
- Waiting for additional information requested by:      phone      letter
- Applicant notified of pending denial on   /  /
- \*  Request for 90 day extension received on   /  /

## FINAL CHECKLIST

Engineering analysis includes all items described in guidelines, all items appear in correct order, and all parts of analysis read logically and are legible.

Rule 210.1 Certificate of compliance, if required, has been received and is of proper content and form.

Package is divided into sections (each one in a folder) as described in guidelines and each folder has a correctly prepared label.

Rough draft A's to C have been prepared in accordance with guidelines and in correct format with correct punctuation. Drafts read logically and are legible. Each Design and Operational condition is followed by number of rule requiring the condition or providing basis for the condition.

Applicant has been notified by telephone of all conditions appearing in A's to C but not proposed in application.

Emissions summary sheets (one for whole project and one System 36 printout for each A to C) have been prepared including net emissions change for whole stationary source. NSPS status has been marked.

Emission profiles have been prepared according to guidelines, a maximum daily emission rate has been set, and compliance (on a "moving" yearly average) has been required.

NSPS/NESHAPS, BACT/LAER, and/or NSR report has been prepared, with three copies of each.

KCAPCD Grant Objectives report has been prepared for approval of source emitting over 82 lbm/day  $PM_{10}$  and for sources "netting out" of NSR requirements for any criteria air contaminant.

Source test requirements summary has been prepared (don't specify emission limits, just mark "inlet", "outlet", "units", etc.), and one copy has been made.

Permit fee billing edit has been prepared which includes all A's to C involved in project, even if there is no fee due for one or more A's to C.

Problems encountered summary sheet has been prepared which includes all items (understandably and clearly described) which resulted in unnecessary expenditure of time; unnecessary meaning that the time would not have been spent if the application had been correctly submitted, the data was all correct, no changes were made "in midstream", etc.

Engineering evaluation time sheet has been prepared which includes all time spent in processing the applications. This includes time spent discussing the application with others, time spent revising, etc.

Signed: , Project Evaluation Engineer

Initialed: , Reviewing Engineer





Donald R Hall  
Plant Manager  
Bakersfield Plant

Texaco Refining &  
Marketing Inc

Post Office Box 1476  
Bakersfield CA 93302  
805 326 4232

July 22, 1991

Kern County Air Pollution Control  
District  
2700 "M" Street, Suite 275  
Bakersfield, CA 93301

Gentlemen:

Enclosed is a check in the amount of \$120.00 in payment of Banking Certificate Renewal Fees.

If you have any questions, please contact Mr. Don Slack at 326-4265.

Sincerely,

*D.R. Hall*

D. R. Hall

*JK 7-22-91*

SGP/lam  
29/91  
Enclosure

cc: DJS

RECEIVED

JUL 24 1991

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

EMISSION REDUCTION CREDIT CERTIFICATE

2700 "M" Street, Suite 275  
Bakersfield, CA 93301  
(805) 861-3682



William J. Roddy  
Air Pollution Control Officer

ISSUE DATE: July 23, 1989	CERTIFICATE NO. 2007148/501
EXPIRATION DATE: July 23, 1991	DATE: July 15, 1986

EMISSION REDUCTION CERTIFICATE IS HEREBY GRANTED TO :

TEXACO REFINING AND MARKETING, INC.

This Emission Reduction Credit (ERC) can only be used in accordance with Kern County Air Pollution Control District New Source Review Rule (NSR) (Rule 210.1)

<u>ACTUAL HISTORICAL ERC :</u>			
Pollutant : Hydrocarbons			
Amount : 12,067.20 lbm/day			
<b>COPY</b>			

S	T	R	Location :
28	29S	27E	6500 Refinery Ave., Bakersfield, California

<u>EMISSION REDUCTION CREDIT ACHIEVED BY :</u>
Incineration of the Fluid Coker exhaust in the CO Boiler

Transfer of ownership and all emission reduction credit certificate activity shall be accomplished in accordance with the requirements of Kern County Air Pollution Control District Rule 210.3-Emission Reduction Banking

Validation Signature :

*Doug Mc Cormick*  
for Manager of Engineering Evaluation

# EMISSION REDUCTION CREDIT CERTIFICATE

1601 "H" STREET, SUITE 250  
BAKERSFIELD, CA. 93301-5199  
TELEPHONE (805) 861-3842



LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

Certificate Number:

2007148/501

Issue Date: July 23, 1987

Expiration Date: July 23, 1989

This certificate entitles TEXACO REFINING AND MARKETING, INC. to the following Emission Reduction Credit (ERC) which may be used in accordance with the KCAPCD New Source Review Rule (NSR)(Rule 210.1):

NSR SPECIFIC LIMITING CONDITION ERC:  
(To be removed upon transfer of ownership)

Pollutant: n/a Amount: 0

ACTUAL HISTORICAL ERC:

Pollutant: Hydrocarbons Amount: 12,067.20 lbm/day

ERC LOCATION:

S 28, T 29S, R 27E 6500 Refinery Ave., Bakersfield, CA

DESCRIPTION OF HOW ERC WAS ACHIEVED:

Incineration of the Fluid Coker exhaust in the CO Boiler

Conditional Permits to Operate are attached which replace current Permits.

Granting of this ERC requires the original certificate owner and all subsequent owners to obtain Authority to Construct and Permit to Operate for the following stationary source category:

Transfer of ownership and all emission reduction credit certificate activity shall be done in accordance with the requirements of KCAPCD Rule 210.5- Emission Reduction Banking.

Validation Signature:

COPY

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

EMISSION REDUCTION CREDIT CERTIFICATE

2700 "M" Street, Suite 275  
 Bakersfield, CA 93301  
 (805) 861-3682



William J. Roddy  
 Air Pollution Control Officer

ISSUE DATE: July 23, 1989	CERTIFICATE NO. 2007148/601
EXPIRATION DATE: July 23, 1991	DATE: July 15, 1986

EMISSION REDUCTION CERTIFICATE IS HEREBY GRANTED TO :

TEXACO REFINING AND MARKETING, INC.

This Emission Reduction Credit (ERC) can only be used in accordance with Kern County Air Pollution Control District New Source Review Rule (NSR) (Rule 210J)

<u>ACTUAL HISTORICAL ERC :</u>	
Pollutant: Carbon Monoxide	COPY
Amount: 62,793.60 lbm/day	

S	T	R	Location :
28	29S	27E	6500 Refinery Ave., Bakersfield, California

<u>EMISSION REDUCTION CREDIT ACHIEVED BY :</u>
Incineration of the Fluid Coker exhaust in the CO Boiler

Transfer of ownership and all emission reduction credit certificate activity shall be accomplished in accordance with the requirements of Kern County Air Pollution Control District Rule 2103-Emission Reduction Banking.

Validation Signature :

*Raymond M. Cornejo*  
 for Manager of Engineering Evaluation

EMISSION REDUCTION CREDIT CERTIFICATE

1601 "H" STREET, SUITE 250  
BAKERSFIELD, CA 93301-5199  
TELEPHONE (805) 861-3662



LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

Certificate Number:  
2007148/601

Issue Date: July 23, 1987  
Expiration Date: July 23, 1989

This certificate entitles TEXACO REFINING AND MARKETING, INC. to the following Emission Reduction Credit (ERC) which may be used in accordance with the KCAPCD New Source Review Rule (NSR)(Rule 210.1):

NSR SPECIFIC LIMITING CONDITION ERC:  
(To be removed upon transfer of ownership)

Pollutant: n/a Amount: \_\_\_\_\_

**COPY**

ACTUAL HISTORICAL ERC:

Pollutant: Carbon Monoxide Amount: 62,793.60 lbm/day

ERC LOCATION:

S 28, T 29S, R 27E 6500 Refinery Ave., Bakersfield, CA

DESCRIPTION OF HOW ERC WAS ACHIEVED:

Incineration of the Fluid Coker exhaust in the CO Boiler

Conditional Permits to Operate are attached which replace current Permits.

Granting of this ERC requires the original certificate owner and all subsequent owners to obtain Authority to Construct and Permit to Operate for the following stationary source category:

Transfer of ownership and all emission reduction credit certificate activity shall be done in accordance with the requirements of KCAPCD Rule 210.3- Emission Reduction Banking.

Validation Signature:

Kern APCD Enter and Maintain Status Sheets 8/19/91  
\*\*\*\*\* 8:37:26  
A to C # 2 007 148 Equip Code 29011 Location Qtr Sec 27 T 29 S R 27 E  
Project # 860709 Processing Engr SB Supervising Engr TP  
Company Name TEXACO REFINING & MARKETING Western/Central  
Contact Name MR. BILL KERSTAN  
Contact Title ENVIRONMENTAL COORDINATOR Phone 805-326-4311  
Equipment Type BOILER Rating 242000000 . 00  
Mnf KEWANEE Application Received Date 7 / 10 / 86  
Filing Fee Receipt Number 0000000 Amount 0 . 00 Date / /  
Mailing, Statement for Fees Due 7 / 01 / 88  
Fee Receipt Number 0000881 Amount 712 . 00 Date 8 / 24 / 87  
A to C Issued, Denied, Cancelled or Expired (I/D/C/E) Date / /  
Startup inspection inspector Date / /  
Initial Source Test Required (Y/N) / /  
Annual Source Test Required (Y/N) / /  
Source Test Inspector Date / /  
/ /  
/ /  
P/O Issued or Denied (I/D/C/T) C New/Purchased From 8 / 08 / 88  
P/O Sold/Offset for Project/Banked/Graveyarded Proj# 000000 1 / 14 / 88  
Comments: P/O SURRENDERED FOR BANKING CERTIFICATE Create Billing N  
CMD1=Fwd CMD2=Back CMD3=Prev CMD6=Update CMD7=End CMD9=Emisn CMD10=Prjct  
Current Program: AP107 Format Member: AP107FM Format: Screen3 Page 1  
03-38 SA MW KS IM II S1 KB

Kern APCD Enter and Maintain Status Sheets 8/19/91  
\*\*\*\*\* 8:37:51  
A to C # 2 007 148 F Equip Code 29003 Location Qtr SW Sec 28 T 29 S R 27 E  
Project # 860916 Processing Engr TEG Supervising Engr TP  
Company Name TEXACO REFINING & MARKETING Western/Central  
Contact Name SEE APPLICATION  
Contact Title ENVIRONMENTAL COORDINATOR Phone 805-326-4311  
Equipment Type BOILER Rating 242000000 . 00  
Mnf Application Received Date 9 / 15 / 86  
Filing Fee Receipt Number 0000000 Amount 0 . 00 Date / /  
Mailing, Statement for Fees Due 7 / 17 / 87  
Fee Receipt Number Amount 0 . 00 Date / /  
A to C Issued, Denied, Cancelled or Expired (I/D/C/E) I Date 7 / 18 / 87  
Startup inspection inspector Date / /  
Initial Source Test Required (Y/N) / /  
Annual Source Test Required (Y/N) / /  
Source Test Inspector Date / /  
/ /  
/ /  
P/O Issued or Denied (I/D/C/T) New/Purchased From / /  
P/O Sold/Offset for Project/Banked/Graveyarded Proj# 000000 / /  
Comments: Create Billing N  
CMD1=Fwd CMD2=Back CMD3=Prev CMD6=Update CMD7=End CMD9=Emisn CMD10=Prjct  
Current Program: AP107 Format Member: AP107FM Format: Screen3 Page 1  
03-38 SA MW KS IM II S1 KB



Kern APCD Emission Reduction Credits 8/19/91  
\*\*\*\*\* 8:35:31  
Certificate # 2 007 148 / 5 01 Project # 851028 Issue Date 7 / 23 / 87  
Company Name TEXACO REFINING & MARKETING Expiration Date 7/31/89  
NSR Specific Limiting Condition ERC:  
Pollutant: HC Amount: 00000 . 00 lbm/day  
Actual Historical ERC:  
Pollutant: HC Amount: 12067 . 20 lbm/day  
Location: Qtr Sec 28 T 29 S R 27 E Lease Name  
How ERC was Achieved: INCINERATION OF THE FLUID COKER EXHAUST IN THE CO  
BOILER

Conditional Permits to Operate (Y/N): Y  
Owners must obtain A/C and P/O (Y/N):  
For the Stationary Source Category:  
Certificate Issued/Denied/Cancelled/Expired: I  
Certificate Sold/Modified/Increased/Reduced/Consumed: Date / /  
Used by Project: Sold to Company:  
Initial/Renewal Fee Paid 50.00 Date Paid 7/24/89 Create Billing N

CMD 1 - Brws Frwd CMD 2 - Brws Bkwd CMD 3 - Previous Screen CMD 6 - Update  
CMD 7 - End Program CMD 9 - View Associated Permits  
Current Program: AP114 Format Member: AP114FM Format: Screen2 Page 1  
03-46 SA MW KS IM II S1 KB

Kern APCD Emission Reduction Credits 8/19/91  
\*\*\*\*\* 8:36:01  
Certificate # 2 007 148 / 6 01 Project # 851028 Issue Date 7 / 23 / 87  
Company Name TEXACO REFINING & MARKETING Expiration Date 7/31/89  
NSR Specific Limiting Condition ERC:  
Pollutant: CO Amount: 00000 . 00 lbm/day  
Actual Historical ERC:  
Pollutant: CO Amount: 62793 . 60 lbm/day  
Location: Qtr Sec 28 T 29 S R 27 E Lease Name  
How ERC was Achieved: INCINERATION OF THE FLUID COKER EXHAUST IN THE CO  
BOILER

Conditional Permits to Operate (Y/N): Y  
Owners must obtain A/C and P/O (Y/N):  
For the Stationary Source Category:  
Certificate Issued/Denied/Cancelled/Expired: I  
Certificate Sold/Modified/Increased/Reduced/Consumed: Date / /  
Used by Project: Sold to Company:  
Initial/Renewal Fee Paid 50.00 Date Paid 7/24/89 Create Billing N

CMD 1 - Brws Frwd CMD 2 - Brws Bkwd CMD 3 - Previous Screen CMD 6 - Update  
CMD 7 - End Program CMD 9 - View Associated Permits  
Current Program: AP114 Format Member: AP114FM Format: Screen2 Page 1  
03-46 SA MW KS IM II S1 KB

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150

Bakersfield, California 93301

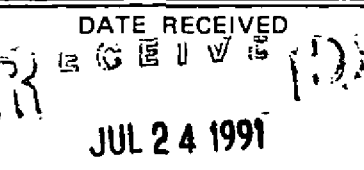
Telephone: (805) 861-3682

2007148/501  
# 910724  
(2007999)

APPLICATION FOR:

- Authority to Construct (ATC)
- ATC - Modification
- ATC - Renewal
- Permit to Operate (PTO)
- PTO - Modification
- PTO - Transfer of Ownership
- Banking Certificate
- Transfer of Location

AN APPLICATION IS REQUIRED FOR EACH SOURCE OPERATION AS DEFINED IN RULE 102, SECTION cc.

1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment: Texaco Refining & Marketing		
2. MAILING ADDRESS: P.O. Box 1476		Zip Code: 93302
3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED: 6451 Rosedale Hwy.		
4. GENERAL NATURE OF BUSINESS: Petroleum Refinery		
5. EQUIPMENT FOR WHICH APPLICATION IS MADE: Permit No. 2007148/501 Hydrocarbons from fluid coker CO boiler		
Provide additional information as required by District "Instructions".		
6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT: N/A		
7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT: N/A		
8. SIGNATURE OF APPLICANT: <i>D.R. Hall Jan 7-22-91</i>	TITLE OF SIGNER: <i>Refinery Mgr</i>	
9. TYPE OR PRINT NAME OF SIGNER: <i>D.R. Hall</i>	DATE: <i>7-22-91</i>	PHONE NO.:
DATE RECEIVED  JUL 24 1991 KERN COUNTY AIR POLLUTION CONTROL DISTRICT	Validation (For APCD Use Only)	
	FILING FEE: \$ <u>60<sup>00</sup>/120.<sup>00</sup></u> RECEIPT NO.: <u>011431</u> DATE: <u>7/24/91</u>	

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150

Bakersfield, California 93301

Telephone: (805) 861-3682

2007148/601  
910724  
(2007149)

APPLICATION FOR:

- Authority to Construct (ATC)
- ATC - Modification
- ATC - Renewal
- Permit to Operate (PTO)
- PTO - Modification
- PTO - Transfer of Ownership
- Banking Certificate
- Transfer of Location

AN APPLICATION IS REQUIRED FOR EACH SOURCE OPERATION AS DEFINED IN RULE 102, SECTION cc.

1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment:  Texaco Refining & Marketing	
2. MAILING ADDRESS:  P.O. Box 1476 <span style="float: right;">Zip Code: 93302</span>	
3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED:  6451 Rosedale Hwy.	
4. GENERAL NATURE OF BUSINESS:  Petroleum Refinery	
5. EQUIPMENT FOR WHICH APPLICATION IS MADE:  Permit No. 2007148/601 CO from fluid coker CO boiler	
Provide additional information as required by District "Instructions".	
6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:  N/A	
7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT:  N/A	
8. SIGNATURE OF APPLICANT: <i>D. R. Hall Jr 7-22-91</i>	TITLE OF SIGNER: <i>Refinery Mgr.</i>
9. TYPE OR PRINT NAME OF SIGNER: <i>D. R. Hall</i>	DATE: <i>7-22-91</i>
	PHONE NO.:

<p>DATE RECEIVED</p> <p><b>RECEIVED</b></p> <p><b>JUL 24 1991</b></p> <p>KERN COUNTY AIR POLLUTION CONTROL DISTRICT</p>	<p>Validation (For APCD Use Only)</p> <hr/> <p>FILING FEE: \$ <u>60<sup>00</sup>/20<sup>00</sup></u> RECEIPT NO.: <u>011431</u></p> <p>DATE: <u>7/24/91</u></p>
---	---



**RECEIVED**  
JUL 26 1989

Jesse M Gray Jr  
Plant Manager  
Bakersfield Plant

Texaco Refining and  
Marketing Inc

P O Box 1476  
Bakersfield CA 93302  
805 326 4221

KERN COUNTY AIR  
POLLUTION CONTROL DIST

July 24, 1989

Mr. Doug McCormick  
Kern County Air Pollution  
Control District  
2700 "M" Street, Suite 275  
Bakersfield, CA 93301

Dear Mr. McCormick:

Additional information attached per your request regarding renewal of  
Emission Reduction Credit Certificates 2007148/601 and 2007148/501.

Sincerely,

*J. M. Gray Jr*  
J. M. Gray, Jr.

BK/cct  
Attachments  
66/89



Jesse M Gray Jr  
Plant Manager  
Bakersfield Plant

Texaco Refining and  
Marketing Inc

P O Box 1476  
Bakersfield CA 93302  
805 326 4221

July 7, 1989

Mr. Tom Paxson  
Kern County Air Pollution  
Control District  
2700 M Street, Suite 275  
Bakersfield, CA 93301

Dear Mr. Paxson:

Attached is a check in the amount of \$100.00 for renewal of the two  
Emission Reduction Credit Banking Certificates #2007148/501 and  
#2007148/601 as required by District Rule 302.

Sincerely,

*J. M. Gray Jr*

Jesse M. Gray, Jr.  
Plant Manager

DJS/jas  
Attachment  
90/89

File: ENV-AIR KCAPCD PERMITS

**RECEIVED**  
JUL 24 1989

KERN COUNTY AIR  
POLLUTION CONTROL DIST

*net  
5241  
\$100<sup>00</sup>*

**KERN COUNTY AIR POLLUTION CONTROL DISTRICT**

1601 "H" Street, Suite 150

Bakersfield, California 93301

Telephone: (805) 861-3682

**APPLICATION FOR:**

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Authority to Construct (ATC) | <input type="checkbox"/> Permit to Operate (PTO)     | <input checked="" type="checkbox"/> Banking Certificate |
| <input type="checkbox"/> ATC - Modification           | <input type="checkbox"/> PTO - Modification          | <input type="checkbox"/> Transfer of Location           |
| <input type="checkbox"/> ATC - Renewal                | <input type="checkbox"/> PTO - Transfer of Ownership |   |

**AN APPLICATION IS REQUIRED FOR EACH SOURCE OPERATION AS DEFINED IN RULE 102, SECTION cc.**

1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment: <p align="center">Texaco Refining and Marketing</p>		
2. MAILING ADDRESS: <p align="center">P. O. Box 1476</p> <p align="right">Zip Code: 93302</p>		
3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED: <p align="center">6451 Rosedale Hwy.</p>		
4. GENERAL NATURE OF BUSINESS: <p align="center">Petroleum Refinery</p>		
5. EQUIPMENT FOR WHICH APPLICATION IS MADE: <p align="center">Permit No. 2007148/601 CO from fluid coker CO boiler.</p>		
Provide additional information as required by District "Instructions".		
6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT: <p align="center">N/A</p>		
7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT: <p align="center">N/A</p>		
8. SIGNATURE OF APPLICANT: <p align="center"><i>J. M. Gray, Jr.</i></p>	TITLE OF SIGNER:	
9. TYPE OR PRINT NAME OF SIGNER: <p align="center">Jesse M. Gray, Jr.</p>	DATE: <p align="center">7/24/89</p>	PHONE NO.: <p align="center">326-4311</p>
DATE RECEIVED <b>R E C E I V E D</b> <p align="center">JUL 24 1989</p> <p align="center">KERN COUNTY AIR POLLUTION CONTROL DISTRICT</p>	Validation (For APCD Use Only)  FILING FEE: \$ <u>50<sup>00</sup></u> RECEIPT NO.: <u>005241</u> DATE: _____	

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150

Bakersfield, California 93301

Telephone: (805) 861-3682

APPLICATION FOR:

- Authority to Construct (ATC)
- ATC - Modification
- ATC - Renewal
- Permit to Operate (PTO)
- PTO - Modification
- PTO - Transfer of Ownership
- Banking Certificate
- Transfer of Location

AN APPLICATION IS REQUIRED FOR EACH SOURCE OPERATION AS DEFINED IN RULE 102, SECTION cc.

1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment:  <p style="text-align: center;">Texaco Refining and Marketing</p>		
2. MAILING ADDRESS:  <p style="text-align: center;">P. O. Box 1476 <span style="float: right;">Zip Code: 93302</span></p>		
3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED:  <p style="text-align: center;">6451 Rosedale Hwy.</p>		
4. GENERAL NATURE OF BUSINESS:  <p style="text-align: center;">Petroleum Refinery</p>		
5. EQUIPMENT FOR WHICH APPLICATION IS MADE:  <p style="text-align: center;">Permit No. 2007148/501 Hydrocarbons from fluid coker CO boiler.</p> <p style="text-align: center; margin-top: 20px;">Provide additional information as required by District "Instructions".</p>		
6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:  <p style="text-align: center;">N/A</p>		
7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT:  <p style="text-align: center;">N/A</p>		
8. SIGNATURE OF APPLICANT:  <p style="text-align: center;"><i>J. M. Gray, Jr.</i></p>	TITLE OF SIGNER:  	
9. TYPE OR PRINT NAME OF SIGNER:  <p style="text-align: center;">Jesse M. Gray, Jr.</p>	DATE:  <p style="text-align: center;">7/24/89</p>	PHONE NO.:  <p style="text-align: center;">326-4311</p>
<p style="text-align: center;">DATE RECEIVED</p> <p style="font-size: 2em; text-align: center;">R E C E I V E D</p> <p style="text-align: center; font-size: 1.2em;">JUL 24 1989</p> <p style="text-align: center;">KERN COUNTY AIR POLLUTION CONTROL DISTRICT</p>	<p style="text-align: center;">Validation (For APCD Use Only)</p> <hr/> FILING FEE: \$ <u>50.00</u> RECEIPT NO.: <u>00524</u>  DATE: _____	

**PROOF OF PUBLICATION**

STATE OF CALIFORNIA, }  
County of Kern, } ss.

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the assistant principal clerk of the printer of The Bakersfield Californian, a newspaper of general circulation, printed and published daily in the City of Bakersfield, County of Kern, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Kern, State of California, under date of February 5, 1952, Case Number 57610; that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

8/14

all in the year 19 87

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

*Candi Wallis*

Signature

Dated at Bakersfield, CA... 8/14.. 19 87

CANDI WALLIS

TP

Proof of Publication of

NOTICE OF FINAL ACTION

**NOTICE OF FINAL ACTION  
ON STATIONARY SOURCE  
EMISSION REDUCTION CRED-  
IT**

Pursuant to Rule 210.1 of the Kern County Air Pollution Control District Rules and Regulations, the Air Quality Control Division of the Health Department Issuance of Non-Methane Hydrocarbons and Carbon Monoxide Emission Reduction Credit Banking Certificates to Texaco Refining and Marketing, Inc.

The applications for Banking Certificates, including the Air Pollution Control Officer's supporting analysis and his preliminary decision to approve the ERC's is available for inspection at the Division's office located at 1501 H Street, Suite 210, Bakersfield, CA 93301, (805) 831-3622.

Comments should address the effect of the proposed Banking Certificates on the ambient air quality, specifically, the attainment and/or maintenance of the California and National Ambient Air Quality Standards. Comments submitted for consideration must be postmarked no more than 30 days after publication of this notice.

August 14, 1987 (11033)

**PROOF OF PUBLICATION**



*Look to paper*  
*8-11-87*  
*Copies mailed*  
*to EPA & CARB*

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

August 11, 1987

NOTICE OF FINAL ACTION ON  
STATIONARY SOURCE EMISSION REDUCTION CREDIT

Pursuant to Rule 210.3 of the Kern County Air Pollution Control District Rules and Regulations, the Air Quality Control Division of the Health Department issuance of Non-Methane Hydrocarbons and Carbon Monoxide Emission Reduction Credit Banking Certificates to Texaco Refining and Marketing, Inc.

The applications for Banking Certificates, including the Air Pollution Control Officer's supporting analysis and his preliminary decision to approve the ERC's is available for inspection at the Division's office located at 1601 H Street, Suite 210, Bakersfield, CA 93301, (805) 861-3682.

Comments should address the effect of the proposed Banking Certificates on the ambient air quality, specifically, the attainment and/or maintenance of the California and National Ambient Air Quality Standards. Comments submitted for consideration must be postmarked no more than 30 days after publication of this notice.

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
 Bakersfield, California 93301-5199  
 Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
 Director of Public Health  
 Air Pollution Control Officer

BANKING CERTIFICATE

FEE STATEMENT

PLEASE RETURN ORIGINAL  
 OR COPY WITH REMITTANCE

Texaco Refining & Marketing Inc.  
 P. O. Box 1476  
 Bakersfield, CA 93302

REQUEST FOR BANKING CERTIFICATE FEE - Payment Required Before Banking Certificate  
 Can Be Issued

<u>Application No.</u>	<u>Fee Schedule</u>	<u>Total Fee</u>	<u>Fee Paid</u>	<u>Fee Due</u>
2007148/501	9	\$200	\$60	\$140
2007148/601	9	200	60	140
TOTAL FEES DUE				\$280

**PAID**  
 JUL 14 1987  
 REIPT NO. 0000606  
 COUNTY ABOC DF

<u>Application No.</u>	<u>Description</u>
2007148/501	N.H.M.C. E.R.C. BANKING CERTIFICATE
2007148/601	CO.E.R.C, BANKING CERTIFICATE

DATE FEE DUE: No later than 30 days from billing date. NONPAYMENT OF THE FEE BY  
 THIS DATE MAY RESULT IN THE DENIAL OF YOUR APPLICATION.

Pursuant to Rule 301.1 of the District's Rules and Regulations, every applicant for  
 a Banking Certificate shall pay prior to issuance, the fee prescribed in Rule 302.

LEON M HEBERTSON

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

LEON M HEBERTSON, M.D.  
Director of Public Health Services  
Air Pollution Control Officer



August 7, 1987

Mr. R. E. Menebroker, Chief  
CARB - Project Review Branch  
P.O. Box 2815  
Sacramento, CA 95812

Subject: Texaco Refining and Marketing, Inc. - Banking Certificate

Dear Mr. Menebroker:

Thank you for your comments of July 17, 1987, concerning the preliminary decision to approve emission reduction credit (ERC) banking certificates for carbon monoxide and hydrocarbon emissions reductions to Texaco Refining and Marketing, Inc. Your comments have been considered in the final decision to grant the ERC banking certificates.

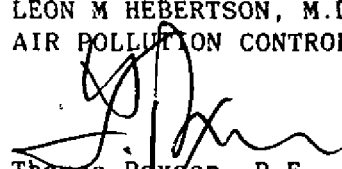
RESPONSE TO COMMENTS

1. Timing of Application Submittal: The Control Officer has concluded the application, filed April 24, 1984, complies with filing requirements of Rule 210.3. The application, although returned, was not rejected but could be re-filed under the initial filing date when the data necessary to support the requested emission reductions could be provided.
2. Permanence and Enforceability of Emissions Reductions: A compliance testing requirement mandating periodic source testing of the hydrocarbon and carbon monoxide emissions from the fluid coker CO boiler was added to the Permit to Operate conditions.

Please contact me if you have any questions on this subject.

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER

  
Thomas Paxson, P.E.  
Manager of Engineering

TP/jb  
TEB

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682

LEON M HEBERTSON, M.D.  
Director of Public Health Services  
Air Pollution Control Officer



August 7, 1987

Mr. David P. Howekamp, Director  
EPA - Air Management Division  
215 Fremont Street  
San Francisco, CA 94105

Subject: Texaco Refining and Marketing, Inc. - Banking Certificate

Dear Mr. Howekamp:

Thank you for your comments of July 17, 1987 concerning the preliminary decision to approve emission reduction credit (ERC) banking certificates for carbon monoxide and hydrocarbon emissions reductions to Texaco Refining and Marketing, Inc. Your comments have been considered in the final decision to grant the ERC banking certificates.

RESPONSE TO COMMENTS

1. Surplus: Rule 210.3, Section D.L.(b)(2) requires that the emission reduction, in order to qualify for ERC banking certificate, be determined to be "surplus, i.e., has not previously been required by law or utilized as a tradeoff or offset". The Control Officer finds these reductions to be surplus in accordance with Rule 210.3 and eligible for an ERC banking certificate.
2. Permanence: Modified Permit to Operate the Fluid Coker and the CO Boiler have been issued which include the following conditions:
  - all fluid coker exhaust gas shall be incinerated in CO boiler.
  - fluid coker plus CO boiler non-methane hydrocarbon emissions shall not exceed 112.00 lbm/hr.
  - fluid coker plus CO boiler carbon monoxide emissions shall not exceed 500.00 lbm/hr.
3. RACT: Rule 210.3, Section C.3. requires consideration of emission reductions after application of RACT only when the ERC is effected by shutdown of a source operation. The ERC's considered in this action were effected by installation of the CO boiler in the fluid coker exhaust, not by shutdown of the fluid coker. Thus RACT need not be considered in calculating the ERC's.

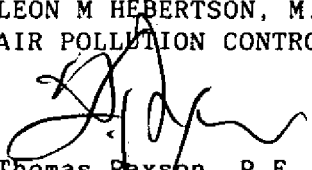
Mr. David P. Howekamp  
August 7, 1987  
Page 2

4. Date Reductions Occurred: Rule 210.3, Section C.1. provides for the issuance of banking certificates for otherwise qualifying emission reductions provided the emission reductions are represented by Authority to Construct and were achieved on or after December 28, 1976. The prohibition from granting external or off-site ERC banking certificates applies conditionally only to ERC's resulting from shutdowns made prior to August 7, 1977. The ERC's considered in this action were effected by installation of the CO boiler in the fluid coker exhaust, not by shutdown of the fluid coker.
5. Timing: Rule 210.3, Section C.4.(b) allows filing of applications for banking certificates for emissions reductions occurring before the date of adoption (4/25/83) to be filed within one year of adoption. The application submitted on April 24, 1984 was not rejected-it was returned and the applicant was informed that application for ERC banking certificate would be considered for acceptance at a later date. Thus, the application was considered timely.
6. Status of Banked ERC's: Sources attempting to use these banked reductions will be apprised that use may be subject to federal enforcement action.

Please contact me if you have any questions on this subject.

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER



Thomas Paxson, P.E.  
Manager of Engineering

TP:TEG:jb

*Eng*

**AIR RESOURCES BOARD**

1102 Q STREET  
P.O. BOX 2815  
SACRAMENTO, CA 95812



July 17, 1987

Mr. Citron Toy  
Chief Air Sanitation Officer  
Kern County APCD  
1601 H Street, Suite 150  
Bakersfield, CA 93301-5199

**RECEIVED**  
JUL 20 1987  
KERN COUNTY AIR  
POLLUTION CONTROL

Dear *Citron* Mr. Toy:

We have received your June 16, 1987 request for comments on your proposed banking action for emission reductions achieved by Texaco Refining and Marketing, Inc. After reviewing your analysis of the banking proposal, we have several comments. Our comments, as given below, have been discussed with Tom Goff of your staff.

**BANKING PROPOSAL DESCRIPTION**

Texaco Refining and Marketing, Inc. wishes to bank emission reductions achieved through the installation of a CO boiler on a fluid coker at its Bakersfield refinery. The authority to construct for the CO boiler was issued on January 12, 1976. Operation of the boiler started in May of 1977. According to the provisions of Kern County APCD Rule 210.3, such emission reductions are bankable provided they were achieved after December 28, 1976 and a banking application was submitted before one year had expired since the adoption date of the banking rule, i.e., by April 25, 1984. The proposed banking certificates are for 12,067.2 lbm/day of hydrocarbons and 62,793.6 lbm/day of carbon monoxide.

**COMMENTS**

1. Timing of Application Submittal: The District's analysis of the banking proposal indicates the initial application to bank these emission reductions was submitted by the previous refinery owner, Tosco Corporation, on April 24, 1984. The application consisted of a single-page application form and a one-page letter with a request to bank all previously affected emission reductions. This application was rejected by the District on the same day because no documentation of emission reductions was submitted with the application. A follow-up application by Tosco Corporation was not submitted until October 25, 1985. The first application was not substantially complete based on the "List and Criteria Identifying Information Required of Applicants Seeking an Authority to Construct from the Kern County Air Pollution Control District" contained in the District's rules and regulations. The second application, upon which this proposed action is based, was not submitted within the allowable time limits stated in Section C.4(b) of Kern County APCD Rule 210.3, and, therefore, should be considered invalid.

Citron Toy


-2-

July 17, 1987

2. Permanence and Enforcability of Emission Reductions: If the District chooses to grant the banking certificates, we believe that the permanence and enforcability of emission reductions can more optimally be accomplished by adding a periodic source testing requirement to conditions on the permit for the CO boiler.

Thank you for this opportunity to comment. If you have any questions regarding our comments please contact Genevieve Shiroma, Manager of the Industrial Projects Section at (916) 322-8267.

Sincerely,

  
Raymond E. Menebroker, Chief  
Project Review Branch  
Stationary Source Division

cc: Wayne Blackard, EPA

Engel



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

215 Fremont Street  
San Francisco, Ca. 94105

17 JUL 1987

17 JUL 1987

Dr. Leon Hebertson  
Air Pollution Control Officer  
Kern County APCD  
1601 H Street, Suite 150  
Bakersfield, CA 93301

FILE: NSE 4

RECEIVED  
JUL 20 1987

Dear Dr. Hebertson:

KERN COUNTY AIR  
POLLUTION CONTROL

This is in response to the request for public comment regarding the proposed issuance of an ERC Banking Certificate to Texaco Refining & Marketing, Inc., dated June 9, 1987, resulting from the installation of a CO boiler on a fluid coker. The ERC Banking Certificate is for 2202 T/Y of non-methane hydrocarbons and for 11,460 T/Y of CO. EPA has reviewed the proposal and the District's analysis. Following is a list of our concerns and our objections to the approval of this ERC Banking Certificate.

(1) SURPLUS

The reductions from the installation of the CO boiler are quite old. The burden is on the District to verify in its analysis that these reductions have not been assumed elsewhere (in the emissions inventory, the latest AQMP, the attainment demonstration) and therefore are indeed surplus. In all likelihood, these reductions are not surplus since they occurred so long ago and probably are already reflected in the District's records and plans. The District must verify that these reductions are not credited elsewhere.

(2) PERMANENCE

There is a requirement in the Enforceability section of the banking application analysis which states: "When the fluid coker CO boiler goes down for annual inspection, the fluid coker must be curtailed or shutdown to result in compliance with the 112 lbm/hr. HC and 500 lbm/hr. CO emission limits proposed to validate the claimed ERC." This requirement does not appear in the permit itself, or in the conclusion section of the banking approval notice. This requirement would have to appear in the permit to ensure enforceability and permanence of the reductions.



(3) RACT

There is no RACT analysis for determining which reductions are eligible for emission reduction credits beyond RACT.

(4) DATE REDUCTIONS OCCURRED

The reductions occurred prior to August 7, 1977 and are therefore too old to be granted credit. EPA has previously advised the District that banking credit may not be awarded for any reductions which occurred prior to the Clean Air Act Amendments of August 7, 1977. The fact that Kern County's banking rule allows credit prior to that date was cited as a deficiency in the Kern banking rule. EPA will not recognize these reductions as valid offsets for any source wishing to purchase these ERCs for offsetting purposes.

In addition, these reductions occurred prior to the December 28, 1976, baseline adjustment date that is required in the District's NSR rule since the ATC was issued prior to that date.

(5) TIMING

The complete application for banking credit was submitted well beyond the required time limits. It is not reasonable to accept the company's rationale for the delay.

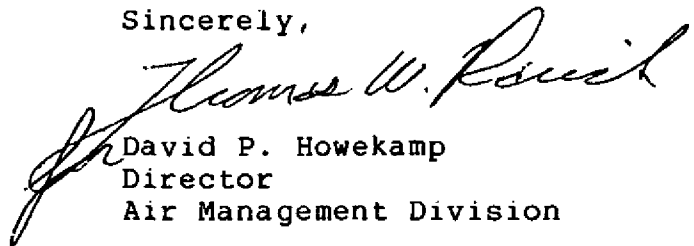
(6) STATUS OF BANKED ERCs

If the District issues the banking certificate to Texaco, any source which attempts to use these emission reductions as an offset may be subject to federal enforcement action.

For the reasons stated above, EPA does not support the issuance of ERCs to Texaco for the emission reductions associated with the installation of the CO boiler in 1976. A banking certificate for these emission reductions should not be issued.

If you have any further questions you can contact me or have your staff contact Wayne Blackard at (415) 974-8249.

Sincerely,

A handwritten signature in cursive script, appearing to read "David P. Howekamp". The signature is written in dark ink and is positioned to the left of the typed name and title.

David P. Howekamp  
Director  
Air Management Division

cc: ARB, Att: Ray Menebroker, ARB  
Texaco Refining & Marketing, Inc.

TELEPHONE CONVERSATION

DATE 14 July 87 TIME: 1:15

WITH: Bob Giorgis TITLE: \_\_\_\_\_

COMPANY CARB

APCD REPRESENTATIVE: T. Goff TITLE ASE III

SUBJECT OF CONVERSATION: ARB Comments on Texaco/Tosco ERC Banking Certificates Notice of Preliminary Decision

SUMMARY OF CONVERSATION:

Giorgis: We will have three comments which will be mailed before the close of the public comment period.

1. Timing of application submittal. Initial submittal did not constitute an application in form prescribed by APCO. Submittal which was evaluated was submitted after expiration of statutory time period.
2. HC baseline should be after RACT is applied. RACT is incineration based on Texas Air Control Board SIP requiring incineration on all hydrocarbon containing waste streams from fluid cokers.
3. CO baseline should be after RACT is applied. RACT for CO from fluid cokers is identified in 40 CFR Part 51 Appendix B Section 5.0.

Goff: Rule 210.3 Section C. 3. requires application of RACT to ERC's only when obtained from shutdowns. These ERC's were not accomplished by shutdown and RACT need not be applied when quantifying the ERC amount.

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

*AUTHORITY TO CONSTRUCT*

1601 "H" Street, Suite 150  
 Bakersfield, California 93301-5199  
 Telephone: (805) 861-3682



LEON M. HEBERTSON, M.D.  
 Director of Public Health  
 Air Pollution Control Officer

ISSUE DATE: July 18, 1987	APPLICATION NO. 2007134D
EXPIRATION DATE: July 18, 1989	DATE: September 15, 1986

AUTHORITY TO CONSTRUCT IS HEREBY GRANTED TO:

TEXACO REFINING AND MARKETING

Ownership of an AUTHORITY TO CONSTRUCT may be transferred upon submission of an application and filing fee. Any emissions increase assigned to this equipment during the New Source Review Process remains with the initial bearer of this document.

AUTHORITY TO CONSTRUCT IS HEREBY GRANTED FOR: <u>Modification of Fluid Coker Permit to Operate:</u> <u>Add Limitations to Validate Emission Reduction Credits</u> <u>Banking Certificates 2007148/501 and 2007148/601</u>	
(See attached sheets for equipment description and conditions)	

S	T	R	Location:	Start-up Inspection Date
28	29S	27E	6500 Refinery Ave.	

Upon completion of construction and/or installation, please telephone the Manager of Engineering Evaluation. This document serves as a TEMPORARY Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For the issuance of a Permit to Operate, Rule 208 requires that the equipment authorized by this AUTHORITY TO CONSTRUCT be installed and operated in accordance with the conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize the emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth in this document must be satisfied before a Permit to Operate can be granted.

Your AUTHORITY TO CONSTRUCT can be renewed upon submission of an application and filing fee. Application must be made in advance of expiration.

Validation Signature:

\_\_\_\_\_  
 Manager of Engineering Evaluation

2007134D  
Continued

EQUIPMENT DESCRIPTION: Modification of Fluid Coker Permit to Operate: Add Limitations to Validate Emission Reduction Credits Banking Certificates 2007148/501 and 2007148/601.

OPERATIONAL CONDITIONS:

- a. All fluid coker exhaust gas shall be incinerated in CO boiler, 2007148. (Rule 210.3)
- b. Fluid coker plus CO boiler non-methane hydrocarbon emissions shall not exceed 112.00 lbm/hr. (Rule 210.3)
- c. Fluid coker plus CO boiler carbon monoxide emissions shall not exceed 500 lbm/hr. (Rule 210.3)

COMPLIANCE TESTING REQUIREMENTS:

Compliance with non-methane hydrocarbon and carbon monoxide emission limits shall be demonstrated upon startup of fluid coker, upon auxiliary fuel change in CO boiler, upon fluid coker feedstock change and upon fluid coker feed increase by District-witnessed sample collection by independent testing laboratory within 60 days of the above-described conditions and at least annually 60 days prior to permit anniversary and source test results and field test data submitted within 30 days thereafter. (Rule 210.3)

*Handwritten initials or mark*

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

*AUTHORITY TO CONSTRUCT*

1801 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

ISSUE DATE: July 18, 1987	APPLICATION NO. 2007148F
EXPIRATION DATE: July 18, 1989	DATE: September 15, 1986

AUTHORITY TO CONSTRUCT IS HEREBY GRANTED TO:

TEXACO REFINING AND MARKETING

Ownership of an AUTHORITY TO CONSTRUCT may be transferred upon submission of an application and filing fee. Any emissions increase assigned to this equipment during the New Source Review Process remains with the initial bearer of this document.

AUTHORITY TO CONSTRUCT IS HEREBY GRANTED FOR: <u>Modification of CO Boiler Permit to Operate:</u> <u>Add Limitations to Validate Emission Reduction Credits</u> <u>Banking Certificates 2007148/501 and 2007148/601</u>				
(See attached sheets for equipment description and conditions)				

S	T	R	Location:	Start-up Inspection Date
28	29S	27E	6500 Refinery Ave.	

Upon completion of construction and/or installation, please telephone the Manager of Engineering Evaluation. This document serves as a TEMPORARY Permit to Operate only as provided by Rule 201 of the District's Rules and Regulations. For the issuance of a Permit to Operate, Rule 208 requires that the equipment authorized by this AUTHORITY TO CONSTRUCT be installed and operated in accordance with the conditions of approval. Changes to these conditions must be made by application and must be approved before such changes are made. This document does not authorize the emission of air contaminants in excess of New Source Review limits (Rule 210.1) or Regulation IV emission limits. Emission testing requirements set forth in this document must be satisfied before a Permit to Operate can be granted.

Your AUTHORITY TO CONSTRUCT can be renewed upon submission of an application and filing fee. Application must be made in advance of expiration.

Validation Signature:

\_\_\_\_\_  
Manager of Engineering Evaluation

2007148F  
Continued

EQUIPMENT DESCRIPTION: Modification of CO Boiler Permit to Operate: Add Limitations to Validate Emission Reduction Credits Banking Certificates 2007148/501 and 2007148/601.

OPERATIONAL CONDITIONS:

- a. All fluid coker exhaust gas shall be incinerated in CO boiler, 2007148. (Rule 210.3)
- b. Fluid coker plus CO boiler non-methane hydrocarbon emissions shall not exceed 112.00 lbm/hr. (Rule 210.3)
- c. Fluid coker plus CO boiler carbon monoxide emissions shall not exceed 500 lbm/hr. (Rule 210.3)

COMPLIANCE TESTING REQUIREMENTS:

Compliance with non-methane hydrocarbon and carbon monoxide emission limits shall be demonstrated upon startup of fluid coker, upon auxiliary fuel change in CO boiler, upon fluid coker feedstock change and upon fluid coker feed increase by District-witnessed sample collection by independent testing laboratory within 60 days of the above-described conditions and at least annually 60 days prior to permit anniversary and source test results and field test data submitted within 30 days thereafter. (Rule 210.3)

A

*file copy*

**KERN COUNTY AIR POLLUTION CONTROL DISTRICT**

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

**AUTHORITY TO CONSTRUCT  
FEE STATEMENT**

TEXACO REFINING & MARKETING

P O BOX 1476  
BAKERSEFIELD

CA 93302-0000

\*\*\*\*\*  
\* PLEASE RETURN PINK COPY \*  
\* WITH REMITTANCE \*  
\*\*\*\*\*

Date:

AUGUST 11, 1987

REQUEST FOR PERMIT FEE - Payment required BEFORE Authority to Construct can be issued.

PERMIT NUMBER	FEE SCH.	RATING	TOTAL FEE	FEE PAID	FEE DUE
2007134 (D)	(29)	246000000.00 BTU/HR	60.00	60.00	.00
2007148 (F)	(29)	242000000.00 BTU/HR	60.00	60.00	.00
TOTAL FEES DUE					.00
CREDIT					.00
TOTAL AMOUNT DUE					.00

DATE FEES DUE: AUGUST 11, 1987

PERMIT #	SOURCE OPERATION DESCRIPTION	QTB/SEC/TMB/AGE
2007134 (D)	COKING OPERATION	SW/25/298/27a
2007148 (F)	BOILER	SW/28/298/27E

NONPAYMENT OF THE FEE BY THIS DATE WILL RESULT IN THE DENIAL OF YOUR APPLICATION(S) FOR AUTHORITY TO CONSTRUCT.  
Pursuant to Rule 301 (as revised on December 15, 1980) of the District's Rules and Regulations, every applicant for an Authority to Construct shall pay before the issuance of an Authority to Construct, the fee prescribed in Rule 302.





L E Perrier  
Plant Manager

Texaco USA

P O Box 1476  
Bakersfield CA 93302  
805 326 4200

HAND DELIVERED 7/6/87

July -6, 1987

Mr. Thomas Paxson  
Kern County Air Pollution  
Control District  
1601 H Street, Suite 150  
Bakersfield, CA 93301

Dear Mr. Paxson:

During recent discussions with Gordon Turl, you indicated that the ERC activity which Tosco Corporation initiated has entered the public review/comment period. You indicated that there have been some questions raised regarding the time frame for which the emission reductions became effective.

Enclosed please find the following documentation:

- Chronology of events for Coker CO Boiler
- Tosco letter to CARB dated February 28, 1980 regarding the use of December 28, 1976 in Rule 210.1

Please contact Gordon Turl if you have any further concerns.

Sincerely,

L. E. Perrier

GAT/jas  
Enclosures  
126/87

cc (w/o attachments): THJ

RECEIVED

JUL 5 1987

KERN COUNTY AIR  
POLLUTION CONTROL DIST

# MOHAWK PETROLEUM CORPORATION, INC.

A SUBSIDIARY OF RESERVE OIL AND GAS COMPANY

P. O. BOX 1475

BAKERSFIELD, CA 93302

805-889-8500



March 3, 1980

California Air Resources Board  
Attn: Board Secretary  
PO Box 2815  
Sacramento, CA 95812

RECEIVED

JUL 5 1987

KERN COUNTY AIR  
POLLUTION CONTROL DIST

Gentlemen:

RE: CARB-Hearing in Kern County on March 6, 1980

As the "Board" attempts to control the emissions of oxides of nitrogen from steam generators in oilfield operations and allow for the maximum recovery of heavy oil, serious consideration needs to be given to the effect of any regulation change on other industrial processes. Of primary concern is the amending of the emission accumulating date found in Section 4E. The proposed action could eliminate the ability of this company to 'bank' substantial emission reductions which may have accrued based upon Authorities to Construct issued between December 28, 1976 and September 12, 1979.

Prior to September 12, 1979, Authorities to Construct were issued by Kern County APCD and EPA for substantial modifications to our existing refinery. These modifications consist of the deletion of old and addition of new fuel burning equipment which uses controls to reduce the emissions of both oxides of nitrogen and sulfur; along with extensive monitoring and recording equipment to continuously determine the emissions. These modifications are currently beginning to become operational; it appears that the level of control will be greater than that originally assumed. By retaining the December 28, 1976 date for emission changes, emission decreases greater than originally anticipated could be 'banked' and some continuity would exist between the two versions of Rule 210.1. Also some clarification in the proposed Section 5B9 referring to December 28, 1976 should be included to provide consistency between Sections 4E, 5B5 and 5B9.

Sincerely,

A handwritten signature in black ink, appearing to read "Gordon A. Turl".

Gordon A. Turl  
Environmental Director

GAT/db  
24/80

**TOSCO CORPORATION**

10100 SANTA MONICA BOULEVARD  
LOS ANGELES, CALIFORNIA 90067  
213/552-7000

ROGER D. CHITTUM  
VICE PRESIDENT  
ENVIRONMENTAL AFFAIRS

DIRECT TELEPHONE NUMBER  
213/552-7438

February 28, 1980

California Air Resources Board  
P. O. Box 2815  
Sacramento, California 95812

RECEIVED  
JUL 5 1987

Attention: Secretary of the Board

Re: March 5 and 6, 1980 Public Hearing  
Regarding Kern County Air Pollution  
Control District Rules 210.1 and  
425 - Section 4(E)

KERN COUNTY AIR

POLLUTION CONTROL DISTRICT

Dear Board Member:

Tosco Corporation ("Tosco") recognizes that the key concern at the March 5 and 6 hearing is the orderly control of emissions from oil field steam generators but urges CARB not to lose sight of the impact the proposed regulations may have on other activities in Kern County.

Tosco, an independent refiner, operates a refinery in Bakersfield with a capacity of approximately 40,000 barrels per day. We believe our refining operation is an important part of the area's economy and of the energy production system which transforms California crude oil into petroleum products. For several years, Tosco has been involved in a modernization program to improve efficiency at our Bakersfield refinery and, at the same time, to enhance air and water quality.

Tosco understands that the Board will consider amendments to Section 4(E) of KCAPCD Rule 210.1, for the purpose of clarifying the starting dates to be used in computing whether there has been a sufficient cumulative net emissions increase from source modifications to trigger other substantive provisions in the New Source Review Rule. Tosco agrees that this point needs clarification. However, we are concerned that the change in the Section 4(E) "start date" (to September 12, 1979), as proposed in the Committee and Staff Reports to the CARB Board, could have a serious, unintended impact on Tosco and other companies which have reduced emissions in recent years.

The purpose of our comments and suggestions, therefore, is to confirm that Tosco and others who have achieved emission reductions subsequent to December 28, 1976 (when Rule 210.1 was initially adopted) can continue to count these reductions in determining the size of cumulative net emissions increases for the purposes of the newly adopted Rule.

A number of significant reductions in air emissions have been achieved at our Bakersfield refinery subsequent to December 28, 1976. Tosco has consistently understood that the District and CARB agree that we could count these reductions in determining the size of cumulative net increases under the KCAPCD's New Source Review Rules. We further understood that the amendments to Rule 210.1 adopted by CARB on September 12, 1979 (particularly Section 4(E)) did not change this result. Similarly, we understand that the proposed amendments to be considered at the March 5 and 6 hearing are not intended to deprive stationary sources of their credit for emission reductions which have been achieved since December 1976 and which have been relied on by industries, such as Tosco, in planning facility development in Kern County.

Tosco further recognizes that the changes in the Rule 4(E) "start date" (to September 1979), as proposed in the Committee and Staff Reports, was intended to deal with special problems encountered by steam generator operators and to provide them with additional flexibility regarding offsets and other requirements. In changing the Section 4(E) start date to accomplish these worthwhile objectives for steam generator operations, the Rule should not, inadvertently and unfairly, be modified in such a way that Tosco and others would lose their right to count their Kern County emission reductions achieved since December 1976.

Accordingly, and to clarify and to confirm this result, Tosco suggests that Section 4(E) of the KCAPCD Rule 210.1 be amended to read as follows:

"When computing the net increase in emissions for modifications, the Control Officer shall take into account the cumulative net emissions increases which are represented by Authorities to Construct associated with the existing stationary source and issued after September 12, 1979 and the cumulative net emission reductions achieved by the existing stationary source after December 28, 1976 excluding any emissions reductions required to comply with federal, state, or district laws, rules or regulations,

California Air Resources Board  
February 28, 1980  
Page 3.

(with the exception of Rule 425. Emissions reductions resulting from implementation of Rule 425 shall be taken into account in accordance with the requirements of Rule 425.)"

We believe that this proposed language is consistent with the basic intent of the New Source Review Rules and with the interpretations of the Rules on which we and others have relied during the last several years in our programs to reduce emissions in Kern County. Thank you for your consideration. If you have any questions on this proposal, I would be happy to discuss the matter further.

Respectfully submitted,



Roger D. Chittum  
Vice President  
Environmental Affairs

RDC/ts

Chronology of Events for Coker CO Boiler

- September 20, 1978 Chemecology Corporation testing of CO Boiler emissions with EPA and KCAPCD observers.
- September 19, 1978 Chemecology Corporation test lab arrives for preliminary boiler testing. Boiler operation for test purposes is CO gas with 100% oil as auxiliary fuel.
- September 18, 1978 Letter from Zurn stating that the addition of an air register screen in the burner would reduce NO<sub>x</sub> and hydrocarbon levels.
- September 13, 1978 KCAPCD granted an Authority to Construct to allow the experimental use of different burner tips in the Coker CO Boiler.
- September 13, 1978 KCAPCD granted an Authority to Construct to allow the experimental use of combustion additives in the Coker CO Boiler.
- September 11, 1978 Zurn Industries lab and test team arrived to test boiler and improve emissions. Testing continued daily through September 19, 1978, including weekends.
- September 1, 1978 Application to KCAPCD for Authority to Construct to allow the use of different burner tips in the Coker CO Boiler.
- September 1, 1978 Application to KCAPCD for Authority to Construct to allow the use of combustion additives in the Coker CO Boiler
- August 21, 1978 CO Boiler shut down from August 21, to September 7, 1978.
- August 11, 1978 Received "Notice of Violation" letter from EPA at the Refinery.
- August 10, 1978 Letter to EPA giving notification that the CO Boiler would be shut down around August 21, for 1 - 2 weeks to repair and revise the economizer.
- August 8, 1978 Economizer section materials delivered to Refinery 13 weeks from order date. Fabricator's delay excuses: broken die for the fins; had bending problems and remade several bends.
- July 28, 1978 Letter to EPA giving updated information on A Reformer modifications.
- May 8, 1978 Following receipt of quotations, purchase orders were issued for the economizer section. Quoted delivery was 5 - 7 weeks.

RECEIVED  
JUL 6 1987

KERN COUNTY AIR  
'LUTION CONTROL DIST'

April 14, 1978 Letter to EPA, with attached Zurn guarantees, that discussed failure of the economizer, economizer repairs and revisions, and Zurn agreeing to meet their emission guarantees after economizer repair. Several verbal exchanges with EPA had been made since the economizer had been bypassed.

April 10, 1978 Received the most recent Permit to Operate the Coker CO Boiler from KCAPCD.

April 1, 1978 Following additional process and mechanical design studies, letters were issued to suppliers for material and fabrication quotations.

March 8-15, 1978 Fluid Coker turnaround prompted by afterburning and high temperatures in the Burner.

February 7, 1978 Following Process Engineering studies, an internal report was issued that defined five work requests designed to improve feedwater temperature and eliminate wet sootblower steam.

December 20, 1977-  
January 8, 1978 Fluid Coker down because of December 20th windstorm.

November 29, 1977 Letter from Zurn associating the economizer failure to wet sootblower steam, rather than dew point corrosion.

Between November 29, 1977 and February 7, 1978, studies were being made by Process Engineering on: 1) air vs. steam sootblowers, and 2) means to increase feedwater temperature, thereby, reducing total emissions.

November 22, 1977 Letter to EPA stating our intention to expand A Reformer and A Reformer Desulfurizer.

November 3, 1977 Met with Zurn Representative to discuss economizer failure (Zurn still investigating) and excess emissions (Zurn stated economizer had to be back in operation before they conducted their "emission fine-tuning" of the boiler).

October 26, 1977 Letter from Zurn stating that the economizer leaks were probably the result of corrosion.

September 26, 1977 Zurn Representative was here to inspect boiler.

September 19, 1977 CO boiler shut down to investigate reason for spalled refractory and to determine physical condition of boiler. Discovered leaking (Sept. 23) economizer tubes. Boiler was started at end of month with economizer bypassed and new gas tips installed. Because of flame impingement, the old gas tips were reinstalled after approximately two hours of working with the new tips.

July 27, 1977 Letter from Zurn stating Zurn will provide optimized gas and oil burner tips for more efficient combustion.

June 16, 1977 Following numerous verbal exchanges, a letter was written to Zurn stating our concern of the excess emissions.

May 23-27, 1977 Source testing of the CO boiler revealed emissions in excess of those predicted and guaranteed by the Manufacturer, Zurn Industries.

May 17, 1977 Letter to EPA notifying them that CO was introduced into the boiler.

May 16, 1977 First introduction of CO into the boiler as fuel.

May 7, 1977 CO Boiler was restarted on fuel gas only.

April 18 - May 10, 1977 Fluid Coker Turnaround - Fluid Coker flue gas connected to CO Boiler.

April 1, 1977 Letter to EPA notifying them that the CO Boiler was started up on fuel gas. EPA had verbally notified us that notification was not necessary until the boiler started using CO gas.

March 18, 1977 Initial startup of CO Boiler on fuel gas only.

November 4, 1976 Received Approval to Construct the Coker CO Boiler from EPA.

August 26, 1976 Letter to EPA stating what projects are planned for the next few years.

June 29, 1976 Letter from EPA stating that EPA intends to grant conditional approval of the CO Boiler.

March 18, 1976 Application to EPA for Authority to Construct the Coker CO Boiler. Previous to this, EPA (Stanley Zwicker) had told us approval wasn't necessary since there was no emission increase.

January 13, 1976 KCAPCD granted Authority to Construct the Coker CO Boiler.

Emission factors

Additional Comment AFEs #8016 and 8017 define part of our approach to reducing stack emissions and economizer corrosion.



# M. C. PATTEN & CO., INC.

125 Baker Street · Suite 108 · Costa Mesa, California 92626 · (714) 540-8225

September 18, 1978

Lion Oil Company  
Mr. Walter Krostek  
P. O. Box 2860  
Bakersfield, California 93303

Gentlemen:

ZURN CO BOILER  
ZED GO 24676

After extensive testing of your CO boiler by our field service engineers, we feel that lower emissions may be achieved by the addition of a register screen in the burner. The resultant change in air distribution characteristics in the burner should create lower levels of NO<sub>x</sub> and hydrocarbons.

We would like your authorization to supply this item and would appreciate hearing from you as soon as possible. If you have any questions, please don't hesitate to call.

Very truly yours,

ZURN ENERGY DIVISION.



M. C. PATTEN & CO., INC.  
Thomas W. Patten  
District Sales Agents

/as

1700 Flower Street  
P. O. Box 997  
Bakersfield, California-93302  
Telephone (805) 861-3682

KERN COUNTY HEALTH DEPARTMENT  
AIR POLLUTION CONTROL DISTRICT

LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer



AUTHORITY TO CONSTRUCT

Application No.: 2003027B

Date: September 1, 1978

An AUTHORITY TO CONSTRUCT is granted as of September 13, 1978

TO:

Legal Owner  
or Operator:

TOSCO CORPORATION

FOR:

The equipment described below and as shown on the approved plans and specifications and subject to the conditions listed.

Equipment  
Description  
and  
Conditions:

Use of Combustion Additives in Fluid Coker CO boiler auxiliary fuel including the following:

SEE ATTACHED SHEET

Location:

6500 Refinery Avenue, Bakersfield

This AUTHORITY TO CONSTRUCT is NOT a PERMIT TO OPERATE.

Approval or denial of the application for permit to operate the above equipment will be made after an inspection to determine if the equipment has been constructed in accordance with the approved plans and specifications and if the equipment can be operated in compliance with all Rules and Regulations of the Kern County Air Pollution Control District.

Please notify Mr. Thomas Paxson at 861-3682 when construction of equipment is completed.

It is the applicant's responsibility to comply with all laws, ordinances and regulations of other governmental agencies which are applicable to the equipment to be constructed. For example, prior clearance must be obtained from the State Department of Industrial Safety concerning compliance with applicable regulations.

This AUTHORITY TO CONSTRUCT shall expire and the application shall be cancelled two years from the date of issuance of the authority to construct unless it is renewed. (Rule 205)

Leon M. Hebertson, M.D.,  
Air Pollution Control Officer

By: 

For Period: 9-13-78 to 9-13-80

1320 Flower Street  
P. O. Box 997  
Bakersfield, California 93302  
Telephone (805) 861-2231

KERN COUNTY HEALTH DEPARTMENT  
AIR POLLUTION CONTROL DISTRICT

LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer



2003027B

EQUIPMENT DESCRIPTION: Use of combustion additives in Fluid Coker CO boiler auxilliary fuel including the following:


- a. Betz Laboratories: FS 81, FS 534 and FS 538,
- b. Ethyl Corporation: CI 2,
- c. Tretolite: KI 50, KI 58, KI 66, and KI 160,
- d. Drew Chemical: Amergy 5000, 5000 plus, 5200, 5400, and 5400 plus.

CONDITIONS:

1. Treatment dosages shall not exceed manufacturer's recommendations.
2. KCAPCD approved and witnessed stack gas sampling shall be conducted for sulfur compounds (as sulfur dioxide and sulfates), particulate matter, and total non-methane hydrocarbons.

**CAUTION:** Project was approved on the basis of no net emissions increase.  
Failure to document such will result in denial of Permit to Operate.

By

  
Thomas Paxson, P.E.  
Air Sanitation Engineer III

KERN COUNTY HEALTH DEPARTMENT  
AIR POLLUTION CONTROL DISTRICT

1700 Flower Street  
P. O. Box 997  
Bakersfield, California-93302  
Telephone (805) 861-3682

LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer



Application No.: 2003027A

Date: September 1, 1978

AUTHORITY TO CONSTRUCT

An AUTHORITY TO CONSTRUCT is granted as of September 13, 1978

TO:

Legal Owner  
or Operator:

TOSCO CORPORATION

FOR:

The equipment described below and as shown on the approved plans  
and specifications and subject to the conditions listed.

Equipment  
Description  
and  
Conditions:

Modifications to Fluid Coker CO Boiler, including the following:

SEE ATTACHED SHEET

Location:

6500 Refinery Avenue, Bakersfield

This AUTHORITY TO CONSTRUCT is NOT a PERMIT TO OPERATE.

Approval or denial of the application for permit to operate the above equipment will be made after an inspection to determine if the equipment has been constructed in accordance with the approved plans and specifications and if the equipment can be operated in compliance with all Rules and Regulations of the Kern County Air Pollution Control District.

Please notify Mr. Thomas Paxson at 861-3682 when construction of equipment is completed.

It is the applicant's responsibility to comply with all laws, ordinances and regulations of other governmental agencies which are applicable to the equipment to be constructed. For example, prior clearance must be obtained from the State Department of Industrial Safety concerning compliance with applicable regulations.

This AUTHORITY TO CONSTRUCT shall expire and the application shall be cancelled two years from the date of issuance of the authority to construct unless it is renewed. (Rule 205)

Leon M. Hebertson, M.D.,  
Air Pollution Control Officer

By: 

For Period: 9-13-78 to 9-13-80

1700 Flower Street  
P. O. Box 997  
Bakersfield, California 93302  
Telephone (805) 861-2231

KERN COUNTY HEALTH DEPARTMENT  
AIR POLLUTION CONTROL DISTRICT

LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer




2003027A

EQUIPMENT DESCRIPTION: Modification of Fluid Coker CO Boiler, including the following:

- a. One to eight Zum Industries gas jets with regular and/or chisel heads with shield assembly. Each jet will be equipped with two to twenty-four orifices varying 3/32 in. dia. to 1/2 in. dia.
- b. One to four Zum Industries oil spray heads with eight to twelve orifices. Orifice diameters with range 0.2181 in. to 0.2900 in. spray angle will be 50° to 90°. Firing angle will be 180° to 360°.
- c. Change the bottom row of tubes in the economizer from boiler feedwater to steam superheat service.
- d. Insulate the deaerator with continuous blowdown to heat exchanger #81E11.
- e. Air or steam atomization of fuel oil.
- f. One Zum Industries pilot light.
- g. One Petro-Chem flame rod.

CONDITIONS:

1. Steam production shall not exceed 160,000 lbm/hr.
2. District shall be notified of specific nature of modifications upon startup.
3. CO boiler shall be demonstrated in compliance by KCAPCD approved and witnessed exhaust gas sampling for non-methane hydrocarbons, particulate matter, sulfur as sulfur dioxide, carbon monoxide, and oxides of nitrogen as nitrogen dioxide not more than thirty days after startup.

By   
Thomas Paxson, P.E.  
Air Sanitation Engineer III

Lion Oil Division  
Tosco Corporation

P. O. Box 2860  
Bakersfield, California 93303  
805/327-2121

September 1, 1978

Leon M. Hebertson, M. D.  
Air Pollution Control Officer  
Kern County Air Pollution Control District  
P. O. Box 997  
Bakersfield, CA. 93302

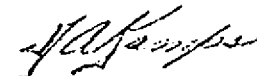
Gentlemen:

Attached is an application for an Authority to Construct to modify the Coker CO Boiler operation by adding various combustion additives to the CO boiler's auxiliary fuel.

These additives are magnesium and/or manganese compounds and are commercially available. The different additives may be tried if the changes contained in the other application for an Authority to Construct will not reduce the emissions to the level guaranteed by the manufacturer.

If you have any questions, please feel free to call Jack Caufield, Environmental Engineering Supervisor.

Sincerely,



J. A. Kamps  
Director of Engineering

CHM:jc

Enclosure

bcc: all w/enclosure

JLC DCW

PCD LDW

DEE

JAK

RDM

ACR

RWT

JAV

CCW

Los Angeles Office

P. Mikolaj

R. Shortz

R. Chittum

<input checked="" type="checkbox"/>	AUTHORITY TO CONSTRUCT
<input type="checkbox"/>	PERMIT TO OPERATE

An application is required for each operation described in part B of instructions.

1. PERMIT TO BE ISSUED TO: Business license name of Corporation, Company, Individual Owner, Partner, or Governmental Agency which is to operate the following equipment:  Tosco Corporation, Lion Oil Division	
2. MAILING ADDRESS:  P. O. Box 2860, Bakersfield, California  Zip Code: 93303	
3. ADDRESS AT WHICH THE EQUIPMENT IS TO BE OPERATED:  6500 Refinery Avenue	
4. GENERAL NATURE OF BUSINESS:  Petroleum Refinery	
5. EQUIPMENT DESCRIPTION: Pursuant to the provisions of the State Health and Safety Code and the Rules and Regulations of the Kern County Air Pollution Control District, application is hereby made for the following equipment:  Use combustion additives in the coker CO boiler, Permit Unit 2003027.	
(Continue on additional 8 1/2 x 11 page if space above is insufficient.)	
6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:  Not applicable	
7. TYPE AND ESTIMATED COST OF BASIC EQUIPMENT:  Not applicable	
SIGNATURE OF APPLICANT:  <i>J. A. Kamps</i>	OFFICIAL TITLE OF SIGNER  Director of Engineering
TYPE OR PRINT NAME OF SIGNER  NAME: J. A. Kamps      DATE: 9/1/78      PHONE NO. (805) 327-2121	

Validation (A.P.C.D. use only)

Application Received:	FEE SCHEDULE NUMBER:
	FILING FEE: \$      RECEIPT NO.
	DATE:      RECEIPT NO.
PERMIT FEE: \$	

1. Equipment Location Drawing

A plot plan showing the location of the coker CO boiler has already been submitted.

2. Description of Equipment

The combustion additives are manganese and/or magnesium compounds. The additives that may be used include those in Appendix A.

3. Description of Process

The use of combustion additives improves the combustion of hydrocarbons and other not fully oxidized chemicals that would otherwise be emitted into the atmosphere.

4. Operating Schedule

The additives may be added until stack tests can be completed to ascertain their effectiveness on the coker CO boiler emissions. If practical, additives will be continuously added to the coker CO boiler fuel while the boiler is operating.

5. Process Weight

Not applicable

6. Fuels and Burners Used

The combustion additives may be tried with gas and/or oil.

7. Flow Diagram

Not applicable

8. Drawing of Equipment

Not applicable

9. Emission Reduction

The emission reduction cannot be determined at this time. Stack tests during the experimentation will quantify the emission reduction. The emission rates that we are trying to obtain are listed in Appendix B.



## APPENDIX A

COMBUSTION ADDITIVES

MANUFACTURER	NAME	ADDITIVE TYPE	MAXIMUM ADDITION RATE TO AUXILIARY FUEL
Betz	FS 81	Magnesium Sulfonate	2 qts/1,000 gallons oil or 2 qts/136,000 SCF gas
	FS 534	Manganese Naphthanate	2 qts/1,000 gallons oil or 2 qts/136,000 SCF gas
	FS 538	Magnesium sulfonate & Manganese Naphthanate	2 qts/1,000 gallons oil or 2 qts/136,000 SCF gas
Ethyl Corp.	CI 2	Methy Cyclopentadienyl Manganese Tricarbonyl	.2 qts/1,000 gallons oil 2 qts/136,000 SCF gas
Tretolite	KI 50	Manganese ester	10 gal/day
	KI 58	Manganese ester	10 gal/day
	KI 66	Manganese ester	10 gal/day
	KI 160	Manganese ester	10 gal/day

APPENDIX  
CO BOILER EMISSIONS

Case 1

120,000 lbs/hr steam production

Case 1a

Process gas 1,348 BTU/SCF

Fuel consumption 145,300 of 1002 BTU/SCF per Boiler Manufacturer.

145,300 SCF/hr. x 24 hrs/day = 3,487 MSCFD

See Appendix A for emission factors except NO<sub>x</sub> is guaranteed to be less than 0.2 lbs/MM BTU by the Boiler manufacturer.

$$\frac{3,487 \text{ MSCFD}}{1348 \text{ BTU/SCF}} (1002 \text{ BTU/SCF}) = 2,592 \text{ MSCFD} \text{ Process gas consumption}$$

	Total Organic	Particulates	NO <sub>x</sub> *	SO <sub>x</sub>	CO
EM	1.4 T/Y	7.10 T/Y	127.5 T/Y	676.5 T/Y	8 T/Y

Case 1b

No. 6 Fuel Oil

Fuel consumption 919 gal/hr of 6.34 BTU/Bbl oil per Boiler Manufacturer.

See Appendix A for emission factors except NO<sub>x</sub>. NO<sub>x</sub> is guaranteed to be less than 0.3 lbs/MM BTU by Boiler Manufacturer.

$$(919 \text{ gal/hr})(24 \text{ hr/day}) \frac{(6.34 \text{ BTU oil})}{(6.4 \text{ BTU oil})} = 21.8 \times 10^3 \text{ gal/day}$$

	Total Organic	Particulates	NO <sub>x</sub>	SO <sub>x</sub>	CO
EM	15.7 T/Y	79.6 T/Y	181.9 T/Y	701.1 T/Y	15.7 T/Y

$$* \text{ NO}_x = \frac{(2,592 \text{ MSCFD})(1348 \text{ BTU/SCF})(365 \text{ D/Y})(.21 \text{ lbs/MM BTU})}{2000 \text{ lbs/ton}} = 127.5$$

$$** \text{ NO}_x = \frac{(21,800 \text{ gal./D})(6.4 \text{ BTU/Bbl})(0.31 \text{ lbs/MM BTU})(365 \text{ D/Y})}{(42 \text{ gal/Bbl})(2000 \text{ lbs/ton})} = 181.9$$

APPENDIX BCase 2

160,000 lbs/hr. steam production

Case 2a

Process gas 1,348 BTU/SCF

Fuel consumption 150,090 SCFH of 1002 BTU/SCF per Boiler Manufacturer.

See Appendix A for emission factors except NO<sub>x</sub>. NO<sub>x</sub> is guaranteed by Boiler Manufacturer to be less than 0.2 lbs/MM BTU.

$$\frac{(3602 \text{ MSCFD})(1002 \text{ BTU/SCF})}{1348 \text{ BTU/SCF}} = 2,677 \text{ M SCFD}$$

	<u>Total Organics</u>	<u>Particulates</u>	<u>NO<sub>x</sub>*</u>	<u>SO<sub>x</sub></u>	<u>CO</u>
EM	<u>1.5 T/Y</u>	<u>7.3 T/Y</u>	<u>131.7 T/Y</u>	<u>698.7 T/Y</u>	<u>8.3 T/Y</u>

Case 2b

No. 6 Fuel Oil Burning

Fuel consumption 950 gals/hr of 6.34 BTU/gal oil per Boiler Manufacturer.

See Appendix A for emission factors except NO<sub>x</sub>. NO<sub>x</sub> is guaranteed by Boiler Manufacturer to be less than 0.3 lbs/ MM BTU.

	<u>Total Organics</u>	<u>Particulates</u>	<u>NO<sub>x</sub>**</u>	<u>SO<sub>x</sub></u>	<u>CO</u>
EM	<u>16.3 T/Y</u>	<u>32.5 T/Y</u>	<u>188.5 T/Y</u>	<u>726.9 T/Y</u>	<u>16.3 T/Y</u>

$$*NO_x = \frac{(2,677 \text{ MSCFD})(1348 \text{ BTU/SCF})(365 \text{ D/Y})(0.2 \text{ lbs/MM BTU})}{2000 \text{ lbs/ton}} = 131.7$$

$$**NO_x = \frac{(22,500 \text{ gal/D})(6.4 \text{ BTU/gal})(0.3 \text{ lbs/MM BTU})(365 \text{ D/Y})}{(42 \text{ gal/gal})(2000 \text{ lbs/ton})} = 188.5$$

Lion Oil Division  
Tosco Corporation

P. O. Box 2860  
Bakersfield, California 93303  
805/327-2121

September 1, 1978

Leon M. Hebertson, M. D.  
Air Pollution Control Officer  
Kern County Air Pollution Control District  
P. O. Box 997  
Bakersfield, CA. 93302


Gentlemen:

Attached is an application for an Authority to Construct to modify our Coker CO Boiler. These modifications are necessary to determine the emission reduction possible by changing different burner parameters and/or necessary to keep the boiler economizer from being corroded. The boiler manufacturer is scheduled to begin experimenting with boiler emissions on September 11, 1978. The purpose behind the experimentation is to try and achieve the emissions guaranteed by the manufacturer (see Appendix A). Some or all the changes contained in this application may be necessary to achieve this guarantee.

We are adding an additional duct for putting combustion air into the CO register, but have not included it in the attached application because we have determined that it will not affect emissions from the boiler.

If you have any questions, please feel free to call Jack Caufield, Environmental Engineering Supervisor. Attached is a check for \$40.00 to cover the cost of two authorities to construct.

Sincerely,



J. A. Kamps  
Director of Engineering

CHM:jc

Enclosure

bcc: all w/enclosure

JLC	ACR
PCD	RWT
DEE	JAV
JAK	CCW
RDM	DCW

Los Angeles Office

P. Mikolaj  
R. Shortz  
R. Chittum

COUNTY AIR POLLUTION CONTROL DISTRICT

P. O. Box 977, 1700 Flower Street  
Bakersfield, California 93302

APPLICATION FOR (Check appropriate items):

<input checked="" type="checkbox"/>	AUTHORITY TO CONSTRUCT
<input type="checkbox"/>	PERMIT TO OPERATE

An application is required for each operation described in part D of instructions.

PERMIT TO BE ISSUED TO: Business license name of Corporation, Company, Individual Owner, Partner, or Governmental Agency which is to operate the following equipment:

Tosco Corporation, Lion Oil Division

MAILING ADDRESS:

P. O. Box 2860, Bakersfield, California Zip Code: 93303

ADDRESS AT WHICH THE EQUIPMENT IS TO BE OPERATED:

6500 Refinery Avenue

GENERAL NATURE OF BUSINESS:

Petroleum Refinery

EQUIPMENT DESCRIPTION: Pursuant to the provisions of the State Health and Safety Code and the Rules and Regulations of the Kern County Air Pollution Control District, application is hereby made for the following equipment:

Experiment with various modifications to the Coker CO Boiler, Permit Unit 2003027, in order to determine what emission reductions are possible.

(Continue on additional 8 1/2 x 11 page if space above is insufficient.)

TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:

Not applicable

TYPE AND ESTIMATED COST OF BASIC EQUIPMENT:

Not applicable

SIGNATURE OF APPLICANT: <i>J. A. Kamps</i>	OFFICIAL TITLE OF SIGNER Director of Engineering
---	---

TYPE OR PRINT NAME OF SIGNER

NAME: J. A. Kamps DATE: 9/1/78 PHONE NO. (805) 327-2121

Validation (A.P.C.D. use only)

Application Received:	FEE SCHEDULE NUMBER:
	FILING FEE: \$ <span style="float: right;">RECEIPT NO.</span>
	DATE:

### 1. Equipment Location Drawing

A plot plan showing the location of the coker CO boiler has already been submitted.

### 2. Description of Equipment

The equipment to be installed or changed may include:

- A. Install up to eight Zurn gas jets with regular and/or chisel heads, including a shield assembly. The jets may have from two to twenty-four orifices with diameters varying in size from 3/32 inch to 1/2 inch.
- B. Install one to four Zurn oil spray heads containing eight to twelve orifices. The orifice diameters may vary from .2181 inches to .2900 inches. The spray angle may vary from 50 degrees to 90 degrees. The firing angle may vary from 180 degrees to 360 degrees.
- C. Change the bottom row of tubes in the economizer from boiler feedwater to steam superheat service. This will provide dry super heated steam for soot blowing. The economizer will have seven parallel flows of three passes with one dummy tube, and fifteen rows of eleven parallel flows of two passes per row.
- D. Increase boiler feed water temperature by insulating the deaerator and sending the continuous blowdown to an exchanger (81E11) containing eight G-fin tubes.
- E. Use saturated steam, superheated steam or compressed air for fuel oil atomization.
- F. Install one Zurn pilot light and one Petro-Chem flame rod.

### 3. Description of Process

Presently the coker CO boiler exceeds the emissions guaranteed by the manufacturer. It is necessary to experiment with various pieces of equipment and methods of operation in order to determine what changes are necessary to meet the manufacturer's emission guarantees. The manufacturer will be conducting stack tests during the experimentation. Once sufficient changes have been made to achieve the guarantees, the experimentation may be stopped.

### 4. Operating Schedule

The manufacturer may start experimenting with boiler operation on September 11, 1978 and should continue until the emission guarantees have been met or it has been determined that the guarantees cannot be met. If the guarantees are met, boiler operation will continue using those modifications that were necessary to achieve the guarantees.

5. Process Weight

Not applicable

6. Fuels and Burner Used

The burners include those mentioned in part 2A, B and F. The fuels used during the experimentation will include gas and/or oil.

7. Flow Diagram

Not applicable

8. Drawings of Equipment

Not available.

9. Emission Reduction

The amount of emission reduction cannot be determined at this time. Stack tests during the experimentation will quantify the emission reduction. The emission rates that we are trying to obtain are listed in Appendix A.

APPENDIX A  
CO BOILER EMISSIONS

Case 1

120,000 lbs/hr steam production

Case 1a

Process gas 1,348 BTU/SCF

Fuel consumption 145,300 of 1002 BTU/SCF per Boiler Manufacturer.

145,300 SCF/hr. x 24 hrs/day = 3,487 MSCFD

See Appendix A for emission factors except NO<sub>x</sub> is guaranteed to be less than 0.2 lbs/MM BTU by the Boiler manufacturer.

$$\frac{3,487 \text{ MSCFD} \quad (1002 \text{ BTU/SCF})}{1348 \text{ BTU/SCF}} = 2,592 \text{ MSCFD} \quad \text{Process gas consumption}$$

	Total Organic	Particulates	NO <sub>x</sub>	SO <sub>x</sub>	CO
EM	1.4 T/Y	7.10 T/Y	127.5 T/Y	676.5 T/Y	8 T/Y

Case 1b

No. 6 Fuel Oil

Fuel consumption 919 gal/hr of 6.34 BTU/Bbl oil per Boiler Manufacturer.

See Appendix A for emission factors except NO<sub>x</sub>. NO<sub>x</sub> is guaranteed to be less than 0.3 lbs/MM BTU by Boiler Manufacturer.

$$(919 \text{ gal/hr})(24 \text{ hr/day}) \frac{(6.34 \text{ BTU oil})}{(6.4 \text{ BTU oil})} = 21.8 \times 10^3 \text{ gal/day}$$

	Total Organic	Particulates	NO <sub>x</sub>	SO <sub>x</sub>	CO
EM	15.7 T/Y	79.6 T/Y	181.9 T/Y	701.1 T/Y	15.7 T/Y

$$* \text{ NO}_x = \frac{(2,592 \text{ MSCFD})(1348 \text{ BTU/SCF})(365 \text{ D/Y})(.21 \text{ lbs/MM BTU})}{2000 \text{ lbs/ton}} = 127.5$$

$$** \text{ NO}_x = \frac{(21,800 \text{ gal./D})(6.4 \text{ BTU/Bbl})(0.31 \text{ lbs/MM BTU})(365 \text{ D/Y})}{(42 \text{ gal/Bbl})(2000 \text{ lbs/ton})} = 181.9$$



APPENDIX ACase 2

160,000 lbs/hr. steam production

Case 2a

Process gas 1,348 BTU/SCF

Fuel consumption 150,090 SCFH of 1002 BTU/SCF per Boiler Manufacturer.

See Appendix A for emission factors except NO<sub>x</sub>. NO<sub>x</sub> is guaranteed by Boiler Manufacturer to be less than 0.2 lbs/MM BTU.

$$\frac{(3602 \text{ MSCFD})(1002 \text{ BTU/SCF})}{1348 \text{ BTU/SCF}} = 2,677 \text{ M SCFD}$$

	Total Organics	Particulates	NO <sub>x</sub> *	SO <sub>x</sub>	CO
EM	<u>1.5</u> T/Y	<u>7.3</u> T/Y	<u>131.7</u> T/Y	<u>698.7</u> T/Y	<u>8.3</u> T/Y

Case 2b

No. 6 Fuel Oil Burning

Fuel consumption 950 gals/hr of 6.34 BTU/gal oil per Boiler Manufacturer.

See Appendix A for emission factors except NO<sub>x</sub>. NO<sub>x</sub> is guaranteed by Boiler Manufacturer to be less than 0.3 lbs/MM BTU.

	Total Organics	Particulates	NO <sub>x</sub> **	SO <sub>x</sub>	CO
EM	<u>15.3</u> T/Y	<u>82.5</u> T/Y	<u>188.5</u> T/Y	<u>726.9</u> T/Y	<u>16.3</u> T/Y

$$*NO_x = \frac{(2,677 \text{ MSCFD})(1348 \text{ BTU/SCF})(365 \text{ D/Y})(0.2 \text{ lbs/MM BTU})}{2000 \text{ lbs/ton}} = 131.7$$

$$**NO_x = \frac{(22,600 \text{ gal/D})(6.4 \text{ BTU/Bbl})(0.3 \text{ lbs/MM BTU})(365 \text{ D/Y})}{(42 \text{ gal/Bbl})(2000 \text{ lbs/ton})} = 188.5$$



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street  
San Francisco, Ca. 94105

CERTIFIED MAIL NO. 552109  
RETURN RECEIPT REQUESTED

In Reply E-3-2  
Refer to: ENF 3-6

Mr. J. A. Kamps  
Manager of Engineering  
Lion Oil Company  
Subsidiary of the Oil Shale Corp.  
P.O. Box 2860  
Bakersfield CA 93303

AUG 8 1978

Dear Mr. Kamps:

Enclosed is a Notice of Violation issued pursuant to Section 113(a)(1) of the Clean Air Act, as amended (42 U.S.C. §7401 et seq.) to notify Lion Oil Company that the Director, Enforcement Division finds that the Lion Oil Company Bakersfield Refinery, located on Refinery Avenue in Bakersfield, California, is in violation of 40 CFR 52.233(g), a regulation governing the review of new or modified stationary sources. This regulation is part of the Federally promulgated Implementation Plan for California.

In accordance with Section 113(a)(4) of the Clean Air Act, we are offering you an opportunity for a conference to discuss the Violation which is the subject of this Notice. The conference will afford Lion Oil Company an opportunity to present information bearing on the Finding of Violation, on the nature of the Violation, on any effort you have taken to achieve compliance, and on the steps you propose to take to achieve compliance. This opportunity for a conference is provided by Section 113(a)(4) of the Clean Air Act. You have the right to be represented by counsel and a transcript will be made of the conference.

You should be made aware that Sections 113(a), (b) and (d) of the Clean Air Act provide that if the Violation extends beyond the 30th day after the date of this Notice, the Administrator of the Environmental Protection Agency may issue an Order requiring compliance with the requirements of the Implementation Plan or he shall commence a civil action for appropriate relief, including civil penalties. Further, Section 113(c) of the Act provides for criminal penalties in certain cases.

Pursuant to Section 306 of the Clean Air Act and regulations promulgated pursuant thereto (see 40 CFR Part 51), EPA, upon a finding of adequate evidence of a continuing violation, may place a facility on the List of Violating Facilities. Such facility is in turn ineligible for use in any Federal contract, grant or loan or subagreement thereunder.

Please contact Matthew S. Walker, Hearing Officer at (415) 556-0102 to request a conference. Such request should be made as soon as possible, but in any event no later than 10 days after receipt of this letter.

Thank you for your cooperation in this matter.

Sincerely,

*Clyde B. Eller*

Clyde B. Eller  
Director  
Enforcement Division

Enclosure

Identical letter sent to: Mr. Thomas P. Brown, Pres.  
Lion Oil Company  
Los Angeles CA 90067

cc: California Air Resources Board  
Kern County Air Pollution Control District

bcc: JLC                    Los Angeles Office  
PCD                        P. Mikolaj  
DEE                        R. Shortz  
JAK                        R. Chittum  
RDM  
ACR  
RWT  
JAV  
CCW  
DCW  
LDW



UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

In the matter of )  
 )  
LION OIL CO. ) NOTICE OF VIOLATION  
SUBSIDIARY OF THE OIL SHALE CORP. ) Docket No. 9-78-19  
BAKERSFIELD, CALIFORNIA )  
 )  
Proceeding under Section 113(a) )  
Clean Air Act, as Amended )

STATUTORY AUTHORITY

This Notice of Violation is issued pursuant to Section 113(a)(1) of the Clean Air Act, as amended [42 U.S.C. Section 7401], (hereinafter referred to as the "Act").

FINDING OF VIOLATION

The Director, Enforcement Division, Environmental Protection Agency (EPA), Region IX, pursuant to authority delegated by the Administrator and redelegated by the Regional Administrator, makes the following findings:

A. On May 14, 1973, under the provisions of the Act, the Administrator promulgated 40 CFR 52.233(g) [37 FR 12707]. This regulation affects any stationary source in the Kern County Air Pollution Control District for which construction or modification is commenced after June 13,

1973, the effective date of the regulation. 40 CFR 52.233(g) is part of the Federally Promulgated Implementation Plan for California.

B. Section 52.233(g)(2) requires that "No owner or operator shall commence construction or modification of a new source after the effective date of this regulation without first obtaining approval from the Administrator of the location of such source."

C. On October 29, 1975 (40 FR 50269), the Administrator amended Section 52.233 and added paragraph (g)(8) which provides that:

Any owner or operator who constructs, modifies or operates a stationary source not in accordance with the application, as approved and conditioned by the Administrator, or any owner or operator of a stationary source subject to this paragraph who commences construction or modification without applying for and receiving approval hereunder, shall be subject to enforcement action under Section 113 of the Act.

D. On March 18, 1976, the Toscopetro Corporation submitted an application to EPA, Region IX, requesting an Approval to Construct/Modify for plant modifications and the construction of a carbon monoxide (CO) boiler to be added to the Fluid Coking Unit flue gas train at their refinery, located at 6500 Refinery Avenue, Bakersfield, California. As part of the application, the company estimated that,

during maximum operating conditions (steam production of 160,000 lb/hr., CO boiler fired with 950 gal/hr. of No. 6 Fuel Oil), the CO boiler would have the following emission rates:

<u>Total Organics (or hydrocarbons)</u>	<u>NO<sub>x</sub></u>	<u>SO<sub>x</sub></u>	<u>CO</u>
16.3 T/Y	188.5 T/Y	726.9 T/Y	16.3 T/Y

At the time the application was submitted, the Bakersfield Refinery was owned by Toscopetro Corp., a subsidiary of the Oil Shale Corp. Subsequent to submittal of the application, Toscopetro Corp. was merged into the Lion Oil Co., another subsidiary of the Oil Shale Corp.

E. On October 5, 1976, EPA issued, to the Lion Oil Company, an Approval to Construct/Modify for plant modifications and the construction of a CO boiler at the Lion Oil Company's Bakersfield Refinery. EPA's Approval to Construct/Modify contains the following conditions on the performance of the CO boiler:

1. "Construction and operation will be in accordance with the plans submitted with the application" for EPA's Approval to Construct/Modify.

2. "All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of this Approval to Construct/ Modify shall at all times be maintained in good working order and be operated as efficiently as possible."

3. "A source test will be performed on the CO boiler within 60 days after startup to verify boiler emission levels, as guaranteed by the manufacturer."

F. The CO boiler installed at the Lion Oil Co. Bakersfield Refinery is guaranteed by its manufacturer to meet the following limits:

1. "... while burning CO gas the NO<sub>x</sub> emissions leaving the steam generator will not exceed .2#/M.BTU input when firing natural gas as supplemental fuel, or .3#/M.BTU input when firing oil as supplemental fuel."

2. "... combustion of essentially all combustible gases in the fluid coker CO stream such as CO and hydrocarbons such that no combustibles in the gas stream will leave the steam generator ..."

G. Lion Oil Co. has failed to comply with the aforementioned conditions of EPA's Approval to Construct/Modify, and is therefore in violation of 40 CFR 52.233(g), in that:

1. In satisfaction of the source testing requirement of EPA's Approval to Construct/Modify (see Section E.3. above), source tests were conducted on the CO

boiler on May 24 and 25, 1977 and on February 10, 1978. Results of the source tests indicate that emissions from the CO boiler are in excess of those allowed by the conditions of EPA's Approval to Construct/Modify as shown in the following Table:

	Total Organics (1) (or hydrocarbons)	NO <sub>x</sub> (1)	SO <sub>x</sub> (1)	CO (1)
ALLOWABLE EMISSIONS:				
Estimates from Permit Application (see Section E.1. above)	16.3T/Y <i>dry as CH<sub>4</sub></i>	188.5T/Y <i>dry as NO<sub>2</sub> *</i>	726.9T/Y <i>dry as SO<sub>2</sub> **</i>	16.3T/Y <i>dry as CO</i>
Manufacturer's Guarantees (see Section E.3. above)	no combustibles will be emitted	188.5T/Y (2)	---	no combustibles will be emitted

ACTUAL EMISSIONS:

May 24, 1977 Source Test (3)	6849T/Y	289T/Y	686T/Y	173T/Y
May 25, 1977 Source Test (4)	4996T/Y	397T/Y	876T/Y	102T/Y
February 10, 1978 Source Test (5)	277T/Y	359T/Y	836T/Y	38T/Y

- (1) All emission rates reported in tons/year, assuming operating schedule of 24 hr./day, 365 days/year.
- (2) Based on No. 6 Fuel Oil feed rate of 950 gal./hr.
- (3) Average of 3 samples. Steam production: 120,000 lb./hr., Fuel fired: No. 6 Fuel Oil.
- (4) Average of 3 samples. Steam production: 160,000 lb./hr., Fuel fire No. 6 Fuel Oil.
- (5) Average of 2 samples. Steam production: 145,000 lb./hr., Fuel fired: combination of No. 6 Fuel Oil and Fuel Gas, Volume flow from CO Boiler: not reported, 49,000 SDCFM assumed.

<p>* <math>\frac{188.5}{40.0} \text{ T/Y}</math>  <math>52.2 \text{ lb./hr.}</math>  <math>138.3 \text{ ppm}</math></p>	<p><math>\frac{726.9}{9.0} \text{ T/Y}</math>  <math>168.0 \text{ lb./hr.}</math>  <math>319.2 \text{ ppm}</math></p>
---	---



2. In telephone conversations and a letter from Lion Oil Co. dated April 14, 1978, EPA was informed that the CO boiler was not operating as efficiently as possible due to a faulty economizer section of the CO boiler. Such operation is in violation of the permit condition cited in Section E.2. above.

NOTICE OF VIOLATION

Notice is hereby given to Lion Oil Co., Subsidiary of the Oil Shale Corp., that the Administrator of the Environmental Protection Agency, by authority duly delegated to the undersigned, finds that Lion Oil Co., Subsidiary of the Oil Shale Corp., is in violation of the applicable Implementation Plan as set forth in the Finding of Violation.

Dated: \_\_\_\_\_

AUG 07 1978

*Clyde B. Eller*  
\_\_\_\_\_  
Clyde B. Eller  
Director  
Enforcement Division

Copies to: PCD  
EE  
JAK  
RDM  
ACR  
JPS  
RWT  
JAV  
CCW  
DCW

L. A. Office  
P. Mikolaj  
R. Shortz  
R. Chittum

Lion Oil Division  
Tosco Corporation

P. O. Box 2860  
Bakersfield, California 93303  
805/327-2121

August 10, 1978

Mr. Ken Greenberg (Code E-3-2)  
Enforcement Division  
Environmental Protection Agency  
215 Fremont Street  
San Francisco, CA. 94105

Re: Tosco Corporation, Lion Oil Division, Fluid Coker CO Boiler

Dear Mr. Greenberg:

This is to notify you that on or about August 21, 1978 it will be necessary to shut down the fluid coker CO boiler for 1-2 weeks. The revisions and repairs previously mentioned to you will be accomplished during this shut-down period.

During the period when the CO boiler is out of operation, it will be necessary to operate boilers 1, 5, 6, 7 and 8, but fired steam production will be less than 219,000 lbs/hr. The coker scrubber will still be kept in operation during the shutdown for particulate removal.

We have also attached data on our CO boiler emissions obtained during a special test run on 100% oil firing. We always operate with some gas in the CO boiler. This testing was done by an EPA contractor for EPA's benefit.

As you will notice from the data supplied (use CO boiler stack columns), the boiler emissions of SO<sub>2</sub>, NO<sub>x</sub> and hydrocarbons are substantially reduced. New oil burners were supplied by the CO boiler manufacturer (Zurn Industries). The CO boiler was operated at 90,000 lbs/hr steam production without the economizer section which is the same firing rate as 120,000 lbs/hr. steam production with the economizer section.

Zurn Industries have notified us that they are prepared to check out boiler operation and test emissions after replacement of the economizer scheduled above.

The boiler shutdown schedule is dependent on delivery of the boiler tubes. They are now being checked out before shipment. If you have any questions, please feel free to call.

Sincerely,

*Jack L. Caufield*

Jack L. Caufield

Environmental Engineer Supervisor

# RADIAN

## CORPORATION

DCN 78-200-218-02

1 August 1978

Tosco Corporation  
Lion Oil Division  
P.O. Box 2860  
Bakersfield, California 93303

Attention: Mr. Charles Mulkey

Dear Chuck:

Enclosed are several sheets summarizing the stack samples taken and resulting concentrations. Take note that some of the numbers are different than those I quoted to you over the phone. The average flow rate for the CO boiler stack for the two EPA-5 runs was 2.44 million SCFH. The flow rate for the fluid coker scrubber inlet ranged from 1.41 million SCFH to 2.12 million SCFH. There seemed to be a problem in measuring the flow for the two tests on the scrubber inlet due to the stack pressure which was higher than atmospheric. Since it was impossible to reach the far wall on the scrubber inlet to get a diameter measurement, the diameter was assumed to be 43 inches. This diameter was used in the scrubber inlet flow calculations.

If you have any questions concerning the data, please feel free to contact us.

Yours very truly,

*Ronald C. Keeney*  
Ronald C. Keeney

RCK:mjh

Enclosures

TABLE B-2. METHANE/NONMETHANE HYDROCARBONS<sup>1</sup> AND FIXED GASES<sup>2</sup> - REFINERY

Source	Date	Time	Methane Concentrations <sup>1</sup>			Nonmethane Concentrations <sup>1</sup> (As Hexane)			Fixed Gases (Dry Basis)					Mol. Wt. (Dry)	
			(ppm)	By Weight (lb/SCF) <sup>3</sup>	By Volume (ppm)	(ppm)	By Weight (lb/SCF) <sup>3</sup>	By Volume (ppm)	CO <sub>2</sub>	O <sub>2</sub> (%)	N <sub>2</sub> (%)	CO (%)	H <sub>2</sub> (%)		
Fluid Coker Scrubber Inlet	4/13/78	1705	3160	2.53 x 10 <sup>-6</sup>	6110	394	2.97 x 10 <sup>-6</sup>	113							
	4/14/78	1654	3310	2.49 x 10 <sup>-6</sup>	6020	402	3.01 x 10 <sup>-6</sup>	136							
Fluid Coker Scrubber Outlet	4/13/78	1752	3400	2.56 x 10 <sup>-6</sup>	6180	382	2.88 x 10 <sup>-6</sup>	129							
	4/14/78	1611	3350	2.52 x 10 <sup>-6</sup>	6090	366	2.76 x 10 <sup>-6</sup>	124							
CO Boiler Stack	4/19/78	1255	7.78	6.02 x 10 <sup>-7</sup>	14.5	73.9	5.72 x 10 <sup>-6</sup>	25.7							
	4/19/78	1600	3.7	2.9 x 10 <sup>-7</sup>	6.9	19.5	1.51 x 10 <sup>-6</sup>	6.78							
	4/19/78	1600	--	--	--	--	--	--	11.5	5.49	81.4	0.0	--		29.61
	4/19/78	1820	1.62	1.25 x 10 <sup>-7</sup>	3.03	32.9	2.55 x 10 <sup>-6</sup>	11.4							
	4/20/78	1330	--	--	--	--	--	--	11.7	4.79	81.9	0.00	--		30.17
	4/20/78	1515	2.7	2.1 x 10 <sup>-7</sup>	5.0	6.04	4.63 x 10 <sup>-7</sup>	2.08							
	4/20/78	1630	24.0	1.84 x 10 <sup>-6</sup>	44.4	3.93	3.01 x 10 <sup>-7</sup>	1.35							
	4/20/78	1630	--	--	--	--	--	--	12.2	4.9	81.0	0.0	--		29.62
Fluid Coker Scrubber Inlet	4/20/78	1630	--	--	--	--	--	--	9.5	2.11	81.6	6.9	--		29.64
	4/20/78	1630	2050	1.54 x 10 <sup>-6</sup>	3730	285	2.15 x 10 <sup>-6</sup>	96.4							
	4/20/78	1815	3292	2.48 x 10 <sup>-6</sup>	5985	318	2.39 x 10 <sup>-6</sup>	108							
	4/20/78	1820	--	--	--	--	--	--	9.46	2.45	78.9	7.22	--		29.05
	4/20/78	2003	--	--	--	--	--	--	10.05	2.13	76.8	7.06	--		28.58
	4/20/78	2015	3250	2.45 x 10 <sup>-6</sup>	5910	636	4.79 x 10 <sup>-6</sup>	215							

<sup>1</sup>Byron hydrocarbon analyzer using flame ionization detector.

<sup>2</sup>Fischer Model 1200 gas partitioner.

<sup>3</sup>Dry basis.

<sup>4</sup>STP = 70°F and 29.92 inches Hg.

TABLE B-3. SULFUR SPECIES - REFINERY

Source	Date	Time	SO <sub>2</sub> <sup>a</sup>		SO <sub>2</sub> <sup>b</sup>		SO <sub>2</sub>		H <sub>2</sub> S		COS		CS <sub>2</sub>	
			(ppm)	(lb/SCF) <sup>c</sup>	(ppm)	(lb/SCF) <sup>c</sup>	(ppm)	(lb/SCF)	(ppm)	(lb/SCF)	(ppm)	(lb/SCF)	(ppm)	(lb/SCF)
CO Boiler Stack	4/19/78	1400	--	--	--	--	306	$5.07 \times 10^{-6}$	<sup>2</sup> --	--	<sup>2</sup> --	--	<sup>2</sup> --	--
	4/19/78	1605	--	--	--	--	314	$5.20 \times 10^{-6}$	<sup>2</sup> --	--	<sup>2</sup> --	--	<sup>2</sup> --	--
	4/19/78	2035-2145	.31	$6.5 \times 10^{-8}$	233	$3.86 \times 10^{-6}$								
	4/20/78	1135-1245	1.9	$4.0 \times 10^{-7}$	229	$3.79 \times 10^{-6}$								
Fluid Coker Scrubber Inlet	4/19/78	2015-2115	<sup>2</sup> --	--	<sup>2</sup> --	--								
	4/20/78	1130-1230	<sup>2</sup> --	--	<sup>2</sup> --	--								
	4/20/78	1633	--	--	--	--	<sup>2</sup> --	--	<sup>2</sup> --	--	<sup>2</sup> --	--	<sup>2</sup> --	--
	4/20/78	1824	--	--	--	--	<sup>2</sup> --	--	<sup>2</sup> --	--	<sup>2</sup> --	--	<sup>2</sup> --	--
	4/20/78	2018	--	--	--	--	<sup>2</sup> --	--	<sup>2</sup> --	--	<sup>2</sup> --	--	<sup>2</sup> --	--

<sup>a</sup>IPA Impinger, Ba(ClO<sub>4</sub>)<sub>2</sub> titration.

<sup>b</sup>H<sub>2</sub>O<sub>2</sub> Impinger, Ba(ClO<sub>4</sub>)<sub>2</sub> titration.

<sup>c</sup>Corrected to 70°F and 29.92" Hg, dry basis.

<sup>2</sup>No species detected.

TABLE B-5. OXIDES OF NITROGEN - REFINERY

Source	Date	Time	NO <sub>x</sub>	
			Volume (ppm)	Concentrations <sup>1</sup> By Weight @ STP <sup>2</sup> (lb/SCF)
CO Boiler Stack	4/20/78	1515	209	$2.49 \times 10^{-5}$
	4/20/78	1630	239	$2.85 \times 10^{-5}$
Fluid Coker Scrubber Inlet	4/20/78	1645	4.8	$5.70 \times 10^{-7}$
	4/20/78	1650	22.6	$2.69 \times 10^{-6}$

<sup>1</sup>Dry basis.

<sup>2</sup>STP = 70°F and 29.92" Hg.

Rec'd 4/15/78

**TOSCO CORPORATION**

POST OFFICE BOX 2660  
BAKERSFIELD, CALIFORNIA 93303  
805/327-2121

July 28, 1978

Environmental Protection Agency  
215 Fremont Street  
San Francisco, Ca. 94105  
Attn: Barry Garelick  
Administrator - Enforcement Division

RE: E-4-3, NSR 4-4-8, SJ78-26

Gentlemen:

Attached is some updated information on our A reformer modification's which was recently submitted to Kern County Air Pollution Control District for their review. Upon final review of the project we have found additional emission reductions which will occur and some variation in the amount of SO<sub>2</sub> emission reductions which may occur.

If you have any questions, or if there are any problems, please feel free to call.

Sincerely,

*Jack L. Caufield (chm)*

Jack L. Caufield  
Environmental Engineer Supervisor

JLC:tp

cc: KCAPCD

bcc: JLC w/attach  
PCD w/attach  
DEE w/o attach  
JAK w/attach  
RDM w/o attach  
ACR w/o attach  
RWT w/o attach  
JAV w/o attach  
JPS w/o attach  
CCW w/o attach  
DCW w/o attach

Los Angeles Office

P. Mikolaj  
R. Shortz  
R. Chittum

*Jack L. Caufield*

2003004B

EQUIPMENT DESCRIPTION: "A" Reformer Modifications, including the following:

- a. Enlarged feed drum on existing desulfurizer,
- \* b. Three new feed/effluent exchangers on desulfurizer,
- c. Replace desulfurizer heater, 16-H-15, with heater 16-H-17 which is now the desulfurizer stripper reboiler,
- d. New desulfurizer flash drum,
- e. Six heat exchangers to recover heat and preheat desulfurizer stripper feed,
- f. Three water cooled exchangers for stripper products,
- g. Modified stripper overhead accumulator, to provide knockout for compressor suction,
- h. New stripper off gas compressor and cooler,
- i. New stripper bottoms steam heat exchanger replacing heater 16-H-17,
- j. New sulfur absorber drum,
- \* k. Six new feed/effluent heat exchangers on "A" Reformer,
- \* l. Modify 16-H-15 heater so that it becomes part of 16-H-13, #3 reactor heater,
- m. Add steam generation facilities to recover heat from 16-H-11, 16-H-12 and 16-H-13.
- n. Add debutanizer feed/bottoms heat exchange,
- o. New butanizer bottoms reboiler, steam heat exchanger,
- p. Additional feed pump for desulfurizer,
- \* q. New debutanizer condenser, compressor and gas cooler,
- \* r. New process convection section for 16-H-12,
- \* t. Relocate 16-E-29 as a reformat cooler.

\* Revised or added to your Equipment Description list.



- II. In addition to the reduction from the fired boilers, there will be an additional reduction in SO<sub>2</sub> emissions. This reduction is quite variable depending on the sulfur content of the desulfurizer feed and is very difficult to quantify.

The main variable effecting the SO<sub>2</sub> emissions in our present operations is how we process our light coker naphtha. Historically, we have normally operated by sending our light coker naphtha to "A" reformer desulfurizer. However, we presently send it to our thermafor catalytic cracker for processing instead. Other operational changes and changes in crude would also effect the emissions.

We have prepared two cases showing the variation that can occur with only slight changes in "A" reformer feed sulfur content. They are as follows:

- A. Case I. This is the case when we operate with existing equipment and process light coker naphtha in "A" reformer.

Operating Conditions

5,000 Bbl/D including light coker naphtha to the desulfurizer. Typical sulfur content of naphtha to "A" reformer desulfurizer is 0.175% by weight. Note that the desulfurizer off gases go directly to fuel.

- B. Case IA. This case represents when we send light coker naphtha to "A" reformer and desulfurizer after expansion.

Operating Conditions

7,000 Bbl/D including light coker naphtha to the desulfurizer. Typical sulfur content of naphtha to "A" reformer desulfurizer is 0.175% by weight. Note that most of the sulfur is now sent to the gas concentration unit.

- C. Case II. This case represents 1978 operations where we now send light coker naphtha to the thermafor catalytic cracker (TCC) instead of to "A" reformer.

Operating Conditions

5,000 Bbl/D to the desulfurizer without light coker naphtha. Typical naphtha sulfur content now is 0.02%. Note that the desulfurizer off gases go directly to fuel.

- D. Case IIA. This case represents the most likely operating conditions after expansion based on present operations.

Operating Conditions

7,000 Bbl/D to the desulfurizer without light coker naphtha. Typical sulfur content of naphtha to "A" reformer desulfurizer is 0.02% by weight. Note that most of the sulfur is now sent to the gas concentration unit.

## SUMMARY OF GAS SCRUBBING REDUCTIONS

### TOTAL SULFUR BALANCE

### SULFUR LOST AS EMISSIONS

Case I    27099 #/D S  
Case IA   28053 #/D S

7575 #/D S  
6085 #/D S  
1490 #/D S

Case II    24987 #/D S  
Case IIA   25096 #/D S

5463 #/D S  
5364 #/D S  
99 #/D S

Therefore, the sulfur dioxide emission reduction with the light coker naptha going to the reformer is as follows:

$$1490 \text{ \#/D S} \times 64/32 = 2980. \text{ \#SO}_2/\text{D} \text{ or } 543.9 \text{ T/Y}$$

The emission reduction as we presently operate would be as follows:

$$99 \text{ \#/D S} \times 64/32 = 198 \text{ \#SO}_2/\text{D} \text{ or } 36.1 \text{ T/Y}$$

EMISSION REDUCTIONS

- I. The net effect of this project is to reduce steam usage from fired boilers by 7.4 MMBTU/H.

This steam will come from boilers 7, 8, thermofor catalytic cracker CO boiler and the coker CO boiler which we estimate operate at an average efficiency of 80%. These boilers can be operated on either oil or gas.

- A. If the boilers are firing gas, the emission reduction is as follows:

$$\frac{7.4 \text{ MMBTU/H} \times 24 \text{ H/D} \times 365 \text{ D/Y}}{1150 \text{ BTU/Ft}^3 \text{ gas} \times (.8)} = 70.46 \text{ MM Ft}^3/\text{Y}$$

Emission reduction:

Using the emission factors for boilers in AP - 42 section 1.4 - 1.

	<u>TSP</u>	<u>SOX as SO<sub>2</sub>*</u>	<u>CO</u>	<u>TOG</u>	<u>NOX as NO<sub>2</sub></u>
EF in lbs/MMFt <sup>3</sup>	5-5	0.6	17	3	120-230
Emission reduction <u>lb/Y = T/Y</u> 2000	0.18-0.53	0.02	0.60	0.11	4.23-8.10

- B. If the boilers are firing on #6 fuel oil, the emission reduction is as follows:

$$\frac{7.4 \text{ MMBTU/H} \times 24 \text{ H/D} \times 365 \text{ D/Y} \times 42 \text{ gal/Bbl}}{6.4 \text{ MMBTU/Bbl} \times (.8 \text{ eff.})} = 531.8 \text{ M gal/year}$$

	<u>TSP</u>	<u>SOX as SO<sub>2</sub></u>	<u>CO</u>	<u>TOG as CH<sub>4</sub></u>	<u>NOX as NO<sub>2</sub></u>
EF lb/10 <sup>3</sup> gal.	(10)(1.35) +3	(157.) (1.25)	5	1	120
Emission reduction <u>lb/Y = T/Y</u> 2000	4.12	52.18	1.33	0.27	31.91

\* Calculation is based on the effect of the reduction, which is to reduce natural gas purchases.

EMISSION REDUCTION SUMMARY

When firing process gas, the total emission reduction, will be as follows:

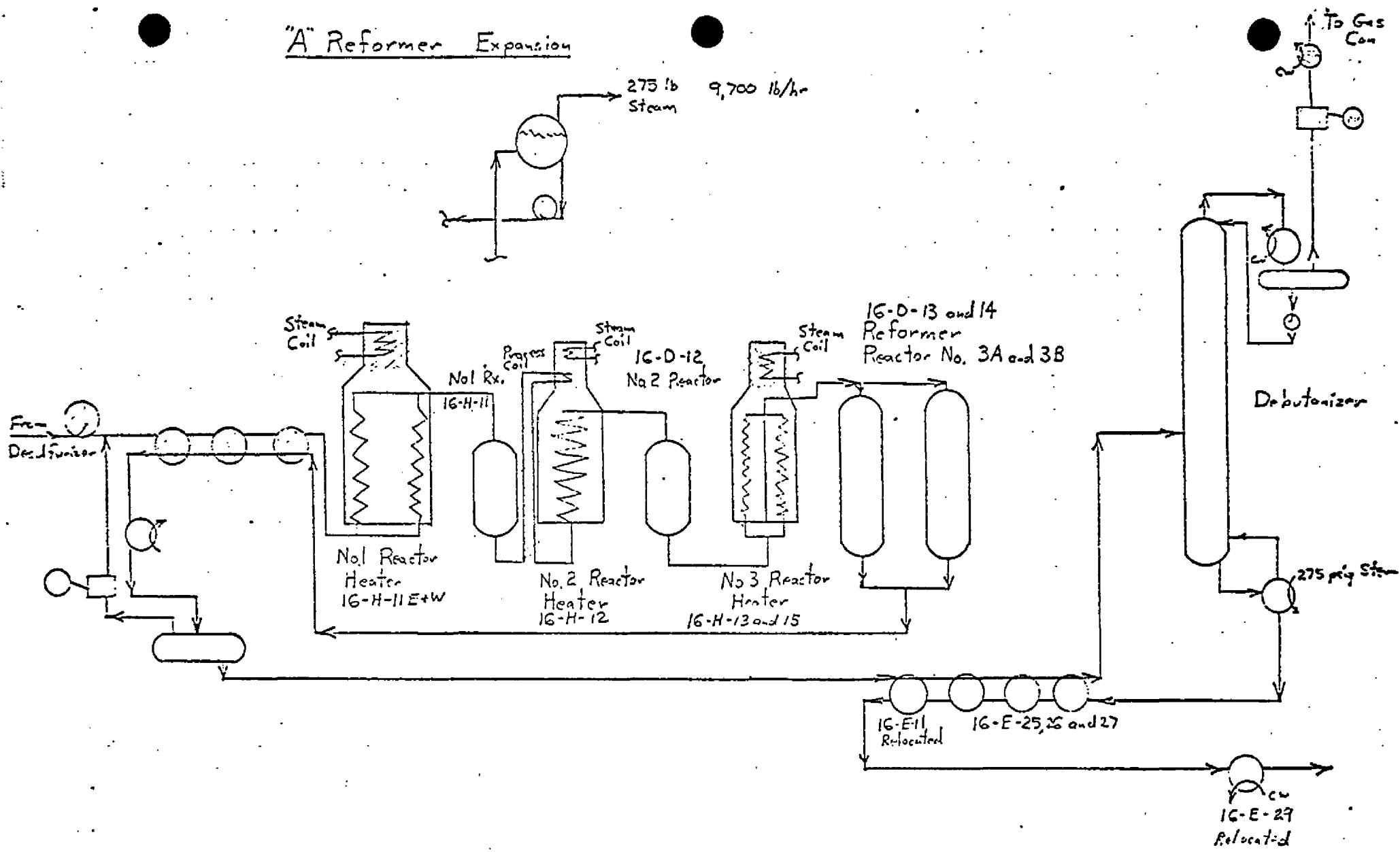
	<u>TSP</u>	<u>SO<sub>x</sub></u> as <u>SO<sub>2</sub></u>	<u>CO</u>	<u>TOG</u> as <u>CH<sub>4</sub></u>	<u>NO</u> as <u>NO<sub>2</sub></u>
boiler reduction	0.18-0.53	0.02	0.60	0.11	4.23-8.10
gas scrubbing reduction	0	36.1-543.9*	0	0	0
REDUCTION T/Y	0.18-0.53	36.12-543.92	0.60	0.11	4.23-8.10

When firing fuel oil, the total emission reduction will be as follows:

	<u>TSP</u>	<u>SO<sub>x</sub></u> as <u>SO<sub>2</sub></u>	<u>CO</u>	<u>TOG</u> as <u>CH<sub>4</sub></u>	<u>NO<sub>x</sub></u> as <u>NO<sub>2</sub></u>
boiler	4.12	52.18	1.33	0.27	31.91
gas scrubbing reduction	0	36.1-543.9*	0	0	0
REDUCTION T/Y	4.12	88.28-596.08	1.33	0.27	31.91

\* Depending on sulfur content of feed to A reformer desulfurizer

# "A" Reformer Expansion

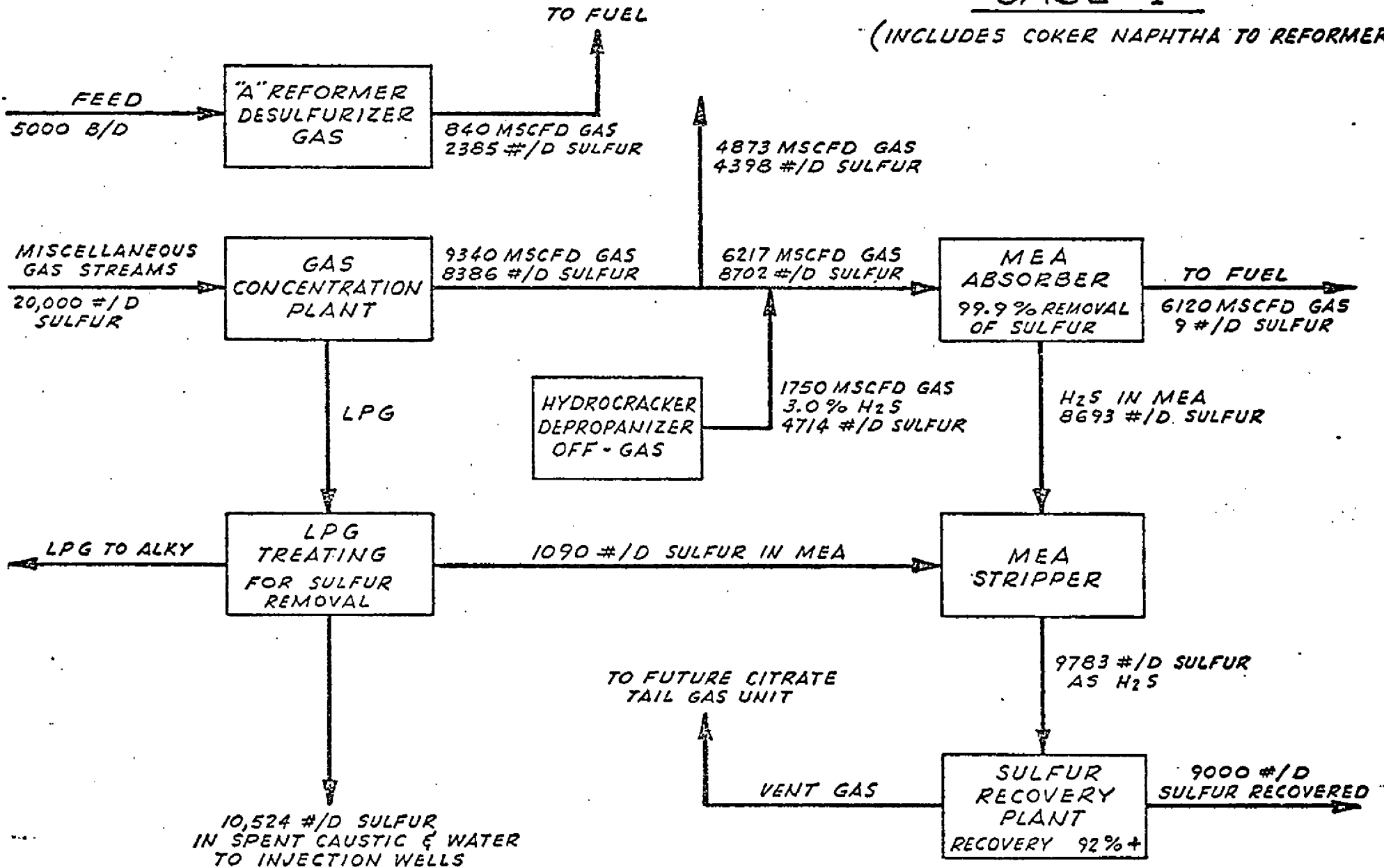


NEW EQUIPMENT IS SHADED

GDD 12-28-77  
 Revised 7-7-78

# CASE I

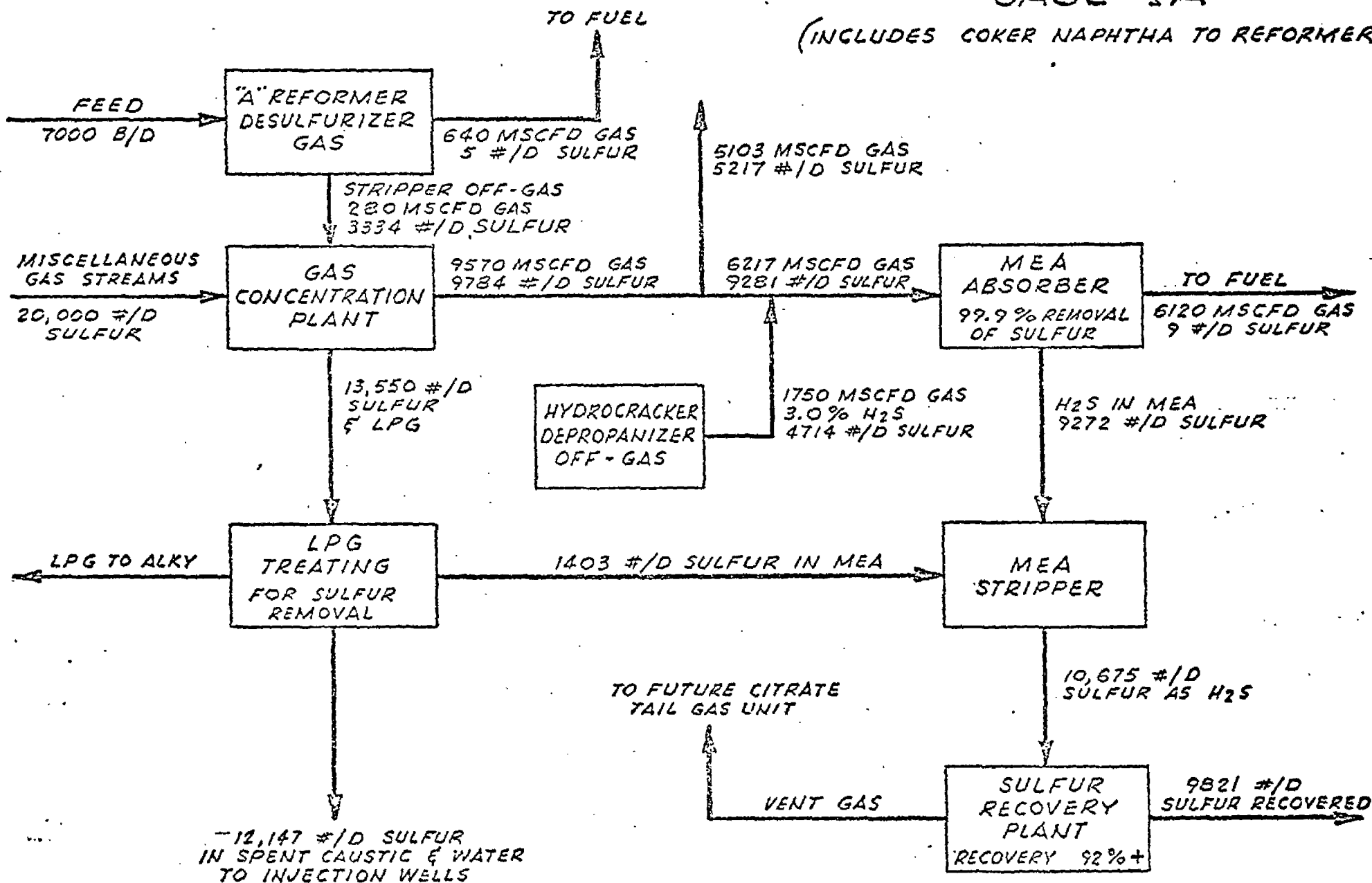
(INCLUDES COKER NAPHTHA TO REFORMER)



MEA IS MONO-ETHANOL-AMINE

# CASE IA

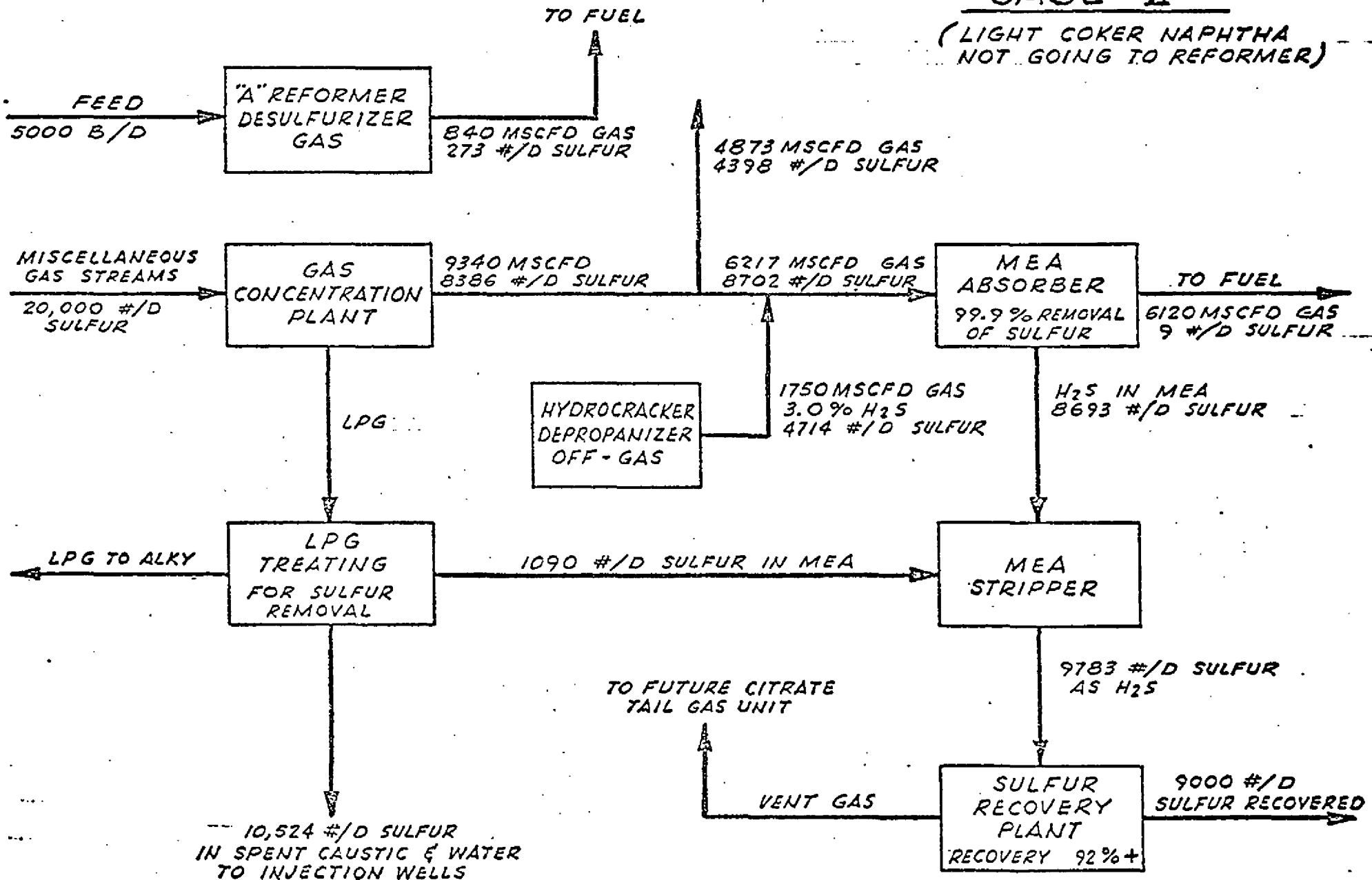
(INCLUDES COKER NAPHTHA TO REFORMER)



MEA IS MONO-ETHANOL-AMINE

# CASE II

(LIGHT COKER NAPHTHA NOT GOING TO REFORMER)

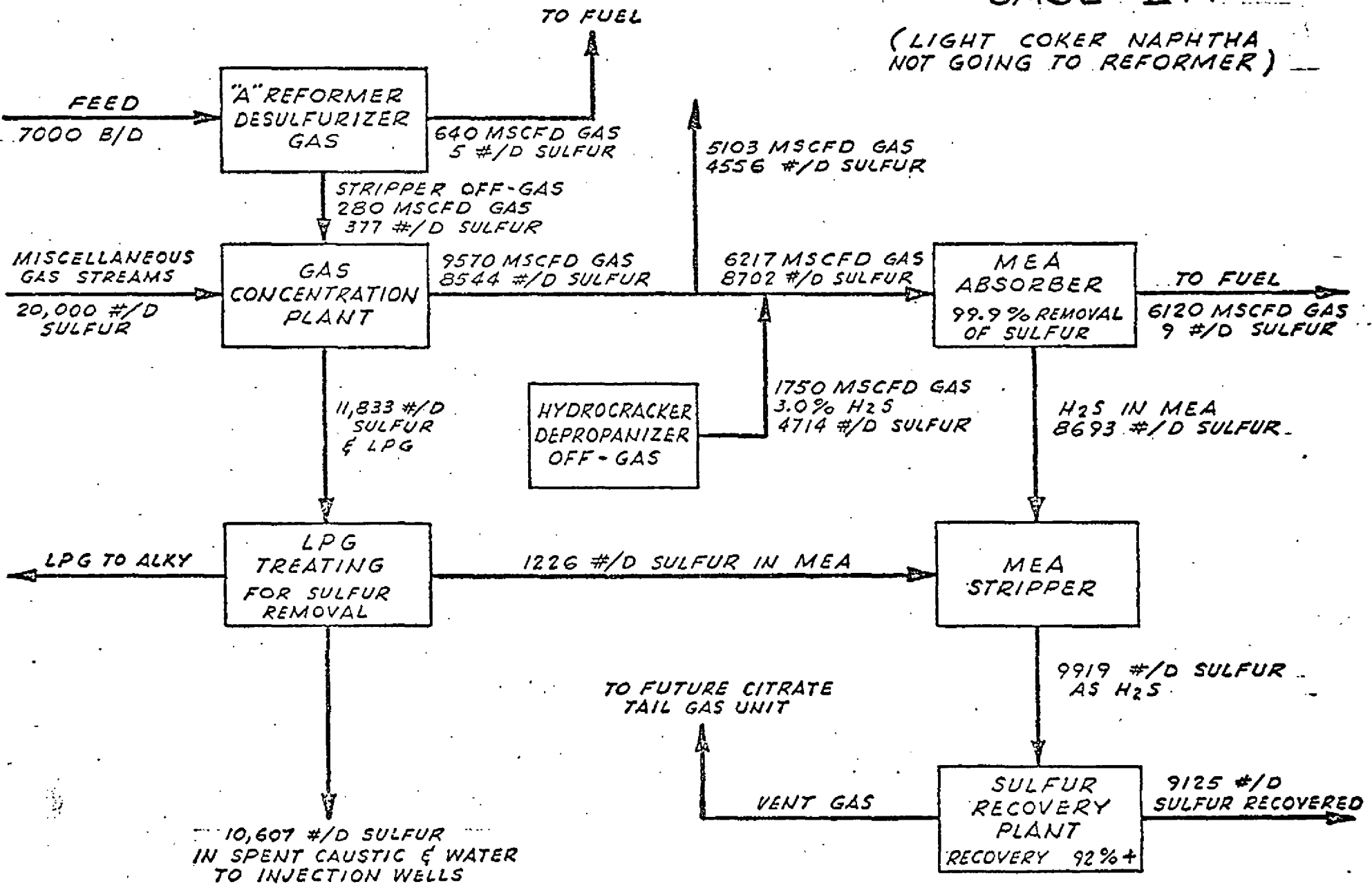


MEA IS MONO-ETHANOL-AMINE



# CASE IIA

(LIGHT COKER NAPHTHA NOT GOING TO REFORMER)



MEA IS MONO-ETHANOL-AMINE

**TOSCO CORPORATION**  
LION OIL DIVISION  
POST OFFICE BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
805/327-2121

April 14, 1978

Ken Greenberg (Code E-3-2)  
Enforcement Division  
Environmental Protection Agency  
215 Fremont Street  
San Francisco, California 94105

Re: Lion Oil Company (Now Tosco Corporation) Fluid Coker CO Boiler

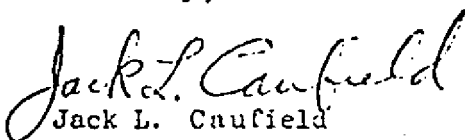
Dear Mr. Greenberg:

As you requested last fall, I have enclosed a copy of the CO boiler manufacturer's guarantee (Zurn Industries) on the coker CO boiler emissions. We have had difficulty getting them to honor their guarantees. In the interim, as I mentioned, we did have a failure of the economizer section of the coker CO boiler due to corrosion of the tubes. We have reviewed the CO boiler design with Zurn Industries and we will replace and modify the economizer section by installing a coil in place of the 16th row of tubes to use to superheat soot blower steam. In conjunction with its replacement, we will increase the boiler feed water temperature from 205°F to 240°F by repairing and revising our deaerator and by installing feed-blowdown exchange. We also will revise the piping so soot blowing steam is from the main steam line instead of the steam drum. These changes should eliminate the corrosion problems in the economizer section.

Zurn Industries has agreed to meet their guarantees on emissions after the economizer section is replaced. In the interim, we have experimented with combustion improvers and believe that we can reduce emissions considerably by their use, if Zurn is unable to meet their guarantees.

We will notify you when the economizer section has been replaced. If you have any questions, please feel free to call.

Sincerely,

  
Jack L. Caufield  
Environmental Engineering  
Supervisor

JLC/hl

Encl.

cc: KCAPCD

pies to: J. L. Caufield w/attach  
P. C. Daily w/attach  
D. E. Elissague w/o attach  
J. A. Kamps w/attach  
J. D. King w/o attach  
R. D. Mellor w/o attach  
A. C. Ryder w/o attach.  
J. P. Sauter w/o attach  
R. W. Traylor w/o attach  
J. A. Von Werner w/o att  
C. C. Werdel w/o attach  
D. C. Winn w/o attach  
D. A. Nebeker w/o attac  
R. D. Chittum w/o attac  
P. G. Mikolaj w/o attach  
  
(L. A.)  
" "  
" "



a step ahead of tomorrow

June 3, 1975

Toscopetro Corporation  
Mr. Gary Davis  
Box 2860  
Bakersfield, Calif. 93303

Gentlemen:

AMMONIA COMBUSTION GUARANTEE  
FLUID COKER-CO BOILER  
YOUR PO 09778  
ERIE CITY 24676  
MCP FILE E-2906 TW

At the design operation of at least 1850 degs F flame temperature Erie City Energy Division predicts that the maximum of 240 ppm of ammonia in the fluid coker gas stream will be reduced to trace values. It must be recognized that the ammonia combustion products could affect NOX emissions.

We feel this guarantee is sufficient for your requirements as requested in our meeting of May 30, 1975.

Yours very truly

ERIE CITY ENERGY DIVISION

M. C. PATTEN & CO., INC.  
T. W. Patten  
District Sales Agents

TWP/mf



a step ahead of tomorrow

June 3, 1975

Toscopetro Corporation  
Mr. Gary Davis  
Box 2860  
Bakersfield, Calif. 93303

Gentlemen:

NOX EMISSIONS GUARANTEE  
FLUID COKER - CO BOILER  
YOUR PO 09778  
ERIE CITY 24676  
MCP FILE E-2906 TW

Under Erie City Energy Division's supervision at design operation of at least 1850 degs F flame temperature, the company guarantees that while burning CO gas the NOX emissions leaving the steam generator will not exceed .2#/ M:BTU input when firing natural gas as supplemental fuel, or .3#/M.BTU input when firing oil as supplemental fuel. Erie City Energy Division specifically makes no guarantee as to the total NOX emissions leaving the steam generator when firing CO gas, as it has no control over the amount of NOX which may be already present in the CO gas stream.

We feel this guarantee is sufficient for your requirements as requested in our meeting of May 30, 1975.

Yours very truly

ERIE CITY ENERGY DIVISION

M. C. PATTEN & CO., INC.  
T. W. Patten  
District Sales Agents

TWP/mf



a step ahead of tomorrow

June 3, 1975

Toscopetro Corporation  
Mr. Gary Davis  
Box 2860  
Bakersfield, Calif. 93303

Gentlemen:

CO COMBUSTION GUARANTEE  
ENID COKER - CO BOILER  
YOUR PO 09778  
ERIE CITY 24676  
MCP FILE E-2906 TW


Under design operation of at least 1850 degs F flame temperature, Erie City Energy Division guarantees combustion of essentially all combustible gases in the fluid coker CO stream such as CO and hydrocarbons such that no combustibles in the gas stream will leave the steam generator, as measured with an Orsat or a conductivity device such as a combustibles analyzer.

It must be recognized, however, that combustible particles in the inlet stream may not be completely oxidized in the boiler.

We feel this guarantee is sufficient for your requirements as requested in our meeting of May 30, 1975.

Yours very truly

ERIE CITY ENERGY DIVISION

  
M. C. PATTEN & CO., INC.  
T. W. Patten  
District Sales Agents

TWP/mf



a step ahead of tomorrow

May 29, 1975

Toscopetro Corporation  
Mr. Gary Davis  
Box 2860  
Bakersfield, Ca. 93303

*ERIE CITY  
ENERGY DIVISION*

Gentlemen:

PROPOSAL: CO BOILER  
FOR FLUID COKER  
ERIE CITY 750974 ARC  
MCP FILE E-2906 TW

Erie City will make the following statements and guarantees pertaining to the operation of the waste heat steam generator offered on the above proposal.

1. Under eced supervised operation at design operating condition, the nox emissions from the steam generator will not exceed .2 pounds per million BTU input when firing natural gas only, or .3 pounds per million BTU input when firing oil only. Under eced supervised operation at design operating conditions of 1850°F (as measured by a high velocity thermocouple) theoretical flame temperature when firing CO gas, the additional nox added by the CO gas stream will not exceed .2 pounds per million BTU input of supplemental natural gas or .3 pounds per million BTU input of supplemental oil. Erie City specifically makes no guarantee on the total nox emissions leaving the steam generator when firing co gas as it has no control over the amount of nox which may be already present in the co gas stream.
2. ECED guarantees combustion of essentially all co and hydrocarbons such that there will be no combustibles in the gas stream leaving the steam generator as measured with an orsat.

3. Efficiency when burning natural gas at a capacity of 200,000#/Hr of 275 psig steam from feedwater of 205 degs F is 84.11%

Efficiency when burning number 6 oil at a capacity of 200,000#/Hr of 275 psig steam from a feedwater of 205 degs F is 88.16%

Predicted performance for CO gas burning in conjunction with natural gas is attached.

We hope the above information is sufficient for your present requirements. If we can be of further assistance, please let us know.

Yours very truly

ERIE CITY ENERGY DIVISION

*David Diggins*

M. C. PATTEN & CO., INC.  
David Diggins  
District Sales Agents

DD/mf

KERN COUNTY HEALTH DEPARTMENT,  
AIR POLLUTION CONTROL DISTRICT

PERMIT  
TO  
OPERATE



LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer  
1700 Flower Street  
P. O. Box 997  
Bakersfield, California 93302  
Telephone (805) 861-3682

Number: 2003027

A PERMIT TO OPERATE IS HEREBY GRANTED TO: Tosco Corp.  
For equipment located at: 6500 Refinery Av., Bakersfield  
Equipment or Process Description: CO Boiler (Fluid Coker)



OPERATIONAL CONDITIONS LISTED ON REVERSE OF PERMIT.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR LOCATION, OR ANY ALTERATION.

Note: The permittee may be required to provide adequate sampling and testing facilities. Equipment modification requires a new permit.

Leon M Hebertson, M.D.  
Air Pollution Control Officer

By: 

REVOCABLE: This permit does not authorize the emission of air contaminants in excess of those allowed by the Rules and Regulations of the K.C.A.P.C.D.

For Period: 8-27-77 To 8-27-78

EQUIPMENT DESCRIPTION: CO Boiler, including the following equipment:

OPERATIONAL CONDITIONS:

1. Particulate emissions shall not exceed 0.1 gr/scf and visible emissions shall be less than 20% opacity.
2. Sulfur compound emissions shall be less than 0.2% by volume (2000 ppm).
3. Carbon monoxide emissions shall be no more than 0.1% by volume (1000 ppm).
4. Oxides of nitrogen emissions (as NO<sub>2</sub>) shall be less than 0.3 lbm/MM Btu/hr except when fluid coker is not in operation and supplying CO gas for fuel.
5. Soot blowing resulting in visible emissions of 20% opacity or more shall be limited to no more than an aggregate of three minutes in any one hour.
6. Fuel oil shall be preheated to maintain a viscosity within the range recommended by the burner manufacturer.
7. No auxiliary fuel oil with specifications less rigid than number 6 shall be used.
8. Excess combustion air shall be maintained at a level adequate to insure efficient combustion of CO gas and auxiliary fuel.
9. Ducon scrubber serving fluid coker shall be operated at no less than 40" W.C. at all times when coker is in operation.
10. All fluid coker exhaust gas shall be routed through the Ducon scrubber before passing through the CO boiler.





a step ahead of tomorrow

November 29, 1977

Lyon Oil Company  
P. O. Box 2860  
Bakersfield, California 93303

Attention: Mr. W. D. Krostek  
Process Engineer

Subject: Zurn Energy Division Package Boiler  
General Order #24676

Gentlemen:

Our representative Mr. Tom Patten has forwarded to us photographs and a sketch of the economizer failures, along with a verbal description of the type of failure.

A review of this information tends to associate the economizer element failures with the sootblowers, rather than a cold end dew point corrosion type failure.

We have many economizers of this design in service with sootblowers located as this economizer, and have not experienced corrosion problems in this area. The gas and water temperatures in this particular area should both be high enough to insure a metal temperature above the dew point. It would appear that there is a possibility that moisture is entering into the system from the sootblower steam supply system.

It is important that the sootblower steam supply lines be sufficiently warmed prior to actually blowing soot to insure that there is no condensate entrained with the steam as it is blown into the economizer. The sootblower steam supply lines, especially to the economizer, are quite long and it sometimes takes a considerable amount of preliminary warm up to insure that all of the condensate is drained from the system, and that the pipes are hot enough that there is no condensing taking place on the pipes themselves before soot is blown. If it is not already done, it may be beneficial to insulate the steam supply piping, especially on the long lines to the economizer to prevent cooling of the steam.

Lyon Oil Company

-2-

November 29, 1977

Since this is an automatic sequencing system, it is possible that there is not sufficient warm up time allowed in the piping system prior to blowing soot. It is imperative that all the drain valves are opened and that steam only is blowing freely from the drains prior to the initiation of the soot-blowing sequence.

We understand that while there was no actual failure, there was evidence of some corrosion at the cold end of the economizer. Because of the sulphur content in the fuel gas and the fuel oil in combination with the high moisture content of the CO gas, the minimum inlet feedwater temperature should be at 250 degrees F. to 260 degrees F. We understand at the present time that the normal feedwater temperature is approximately 205 degrees F. In discussing this situation with our start-up technician, Mr. John LeJeal, we understand that at times under certain conditions the feedwater temperature does drop as low as 190 degrees F. All of these factors are working in the wrong direction as far as protecting the economizer from corrosion.

The following are suggestions which may be incorporated in order to alleviate the corrosion problem:

1. Increase the deaerator pressure to a maximum of 5 PSIG if this is possible. This would produce a feedwater temperature of 228 degrees F. which would be a definite improvement over the 205 degree present temperature.
2. Use a corrosion allowance on any new tubes that are replaced. For example, use .150 wall tubing.
3. Add a mud drum preheat coil for a heat pick-up of approximately 25 degrees F. to 30 degrees F. in the water before entering the economizer.

We believe that if the above recommended operating conditions are followed, that corrosion within the economizer will be minimized. Should you have any questions or comments concerning any of the above, please do not hesitate to contact us.

Very truly yours,

ENERGY DIVISION  
ZURN INDUSTRIES, INC.

*W F Liebel*  
William F. Liebel  
Manager-Service

WFL/mf

cc: Mr. T. W. Patten, M. C. Patten & Co., Los Angeles  
Mr. F. D. Voña, Zurn Energy Division, Erie



Lion Oil Company  
Subsidiary of Tosco Corporation

P.O. Box 2860  
Bakersfield, California 93308  
805/327-2121

November 22, 1977

Administrator, Enforcement Division  
Environmental Protection Agency  
215 Fremont Street  
San Francisco, Ca. 94105

Gentlemen:

This is to notify you that it is necessary to expand our "A" reformer and A reformer desulfurizer due to the lead and sulfur phase downs. We are pleased to be able to report that the impact of this project will be a significant reduction in emissions from the refinery. The actual details of the project are quite complex, so we have included only areas where a change in emissions will occur.

This expansion will be accomplished within the capacity of the existing fired heaters and with the addition of a 2 MMBTU/hr. stripper steam feed exchanger and a 5.8 MMBTU/hr. steam reboiler to the desulfurizer. The existing desulfurizer reboiler will be modified and used as part of A reformer revisions.

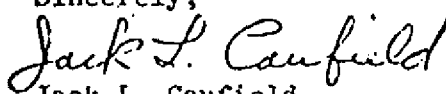
In conjunction with this project, we are installing a new plant air compressor and a new flush oil pump in our fluid coker. Both of these pieces of equipment will operate as steam letdown stations from our 275 lb. system to our 40 lb. system. This means that these two pieces of equipment will operate essentially without consuming any steam. The old air compressors used 7.25 MMBTU/hr. and the flush oil pump at least 2.3 MMBTU/hr. for a total steam savings of 9.55 MMBTU/hr.

In the attachment you will find a description of the project, refinery steam reduction calculations, refinery emission reduction calculations and a summary page of the emission reductions. We did not attempt to calculate the emission reductions occurring from cars.

This project reduces emissions of lead and sulfur compounds from cars in the southern San Joaquin Valley Air Basin and reduces refinery emissions of hydrocarbons, NO<sub>x</sub>, SO<sub>x</sub> and particulates. It is our interpretation of your "review of new sources and modifications regulations" and your "interpretative ruling" that we do not need to apply to you for these modifications, since a decrease in emissions will occur.

Please advise us of your interpretation. If you need further information, please feel free to call.

Sincerely,



Jack L. Caufield  
Environmental Engineering  
Supervisor

## Description of Project

The project consists of expanding the capacity of A reformer desulfurizer and A reformer due to the lead and sulfur phase downs.

The major changes in the A reformer desulfurizer are as follows:

1. New charge pump - electric
2. 10 new heat exchangers including a stripper steam reboiler and New feed/effluent exchanger.
3. New flash drum and electric gas compressor to allow sending light products including  $H_2S$  to the gas concentration plant.
4. Slight modification to stripper accumulator to allow for compressor.
5. Transfer of 16-H-17 stripper reboiler to service in A reformer.

The major changes in A reformer are as follows:

1. Replace small charge pump - electric
2. Add to feed/effluent exchange
3. New debutanizer reboiler - steam for heating will come from new waste heat recovery.
4. Add miscellaneous exchangers to save heat.
5. Revise existing heaters to improve efficiency.
6. Revise the former desulfurizer reboiler to a reactor heater and 16H15 as #3 reformer heater.

The major changes in addition to the above are as follows:

1. Replace plant air compressor - steam savings.
2. Replace flush oil pumps - steam savings.

## Refinery Steam Reductions

### Before Changes:

#### Air Compressors consumed

2540 lbs./H. of 150 lb. steam @ 1148.4 BTU/lb. or	2.9 MM BTU/H.
3750 lbs./H. of 275 lb. steam @ 1155.4 Btu/lb. or	4.3 MM BTU/H.
	7.2 MM BTU/H.

Coker flush oil pump consumed at least	2.3 MMBTU/H.
--	--------------

2000 lbs./H. of 150 lb. steam @ 1148.4 BTU/lb.	
or total steam usage in abandoned equipment	9.5 MM BTU/H.

### After Changes:

At maximum desulfurizer capacity (7000 barrels per day):

Steam consumed in stripper feed exchangers	2 MM BTU/H.
Steam consumed in reboiler	5.8 MM BTU/H.
Total steam	7.8 MM BTU/H.

Steam consumed in new air compressor and new coker flush oil pump is zero since they operate as let-down stations for 275 lb. steam to our 40 lb. steam. (Energy previously wasted).

Steam usage reduction	9.5 MM BTU/H.
New steam usage	7.8 MM BTU/H.
	1.7 MM BTU/H.

Emission Reductions

The net effect of this project is to reduce steam usage from fired boilers by 1.7 MMBTU/H.

This steam will come from boilers 7,8, & the coker CO boiler which we estimate operate at an average efficiency of 80%. We do plan on replacing boilers 7 & 8 with a CO boiler on our thermafor catalytic cracking unit (TCC), but this will increase efficiency and reduce emissions even more. A letter is also being filed on the TCC CO boiler. These boilers can be operated on either oil or gas.

A. If the boilers are firing gas the emission reduction is as follows:

$$\frac{1.7 \text{ MMBTU/H} \times 24 \text{ H/D} \times 365 \text{ D/Y}}{1150 \text{ BTU/Ft}^3 \text{ gas} \times (.8)} = 16.19 \text{ MM Ft}^3/\text{Y}$$

Emission reduction:

Using the emission factors for boilers in AP - 42 section 1.4 - 1.

	<u>TSP</u>	<u>SOX</u> <u>as</u> <u>SO<sub>2</sub>%</u>	<u>CO</u>	<u>TOG</u>	<u>NOX</u> <u>as</u> <u>NO<sub>2</sub></u>
EF in lbs/MMFt <sup>3</sup>	5-15	0.6	17	3	120-230
Emission reduction $\frac{\text{lb/Y}}{2000} = \text{T/Y}$	0.04-0.12	0	0.14	0.02	0.97-1.36

B. If the boilers are firing on #6 fuel oil instead of gas the emission reduction is as follows:

$$\frac{1.7 \text{ MMBTU/H} \times 24 \text{ H/D} \times 365 \text{ D/Y} \times 42 \text{ gal/Bbl}}{6.4 \text{ MMBTU/Bbl} \text{ (.8 eff.)}} = 122.6 \text{ gal/year}$$

	<u>TSP</u>	<u>SOX</u> <u>as</u> <u>SO<sub>2</sub></u>	<u>CO</u>	<u>TOG</u> <u>as</u> <u>CH<sub>4</sub></u>	<u>NOX</u> <u>as</u> <u>NO<sub>2</sub></u>
EF lb/10 <sup>3</sup> gas	(10)(1.25) +3	(157.) (1.25)	5	1	120
Emission reduction $\frac{\text{lb/Y}}{2000} = \text{T/Y}$	0.95	11.99	0.21	0.06	7.33

\*Calculation is based on the effect of the reduction, which is to reduce natural gas purchases.

Emission Reduction, Cont'd

In addition to the reduction from the fired boilers, the desulfurizer expansion will reduce refinery SO<sub>2</sub> emissions.

Present Situation:

50 API Naphtha @5000 Bbl/D at 272.6 Lb./Bbl  
typical sulfur content 0.175% wt. sulfur.  
All sulfur burned in boilers and heaters  
500 Bbl/D x 276.2 lb./Bbl x .00175 = 2385.3 lb. S/D

After expansion:

7000 Bbl/D of same feed.  
The stripper off gas will be compressed and sent to the gas concentration unit instead of going directly to boilers and heaters. The desulfurizer off gas will still go directly to fuel and it contains 0.01% H<sub>2</sub>S, but the flow and sulfur content will remain the same after expansion.

$$640 \text{ MSCF/D} \times 89.79 \text{ lbs./MSCF} \times \frac{32}{34} \times 0.0001 = 5.41 \text{ lbs. S/D.}$$

The stripper off gas will be compressed and sent to the gas concentration plant instead of directly to fuel.

$$\begin{aligned} 7000 \text{ Bbl/D of } 0.00175 \times 272.6 \text{ lb./Bbl} &= 3339.4 \text{ lbs S/D} \\ \text{less } \frac{5.4 \text{ lbs S/D}}{34} &\text{ not recovered} \\ &3334.0 \text{ lbs S/D} \end{aligned}$$

Of the gas produced from the gas concentration unit 5189 MSCF is used directly as fuel in boilers and heaters and 4431 MSCF goes to the MEA scrubber where approximately 98% of the additional sulfur will be removed from the fuel gas.

$$3334 \text{ lbs. S/D} \times 0.98 \times \frac{4431}{9620} = 1504.9 \text{ lbs/D which is then}$$

sent to the claus sulfur plant.

At least 92% of the 1504.9 lbs. S/D will be recovered and sold as sulfur.

$$1504.9 \text{ lbs. S/D} \times 0.92 = 1384.5 \text{ lbs. S/D}$$

$$\text{SO}_x \text{ emission reduction } 1384.5 \text{ lbs. S/D} \times \frac{64}{32} \times 365 \text{ D/Y} = 505.3 \text{ T/Y}$$

---

2000 lb/T

See attached sketch for description of flows. The gas concentration plant produces 9620 MSCF/D gas including the sulfur.

EMISSION REDUCTION SUMMARY

When firing process gas the total emission reduction will be as follows:

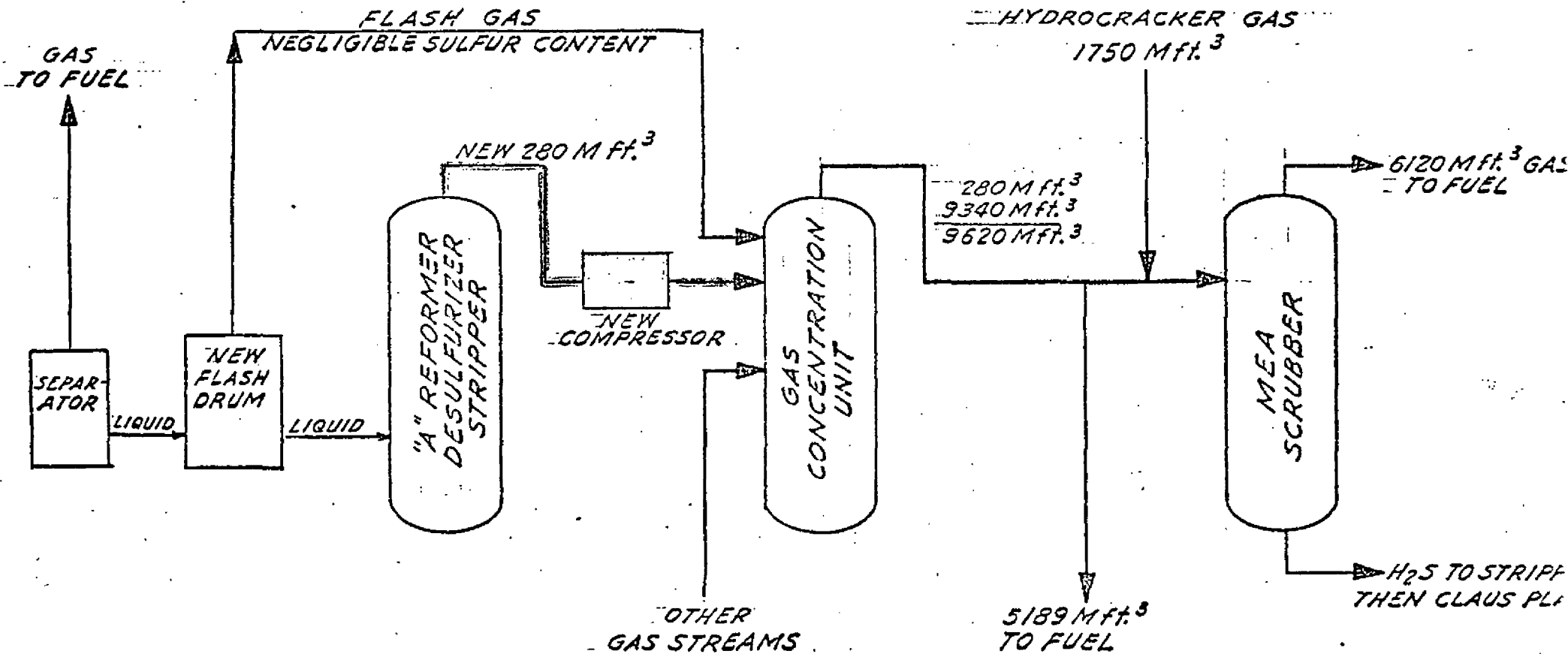
	<u>TSP</u>	<u>SO<sub>x</sub> as SO<sub>2</sub></u>	<u>CO</u>	<u>TOG<sub>x</sub> as CH<sub>4</sub></u>	<u>NO<sub>x</sub> as NO<sub>2</sub></u>
boiler reduction	0.004-0.12	0	0.14	0.02	0.97-1.86
gas scrubbing reduction	0	505.3	0	0	0
REDUCTION T/Y	0.04-0.12	505.3	0.14	0.02	0.97-1.86

When firing fuel oil the total emission reduction will be as follows:

	<u>TSP</u>	<u>SO<sub>x</sub> as SO<sub>2</sub></u>	<u>CO</u>	<u>TOG as CH<sub>4</sub></u>	<u>NO<sub>x</sub> as NO<sub>2</sub></u>
boiler reduction	0.95	11.99	0.31	0.06	7.33
gas scrubbing reduction	0	505.3	0	0	0
REDUCTION T/Y		517.29			



# GAS SYSTEM FOR DESULFURIZER EXPANSION



\* LINE IN RED IS NEW PART OF THE SYSTEM WHICH ALLOWS ADDITIONAL SULFUR RECOVERY



a step ahead of tomorrow

October 26, 1977

Lion Oil Company  
P. O. Box 2860  
Bakersfield, CA 93303

Attention: Mr. W. D. Krostek  
Process Engineer

Subject: Lion Oil Company  
ZED G.O. 24676

Gentlemen:

A review of our records indicates that Mr. John LeJeal was at the subject installation on September 26 for the purposes of inspecting an economizer complaint that the unit had developed several leaks.

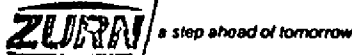
Originally we thought that the report from Mr. LeJeal was given to the customer representative of Lion Oil but in the interim we found that there was no apparent documentation of the findings of Mr. LeJeal which we hoped to present in this correspondence.

Inspection of the economizer and boiler by Mr. LeJeal revealed a heavy accumulation of soot and with this heavy accumulation, and although not verified, it is probable that the leaks are a result of corrosion.

Mr. LeJeal also attended a meeting with plant management and covered the following points:

- A. Lion Oil Company was to install a bypass system on the feedwater line, to allow the boiler to be put back into service and the economizer left dry.
- B. Lion Oil was to remove the defective tube section to determine the cause of the failure. If acid attack is the cause, Lion Oil is to consult with Zurn Energy Division design to revise the system to increase the economizer operating temperature.
- C. Lion Oil Company is to retube the economizer at a later date.

Mr. LeJeal's inspection further revealed that the refractory arch and plenum chamber are in satisfactory condition. There is one bad crack about 1/2" wide that was found on the front wall at approximately 12:00 o'clock running at an angle to the left of the furnace roof. Mr. LeJeal feels that it should create no problem at this time if it doesn't get any worse.



Lion Oil Company

-2-

October 26, 1977

The inspection also revealed a small section of plastic has fallen from the top of the vortex opening and although no problem at this time, it should be closely observed to insure that the condition does not worsen.

We apologize for the delay in this correspondence and if there are any questions or comments, please feel free to contact us at your convenience.

Yours very truly,

ENERGY DIVISION  
ZURN INDUSTRIES, INC.

David W. Smith  
Assistant Manager-Service

DWS/rw

cc: Mr. M. C. Patten, Costa Mesa, Cal.

# M. C. PATTEN & CO. INC.

125 Baker Street · Suite 108 · Costa Mesa, California 92626 · (714) 540-8225

July 27, 1977

Lion Oil Company  
Mr. Walter Krostek  
P O Box 2860  
Bakersfield, Ca. 93303

Gentlemen:

ZURN CO BOILER BURNER  
MODIFICATIONS & TUNE-UP  
ZED GO 24676  
MCP FILE E-2906 TP

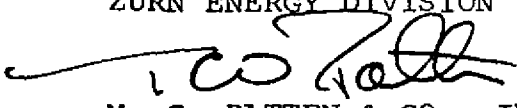
Thanks for our meeting last Thursday, July 21, during which we discussed the performance and emission levels of your new CO boiler. Zurn Energy Division is certainly as anxious as you are to optimize the performance of this boiler and will be working diligently to make suggested burner modifications followed by an extensive tune-up program.

As suggested in our meeting, Zurn will recommend an optimized gas burner tip which will simultaneously reduce your NOX level and provide more efficient combustion. As you know, the present gas tips are designed for full load, 200,000 PPH firing of CO gas. Theoretically, firing all of the CO gas available and only enough fuel gas to produce 140,000 PPH, the gas tips should be sized for approximately one half the fuel flow for which they are presently designed.

We will be in touch with you shortly regarding actual burner modifications which we would like to see made immediately, and will follow up shortly thereafter with a tentative schedule for testing and tune up. In the meantime, we appreciate your patience and cooperation in cordially working with us to resolve this matter. Meanwhile, please don't hesitate to call if there are any additional questions.

Yours very truly

ZURN ENERGY DIVISION



M. C. PATTEN & CO., INC.  
Thomas W. Patten  
District Sales Agents

TWP:mf

Service

Reliability

Integrity

# LION OIL COMPANY

SUBSIDIARY OF TOSCO CORPORATION

P. O. BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
(805) 327-2121



June 16, 1977

Zurn Industries, Inc.  
Erie City Energy Division  
1422 East Ave.  
Erie, PA 16503

Attention: Mr. Ron Blakesley

Re: Atmospheric Emissions  
Fluid Coker CO Boiler  
Erie City Order #24676

Dear Sir:

We are concerned with the massive amount of atmospheric emissions being released by our new CO Boiler. The table below compares the emissions coming from the boiler during the EPA/KCAPCD source test and the emissions which were projected in our application for operation of the boiler. These projected emissions were based on Zurn guarantees.

ATMOSPHERIC EMISSIONS  
CO Boiler at 120M#/hr steam

Emissions (tons/yr)	<u>Oil Firing</u>		<u>Gas Firing</u>	
	Actual	Projected	Actual	Projected
Hydrocarbon	6700	15.7	1200	1.4
Particulate	65	79.6	47	7.1
Nitrogen Oxide (NO <sub>x</sub> )	400	181.9	180	127.5
Sulfur Oxide (SO <sub>2</sub> ) <sup>2</sup>	570	701.1	940	676.5
Carbon Monoxide	175	15.7	93	8

The discrepancies between actual emissions and projected emissions are extreme for hydrocarbons and carbon monoxide; they have to be reduced as soon as possible, otherwise the boiler might have to be shut down.

Zurn Industries, Inc.  
Page (2)

We need your prompt suggestions for changes, operational and /or design, so that we can continue to use the boiler.

Enclosed for your information is a copy of the Source Test Report.

Sincerely yours,

*W. D. Krostek*

W. D. Krostek  
Process Engineer

WDK/pt

cc: Tom Patton, M Patten & Co., Inc.

LION OIL COMPANY

SUBSIDIARY OF TORCO CORPORATION

P. O. BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
(805) 327-2121



May 17, 1977

R. L. O'Connell, Director  
Enforcement Division  
United States Environmental Protection  
Agency  
Region IX  
100 California Street  
San Francisco, CA. 94111

Re: NSR 4-4-8 SJ 76-16

Gentlemen:

This is to notify you that our CO Boiler first produced steam using CO flue gas and auxiliary fuel on May 16, 1977.

Source tests are now scheduled starting at 7:30 A.M. on May 23, 1977 to verify boiler emission levels as required in your Approval to Construct and Kern County Air Pollution Control District's "Authority to Construct." The source test procedures utilized will be those in "Standards of Performance for New Stationary Sources" where applicable and per common industry methods otherwise by an independent testing firm.

We have notified your contractor, Accurex Corporation, of this test schedule.

If you need further information, please feel free to call.

Sincerely,

A handwritten signature in cursive script that reads "J. L. Caufield".

J. L. Caufield  
Environmental Engineering  
Supervisor

JLC:jc

cc: Kern County Air Pollution Control District

bcc: JAK	DCW	Tosco - L.A.
JDK	JLC	P. G. Mikolaj
RDM	PCD	
ACR	CCW	
RWT		

LION OIL COMPANY

SUBSIDIARY OF TOSCO CORPORATION

P. O. BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
(805) 327-2121



April 1, 1977

R. L. O'Connell, Director  
Enforcement Division  
United States Environmental Protection Agency  
Region IX  
100 California St.  
San Francisco, CA. 94111

Re: NSR 4-4-8 SJ 76-16

Gentlemen:

This is to notify you that our CO Boiler first produced steam using auxiliary fuel only on March 18, 1977. Trial operation on auxiliary fuel only will continue until the CO Boiler is shut down to be tied into the fluid coker flue gas line during the fluid coker repair period of April 18, thru May 8, 1977. Start up of the CO Boiler burning CO from the fluid coker flue gas is scheduled to occur on May 9, 1977.

Source tests are scheduled starting May 16, 1977 to verify boiler emission levels as required in your Approval to Construct and Kern County Air Pollution Control Districts Authority to Construct. The source test procedures utilized will be those in "Standards of Performance for New Stationary Sources" by an independent testing firm.

If you need further information, please feel free to call.

Sincerely,

A handwritten signature in cursive script that reads "J. L. Caufield".

J. L. Caufield  
Environmental Engineering  
Supervisor

JLC:jc

cc: KCAPCD

bcc: JAK JLC  
JDK PCD  
RDM : CCW  
ACR  
RWT  
DCW

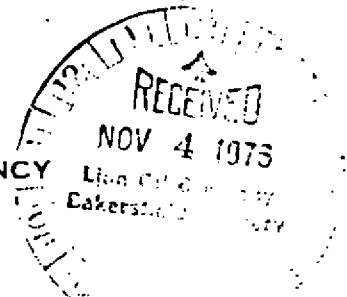
Tosco - L.A.

D. A. Nebeker  
P. Mikolaj





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
100 CALIFORNIA STREET  
SAN FRANCISCO, CALIFORNIA 94111



In Reply NSR 4-4-8  
Refer to: SJ 76-16

*John C. Beale*  
NOV 2 1976

Subsidiary of the Oil Shale Corp.  
Lion Oil Company  
Attn: J. A. Kamps  
P.O. Box 2816  
Bakersfield CA 90303

Gentlemen:

In accordance with provisions of the Clean Air Act as amended (42 U.S.C. 1957 et seq.) the Environmental Protection Agency has reviewed the application submitted by Lion Oil Company, Bakersfield Refinery for approval to construct a carbon monoxide (CO) boiler and to perform plant modifications as described on the attached permit.

The emissions resulting from the plant modifications have been compared with the emissions reductions afforded by the installation of the CO boiler. A request for public comment regarding EPA's proposed action on the application for the CO boiler has been published. After consideration of the net effect on ambient air quality of the CO boiler and the plant modifications, and after consideration of expressed views of all interested persons, including State and local agencies and pertinent Federal statutes and regulations, the enclosed Approval to Construct/Modify stationary sources of air pollutants has been issued for the facilities identified.

Approval to Construct/Modify shall take effect on the date of this Notice.

Sincerely,

R. L. O'Connell, Director  
Enforcement Division

Enclosures

cc: California Air Resources Board  
Attn: Harmon Wong-Woo  
Kern County Air Pollution Control District  
Attn: Citron Toy

Approval to Construct/Modify  
a Stationary Source

NOV 4 1976

In compliance with provisions of the Clean Air Act, as amended (42 U.S.C. 1857 et seq.), the Lion Oil Company is granted approval to accomplish the following construction at the Bakersfield refinery, 6500 Refinery Avenue, Bakersfield, Kern County, California.

1. Install a carbon monoxide boiler in the coker unit.
2. Convert heaters for the A and B reformers and the hydrocracker to both No. 2 fuel oil and gas firing.
3. Replace two heaters for the A reformer with larger heaters to provide a 45-percent increase in capacity.
4. Install three 150,000 barrel crude oil tanks.
5. Install a stripper for treating phenolic sour water.

Construction and operation will be in accordance with the plans submitted with the application and with the Federal regulations governing the Review of New or Modified Stationary Sources [40 CFR 52.233(g)] and other conditions attached to this document and made a part of this approval.

Failure to comply with any condition or term set forth in this approval shall constitute a violation of 40 CFR 52.233(g), a federally promulgated portion of the California State Implementation Plan, and will be considered grounds for enforcement action pursuant to Section 113 of the Clean Air Act.

This approval to Construct/Modify a stationary source grants no relief from the responsibility for compliance with any other applicable provision of 40 CFR Parts 52, 60 and 61 or any applicable Federal, State, or local regulations.

This approval shall become effective immediately and remain in effect for two years after date of this approval, on the condition that construction is begun within this period and such work is not suspended for more than one year.

Dated:

10/5/76



R. L. O'Connell  
Director, Enforcement Division

## I. NOTIFICATION OF STARTUP

The Regional Administrator shall be notified of the anticipated date of initial startup not more than sixty (60) days nor less than thirty (30) days prior to such date and shall be notified of the actual date of startup within fifteen (15) days after such date.

## II. FACILITIES OPERATION

All equipment, facilities, or systems installed or used to achieve compliance with the terms and conditions of this approval to Construct/Modify shall at all times be maintained in good working order and be operated as efficiently as possible.

## III. MALFUNCTION

The Regional Administrator shall be notified within fifteen (15) days following any sudden and unavoidable failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions, and shall be notified of the estimated resultant emissions in excess of those projected under normal operations, and the methods to be utilized to restore normal operations.

## IV. RIGHT TO ENTRY

The Regional Administrator, the head of the State Air Pollution Control Agency, and/or their authorized representatives, upon the presentation of credentials shall be permitted:

- A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this approval to Construct/Modify; and
- B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this approval to Construct/Modify; and
- C. To inspect any equipment, operation, or method required in this approval to Construct/Modify; and
- D. To sample emissions from the source.

## V. TRANSFER OF OWNERSHIP OR CONTROL

In the event of any changes in control or ownership of facilities to be constructed or modified, the succeeding owner or controller shall be notified of the existence of this approval to Construct/Modify by letter, a copy of which shall be forwarded to the Regional Administrator and the State and local Air Pollution Control Agency.

## VI. SEVERABILITY

The provisions of this approval to Construct/Modify are severable, and, if any provision of this approval to Construct/Modify is held invalid, the remainder of this approval to Construct/Modify shall not be affected thereby.

## VII. SPECIAL CONDITIONS

Operation of the units will be subject to the following Special Conditions:

- A. Boilers 1 through 6 will be removed from steam production service and not operated unless the CO boiler, Boiler No. 7, or Boiler No. 8 is shut down. Average yearly steam production from fired boilers will not exceed 219,200 lbs/hour. Steam production from fired boilers will not exceed 280,000 lbs/hour at anytime.
- B. Fuel oil consumed in the CO boiler will be at least equal to No. 6 fuel oil in quality with a sulfur content not exceeding 1.5 percent.
- C. Fuel oil will be delivered to the burners of the CO boiler at the temperature and pressure required by the manufacturer's guarantee. Atomizing steam will be provided as required by the manufacturer.
- D. Sufficient recording instrumentation will be provided to document total steam production from fired boilers, and a log or suitable recording instruments will be provided to document times of individual boiler operation.
- E. A source test will be performed on the CO boiler within 60 days after startup to verify boiler emission levels, as guaranteed by the manufacturer, are being met when burning coker flue gas with No. 6 fuel oil. The source test procedures will accord with good practice and those methods utilized for source tests under the requirements of "Standards of Performance for New Stationary Sources" (See 40 CFR 60.8, copy attached). Test methods will be subject to the approval of the Regional Administrator.

- F. Fuel oil burned in the converted burners will be at least equal to No. 2 fuel oil in quality with a sulfur content not exceeding 0.8 percent.
- G. The vapor pressure of petroleum liquids stored in the three 150,000 barrell floating roof tanks will not exceed 3.0 psia. Operation of the tanks will be monitored in accordance with the federal regulations titled "Performance Standards for New Stationary Sources" (40 CFR 60), Subparts A and K.
- H. Sulfur dioxide monitoring and control measures will be provided as described below; or a tail gas treating unit will be provided downstream of the sulfur plant that receives the off-gas from the phenolic sour water stripper. The treating unit will be designed to remove at least 90 percent of the sulfur in the tail gas.

1. Monitoring

- a. Within 30 days of the start of construction of the phenolic sour water stripper installation, the Lion Oil Company will have installed one monitoring station for sulfur oxides which meets the technical and location specifications of the EPA and Kern County APCD.
- b. The Lion Oil Company will perform continuous ambient air monitoring. All monitoring data will be reported to the Kern County APCD at least monthly or as further specified by that agency.
- c. The Lion Oil Company will report any ambient air quality measurement in excess of the National Ambient Air Quality Standards for sulfur oxides (3-hour and 24-hour as provided by 40 CFR 50) to the Kern County APCD and the Director, Enforcement Division, EPA Region IX, within twenty-four (24) hours of the time of the exceedance. The Lion Oil Company will report (to the same addressees) measurements in excess of the annual average for sulfur oxides and/or nitrogen dioxide within five (5) days of the completion of a one-year period beginning with the monitoring station startup.

- d. In the event that any National Ambient Air Quality Standard for sulfur oxides (SO<sub>x</sub>) is exceeded at any time at the monitoring station, the Lion Oil Company will take the control measures specified herein at H.2. to maintain total emissions at the existing levels. The requirements of this condition must be met within twenty-four hours of an exceedance of the 3-hour and/or 24-hour SO<sub>x</sub> standard and within five days of an exceedance of the annual average standard for SO<sub>x</sub>.

2. Control Measures

- a. The Lion Oil Company, in the event of an exceedance of a National Ambient Air Quality Standard for sulfur oxides after the construction of operation of the phenolic sour water stripper, will take control measures to reduce sulfur oxide emissions in the amount of 0.5 tons per day. These measures may consist of:
- (1) Removing equipment from service; or
  - (2) Using fuel oil or fuel gas with a lower sulfur content; or
  - (3) Addition of control technology; or
  - (4) Any combination of the above.
- b. Any emission reductions accomplished for the purpose of meeting this condition will be permanent and emissions will not be increased thereafter.

SUBSIDIARY OF THE OIL SHALE CORPORATION  
**LION OIL COMPANY**

P. O. BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
(805) 327-2121



August 26, 1976

Richard L. O'Connell, Director  
Enforcement Division  
United States Environmental Protection Agency  
Region IX  
100 California St.  
San Francisco, CA. 94111

Gentlemen:

This is in response to your letter of June 10, 1976 requesting our best projection of future changes. Our plans are changing rapidly due to the recent changes in regulations. However, we expect the following projects, which may increase emissions, to occur in the next few years. The total emission changes vs. the CO boiler reduction are in Appendix E.

Conversion of  
Heaters to gas and/or  
Oil Firing

The latest information we have on natural gas availability is that the A Reformer Heaters, B Reformer Heaters, and part of our Hydrocracker Heaters, will be changed to a status where they no longer will have a firm natural gas supply in December 1976. Therefore it will be necessary to modify these heaters, so that oil can be used when natural gas is not available.

The remaining Hydrocracker Heaters will still be on firm natural gas. However, as the natural gas supply gets shorter, we expect that they will have to be converted in about three years.

The emission calculations for these heaters are in Appendix A.

Waste Water  
Treatment

Several changes are expected to be necessary in the next two years in conjunction with waste water disposal.

Richard L. O'Connell, Director  
August 26, 1976  
Page 2

Waste Water  
Treatment (Cont'd)

Most of the revisions are expected to either decrease emissions or leave them unchanged. The change which may increase emissions is in Appendix B.

Gasoline Lead &  
Sulfur Phase Down  
Changes

We are in the process of reviewing the modifications necessary to meet lead and sulfur phase down requirements for gasoline. The modifications which may increase emissions are in Appendix C.

Crude Storage  
Tanks

It is expected that additional crude oil storage will be necessary in three years. The estimated emission increases are in Appendix D.

If you require further information or have any questions, please contact Jack Caufield. Please address all correspondence to either my attention or Jack Caufield.

Yours truly,



J. A. Kamps  
Manager of Engineering

JLC:jc

cc: Kern County Air Pollution Control District

bcc: JAK            Tosco - L.A.  
      JDK  
      RDM            D. A. Nebeker  
      ACR            P. Mikolaj  
      RWT  
      DCW  
      JLC  
      PCD  
      CCW



## "A" Reformer Heater Conversion From Fuel Gas to #2 Fuel Oil

## Present Emissions:

We use refinery fuel gas at approximately 1348 BTU/SCF and 5,000 grains/MSCF (714.2 Lbs/MMSCF)

$$\frac{86.8 \text{ MM BTU/H} \times 24 \text{ H/D} \times 365 \text{ D/Y}}{1348 \text{ BTU/SCF}} = 564.1 \text{ MMSCF/Y of 1348 BTU gas}$$

$$\frac{564.1}{1050 \text{ BTU/SCF}} \times 1348 \text{ BTU/SCF} = 724.2 \text{ MMSCF/Y of 1050 BTU gas/year}$$

	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
EF	3 Lbs/MMSCF	5 to 15 Lbs/MMSCF	120 to 230 Lbs/MMSCF	714.2 Lbs/MMSCF	17 Lbs/MMSCF
Emissions (T/Y)	1.1	1.8 to 5.4	43.4 to 83.3	258.6	6.2

## Emissions after Conversion:

$$\frac{86.8 \text{ MM BTU/H} \times 24 \times 365}{140,000 \text{ BTU/Gal}} = 5,431.2 \text{ M Gal/Y}$$

	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
EF	1 Lbs/M Gal	2 Lbs/M Gal	22 Lbs/M Gal	(142)(.8%)+(2)(.8%)	5 Lbs/M Gal
Emissions (T/Y)	2.7	5.4	59.7	312.8	13.6

## Emission Change:

	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
(T/Y)	1.6	3.6 to (0)	16.3 to (-23.6)	54.2	7.4

## "B" Reformer Heater Conversions from Fuel Gas to #2 Fuel Oil

## Present Emissions:

We use refinery fuel gas at approximately 1348 BTU/SCF and 5,000 grains/MSCF (714.2 Lbs/MMSCF)

Heaters #22H11, 22H12, 22H13, 22H14 and 22H15 will be converted for a combined total of 94.6 MM BTU/H

$$\frac{94.6 \text{ MM BTU/H}}{1348 \text{ BTU/SCF}} \times 24 \text{ H/D} \times 365 \text{ D/Y} = 614.8 \text{ MMSCF/Y of 1348 BTU gas}$$

$$\text{or } 789.3 \text{ MMSCF/Y of 1050 BTU gas}$$

	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
EF	3 Lbs/MMSCF	5 to 15 Lbs/MMSCF	120 to 230 Lbs/MMSCF	714.2 Lbs/MMSCF	17 Lbs/MMSCF
Emissions (T/Y)	1.2	2.0 to 5.9	47.3 to 90.7	281.9	6.7

## Emissions after Conversion:

Use #2 fuel oil at 0.8% max. sulfur

$$\frac{94.6 \text{ MM BTU/H}}{140,000 \text{ BTU/Gal}} \times 24 \times 365 = 5,919.1 \text{ M Gal/Y}$$

	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
EF	1 Lb/M Gal	2 Lbs/M Gal	22 Lbs/M Gal	(142)(.8%)+(2)(.8%)	5 Lbs/M Gal
Emissions (T/Y)	3.0	6.0	65.1	336.2 4.7 <u>340.9</u>	14.8

## Emission Change:

	H.C.	Part	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
(T/Y)	1.8	4 to 0.1	17.8 to (-25.6)	59	8.1

Dec. 2, 1976

## Hydrocracker Heaters Conversion from Fuel Gas to #2 Fuel Oil

## Present Emissions:

We use refinery fuel gas at approximately 1348 BTU/SCF and 5,000 grains/MSCF (714.2 Lbs/MMSCF)

The heaters to be converted are 21H17, 21H19, and 21H20 for a combined total of 89.6 MM BTU/H.

$$\frac{89.6 \text{ MM BTU/H}}{1348 \text{ BTU/SCF}} \times 24 \text{ H/D} \times 365 \text{ D/Y} = 582.3 \text{ .MMSCF/Y of 1348 BTU/gas}$$

$$\text{or } 747.5 \text{ .MMSCF/Y of 1050 BTU/gas}$$

	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
EF	3 Lbs/MMSCF	5 to 15 Lbs/MMSCF	120 to 230 Lbs/MMSCF	714.2 Lbs/MMSCF	17 Lbs/MMSCF
Emissions (T/Y)	1.1	1.9 to 5.6	44.8 to 86.0	266.9	6.4

## Emission after Conversion:

$$\frac{89.6 \text{ MM BTU/H}}{140,000 \text{ BTU/Gal}} \times 24 \text{ H/D} \times 365 \text{ D/Y} = 5606.4 \text{ M Gal/Y}$$

	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
EF	1 Lb/M Gal	2 Lbs/M Gal	22 Lbs/M Gal	(142)(.8%)+(2)(.8%)	5 Lbs/M Gal
Emissions (T/Y)	2.8	5.6	61.7	332.9	14

## Emission Change:

	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
(T/Y)	1.7	3.7 to 0	16.9 to (-24.3)	66	7.6

Additional Hydrocracker Heaters Conversion from Fuel Gas to #2 Fuel Oil

We expect that conversion of these heaters will be necessary in about three years

Present emissions:

We use refinery fuel gas at approximately 1,348 BTU/SCF and 5,000 grains/MMSCF

The heaters to be converted are 21H11, 21H12, 21H13, 21H14, 21H15 and 21H16 for a combined total of 89.6 MM BTU/Hr.

$$\frac{89.6 \text{ MM BTU/Hr.}}{1348 \text{ BTU/SCF}} \times 24 \text{ H/D} \times 365 \text{ D/Y} = 582.3 \text{ MM SCF/Y of 1348 BTU gas}$$

$$\text{or } 747.5 \text{ MM SCF/Y of 1050 BTU gas}$$

	H. C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
EF	3 Lbs/MMSCF	5 to 15 Lbs/MMSCF	120 to 230 Lbs/MMSCF	714.2 Lbs/MMSCF	17 Lbs/MMSCF
Emissions T/Y	1.1	1.9 to 5.6	44.8 to 86.0	266.9	6.4

Emissions after Conversion:

$$\frac{89.6 \text{ MM BTU/Hr.}}{140,000 \text{ BTU/Gal.}} \times 24 \text{ H/D} \times 365 \text{ D/Y} = 5606.4 \text{ M Gal/Y}$$

	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
EF	1 Lb/M Gal	2 Lbs/M Gal	22 Lbs/M Gal	(142)(.8%)+(2)(.8%)	5 Lbs/M Gal
Emissions T/Y	2.8	5.6	61.7	332.9	14
Emission Change:	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
(T/Y)	1.7	3.7 to 0	16.9 to (-24.3)	66	7.6

## Appendix B

### Waste Water Treatment

Revisions are planned to our waste water disposal system which would bring us into compliance with proposed regulations and the basin plan of the State of California, Regional Water Quality Control Board. One of the items planned is a sour water stripper for the phenolic sour water. The stripper will increase emissions somewhat indirectly. The stripped gases will be sent to our existing sulfur plant. Over 92% of the sulfur will be recovered there, but some increase will occur. The tail gas from the sulfur plant is incinerated, but I would expect the only significant change in the emissions from the incinerator would be in sulfur emissions.

Present load on the sulfur plant is approximately 11,200 pounds per day. Emissions from the plant are approximately:

$$11,200 \text{ lbs.} \quad \left( \frac{64}{32} \frac{\text{SO}_2}{\text{S}} \right) \quad (100-97.5\% \text{ eff.}) = 560 \text{ lbs. SO}_2 \text{ per day} = 102.2 \text{ T/Y}$$

Load after phenolic sour water stripping:

$$19,040 \text{ lbs.} \quad \left( \frac{64}{32} \right) \quad (100-95\% \text{ eff.}) = 1904 \text{ lbs. SO}_2 \text{ per day} = 347.5 \text{ T/Y}$$

$$\text{Emission change} \quad 347.5 - 102.2 = 245.3 \text{ T/Y}$$

Appendix C

Refinery Revisions to Meet Load Phasedown Requirements

We estimate that within one year it will be necessary to replace two "A" Reformer heaters with slightly larger heaters as part of the revisions necessary to reduce gasoline lead content. The heaters are 16H11 and 16H15.

Emissions:

16H11 Present heat release 40 MM BTU/Hr.

Proposed replacement  
50 MM BTU/Hr.  
based on 60% eff.

This leaves a net increase of 10 MM BTU/Hr.

16H15 Present heat release 8.6 MM BTU/Hr.

Proposed replacement  
20 MM BTU/Hr.  
based on 60% eff.

This leaves a net increase of 11.4 MM BTU/Hr.

Total combined heat release increase proposed is 21.4 MM BTU/Hr.

$\frac{21.4 \text{ MM BTU/Hr.}}{140,000 \text{ BTU/Gal.}} \times 24 \times 365 = 1,339 \text{ M Gal/Y of \#2 Fuel Oil}$

	HC	Part.	NO <sub>x</sub>	SO <sub>x</sub>	CO
EF	1 Lb/M Gal	2 Lbs/M Gal	22 Lbs/M Gal	(142)(.8%)+(2)(.8%)	5 Lbs/M Gal
Emission change	0.7	1.3	14.7	77.1	3.3

## Appendix D

We estimate that it will be necessary in approximately three years to install additional crude tankage. We expect that 3-150,000 barrel tanks will be required. Emissions are as follows using AP-40:

$$L_y = K_t D^{1.5} \left( \frac{P}{14.7-P} \right)^{0.7} V_w^{0.7} K_s K_c K_p$$

where -

$K_t$  = 0.045 for welded tanks with pan or pontoon roof

$D$  = tank diameter 150 feet

$P$  = 2.15 psia at 80°F (estimated maximum)

$V_w$  = approximately 6.5 mph yearly average in Bakersfield per a personal communication from the National Weather Service

$K_s$  = 1.00 for new seals tube type

$K_p$  = 0.90 for white point

$K_c$  = 0.75 for crude oil

$L_y$  = 60 T/Y per each tank

3 tanks = 180 T/Y increase

Based on running approximately 28,000 barrels per day and using 0.02 for the clinging factor, withdrawal emissions should be less than 5 tons per year.

This leaves a total emission increase estimated at 185 T/Y

Appendix E

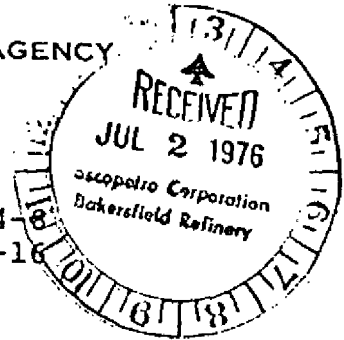
	<u>H. C.</u>	<u>Part.</u>	<u>NO<sub>x</sub> as NO<sub>2</sub></u>	<u>SO<sub>x</sub></u>	<u>CO</u>
A Reformer Heaters	1.6	3.6 to (0)	16.3 to (-23.6)	54.2	7.4
B Reformer Heaters	1.8	4 to (0.1)	17.8 to (-25.6)	59	8.1
Hydrocracker Heaters	1.7	3.7 to (0)	16.9 to (-24.3)	66	7.6
Additional Hydrocracker Heaters	1.7	3.7 to (0)	16.9 to (-24.3)	66	7.6
New Heater	0.7	1.3	14.7	77.1	3.3
Sour Water Stripper				245.3	
Crude tanks	185				
Proposed emission change	192.5	16.3 to (1.4)	82.6 to (-83.1)	567.6	34
CO Boiler reductions (using EPA estimates)	4,173	40	13	411	16,630
Remaining net	H.C.	Part.	NO <sub>x</sub> as NO <sub>2</sub>	SO <sub>x</sub>	CO
<u>Reduction after Refinery revisions</u> T/Y	3,980.5	23.7 to (38.6)	-69.6 to (70.1)	-156.6	16,596





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX  
100 CALIFORNIA STREET  
SAN FRANCISCO, CALIFORNIA 94111



NSR 4-4-8  
SJ 76-16

Subsidiary of the Oil Shale  
Corporation  
Lion Oil Company  
P. O. Box 2860  
Bakersfield CA 90303

JUN 29 1976

Attention: Mr. J. A. Kamps

Dear Mr. Kamps:

Your letter of March 18, 1976 requested an EPA Authority to construct for a carbon monoxide (CO) boiler to be added to the coker flue gas train at your refinery, located at 6500 Refinery Avenue, Bakersfield, California. The Ambient Air Quality Impact Report for this project is enclosed.

On the basis of the information submitted by your company, EPA has tentatively determined that the proposed project will not result in an interference with the attainment or maintenance of the National Ambient Air Quality Standards in the San Joaquin Valley Air Quality Control Region. EPA therefore intends to provide conditional approval for this project as proposed.

A copy of the Impact Report will be available for public inspection at the Kern County Air Pollution Control District, 1700 Flower Street, Bakersfield, California 93302, and at the EPA Region IX Office, 100 California Street, San Francisco, California 94111.

A public notice in a local newspaper will announce the proposed project, EPA's proposed action, and the above mentioned locations where the Ambient Air Quality Impact Report will be available. Comments on this proposed action may be submitted to the EPA San Francisco Regional Office, Attn: Permits Branch, for a period of thirty (30) days following the date of the Public Notice. Unless substantive new information is forthcoming, a final decision on the proposed action granting an Approval to Construct will be taken within thirty days from the close of the public comment period. Should there be a significant degree of public

comment with respect to the proposed action, EPA may hold a public hearing.

Should you have any questions concerning this matter, please do not hesitate to contact Mr. Jim Grove at (415) 556-4723.

Sincerely,



Richard L. O'Connell, Director  
Enforcement Division

Enclosure

cc: Kern County APCD, Bakersfield  
Attn: Citron Toy

California ARB, Sacramento  
Attn: William H. Lewis, Jr.  
Executive Officer

bcc:	JAK	<u>Tosco - L.A.</u>
	JDK	J. A. Bierbuam
	RDM	D. A. Nebeker
	ACR	W. W. Roberts
	RWT	P. Mikolaj
	DCW	
	JLC	
	PCD	

## AMBIENT AIR QUALITY IMPACT REPORT

### I. NAME OF APPLICANT:

Subsidiary of the Oil Shale Corporation  
Lion Oil Company  
P. O. Box 2860  
Bakersfield, CA 93303

### II. TYPE OF PROJECT:

An existing fluid coker unit at the Lion Oil Refinery will be modified by the construction of a carbon monoxide (CO) boiler. Some existing fossil fuel boilers will be retired from service.

### III. LOCATION:

The proposed project will be located at the Bakersfield Refinery of the Lion Oil Company, 6500 Refinery Avenue, Bakersfield, California.

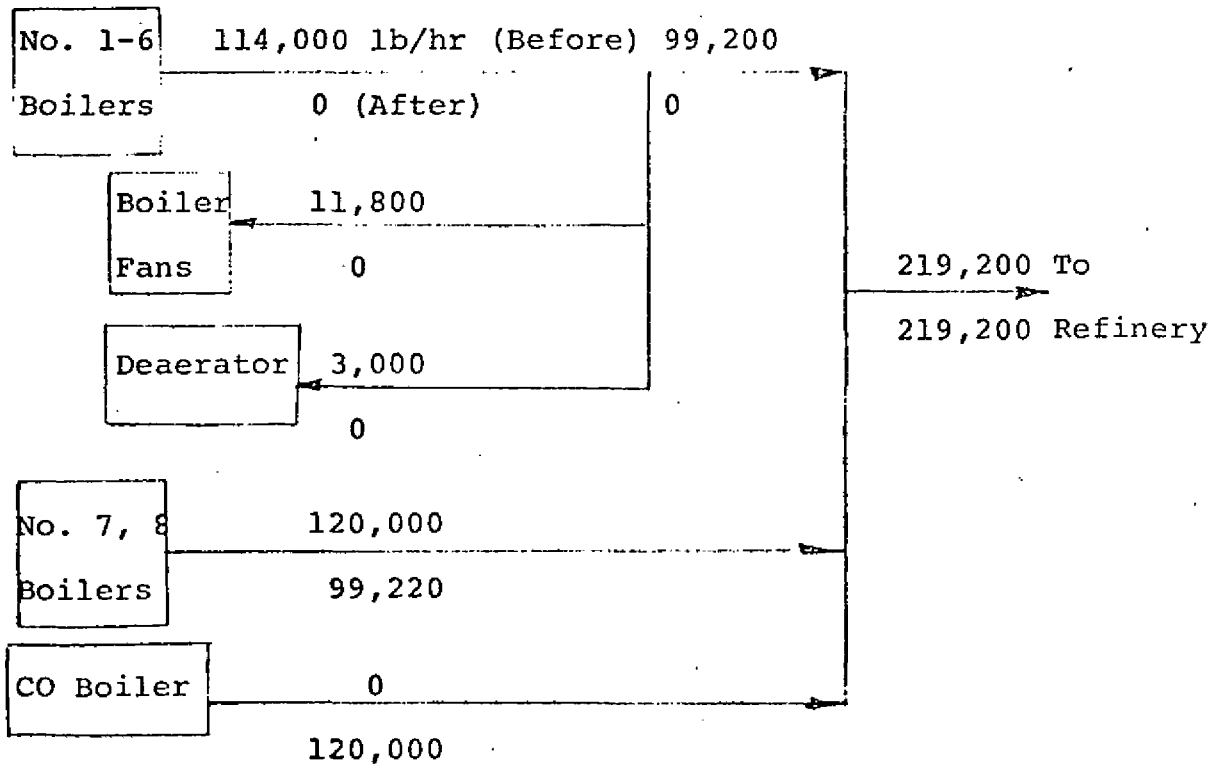
### IV. DESCRIPTION OF PROJECT:

An Erie City Type-O Keystone boiler will be installed to receive all of the flue gas from the fluid coker. With supplemental fuel firing, it will have a capacity of 160,000 pounds of saturated steam per hour at 275 psig. When operating only on No. 6 fuel oil or natural gas, it will have a capacity of 200,000 pounds per hour. Design details were supplied by the company. The new boiler will have a significantly higher thermal efficiency and will accomplish combustion with less NO<sub>x</sub> emissions than the existing boilers. The boiler will be provided with a separate stack, 85 feet high by 5-1/2 in diameter. Normally, flue gas will flow to the boiler through an economizer-type waste heat boiler and wet scrubber. Facility design will provide for bypasses to permit operation of the CO boiler independently of the waste heat boiler and wet scrubber. When the CO boiler is brought on stream, six existing boilers will be retired from service.

V. ENERGY BALANCE:

The proposed project will permit recovery of energy wasted to the atmosphere as hydrocarbons and carbon monoxide, and with retirement of existing boilers, effect economies through reduction in the steam consumption of boiler auxiliaries and through an increase in boiler efficiency. The net effect of these energy savings will be a reduction in emissions due to a reduction in the fuel presently consumed in existing boilers.

The following figure shows the steam balance for fired boilers in the refinery for both current and future conditions:



The estimated net decrease in fuel requirements resulting from combustion of carbon monoxide and an improvement in boiler efficiency over existing boilers is 37.9 million BTU per hour. When the new CO boiler is installed, Nos. 1-6 boilers will be shut down resulting in the saving of 14,800 lbs/hr of steam supplied to the auxiliaries of these

boilers. This results in a net saving of approximately 21.8 million BTU per hour. The combined effect of the carbon monoxide combustion, improvement in boiler efficiency, and the reduction in steam used by auxiliaries is to reduce No. 6 fuel oil consumption approximately 3.46 million gallons per year.

VI. EMISSIONS:

The effect on emissions of the reduction in consumption of No. 6 fuel oil as described in the previous section is given in Table I. The emission factors were derived from the document AP-42, Compilation of Air pollutant Emission Factors, published by the Environmental Protection Agency. They are based on the reported sulfur content of the fuel of 1.5 percent. Emission factors were used because source test data is not available.

TABLE I

Reduction in Emissions through Fuel Savings

<u>Pollutant</u>	<u>Emission Factor lb/1000 gal</u>	<u>Emission Reduction Tons/year</u>
Particulates	23	40
Sulfur oxides	238	411
Carbon monoxide	4	7
Hydrocarbons	3	5
Nitrogen oxides	60	160
Aldehydes	1	2

The emissions given in Table I are based on worst case conditions with the CO boiler operating; this represents firing the CO boiler to produce 120,000 pounds per hour of steam using No. 6 fuel oil as fuel. This is the minimum rate at which all of the carbon monoxide and hydrocarbon in the coker flue gas will be burned. When the CO boiler is operated at higher rates, emissions decrease. This results from decreased firing of other less efficient boilers whose emission rates are higher than the CO boiler. The figure for nitrogen oxide reduction includes an estimated reduction of 56 tons/year in NOx formation resulting from the improved means for firing No. 6 fuel oil.

Fuel savings result in a reduction in pollutants; a more significant reduction results from the removal of the pollutants in the coker flue gas stream itself through its combustion in the CO boiler. An estimate of this effect is summarized in Table II.

TABLE II

Reduction in Emissions through Combustion of Coker Flue Gas

<u>Pollutant</u>	<u>Emission from Coker (Tons/year) (a)</u>	<u>Emission From CO-boiler (Tons/year) (b)</u>	<u>Emission Reduction (Tons/year)</u>
Particulates	6.3	6.3 (d)	0
Sulfur oxides	9.0	9.0	0
Carbon monoxides	16,640.	17.	16,623
Hydrocarbons	4,170 (c)	2. (e)	4,168
Nitrogen oxides	40.	187. (f)	147 (increase)

Notes

- (a) Quantities are based on source test data and other information submitted by the applicant.
- (b) Quantities are based on CO boiler manufacturer's guarantees, except where noted.
- (c) Quantity given does not include methane in the amount of approximately 3,000 tons/year. All of this is burned in the CO boiler.
- (d) Some reduction in this amount is expected as a result of burning coke fines, Insufficient data is available to estimate the quantity.
- (e) This figure results from the assumption that no more than 1 ppm hydrocarbon is present in the exhaust gas.
- (f) This figure results from the assumption that 80% of the ammonia present in the coker flue gas is converted to nitrogen oxides and water and the balance is converted to nitrogen and water. The estimated amount of ammonia in the coker flue gas is 52.3 tons/year, which yields 114 tons/year NO<sub>x</sub>.

The combined emission reduction resulting from fuel savings and the reduction of coker flue gas emissions through combustion is shown in Table III.

TABLE III

Total Emission Reduction

<u>Pollutant</u>	<u>Emission Reduction (Tons/year)</u>
Particulates	40
Sulfur oxides as SO <sub>2</sub>	411
Carbon monoxide	16,630
Hydrocarbons	4,173
Nitrogen oxides as NO <sub>2</sub>	13.

The emission inventory for the coker and boilers before and after installation of the CO boiler is shown in Table IV.

TABLE IV

Emissions Before and After Installation of CO Boiler from Fired Boilers and Coker

<u>Pollutant</u>	<u>BEFORE (Tons/year)</u>		<u>Total</u>	<u>AFTER (Tons/year)</u>
	<u>No. 1-8 Boilers (a)</u>	<u>Coker Flue Gas (b)</u>		
Particulates	227	6.	233	118.5 193 35 35.3
Sulfur oxides	2,351	9.	2,360	12041,949 1950 17402
Carbon monoxide	39	16,640	16,679	4900 174T/Y
Hydrocarbons	40	4,170	4,210	37, 103 174
Nitrogen Oxides	592	40.	632	424 619 1000

(a) Quantities are based on data from AP-42.

(b) Quantities are based on test data and other information submitted by the applicant.

VII. CURRENT AIR QUALITY CONSIDERATION

A. Ambient Air Quality Standards

In 1971, the Environmental Protection Agency (EPA) established the National Ambient Air Quality Standards (NAAQS) to safeguard

the health and welfare of the people of the United States. There are two levels of standards: (a) primary ambient air quality standards which, based on air quality criteria and allowing margin of safety, are requisite to protect the public health, and (b) secondary standards which, based on air quality criteria, are requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of air pollutants in the ambient air. The National Ambient Air Quality Standards are listed in the following table:

National Ambient Air Quality Standards

<u>POLLUTANT</u>	<u>AVERAGING TIME</u>	<u>NATIONAL STANDARDS</u>	
		<u>PRIMARY</u>	<u>SECONDARY</u>
Sulfur Oxide	Annual Average	80 ug/m <sup>3</sup>	-
	24 hour	365 ug/m <sup>3</sup>	-
	3 hour	-	1300 ug/m <sup>3</sup>
Nitrogen Dioxide	Annual Average	100 ug/m <sup>3</sup>	100 ug/m <sup>3</sup>
	Particulates	Annual Geo. Mean	75 ug/m <sup>3</sup>
	24 hour	260 ug/m <sup>3</sup>	150 ug/m <sup>3</sup>
Photochemical Oxidants	1 hour	160 mg/m <sup>3</sup>	160ug/m <sup>3</sup>
Carbon Monoxide	8 hour	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
	1 hour	40 mg/m <sup>3</sup>	40 mg/m <sup>3</sup>

B. Air Quality in the San Joaquin Valley AQCR

Air quality monitoring stations throughout the San Joaquin Valley Air Quality Control Region presently provide very little air quality data. This is due to the fact that there are few of these stations (except for particulates, for which there are 16 stations) and operation of the stations is discontinuous and infrequent. Based on data available, present air quality levels in San Joaquin Valley AQCR are estimated to be as follows:

SOx - below but near national standard

NO<sub>2</sub> - below national standard

Particulates - national standard exceeded

Carbon monoxide - national standard exceeded

Oxidants - national standard exceeded



VIII. AMBIENT AIR QUALITY ANALYSIS:

EPA's analysis shows that the project will result in significant reductions in carbon monoxide and hydrocarbon emissions, and modest reductions in sulfur oxide, nitrogen oxide, and particulate emissions. It is concluded that the project will not interfere with the attainment or maintenance of the National Ambient Air Quality Standards.

IX. PROPOSED ACTION AND CONDITIONS:

EPA intends to grant conditional approval to Lion Oil Company to construct a CO boiler as described in the application. This approval will be subject to conditions concerning notifications, procedures, monitoring, and, as a minimum, the special conditons listed below:

- 748  
20
1. Boilers 1 through 6 will be removed from steam production service and not operated unless the CO boiler is shut down. Total refinery steam production from fired boilers will be limited to 219,200 lbs/hr.
  2. Fuel oil consumed in the CO boiler will be at least equal to No. 6 fuel oil in quality with a sulfur content not exceeding 1.5 percent.
  3. Fuel oil will be delivered to the burners at the temperature and pressure required by the manufacturer's guarantee. Atomizing steam will be provided as required by the manufacturer.
  4. Sufficient recording instrumentation will be provided to document total steam production from fired boilers; and a log or suitable recording instruments will be provided to document times of individual boiler operation.
  5. A source test will be performed on the CO boiler within 60 days after startup to verify boiler emission levels, as guaranteed by the manufacturer, are being met when burning coker flue gas with No. 6 fuel oil. The source test procedures will accord with good practice and those methods utilized for source tests under the requirements of "Standards of Performance for New Stationary Sources" (See 40 CFR 60.8, copy attached). Test methods will be subject to the approval of the Regional Administrator.

JLC

7/8/76

Comments per your request:

1. Page 2 normal steam rate is 189,000 #/hr not 219,200. The 189M includes steam used by boilers.

2. Page 7. I see no reason why they can or should specify our steam rates. What if the CO Boiler is down at the same time as B Refiner?

Also the CO Boiler is a fired boiler and in a power outage 220,000 #/hr is not enough.

G Davis



**TOSCOPEYRO CORPORATION**

PETROLEUM REFINERS

P. O. BOX 2860

BAKERSFIELD, CALIFORNIA 93303

TEL (805) 324-4744

March 18, 1976

Director, Enforcement Division  
United States Environmental Protection Agency  
Region IX  
100 California St.  
San Francisco, CA. 94111

Gentlemen:

We plan to install a Carbon Monoxide (CO) Boiler on the flue gas from our Fluid Coking Unit downstream of the wet scrubber. This boiler is not being installed to increase steam production, but mainly as an air pollution control device. Steam production from existing boilers will be reduced correspondingly. This boiler is expected to eliminate the visual plume seen on cold mornings hanging over the refinery by destroying the hydrocarbons, carbon monoxide, and ammonia present in the flue gas from the Fluid Coker. A water vapor plume may still be present on cold mornings.

We have applied to the Kern County Air Pollution Control District for the construction of this boiler. They have reviewed the boiler installation and have issued an Authority to Construct with conditions to insure that emission reductions will occur.

In order for you to evaluate the installation of this new boiler, you will find enclosed a map showing the refinery location, a description of the equipment and processes, estimates of pollutant emission reductions, and a copy of the approved permit and conditions from Kern County Air Pollution Control District. KCAPCD has their assessment calculations available if you want to contact them.

Please feel free to call Jack Caufield at (805) 327-2121, if you need additional information.

Sincerely,

J. A. Kamps  
Manager of Engineering

JLC:jc  
attachments

cc: Kern County Air Pollution Control District

bcc: JAK w/attach:	ACR	w/o attach.	JLC w/attach	JAB w/o attach
JDK w/o attach	RWT	" "	PCD " "	DAN " "
RDM " "	DCW	" "		HMS " "

1. Equipment Location Drawing

Attached is a plot plan showing the location of the new CO Boiler.

2. Description of Equipment

The new CO Boiler will be an O-type design package boiler sized for a continuous capacity of 160,000 lbs. of steam per hour operating at 275 psig when fired with CO gas and supplemental fuel. The boiler will also be capable of a maximum continuous rating of 200,000 lbs. of steam per hour when firing either natural gas or No. 6 fuel oil.

This boiler will be used to produce steam by burning the CO and hydrocarbons in the flue gas downstream of the coker wet scrubber. It will also burn some of the coke particles not removed in the wet scrubber. CO Boilers on other Fluid Cokers have burned as much as one-third of the coke. We actually expect even better results since only the finest coke is left after the scrubber.

The boiler will be equipped with one Erie City vortex burner to burn CO gas (1600 - 1800 °F) complete with one ECED Model 42" SAOH-MJ-DAR natural gas, #6 fuel oil burner. It will have a steam driven fan and an 85 foot exhaust stack of its own with sample ports as approved by KCAPCD. Steam usage will not be increased with the new fan since it will operate as the let down station for 275 psi steam to 150 psi.

3. Description of Process

At present, the flue gas from the Fluid Coker passes thru a waste heat boiler, then thru a venturi scrubber before being exhausted into a joint stack with our number 5 and 6 boilers. The CO Boiler will be installed downstream of the venturi scrubber before numbers 5 and 6 boiler and will exhaust into a separate stack of its own.

The CO Boiler's operation is independent of the waste heat boiler and wet scrubber. In other words, a breakdown in the scrubber or waste heat boiler will not cause the CO boiler to shutdown nor will a shutdown of the CO Boiler cause the scrubber to shutdown.

The steam produced in the CO Boiler will replace steam produced in less efficient existing boilers and will reduce steam usage by shutdown of the steam driven fans on the present boilers. Present plans are to shutdown Boilers 1, 2, 3, 4, 5, & 6 and reduce the load on 7 & 8.

The auxiliary fuel for the CO boiler will be process gas (refinery gas plus natural) when available and No. 6 Fuel oil or pitch when not available.

4. Operating Schedule

This equipment will be operated on a continuous basis except for shutdowns for maintenance. Periods between shutdowns should be at least one year.

5. Process Weight

Not applicable

6. Fuels and Burners Used

Burner:

One (1) Erie City Vortex burner to burn CO gas complete with (1) ECED Model 42" SAOH-MJ-DAR natural gas, No. 6 Fuel Oil Burner.

Each vortex burner assembly shall consist of the following:

Two (2) sets adjustable louver type air registers, arranged to be controlled individually, manually.

One (1) front mounted electric gas ignitor located out of the main flame patch requiring no retraction complete with transformer.

Two (2) steam atomizing oil gun assemblies, complete with flexible metallic oil and steam hose, two (2) pressure gauges, two (2) manual shutoff valves and oil burner fittings.

One (1) auxiliary steam atomizing oil gun assembly.

One (1) gas manifold with jet type gas tubes complete with shutoff cocks. The construction of gas jets is such that they can be removed for cleaning while the burner is in operation.

Three (3) observation ports.

One (1) flame scanner swivel mount.

One (1) CO gas chamber with secondary air slots. The air and gas openings are arranged to provide intermingling streams of gas and air, with gas and air velocities sufficient to give the intimate mixture necessary for proper combustion.

Fuel Oil: No. 6 Fuel Oil at 180°F with a sulfur content less than 1.5 weight percent.

Process gas: Process gas is refinery produced gas mixed with natural gas when available. The sulfur content is usually about 5.0 grains/SCF.

7. Flow Diagram

See attachment

8. Drawings of Equipment

See attachment

9. Emission Reduction

- A. See Appendix A for calculations and information on present boiler operation.
- B. See Appendix B for calculations and information on Fluid Coker emission reductions.
- C. See Appendix C for calculations on the new CO Boiler emissions. Data on fuel consumption was furnished by the boiler manufacturer.
- D. See Appendix D for calculations on the net refinery emission reductions.
- E. See Appendix E for information on visual emissions.



**TOSCO PETRO CORPORATION**  
 PETROLEUM REFINERS  
 P. O. BOX 2860  
 BAKERSFIELD, CALIFORNIA 93303  
 TEL: (805) 324-4744

January 6, 1976

Tom Paxson  
 Kern County Air Pollution  
 Control District  
 P. O. Box 997  
 Bakersfield, CA. 93302

Dear Mr. Paxson:

This is to notify you of our plans re: boiler operations after startup and satisfactory trial operation of the CO boiler on the Fluid Coker Unit.

Boilers 81B17 (#7) and 81B18 (#8) will be kept in operation along with the CO boiler. One will operate at a fixed rate and the other boiler will swing with steam demand.

Boilers 81B11 (#1), 81B15 (#5), and 81B16 (#6) will be shut down and retained on a quick standby basis by utilization of a pilot flame in each. They would be used to supplement steam requirements during a shutdown of either 81B17, 81B18, or the CO boiler.

Boilers 81B12 (#2), 81B13 (#3), and 81B14 (#4) will be shut down and kept on a cold standby basis. If needed, they would be used only during a shutdown of the CO boiler.

If you have any additional questions, please give me a call.

Sincerely,

J. A. Kamps  
 Manager of Engineering

JAK:je

cc: JAK            Tosco - L.A.  
 JDK            J. A. Bierbaum  
 RDM            D. A. Nebeker  
 ACR  
 RWT            Tosco - Denver  
 DCW            H. M. Spence  
 JLC  
 PCD



**TOSCOPEIRO CORPORATION**

**PETROLEUM REFINERS**

**P. O. BOX 2860**

**BAKERSFIELD, CALIFORNIA 93303**

**TEL (805) 324-4744**

**February 24, 1976**

Tom Paxson  
Kern County Air Pollution Control District  
P. O. Box 997  
Bakersfield, California 93302

Re: CO Boiler for the Fluid Coking Unit

Dear Mr. Paxson:

This is to confirm our conversation of February 11, 1976 that the recording of the steam flow rate in lbs/hr, steam pressure by gauge and outlet flue gas temperature on boilers 1, 5, 6, 7 & 8, is sufficient to meet the requirements of Authority to Construct 2003019 - CO waste heat boiler condition 12. These boilers do not produce superheated steam, so steam temperature is not necessary to calculate BTU's input.

We also will cross out the word auxiliary before the word Terry in e., which was inadvertently left in the text as we discussed.

Please notify us if this does not satisfy your requirements, otherwise we will make the changes as noted.

Sincerely,

*Jack L. Caufield*  
Jack L. Caufield  
Environmental Engineer

JLC:jc

Enclosure

bcc: all w/enclosures

JAK  
JDK  
RDM  
ACR  
RWT  
DCW  
JLC  
PCD

Tosco L.A.  
J. A. Bierbaum  
D. A. Nebeker  
Tosco Denver  
H. M. Spence



KERN COUNTY HEALTH DEPARTMENT  
AIR POLLUTION CONTROL DISTRICT

1700 Flower Street  
P. O. Box 997  
Bakersfield, California 93302

(805) 861-3682

OWEN A. KEARNS, M.D., M.P.H.  
Director of Public Health  
Air Pollution Control Officer



Application No.: 2003019

Date: January 12, 1976

AUTHORITY TO CONSTRUCT

An AUTHORITY TO CONSTRUCT is granted as of 1-13-76

TO:

Legal Owner  
or Operator:

TOSCOPEPETRO CORPORATION

FOR:

The equipment described below and as shown on the approved plans and specifications and subject to the conditions listed.

Equipment  
Description  
and  
Conditions:

One 200,000 lbm/hr ERIE CITY ENERGY DIVISION TYPE O CARBON MONOXIDE WASTE HEAT BOILER TO SERVE EXISTING FLUID COKER, including the following equipment and design specifications:

SEE ATTACHED SHEETS FOR EQUIPMENT DESCRIPTION AND CONDITIONS

Location:

6500 Refinery Avenue, Bakersfield

This AUTHORITY TO CONSTRUCT is NOT a PERMIT TO OPERATE.

Approval or denial of the application for permit to operate the above equipment will be made after an inspection to determine if the equipment has been constructed in accordance with the approved plans and specifications and if the equipment can be operated in compliance with all Rules and Regulations of the Kern County Air Pollution Control District.

Please notify Mr. Thomas Paxson at (805) 861-3682 when construction of equipment is completed.

It is the applicant's responsibility to comply with all laws, ordinances and regulations of other governmental agencies which are applicable to the equipment to be constructed. For example, prior clearance must be obtained from the State Department of Industrial Safety concerning compliance with applicable regulations.

This AUTHORITY TO CONSTRUCT shall expire and the application shall be cancelled two years from the date of issuance of the authority to construct unless it is renewed. (Rule 205)

Owen A. Kearns, M.D., M.P.H.  
Air Pollution Control Officer

By: [Signature]

For Period: 1-13-76 to 1-13-78

KERN COUNTY HEALTH DEPARTMENT  
AIR POLLUTION CONTROL DISTRICT

1700 Flower Street  
P. O. Box 997  
Bakersfield, California-93302

OWEN A. KEARNS, M.D., M.P.H.  
Director of Public Health  
Air Pollution Control Officer



2003019

EQUIPMENT DESCRIPTION: One 200,000 lbm/hr ERIE CITY ENERGY DIVISION TYPE O CARBON MONOXIDE WASTE HEAT BOILER TO SERVE EXISTING FLUID COKER, including the following equipment and design specifications:

- a. Keystone boiler with provisions for the introduction of fluid coker scrubber separator exhaust gas, either gas or oil auxiliary fuel and combustion air,
- b. One Erie City Energy Division model 42 SAOH-MJ-DAR combination gas and oil burner with steam atomization and CO gas vortex section,
- c. Flow meters with recorders for both oil and gas auxiliary fuels.
- d. Boiler firebox operating temperature sensor with indicator and recorder,
- e. Buffalo Forge Company forced draft combustion air fan with auxiliary Terry steam turbine drive,
- f. Keystone economizer section,
- g. Five and one half foot diameter stack exhausting eighty-five feet from ground equipped with sampling platform and ports.

OPERATIONAL CONDITIONS:

1. Particulate matter emissions from any single source operation shall be no more than 0.1 gr/scf and visible emissions from any single emission point shall be less than 20% opacity.
2. Sulfur compound emissions (as SO<sub>2</sub>) shall be less than 0.2% by volume (2000 ppm).
3. Carbon monoxide emissions shall be no more than 0.1% by volume (1000 ppm).
4. Oxides of nitrogen emissions (as NO<sub>2</sub>) shall be less than 0.3 lbm/MM Btu/hr except when fluid coker is not in operation and supplying CO gas for fuel.
5. Soot blowing resulting in visible emissions of 20% opacity or more shall be limited to no more than an aggregate of three minutes in any one hour.
6. Fuel oil shall be preheated to maintain a viscosity within the range recommended by the burner manufacturer.
7. No auxiliary fuel oil with specifications less rigid than number 6 shall be used.
8. Excess combustion air shall be maintained at a level adequate to insure efficient combustion of CO gas and auxiliary fuel.
9. No other equipment shall exhaust into the CO boiler exhaust stack.
10. Existing boilers 2, 3, and 4 shall be rendered inoperative no more than 30 days after startup of CO boiler.
11. Permit to Operate boilers 2, 3, and 4 shall be conditioned 30 days after startup of CO boiler to limit usage only to periods when CO boiler is not operating.
12. Boilers 1, 5, 6, 7 and 8 shall have steam production recorders and provisions for readily determining outlet temperature, pressure.
13. Ducon scrubber serving fluid coker shall be operated at no less than 40" W.C. at all times when coker is in operation.
14. All fluid coker exhaust gas shall be routed through the Ducon scrubber before passing through the CO boiler.

1700 Flower Street  
P. O. Box 997  
Bakersfield, California 93302

KERN COUNTY HEALTH DEPARTMENT  
AIR POLLUTION CONTROL DISTRICT


OWEN A. KEARNS, M.D., M.P.H.  
Director of Public Health  
Air Pollution Control Officer



NOTE:

1. The requirements of Rules 210.1 and 408 have been waived on the following basis:
  - a. The total emissions of particulates, sulfur compounds (as  $SO_2$ ), oxides of nitrogen (as  $NO_x$ ), carbon monoxide, and hydrocarbons from the refinery complex will be reduced with the startup of the CO boiler. This can only be accomplished if boilers 2, 3 and 4 are deactivated and the loads of boilers 1, 5, 6, 7 and 8 reduced. Conditions 10, 11 and 12 are necessary to insure that a reduction has taken place.
  - b. The CO boiler serves primarily as air pollution control equipment, i.e. the total emissions of air contaminants from the refinery complex is significantly reduced. Again, this can be assured only with the provisions of conditions 10, 11 and 12.
2. Source testing of the CO boiler will be required within 30 days after startup to insure that emissions comply with the limits of conditions 1, 2, 7 and 8.

By

  
\_\_\_\_\_  
Thomas Paxson  
Air Sanitation Engineer

APPENDIX A

With installation of the CO boiler it will no longer be necessary to operate Boiler numbers 1, 2, 3, 4, 5 & 6 except perhaps when the CO Boiler, #7, or #8 boiler is down for inspection.

Boilers No.	Efficiency (1975 Ave.)	April thru June 1975 Normal steam load lbs/hr	Steam consumed in operation of boiler fans	BTUs per hr. reduction at 1030 BTU/lb. steam
1.	71.8%	25,000	2,400	$\frac{(1030)(25,000)}{.718} = 35.9\text{MM}$
2.	78.7%	15,000	1,725	$\frac{(1030)(15,000)}{.787} = 19.6\text{MM}$
3.	75.6%	15,000	1,725	$\frac{(1030)(15,000)}{.703} = 22.0\text{MM}$
4.	70.3%	15,000	1,725	$\frac{(1030)(15,000)}{.703} = 22.0\text{MM}$
5.	68.2%	22,000	2,090	$\frac{(1030)(22,000)}{.682} = 33.2\text{MM}$
6.	74.1%	<u>22,000</u> <u>114,000</u>	<u>2,090</u> <u>11,755</u>	$\frac{(1030)(22,000)}{.741} = 30.6\text{MM}$ <u>163.3MM</u>

162.3 MM  
30.6  
193.9 MM

The CO boiler will also allow the shutting down of #1 Deaerator Pump 81G13 which uses 3,029 lbs/hr. steam.

Case 1

At the minimum burn rate which will completely burn all CO and hydrocarbons from the Coker, the CO boiler will produce 120,000 lbs/hr. steam.

120,000 lbs/hr. (new boiler) -  
 -114,000 lbs/hr. (shutdown boilers) ..  
 6,000 lbs/hr. steam in excess of shutdown boilers  
 +11,755 lbs/hr. consumed by shutdown boiler fans  
 + 3,029 lbs/hr. from deaerator pump shutdown  
 20,784 lbs/hr. additional steam not required from #7 and #8 boilers.

Some additional steam savings are expected from the reduction in load on #7 & #8 boiler fans, but this is not included

Page 2.01

APPENDIX A

Case 1 (cont'd)

<u>Boiler No.</u>	<u>Efficiency</u>	<u>Reduction in steam load</u>	
#7	71.3%	20,784	$\frac{(1030)(20,784)}{.70} = 30.6 \text{ MM BTU/Hr.}$
#8	68.7%		
Avg.	<u>70%</u>		

This will mean a total reduction from the present boilers of:

163.3 MM BTU/Hr.  
 30.6 MM BTU/Hr.  
193.9 MM BTU/Hr.

Case 1a

120,000 lbs/hr. steam production from the CO boiler firing process gas (combination of natural and refinery gas). Process gas is always used in the boilers when available and had an average gravity during the first six months of 1975 of 0.795, which is equivalent to 1348 BTU/SCF.

$$\frac{193.9 \text{ MM BTU/Hr.}}{1348 \text{ BTU/SCF}} \times 24 \text{ Hr./day} = 3,452 \text{ MSCFD}$$

	<u>Total Organic</u>	<u>Particulates</u>	<u>NO<sub>x</sub></u>	<u>SO<sub>x</sub>(500 grains/100 SCF)</u>	<u>CO</u>
EF	.00055	.00274	.0420	(.000522)(500)	.0031
EM	<u>1.9 T/Y</u>	<u>9.5 T/Y</u>	<u>1.45 T/Y</u>	<u>901 T/Y</u>	<u>10.7 T/Y</u>

APPENDIX A

Case 1b.

120,000 lbs/hr. steam production from the CO boiler firing No. 6 Fuel Oil if process gas is not available.

$$\frac{193.9 \text{ MM BTU/Hr.} \times 24 \text{ hrs./day}}{6.4 \text{ MM BTU/Bbl}} = 727 \text{ Bbl/day}$$
$$727 \text{ Bbl/day} \times 42 \text{ gal./Bbl} = 30.5 \times 10^3 \text{ gal./day}$$

	<u>Total Organic</u>	<u>Particulates</u>	<u>NO<sub>x</sub></u>	<u>SO<sub>x</sub> (1.25%)</u>	<u>CO</u>
EF	0.72	3.65	12.6	(25.73)(1.25)	0.72
EM	<u>22 T/Y</u>	<u>111.3 T/Y</u>	<u>384.3 T/Y</u>	<u>981 T/Y</u>	<u>22 T/Y</u>

Case 2

At maximum operation when burning all CO and hydrocarbons from the Coker, the new CO Boiler will produce 160,000 lbs/hr. steam.

This will decrease the load on #7 and #8 boilers by an additional 40,000 lbs/hr. for an additional reduction of:

$$\frac{(40,000)(1030)}{0.7 \text{ eff.}} = 58.9 \text{ MM BTU/Hr.}$$

We did not include any reduction for #7 & 8 boiler fan consumption, however some should occur.

Page 4 of 4

APPENDIX A

Case 2 (cont'd)

58.9 MM BTU/Hr.  
 +193.9 MM BTU/Hr. (see case 1)  
252.8 MM BTU/Hr. Total reduction from existing boilers

Case 2a

160,000 lbs/hr. steam production from new CO Boiler firing process gas with 1348 BTU/SCF

$\frac{252.8 \text{ MM BTU/Hr.}}{1348 \text{ BTU/SCF}} \times 24 \text{ hr./day} = 4,501 \text{ MSCF/day}$

	Total Organic	Particulates	NO <sub>x</sub>	SO <sub>x</sub> (500 gr/100 SCF)	CO
EF	0.00055	0.00274	0.0420	(0.000522)(500)	0.0031
EM	<u>2.5 T/Y</u>	<u>12.3 T/Y</u>	<u>189 T/Y</u>	<u>1175 T/Y</u>	<u>18 T/Y</u>

Case 2b

160,000 lbs/hr. steam production from new CO Boiler firing No. 6 Fuel Oil.

$\frac{252.8 \text{ MM BTU/Hr.}}{6.4 \text{ MM BTU/Bbl}} \times 24 \text{ Hr./day} = 948 \text{ Bbls/day}$

948 Bbls/day x 42 gal/Bbl = 39.8 x 10<sup>3</sup> gal./day

	Total Organic	Particulates	NO <sub>x</sub>	SO <sub>x</sub> (1.25% S)	CO
EF	0.72	3.65	12.6	(25.73)(1.25)	0.72
EM	<u>28.7 T/Y</u>	<u>145.3 T/Y</u>	<u>501.5 T/Y</u>	<u>1280.1 T/Y</u>	<u>28.7 T/Y</u>

APPENDIX B

Reduction in emissions from Fluid Coker. This is based on test data.

Fluid Coker operating at 6.7 M Bbls x 360 Days/year

	<u>Total Organic</u>	<u>Particulates</u>	<u>NO<sub>x</sub></u>	<u>SO<sub>x</sub></u>	<u>CO</u>	<u>NH<sub>3</sub></u>
EM	<u>5,835</u> T/Y	<u>6.3</u> T/Y	<u>39.9</u> T/Y	<u>9.0</u> T/Y	<u>16,644</u> T/Y	<u>52.3</u> T/Y
	of these emissions the boiler will eliminate:					
	<u>6,835</u> T/Y	<u>*</u>	<u>*</u>	<u>0</u>	<u>16,644<sup>**</sup></u>	<u>52.3</u> T/Y

\* It is expected that the boiler will destroy at least one-third of the particulates and will probably also effect the NO<sub>x</sub>. However, we are not now claiming an emission reduction for either.

\*\* This is based on 100% combustion of CO. Boiler is guaranteed to have less than 0.1% CO left.



APPENDIX C  
CO BOILER EMISSIONS

Case 1

120,000 lbs/hr steam production

Case 1a

Process gas 1,348 BTU/SCF

Fuel consumption 145,300 of 1002 BTU/SCF per Boiler Manufacturer.

145,300 SCF/hr. x 24 hrs/day = 3,487 MSCFD

See Appendix A for emission factors except NO<sub>x</sub> is guaranteed to be less than 0.2 lbs/MM BTU by the Boiler Manufacturer.

$$\frac{3,487 \text{ MSCFD}}{1348 \text{ BTU/SCF}} (1002 \text{ BTU/SCF}) = 2,592 \text{ MSCFD} \quad \text{Process gas consumption}$$

	Total Organic	Particulates	NO <sub>x</sub>	SO <sub>x</sub>	CO
EM	1.4 T/Y	7.10 T/Y	127.5 T/Y	676.5 T/Y	8 T/Y

Case 1b

No. 6 Fuel oil

Fuel consumption 919 gal/hr of 6.34 MM BTU/Bbl oil per Boiler Manufacturer.

See Appendix A for emission factors except NO<sub>x</sub>. NO<sub>x</sub> is guaranteed to be less than 0.3 lbs/MM BTU by Boiler Manufacturer.

$$(919 \text{ gal/hr}) (24 \text{ hr/day}) \frac{(6.34 \text{ MM BTU oil})}{6.4 \text{ MM BTU oil}} = 21.8 \times 10^3 \text{ gal/day} \quad (151 \text{ MM BTU})$$

	Total Organic	Particulates	NO <sub>x</sub>	SO <sub>x</sub>	CO
EM	15.7 T/Y	79.6 T/Y	181.9 T/Y	701.1 T/Y	15.7 T/Y

$$* \text{ NO}_x = \frac{(2,592 \text{ MSCFD}) (1348 \text{ BTU/SCF}) (365 \text{ D/Y}) (.2 \text{ lbs/MM BTU})}{2000 \text{ lbs/ton}} = 127.5$$

$$** \text{ NO}_x = \frac{(21,800 \text{ gal./D}) (6.4 \text{ MM BTU/Bbl}) (0.3 \text{ lbs/MM BTU}) (365 \text{ D/Y})}{(42 \text{ gal/Bbl}) (2000 \text{ lbs/ton})} = 181.9$$

APPENDIX C

*NO<sub>x</sub> from fuel only  
or from CO*

Case 2

160,000 lbs/hr. steam production

Case 2a

Process gas 1,348 BTU/SCF

Fuel consumption 150,090 SCFH of 1002 BTU/SCF per Boiler Manufacturer.

See Appendix A for emission factors except NO<sub>x</sub>. NO<sub>x</sub> is guaranteed by Boiler Manufacturer to be less than 0.2 lbs/MM BTU.

$$\frac{(3602 \text{ MSCFD}) (1002 \text{ BTU/SCF})}{1348 \text{ BTU/SCF}} = 2,677 \text{ M SCFD}$$

	Total Organics	Particulates	NO <sub>x</sub> <sup>*</sup>	SO <sub>x</sub>	CO
EM	<u>1.5</u> T/Y	<u>7.3</u> T/Y	<u>131.7</u> T/Y	<u>698.7</u> T/Y	<u>8.3</u> T/Y

Case 2b

No. 6 Fuel Oil Burning

Fuel consumption 950 gals/hr of 6.34 MM BTU/gal oil per Boiler Manufacturer.

See Appendix A for emission factors except NO<sub>x</sub>. NO<sub>x</sub> is guaranteed by Boiler Manufacturer to be less than 0.3 lbs/MM BTU.

	Total Organics	Particulates	NO <sub>x</sub> <sup>**</sup>	SO <sub>x</sub>	CO
EM	<u>16.3</u> T/Y	<u>82.5</u> T/Y	<u>188.5</u> T/Y	<u>726.9</u> T/Y	<u>16.3</u> T/Y

$$*NO_x = \frac{(2,677 \text{ MSCFD}) (1348 \text{ BTU/SCF}) (365 \text{ D/Y}) (0.2 \text{ lbs/MM BTU})}{2000 \text{ lbs/ton}} = 131.7$$

$$**NO_x = \frac{(22,600 \text{ gal/d}) (6.4 \text{ MM BTU/Bbl}) (0.3 \text{ lbs/MM BTU}) (365 \text{ D/Y})}{(42 \text{ gal/Bbl}) (2000 \text{ lbs/ton})} = 188.5$$

APPENDIX D

The new CO boiler will cause refinery emissions to be reduced as follows:

Case 1 CO boiler producing 120,000 lbs/hr. steam.

Case 1a Process gas for fuel

	Total Organic	Particulates	NO <sub>x</sub>	SO <sub>x</sub>	CO	NH <sub>3</sub>
CO Boiler EM	<u>1.4</u>	<u>7.1</u>	<u>127.5</u>	<u>676.5</u>	<u>8.0</u>	<u>--</u>
Less present boiler EM reduction <i>A</i>	<u>- 1.9</u>	<u>- 9.5</u>	<u>-145</u>	<u>-901</u>	<u>-10.7</u>	<u>--</u>
Less Coker EM reduction <i>B</i>	<u>-6835</u>	<u>--</u>	<u>--</u>	<u>0</u>	<u>-16,644</u>	<u>-52.3</u>
Net refinery reduction	<u>6835.5 T/Y</u>	<u>2.4 T/Y</u>	<u>17.5 T/Y</u>	<u>224.5 T/Y</u>	<u>16646.7 T/Y</u>	<u>52.3 T/Y</u>

Case 1b

No. 6 Fuel oil for fuel.

	Total Organic	Particulates	NO <sub>x</sub>	SO <sub>x</sub>	CO	NH <sub>3</sub>
CO Boiler EM	15.7	79.6	181.9	701.1	15.7	--
Less present boiler EM reduction	<u>-22</u>	<u>-111.3</u>	<u>-384.3</u>	<u>-991</u>	<u>-22</u>	<u>--</u>
Less Coker EM reduction	<u>-6835</u>	<u>--</u>	<u>--</u>	<u>0</u>	<u>-16,644</u>	<u>-52.3</u>
Net refinery reduction	<u>6841.3 T/Y</u>	<u>31.7 T/Y</u>	<u>202.4 T/Y</u>	<u>279.9 T/Y</u>	<u>16,650.3 T/Y</u>	<u>52.3 T/Y</u>

Case 2

CO boiler producing 160,000 lbs/hr. steam.

Case 2a

Process gas for fuel

	<u>Total Organic</u>	<u>Particulates</u>
CO Boiler EM	1.5	7.3
Less present boiler EM reduction	-2.5	-12.3
Less Coker EM reduction	<u>-6835</u>	<u>--</u>
Net refinery reduction	<u>6836</u>	<u>5 T/Y</u>

Case 2b

No. 6 Fuel oil for fuel

	<u>Total Organic</u>	<u>Particulates</u>
CO Boiler EM	16.3	82.5
Less present boiler EM reduction	-28.7	-145.3
Less Coker EM reduction	<u>-6835</u>	<u>--</u>
Net refinery reduction	<u>6847.4 T/Y</u>	<u>62.8 T/Y</u>

$\text{NO}_x$	$\text{SO}_x$	CO	$\text{NH}_3$
131.7	698.7	8.3	--
-189	-1175	-14	--
<u>--</u>	<u>0</u>	<u>16,644</u>	<u>52.3</u>
<u>57.3 T/Y</u>	<u>476.3 T/Y</u>	<u>16,649.7 T/Y</u>	<u>52.3 T/Y</u>

$\text{NO}_x$	$\text{SO}_x$	CO	$\text{NH}_3$
188.8	726.9	16.3	--
-501.5	-1280.1	-28.7	--
<u>--</u>	<u>0</u>	<u>16,644</u>	<u>-52.3</u>
<u>312.7 T/Y</u>	<u>553.2 T/Y</u>	<u>16656.4 T/Y</u>	<u>52.3 T/Y</u>

APPENDIX E

Subject: Visual plume seen hanging over the refinery on cold mornings.  
No visual violations have occurred according to Kern County  
Air Pollution Control District.

We have reviewed the formation of this plume with other refineries which have Fluid Cokers, hired Betz Laboratories to analyze the plume, hired Chemecology to analyze the plume, and analyzed the plume ourselves. We have found some hydrocarbons and ammonia present in the flue gas which could be the cause of the plume. However, we can not definitely state the cause of this plume. The CO Boiler will destroy these probable culprits. Other Fluid Coker operators state their CO Boilers have eliminated similar type plumes.

KERN COUNTY HEALTH DEPARTMENT  
AIR POLLUTION CONTROL DISTRICT

3700 Flower Street  
P. O. Box 997  
Bakersfield, California 93302  
(805) 861-3682

OWEN A. KEARNS, M.D., M.P.H.  
Director of Public Health  
Air Pollution Control Officer



Application No.: 2003019  
Date: January 12, 1976

AUTHORITY TO CONSTRUCT

An AUTHORITY TO CONSTRUCT is granted as of 1-13-76

TO:

Legal Owner  
or Operator:

TOSCO PETRO CORPORATION

FOR:

The equipment described below and as shown on the approved plans and specifications and subject to the conditions listed.

Equipment  
Description  
and  
Conditions:

One 200,000 lbm/hr ERIE CITY ENERGY DIVISION TYPE O CARBON MONOXIDE WASTE HEAT BOILER TO SERVE EXISTING FLUID COKER, including the following equipment and design specifications:  
  
SEE ATTACHED SHEETS FOR EQUIPMENT DESCRIPTION AND CONDITIONS

Location:

6500 Refinery Avenue, Bakersfield

This AUTHORITY TO CONSTRUCT is NOT a PERMIT TO OPERATE.

Approval or denial of the application for permit to operate the above equipment will be made after an inspection to determine if the equipment has been constructed in accordance with the approved plans and specifications and if the equipment can be operated in compliance with all Rules and Regulations of the Kern County Air Pollution Control District.

Please notify Mr. Thomas Paxson at (805) 861-3682 when construction of equipment is completed.

It is the applicant's responsibility to comply with all laws, ordinances and regulations of other governmental agencies which are applicable to the equipment to be constructed. For example, prior clearance must be obtained from the State Department of Industrial Safety concerning compliance with applicable regulations.

This AUTHORITY TO CONSTRUCT shall expire and the application shall be cancelled two years from the date of issuance of the authority to construct unless it is renewed. (Rule 205)

Owen A. Kearns, M.D., M.P.H.  
Air Pollution Control Officer

By: [Signature]

For Period: 1-13-76 to 1-13-78

KEF. UNTY HEALTH DEPARTMENT  
AIR POLLUTION CONTROL DISTRICT

1700 Flower Street  
P. O. Box 997  
Bakersfield, California 93302

OWEN A. KEARNS, M.D., M.P.H.  
Director of Public Health  
Air Pollution Control Officer



2003019

EQUIPMENT DESCRIPTION: One 200,000 lbs/hr ERIE CITY ENERGY DIVISION TYPE O CARBON MONOXIDE WASTE HEAT BOILER TO SERVE EXISTING FLUID COKER, including the following equipment and design specifications:

- a. Keystone boiler with provisions for the introduction of fluid coker scrubber separator exhaust gas, either gas or oil auxiliary fuel and combustion air,
- b. One Erie City Energy Division model 42 SAOH-MJ-DAR combination gas and oil burner with steam atomization and CO gas vortex section,
- c. Flow meters with recorders for both oil and gas auxiliary fuels.
- d. Boiler firebox operating temperature sensor with indicator and recorder,
- e. Buffalo Forge Company forced draft combustion air fan with auxiliary Terry steam turbine drive,
- f. Keystone economizer section,
- g. Five and one half foot diameter stack exhausting eighty-five feet from ground equipped with sampling platform and ports.

OPERATIONAL CONDITIONS:

1. Particulate matter emissions from any single source operation shall be no more than 0.1 gr/scf and visible emissions from any single emission point shall be less than 20% opacity.
2. Sulfur compound emissions (as SO<sub>2</sub>) shall be less than 0.2% by volume (2000 ppm).
3. Carbon monoxide emissions shall be no more than 0.1% by volume (1000 ppm).
4. Oxides of nitrogen emissions (as NO<sub>x</sub>) shall be less than 0.3 lbs/MM Btu/hr except when fluid coker is not in operation and supplying CO gas for fuel.
5. Soot blowing resulting in visible emissions of 20% opacity or more shall be limited to no more than an aggregate of three minutes in any one hour.
6. Fuel oil shall be preheated to maintain a viscosity within the range recommended by the burner manufacturer.
7. No auxiliary fuel oil with specifications less rigid than number 6 shall be used.
8. Excess combustion air shall be maintained at a level adequate to insure efficient combustion of CO gas and auxiliary fuel.
9. No other equipment shall exhaust into the CO boiler exhaust stack.
10. Existing boilers 2, 3, and 4 shall be rendered inoperative no more than 30 days after startup of CO boiler.
11. Permit to Operate boilers 2, 3, and 4 shall be conditioned 30 days after startup of CO boiler to limit usage only to periods when CO boiler is not operating.
12. Boilers 1, 5, 6, 7 and 8 shall have steam production recorders and provisions for readily determining outlet temperature, pressure.
13. Ducon scrubber serving fluid coker shall be operated at no less than 40" W.C. at all times when coker is in operation.
14. All fluid coker exhaust gas shall be routed through the Ducon scrubber before passing through the CO boiler.



KERN COUNTY HEALTH DEPARTMENT

AIR POLLUTION CONTROL DISTRICT

OWEN A. KEARNS, M.D., M.P.H.  
Director of Public Health  
Air Pollution Control Officer


1700 Flower Street  
P. O. Box 997  
Bakersfield, California 93302



NOTE:

1. The requirements of Rules 210.1 and 408 have been waived on the following basis:
  - a. The total emissions of particulates, sulfur compounds (as SO<sub>2</sub>), oxides of nitrogen (as NO<sub>x</sub>), carbon monoxide, and hydrocarbons from the refinery complex will be reduced with the startup of the CO boiler. This can only be accomplished if boilers 2, 3 and 4 are deactivated and the loads of boilers 1, 5, 6, 7 and 8 reduced. Conditions 10, 11 and 12 are necessary to insure that a reduction has taken place.
  - b. The CO boiler serves primarily as air pollution control equipment, i.e. the total emissions of air contaminants from the refinery complex is significantly reduced. Again, this can be assured only with the provisions of conditions 10, 11 and 12.
- Source testing of the CO boiler will be required within 30 days after startup to insure that emissions comply with the limits of conditions 1, 2, 7 and 8.

By

  
Thomas Paxson  
Air Sanitation Engineer

6/17/75  
Landis

KERN COUNTY

FACILITY: Tosco Petro Refinery

1974

I. Storage Tanks (MT)

	Fixed Roof	Total org	5% HR org	95% LR org	
Grade $\geq$ 1.5 Psia	(x 10 <sup>3</sup> ) Ebl. Cap. x .8306 =				T/y
Grade $<$ 1.5 Psia	60.0 (x 10 <sup>3</sup> ) Ebl. Cap. x .4106 =	24.64	1.23	23.41	T/y
Dist. $\geq$ 1.5 Psia	(x 10 <sup>3</sup> ) Ebl. Cap. x 4.2837 =				T/y
Dist. $<$ 1.5 Psia	97.5 (x 10 <sup>3</sup> ) Ebl. Cap. x .146 =	14.24	0.71	13.53	T/y
Dist. $\geq$ 1.5 Psia	Floating Roof (x 10 <sup>3</sup> ) Ebl. Cap. x .6387 =	93.89	4.69	89.20	T/y

II. Boiler & Heaters (B.G. 99.8 M scf/day - Emissions in Tons/yr)

	Total org	15% HR org (alt)	CO	Part.	NO <sub>x</sub>	SO <sub>x</sub> (1 gr/100 scf)
EF	0.00055	15%	0.0031	0.00274	0.0420	.000522
EM	0.055	0.01	0.31	0.27	4.19	0.052
			(Oil x 10 <sup>3</sup> gals/day - Emissions in Tons/yr)			
EF	0.72	15%	0.72	3.65	12.60	25.73 (1% by wt)
EM						

III. Process Heaters

Daily Ave. Gas Consumed 16,990 M scf, 500 gr/100 scf sulfur

	Total org	15% HR org	CO	Part	NO <sub>x</sub>	SO <sub>x</sub>
EF	0.00055	15%	0.0031	0.00274	0.0420	.000522
EM	9.34	1.40	52.67	46.55	713.56	4434.39

Daily Ave. Fuel Oil Consumed 37,743 x 10<sup>3</sup> Gallons, 1.25 % by wt. sulfur

< 1.5% S

	Total org	15% HR org	CO	Part	NO <sub>x</sub>	SO <sub>x</sub>
EF	0.72	15%	0.72	3.65	12.60	25.73
EM	27.17	4.08	27.17	137.76	475.56	1213.91

Table 1.3-1. EMISSION FACTORS FOR FUEL OIL COMBUSTION  
EMISSION FACTOR RATING: A

Pollutant	Type of unit Industrial and commercial							
	Power plant		Residual		Distillate		Domestic	
	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> liters	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> liters	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> liters	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> liters
Particulate <sup>a</sup>	8	1	23	2.75	15	1.8	10	1.2
Sulfur dioxide <sup>b,c</sup>	157S	19S	157S	19S	142S	17S	142S	17S
Sulfur trioxide <sup>b,c</sup>	2S	0.25S	2S	0.25S	2S	0.25S	2S	0.25S
Carbon monoxide <sup>d</sup>	3	0.4	4	0.5	4	0.5	5	0.6
Hydrocarbons <sup>e</sup>	2	0.25	3	0.35	3	0.35	3	0.35
Nitrogen oxides (NO <sub>2</sub> ) <sup>f</sup>	105 <sup>g</sup>	12.6 <sup>g</sup>	(40 to 80) <sup>h</sup>	(4.8 to 9.6) <sup>h</sup>	(40 to 80) <sup>h</sup>	(4.8 to 9.6) <sup>h</sup>	12	1.5
Aldehydes (HCHO) <sup>i</sup>	1	0.12	1	0.12	2	0.25	2	0.25

<sup>a</sup>References 2 through 6.

<sup>b</sup>Reference 2.

<sup>c</sup>S equals percent by weight of sulfur in the oil.

<sup>d</sup>References 2, 7 through 10, 12, and 15.

<sup>e</sup>References 2, 6, and 9 through 12.

<sup>f</sup>References 2 through 6, 9, 10, 12, 13, 15, and 16.

<sup>g</sup>Use 50(6) for tangentially fired units.

<sup>h</sup>Use 40 (4.8) for tangentially fired units and 80 (9.6) for horizontally fired units.

<sup>i</sup>References 2, 9, 11, and 14.

*Use paper only*

Table 1.3-1. EMISSION FACTORS FOR FUEL OIL COMBUSTION  
EMISSION FACTOR RATING: A

Pollutant	Type of boiler <sup>a</sup>							
	Power plant		Industrial and commercial				Domestic	
	Residual oil		Residual oil		Distillate oil		Distillate oil	
	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> liter	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> liter	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> liter	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> liter
Particulate <sup>b</sup>	c	c	c	c	2	0.25	2.5	0.31
Sulfur dioxide <sup>d</sup>	157S	19S	157S	19S	142S	17S	142S	17S
Sulfur trioxide <sup>d</sup>	2S	0.25S	2S	0.25S	2S	0.25S	2S	0.25S
Carbon monoxide <sup>e</sup>	5	0.63	5	0.63	5	0.63	5	0.63
Hydrocarbons (total, as CH <sub>4</sub> ) <sup>f</sup>	1	0.12	1	0.12	1	0.12	1	0.12
Nitrogen oxides (total, as NO <sub>2</sub> ) <sup>g</sup>	105(50) <sup>h,i</sup>	12.6(6.25) <sup>h,i</sup>	60 <sup>i</sup>	7.5 <sup>i</sup>	22	2.8	18	2.3

<sup>a</sup>Boilers can be classified, roughly, according to their gross (higher) heat input rate, as shown below.

- Power plant (utility) boilers:  $>250 \times 10^6$  Btu/hr  
( $>63 \times 10^6$  kg-cal/hr)  
Industrial boilers:  $>15 \times 10^6$  but  $<250 \times 10^6$  Btu/hr  
( $>3.7 \times 10^6$  but  $<63 \times 10^6$  kg-cal/hr)  
Commercial boilers:  $>0.5 \times 10^6$  but  $<15 \times 10^6$  Btu/hr  
( $>0.13 \times 10^6$  but  $<3.7 \times 10^6$  kg-cal/hr)  
Domestic (residential) boilers:  $<0.5 \times 10^6$  Btu/hr  
( $<0.13 \times 10^6$  kg-cal/hr)

<sup>b</sup>Based on References 3 through 6. Particulate is defined in this section as that material collected by EPA Method 5 (front half catch)<sup>7</sup>.

<sup>c</sup>Particulate emission factors for residual oil combustion are best described, on the average, as a function of fuel oil grade and sulfur content, as shown below.

- Grade 6 oil: lb/10<sup>3</sup> gal =  $10(S) + 3$   
[kg/10<sup>3</sup> liter =  $1.25(S) + 0.38$ ]  
Where: S is the percentage, by weight, of sulfur in the oil  
Grade 5 oil: 10 lb/10<sup>3</sup> gal (1.25 kg/10<sup>3</sup> liter)  
Grade 4 oil: 7 lb/10<sup>3</sup> gal (0.88 kg/10<sup>3</sup> liter)

<sup>d</sup>Based on References 1 through 5. S is the percentage, by weight, of sulfur in the oil.

<sup>e</sup>Based on References 3 through 5 and 8 through 10. Carbon monoxide emissions may increase by a factor of 10 to 100 if a unit is improperly operated or not well maintained.

<sup>f</sup>Based on References 1, 3 through 5, and 10. Hydrocarbon emissions are generally negligible unless unit is improperly operated or not well maintained, in which case emissions may increase by several orders of magnitude.

<sup>g</sup>Based on References 1 through 5 and 8 through 11.

<sup>h</sup>Use 50 lb/10<sup>3</sup> gal (6.25 kg/10<sup>3</sup> liter) for tangentially fired boilers and 105 lb/10<sup>3</sup> gal (12.6 kg/10<sup>3</sup> liter) for all others, at full load, and normal ( $>15$  percent) excess air. At reduced loads, NO<sub>x</sub> emissions are reduced by 0.5 to 1 percent, on the average, for every percentage reduction in boiler load.

<sup>i</sup>Several combustion modifications can be employed for NO<sub>x</sub> reduction: (1) limited excess air firing can reduce NO<sub>x</sub> emissions by 5 to 30 percent, (2) staged combustion can reduce NO<sub>x</sub> emissions by 20 to 45 percent, and (3) flue gas recirculation can reduce NO<sub>x</sub> emissions by 10 to 45 percent. Combinations of the modifications have been employed to reduce NO<sub>x</sub> emissions by as much as 60 percent in certain boilers. See section 1.4 for a discussion of these NO<sub>x</sub> reducing techniques.

<sup>j</sup>Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are strongly dependent on the fuel nitrogen content and can be estimated more accurately by the following empirical relationship:

$$\text{lb NO}_2/10^3 \text{ gal} = 22 + 400 (N)^2$$

$$[\text{kg NO}_2/10^3 \text{ liters} = 2.75 + 50 (N)^2]$$

Where: N is the percentage, by weight, of nitrogen in the oil. Note: For residual oils having high ( $>0.5\%$ , by weight) nitrogen contents, one should use 120 lb NO<sub>2</sub>/10<sup>3</sup> gal (15 kg NO<sub>2</sub>/10<sup>3</sup> liter) as an emission factor.

Reference 10

3

U

**PROOF OF PUBLICATION**

STATE OF CALIFORNIA, }  
County of Kern, } ss.

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the assistant principal clerk of the printer of The Bakersfield Californian, a newspaper of general circulation, printed and published daily in the City of Bakersfield, County of Kern, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Kern, State of California, under date of February 5, 1952, Case Number 57610; that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

\_\_\_\_\_ 6/19 \_\_\_\_\_

all in the year 19 ... 87

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

\_\_\_\_\_  
SUSAN CANTRELL  
Signature

Dated at Bakersfield, CA ..... 6/19 19 ... 87

*Susan Cantrell*

Proof of Publication of

NOTICE

REF. REQUEST FOR PUBLIC COMMENT

**REQUEST FOR PUBLIC COMMENT ON PROPOSED STATIONARY SOURCE EMISSION REDUCTION CREDIT**

Pursuant to Rule 210.3 of the Kern County Air Pollution Control District Rules and Regulations, the Air Quality Control Division of the Health Department hereby solicits public comments on the proposed issuance of Non-Methane Hydrocarbons and Carbon Monoxide Emission Reduction Credit Banking Certificates to Texaco Refining and Marketing, Inc.

The applications for Banking Certificates, including the Air Pollution Control Officer's supporting analysis and his preliminary decision to approve the BKC's is available for inspection at the Division's office located at 1801 H Street, Suite 218, Bakersfield, CA 93301, (805) 861-3682.

Comments should address the effect of the proposed Banking Certificates on the ambient air quality, specifically, the attainment and/or maintenance of the California and National Ambient Air Quality Standards. Comments submitted for consideration must be postmarked no more than 30 days after publication of this notice.

June 19, 1987 (6256)

**PROOF OF PUBLICATION**

*Tapers to paper 6-16-87  
will run 6-19-87  
mm*

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

*Mailed to CARB &  
EPA 6-20-87  
mm*

June 16, 1987

REQUEST FOR PUBLIC COMMENT ON PROPOSED  
STATIONARY SOURCE EMISSION REDUCTION CREDIT

Pursuant to Rule 210.3 of the Kern County Air Pollution Control District Rules and Regulations, the Air Quality Control Division of the Health Department hereby solicits public comments on the proposed issuance of Non-Methane Hydrocarbons and Carbon Monoxide Emission Reduction Credit Banking Certificates to Texaco Refining and Marketing, Inc.

The applications for Banking Certificates, including the Air Pollution Control Officer's supporting analysis and his preliminary decision to approve the ERC's is available for inspection at the Division's office located at 1601 H Street, Suite 210, Bakersfield, CA 93301, (805) 861-3682.

Comments should address the effect of the proposed Banking Certificates on the ambient air quality, specifically, the attainment and/or maintenance of the California and National Ambient Air Quality Standards. Comments submitted for consideration must be postmarked no more than 30 days after publication of this notice.

TELEPHONE CONVERSATION

DATE 19 Mar. 1987 TIME: 3:00

WITH: Nancy Harney

TITLE: New Source Section

COMPANY USEPA

APCD REPRESENTATIVE: T. Goff

TITLE ASE III

SUBJECT OF CONVERSATION: "Permanence" of E.R.C.'s for banking RE: TOSCO CO Boiler/Texaco  
proposed permit conditions

SUMMARY OF CONVERSATION:

Harney-Wayne Blackard asked me to return your call concerning permanence of emissions reductions credits and banking certificates.

Goff-Control equipment, which was not required by District, was voluntarily installed and effected hydrocarbon and carbon monoxide emissions reductions. The operator can discontinue the use of the control equipment and continue to operate the basic equipment and be in compliance with all requirements with the higher, uncontrolled emission rate.

The operator has applied for a banking certificate. We've told him he must agree to permit conditions which require the control equipment to be operated at all times when the basic equipment is operated in order to assure that the banked ERC is real, permanent and enforceable. He has agreed to do this with the understanding that if the control equipment goes down, he can petition the Hearing Board to continue the operation of the basic equipment uncontrolled (which would be not in accordance with his permit conditions).

Harney-No. That is not in accordance with the principles of banking and emissions trading. They cannot get a variance and cannot operate the source when they aren't supplying the emissions reductions. The District should find that the proposed ERC's are not permanent and enforceable if the applicant is not able to continuously provide the emission reduction. Only the amount of reduction continuously provided can be banked.

Goff-Thank you.

TELEPHONE CONVERSATION

DATE 22 Jan. 1987 TIME: 10:30 am  
(Thursday)

WITH: Gordon Turl TITLE: Suprvr. of Envrt. & Sfty. & Scrtty.

COMPANY Texaco Refining & Marketing, Agent For Tosco Corp. for ERC Applications

APCD REPRESENTATIVE: T. Goff TITLE ASE III

SUBJECT OF CONVERSATION: Tosco SO2 ERC

SUMMARY OF CONVERSATION:

Turl: I spoke to Roger Chittum last Thursday or Friday. He had spoken to Nancy Harney at EPA about a response to his October 1986 inquiry concerning the EPA permit condition requiring the tail gas treating unit on the Claus plant. He said she said that EPA would be responding in writing but that it would not be anytime soon.

Goff: A letter has been prepared, and I think already mailed deeming the HC and CO ERC applications complete and denying the SO2 ERC application.

Turl: Good. I don't think we will be appealing the SO2. When can we expect the HC and CO.

Goff: You've proposed modification to the CO boiler and fluid coker P's to O which do not insure that the ERC are real on a continuous basis nor are permanent in the sense of all the time. Please be considering compromises to your proposed conditions that would allow for issuance of the banking certificates consistent with Rule 210.3.





L E Perrier  
Plant Manager

Texaco USA

P O Box 1476  
Bakersfield CA 93302  
805 326 4200

TP

March 4, 1987

Dr. Leon M. Hebertson, APCO  
Kern County Air Pollution  
Control District  
1601 H Street, Suite 150  
Bakersfield, CA 93301

Attn: Mr. Tom Paxson

Dear Mr. Paxson:

Based upon recent discussions with Mr. Tom Goff, it has been indicated that our proposed permit condition to the Fluid Coker (PTO #2007134), as described in my letter of September 10, 1986, may not be sufficient to assure permanence of the specific emission reductions.

As you are aware, the language submitted was intended to allow the bypassing of the CO Boiler (PTO #2007148) for normal boiler safety inspections without shutting down the Fluid Coker or obtaining a variance pursuant to Regulation V requirements. To remedy this concern, we are proposing to accept the elimination of the reference to ten (10) days if it is deemed that such determination for permanence cannot be made with such a reference in the permit's operating condition.

If any further clarification of this matter is necessary, please contact Mr. Gordon A. Turl.

Very truly yours,

*L. E. Perrier*  
L. E. Perrier

GAT/jas  
53/87

cc: File 34040-0-A-25-X-433  
THJ

RECEIVED  
MAR 9 1987  
KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

MEETING SUMMARY

DATE 17 Dec. '86 TIME: \_\_\_\_\_

WITH: Art Ryder & Gordon Turl TITLE: \_\_\_\_\_

COMPANY Tosco & Texaco Refining

APCD REPRESENTATIVE: T. Paxson & T. Goff TITLE ASE IV & III

SUBJECT OF MEETING Applications for ERC Banking Certificates

SUMMARY OF MEETING: . . .

Ryder Gas Plant #2 start-up test 10/82

Claus unit down almost all of first year of operation (1975)

MEETING SUMMARY

DATE 24 Nov. 1986 TIME: 11

WITH: Gordon Turl TITLE: Supervisor, Envr'l. Health & Safety

COMPANY Texaco USA

APCD REPRESENTATIVE: T. Goff TITLE ASE III

SUBJECT OF MEETING Documentation of Tosco SO2 ERC

SUMMARY OF MEETING:

Turl: I've put together the data Art Ryder & Roger Chittum have been working on concerning documentation of the claimed SO2 ERC.

Goff: How is this data supposed to document the reduced SO2 emissions?

Turl: The extra sulfur recovered in the Claus plant after start-up of gas plant #2 is related to the sulfur removed from fuel gas with gas plant #2 in operation that was not removed from fuel gas prior to operation of gas plant #2.

Goff: How much extra sulfur recovered in Claus plant after start-up of gas plant #2 does this data show?

Turl: None.

Goff: Does this data document the claimed reduction?

Turl: It doesn't appear to. I'm going to run this by my people. I expect that you will be receiving a letter cancelling the application for SO2 ERC.

MEETING SUMMARY

DATE 2 Sept. 1986 TIME: \_\_\_\_\_

WITH: Tosco / Texaco TITLE: \_\_\_\_\_

COMPANY \_\_\_\_\_

APCD REPRESENTATIVE: T. Paxson & T. Goff TITLE ASE's

SUBJECT OF MEETING Application for ERC's Previously effected at Tosco

SUMMARY OF MEETING:

Art Ryder Tosco  
Roger Chittum representing Tosco  
Gordon Turl Texaco

Ryder & Chittum -We will respond to your 8/16/86 letter within one week of today.

Chittum-"We've found the District staff helpful as always."

MEETING SUMMARY

DATE 19 May 1986

TIME: \_\_\_\_\_

WITH: Tosco Corp

TITLE: \_\_\_\_\_

COMPANY \_\_\_\_\_

APCD REPRESENTATIVE: Dr. Hebertson, C. Toy, T. Paxson TITLE \_\_\_\_\_  
T. Goff

SUBJECT OF MEETING Tosco Previously Effected ERC's

SUMMARY OF MEETING:

Tosco  
Art Ryder  
Jack Caufield  
Roger Chittum representing Tosco  
Milton Beychok representing Tosco

Tosco-The Radian Corporation data submitted in support of application for Authority to Construct Gas Plant #2 is suspect and inadequate.

Dr. Hebertson- Fundamental issues: application is now a very old application  
we will review your submittal in detail and I'll  
direct staff to put it in writing one more time  
The final date is May 29, but I won't quibble over 1 or  
2 more days

Our data requirements in the past had been based on the need to be precise,  
but the banking rule was established and included more stringent requirements

Tosco- Only 4 projects to be pursued: CO Boiler; Tail Gas Scrubber; New Gas Plant; Hydro-  
cracker Sour Water Stripper



L E Perrier  
Plant Manager

Texaco USA

P O Box 1472  
Bakersfield CA 93302  
805 326 4200

Dr. Leon M. Herbertson, APCO  
Kern County APCD  
1601 "H" Street  
Bakersfield, CA 93301

COPY

Attention: Mr. Thomas Paxson

Dear Mr. Paxson

On Tuesday Sept 2, 1986, Mr. Gordon A. Turl of my staff and Messrs. Art Ryder & Roger Chitum representing the Tosco Corporation (TOSCO) met with you to discuss the additional informational needs described in your letter of August 13, 1986 to Mr. Jack Caufield.

As discussed, some of the information necessary will take additional time beyond the two-week response period originally indicated in your letter. As such we are pursuing the following activities and will submit the appropriate information when available:

1. Carbon Monoxide and hydrocarbon emission reductions would require the imposition of specific limiting operational conditions. Enclosed are two applications to modify the appropriate operational conditions of both the CO Boiler (PTO No. 2003027) and the Fluid Coker (PTO No. 2003010)
2. Sulfur dioxide emission reductions associated with PTO No. 2003026A-026C is being coordinated with EPA Region IX to clarify the intent of conditions placed on EPA approval SJ-76-16. TOSCO will request a written confirmation from EPA of our position that under the prescribed circumstances a tail gas treating unit for the Claus sulfur recovery unit was not required. Additionally, we are reviewing available operating process data to more fully describe the actual emission reductions which occurred in the time frames and manner described pursuant to Rule 210.3.

Since action on the submitted ERC's is emission specific it appears reasonable to pursue separately. As you are aware, we are anxious to finalize as much of the regulatory procedures as possible in an expeditious manner. As such and since the concerns regarding both carbon monoxide and hydrocarbons are apparently satisfied with our submittal described in Item 1. we request the District to continue appropriate separate processing. We will continue to expeditiously pursue with TOSCO representatives the additional information necessary to more fully document the sulfur dioxide emission reduction credits.

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SEP 15 1986

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

Dr. Leon M. Herbertson, APCO  
September 10, 1986  
Page 2

If you have any further relating questions, please contact Mr. Gordon A. Turl to coordinate our response along with TOSCO's.



L. E. Perrier

GAT/mjh

cc: WOB  
Art Ryder, TOSCO  
Roger Chitum

161/86

**KERN COUNTY AIR POLLUTION CONTROL DISTRICT**

2007134D.

1601 "H" Street, Suite 250  
Bakersfield, California 93301

Telephone  
(805) 861-3682

**APPLICATION FOR (check appropriate items)**

- |  |  |
|--|--|
| <input type="checkbox"/> Authority to Construct                | <input checked="" type="checkbox"/> Permit to Operate Modification |
| <input type="checkbox"/> Authority to Construct - Modification | <input type="checkbox"/> Transfer of Location                      |
| <input type="checkbox"/> Authority to Construct - Renewal      | <input type="checkbox"/> Transfer of Ownership                     |

An application is required for each source operation as defined in Rule 102, Section cc

1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment: TEXACO REFINING AND MARKETING, INC.		
2. MAILING ADDRESS: P. O. Box 1476      Bakersfield      Zip Code: 93302		
3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED: Bakersfield Plant    6451 Rosedale Hwy, Bakersfield, CA 93308		
4. GENERAL NATURE OF BUSINESS: Petroleum Refinery		
5. EQUIPMENT FOR WHICH APPLICATION IS MADE: 2007134 - Fluid Coker PTO No 2003010 - Fluid Coker (See attached proposal & 7/15/86 Submittal)		
ADD CONDITIONS TO VALIDATE CLAIMED HC & CO EMISSIONS 1. EXHAUST GAS TO BE INCUBATED IN CO BURNER. 2. HC $\leq 2688.00 \frac{LB}{BY}$ 3. CO $\leq 12,000 \frac{LB}{BY}$		
Provide additional information as required by District "Instructions".		
6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT: N/A		
7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT: N/A		
8. SIGNATURE OF APPLICATION <i>L. E. Perrier</i>	TITLE OF SIGNER: Plant Manager	
9. TYPE OR PRINT NAME OF SIGNER: L. E. PERRIER	DATE:	PHONE NO.: 805 326-4265

**RECEIVED**

SEP 15 1986

Validation (A.P.C.D. use only)

FILING FEE: \$60/120

RECEIPT NO.: 629371

FEE SCHEDULE NUMBER:

DATE: 9-15-86

PERMIT FEE: \*

RECEIPT NO.:

**KERN COUNTY AIR POLLUTION CONTROL DISTRICT**



RECEIPT

## COUNTY OF KERN

STATE OF CALIFORNIA

RECEIPT NO.

A-629371  
9-15 1986

REFERENCE NO.

9149

DATE RECEIVED

RECEIVED  
FROM

Tepaco Services Inc

AMOUNT  
ON ACCOUNT  
OF

One Hundred Twenty

DOLLARS

\$

120<sup>00</sup>

P/O

ck 525212

AMT. OF ACC.	\$120 <sup>00</sup>	HOW PAID	DEPARTMENT	KCAPCD
AMT. PAID	\$120 <sup>00</sup>	CASH	LOCATION	Bkjd
BAL. DUE	\$ -	CHECK	BY	GF
		M.O.		PL

**TEXACO PROPOSED  
REFINING AND MARKETING, INC.  
Bakersfield Plant**

Kern Co. APCD  
PTO No.

Description

2003010

Fluid Coker

Add to Operational Conditions

- When operational the directly emitted emissions shall be directed to and combusted by the CO Boiler (PTO No. 2003027); ~~such requirement for the simultaneous operation of the CO Boiler may be eliminated for no more than ten (10) days per year when normal maintenance inspection of the CO Boiler is necessary and such "down" time is not considered to be due to upset/breakdown conditions.~~

DELETED 3/4/87

2007148F

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 250  
Bakersfield, California 93301

Telephone  
(805) 861-3682

APPLICATION FOR (check appropriate items)

- Authority to Construct  Permit to Operate Modification
- Authority to Construct - Modification  Transfer of Location
- Authority to Construct - Renewal  Transfer of Ownership

An application is required for each source operation as defined in Rule 102, Section cc

1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment:  
TEXACO REFINING AND MARKETING, INC.

2. MAILING ADDRESS:  
P. O. Box 1476 Bakersfield Zip Code: 93302

3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED:  
Bakersfield Plant 6451 Rosedale Hwy, Bakersfield, CA 93308

4. GENERAL NATURE OF BUSINESS:  
Petroleum Refinery

5. EQUIPMENT FOR WHICH APPLICATION IS MADE:  
 2007148 - CO Boiler  
 PTO No. 2003027 (CO Boiler)  
 (See attached proposal & 7/15/86 Submittal)

ADD CONDITIONS TO VALIDATE CLAIMED ERC

1. Fluid coker exhaust gas to be incinerated in CO boiler
2. HC ≤ 2688.00 lb/dy
3. CO ≤ 12,000.00 lb/dy

Provide additional information as required by District "Instructions".

6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:  
N/A

7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT:  
N/A

8. SIGNATURE OF APPLICATION <i>L. E. Perrier</i>	TITLE OF SIGNER: Plant Manager
---	-----------------------------------

9. TYPE OR PRINT NAME OF SIGNER: L. E. PERRIER	DATE:	PHONE NO.: 805 326-4265
---	-------	----------------------------

**RECEIVED**  
SEP 15 1986

Validation (A.P.C.D. use only)

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

FILING FEE: \$ 40 / \$ 12	RECEIPT NO.: 629371
FEE SCHEDULE NUMBER:	DATE: 9-15-86
PERMIT FEE: \$	RECEIPT NO.:

**TEXACO PROPOSED**  
**REFINING AND MARKETING, INC.**  
**Bakersfield Plant**

Kern Co. APCD

PTO No.

Description

2003027

CO Boiler (serving Fluid Coker)

Add to Operational Conditions

• All directly emitted emission from the Fluid Coker (PTO No. 2003010) shall be combusted by the CO Boiler such that the following emission levels are not exceeded:

1. Carbon Monoxide - 500.0 pounds/hour. and/or 0.1 volume percent at 2 percent oxygen
2. Non-methane hydrocarbons - 10.0 pounds per hour.

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3582



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

January 20, 1987

Mr. G. L. Turl  
Texaco Refining & Marketing, Inc.  
P. O. Box 1476  
Bakersfield, CA 93302

Dear Mr. Turl:

On October 28, 1985 we received from Tosco Corporation an application for emissions reductions credit banking certificate. On July 15, 1986, Tosco submitted separate applications for SO<sub>2</sub>, HC, and CO emissions reductions credits banking certificates. Based on these and subsequent submittals the applications for HC and CO emissions reductions credits banking certificates are hereby deemed complete.

Please be advised that during the course of review, the District may request additional information for the purpose of clarifying, amplifying, correcting or otherwise supplementing the information on file.

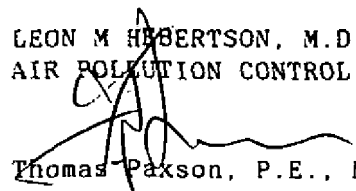
After reviewing the application and subsequent submittals associated with the request for SO<sub>2</sub> emissions reductions credit banking certificate the District has determined that it is unable to issue the requested certificate. This determination is based on the conclusion that the amount of sulfur recovered at the sulfur recovery plant after the number 2 gas plant went into use did not increase. Therefore, this data cannot be used to quantify SO<sub>2</sub> emissions reductions from refinery fuel gas-fired combustion equipment resulting from operation of the number 2 gas plant. Furthermore, the installation of the tail gas treating unit on the sulfur recovery plant exhaust is required by Federal NSR approval SJ-76-16 and, as such, any resultant emissions reductions are not eligible for banking.

Please be advised that this denial of the application for SO<sub>2</sub> emissions reductions credits becomes final in 30 days.

Thank you for your cooperation in this matter. Should you have any questions, please telephone Mr. Thomas Paxson, Manager of the Engineering Evaluation Section at (805) 861-3682.

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER

  
Thomas Paxson, P.E., Manager  
Engineering Evaluation Section

TG/nn

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

October 9, 1986

Mr. G. L. Turl  
Texaco Refining and Marketing Inc.  
P. O. Box 1476  
Bakersfield, CA 93302

Dear Mr. Turl:

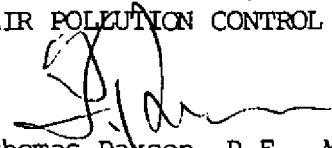
On October 28, 1985 we received from Tosco Corporation an application for emissions reductions credit banking certificate. After reviewing this application, our office sent to Mr. J. L. Caufield, Manager of Environmental Affairs, Tosco Corporation, on November 27, 1985, February 27, 1986 and August 13, 1986 listings of deficiencies which had to be corrected before processing could commence. A copy of the August 13, 1986 list is attached. These items are necessary to satisfy the requirements of Rule 210.3.

On September 15 and October 2, 1986 we received partial responses to the August 19 deficiencies list. Because not all of the items identified as necessary for processing of the application have been provided, the application remains incomplete. Failure to provide the required information will result in denial of the application. Submission of the requested information will enable the District to proceed with processing of the application.

Thank you for your cooperation in this matter. Should you have any questions, please telephone the Air Quality Control Division at (805) 861-3682.

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER

  
Thomas Paxson, P.E., Manager  
Engineering Evaluation Section

TG/nn

Attachment

# KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

August 13, 1986

Mr. J. L. Caufield  
Manager of Environmental Affairs  
Tosco Corporation  
P.O. Box 2860  
Bakersfield, Ca. 93303

Dear Mr. Caufield:

We are in receipt of your July 15, 1986 revision to your October 28, 1985 application for emissions reduction credits banking certificate. Notwithstanding Mr. L. E. Perrier's (Plant Manager, Texaco USA) July 15, 1985 correspondence and Mr. A. C. Ryder's (Technical Manager, Tosco Corporation) July 8, 1986 correspondence, we are addressing this correspondence to the applicant of record as there are no provisions in Regulation II of the Kern County Air Pollution Control District Rules and Regulations for transfer of ownership of applications for ERC banking certificates. After issuance of a banking certificate, qualifying ERC's may change ownership pursuant to Rule 210.3.

Review of the information submitted July 15 in response to the District's February 27, 1986 deficiencies letter reveals your application is still deficient in providing the information necessary for the District to accept it as complete. The materials submitted to date are inadequate to allow determination the emissions reductions, have, in fact, actually occurred; are surplus, i.e., have not previously been required by law or utilized at a tradeoff or offset; will be permanent; can be quantified; and can be enforced. The following are more specific deficiencies:

## CARBON MONOXIDE AND HYDROCARBONS

2003027 and '027A-'027C Fluid Coker CO Boiler and Modifications. Neither Permit to Operate 2003010-Fluid Coker nor 2003027-CO Boiler (Fluid Coker) requires incineration of fluid coker exhaust. The permits require only the fluid coker exhaust through the Ducon scrubber when the CO boiler is not operating. The District's deficiency letter of February 27, 1986 notified Tosco of the need for Tosco to propose permit conditions to be added to its Permits to Operate sufficient to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

Mr. Caufield  
page 2

SULFUR DIOXIDE

2003026A-'026C Claus Sulfur Recovery Tail Gas Treating Unit and Modifications. The District's deficiency letter of February 27, 1986 notified Tosco of the need for Tosco to provide actual emissions data from the Claus unit prior to installation of the tail gas treater and actual emissions data from the tail gas treating unit after it was put into service, along with sufficient process data to adjust these emissions data to a common basis, to quantify the emissions reduction credits claimed. This has not been provided. The Claus unit exhaust was required by EPA approval SJ-76-16 to be equipped with a tail gas treating unit unless Tosco installed and operated an ambient SO<sub>2</sub> monitor (which was not done.) Therefore, the claimed emissions reduction credits may not be surplus. The District also notified Tosco in the February 27th letter of the need for Tosco to propose permit conditions to be added to its Permits to Operate sufficient to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

2003076 #2 Gas Plant

The District's deficiencies letter of February 27, 1986 notified Tosco of the need for Tosco to provide actual emissions data from all fired equipment and the sulfur recovery unit, along with sufficient process data to adjust the emissions data to a common basis, both before and after installation of the #2 gas plant, to quantify the emissions reduction credits claimed. This has not been provided. The District also notified Tosco in the February 27th letter of the need for Tosco to propose permit conditions to be added to its Permits to Operate to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

Please submit the above described information necessary to accept the application as complete within a period of two weeks. Since Tosco has transferred the ownership of its Permits to Operate to Texaco, we must have authorization to make the proposed changes from Texaco. Should you have any questions, please telephone the Engineering Evaluation Section at 861-3682.

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER

Thomas Paxson, P.E., Manager  
Engineering Evaluation Section

TP/df





L E Perrier  
Plant Manager

Texaco USA

P O Box 1476  
Bakersfield CA 93302  
805 326 4200

Dr. Leon M. Herbertson, APCO  
Kern County APCD  
1601 "H" Street  
Bakersfield, CA 93301

Attention: Mr. Thomas Paxson

Dear Mr. Paxson

On Tuesday Sept 2, 1986, Mr. Gordon A. Turl of my staff and Messrs. Art Ryder & Roger Chitum representing the Tosco Corporation (TOSCO) met with you to discuss the additional informational needs described in your letter of August 13, 1986 to Mr. Jack Caufield.

As discussed, some of the information necessary will take additional time beyond the two-week response period originally indicated in your letter. As such we are pursuing the following activities and will submit the appropriate information when available:

1. Carbon Monoxide and hydrocarbon emission reductions would require the imposition of specific limiting operational conditions. Enclosed are two applications to modify the appropriate operational conditions of both the CO Boiler (PTO No. 2003027) and the Fluid Coker (PTO No. 2003010)
2. Sulfur dioxide emission reductions associated with PTO No. 2003026A-026C is being coordinated with EPA Region IX to clarify the intent of conditions placed on EPA approval SJ-76-16. TOSCO will request a written confirmation from EPA of our position that under the prescribed circumstances a tail gas treating unit for the Claus sulfur recovery unit was not required. Additionally, we are reviewing available operating process data to more fully describe the actual emission reductions which occurred in the time frames and manner described pursuant to Rule 210.3.

Since action on the submitted ERC's is emission specific it appears reasonable to pursue separately. As you are aware, we are anxious to finalize as much of the regulatory procedures as possible in an expeditious manner. As such and since the concerns regarding both carbon monoxide and hydrocarbons are apparently satisfied with our submittal described in Item 1. we request the District to continue appropriate separate processing. We will continue to expeditiously pursue with TOSCO representatives the additional information necessary to more fully document the sulfur dioxide emission reduction credits.

**RECEIVED**  
SEP 15 1986

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

Dr. Leon M. Herbertson, APCO  
September 10, 1986  
Page 2

If you have any further relating questions, please contact Mr. Gordon A. Turl to coordinate our response along with TOSCO's.



L. E. Perrier

GAT/mjh

cc: WOB  
Art Ryder, TOSCO  
Roger Chitum

161/86

Tosco Corporation  
2401 Colorado Avenue  
P.O. Box 2401  
Santa Monica  
California 90406-2401  
Telephone 213 207-6000

**Tosco**

August 26, 1986

Leon M. Hebertson, M.D.  
Air Pollution Control Officer  
Kern County Air Pollution  
Control District  
1601 "H" Street  
Bakersfield, CA 93301

Attn: Mr. Thomas Paxson

Dear Dr. Hebertson:

Yesterday, I received a copy of your letter to J. L. Caufield, dated August 13, 1986, regarding additional information required on Tosco's application for emissions reduction credits (ERCs) banking certificates. The delay in my receiving the letter was generated by the fact that Mr. Caufield is no longer a Tosco employee. When the letter arrived at our Stockdale office, the mailroom personnel called Mr. Caufield's home. He later stopped by to pick up the letter and gave it to Mr. Gordon Turl of Texaco Refining and Marketing Inc. last Friday, August 22. Mr. Turl telephoned me to inform me of the letter and sent a copy to me, which I received August 25.

I telephoned Mr. Paxson today to discuss the above background and to discuss the letter, briefly. Two general issues need to be addressed: First, we need to expedite communications between the District and Tosco concerning Tosco's pending application. Second, we need to gain more specifics regarding the deficiencies stated in your August 13 letter so that Tosco may provide the additional information expeditiously.

To improve communications regarding the application, Tosco has appointed Mr. Gordon A. Turl as its agent for the limited purpose of pursuing the application for ERCs. Please send further communications regarding Tosco's application to:

Texaco Refining and Marketing Inc.  
P.O. Box 1476  
Bakersfield, CA 93302

Attn: Mr. Gordon Turl

I spoke with Mr. Turl today regarding clarification of the deficiencies listed in your August 13 letter. By the time you receive this letter, he will have contacted you to set up a meeting to discuss the issues. We would like to have the meeting soon -- no later than early next week -- in order to avoid delays in the processing of the application. We anticipate that Milt Beychok, Roger Chittum, Gordon Turl and I will attend. Since, due to the delays outlined above, we lost most of the two weeks response

RECEIVED

AUG 27 1986

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

Leon M. Hebertson, M.D.  
Tosco ERCs Application  
August 26, 1986  
Page 2

time requested by the District before we received the letter, we ask that we be given one week after the meeting in which to submit the required information.

To clarify one point which I discussed with Mr. Paxson in today's telephone conversation, Tosco omitted the actual emissions data from all fired equipment, in connection with the #2 Gas Plant project (ATC 2003076), because we dropped our request for a banking certificate for NOx credits. It was Tosco's understanding that the fired equipment emissions were only required in support of that aspect of our application.

I have recently transferred to Tosco's Avon Refinery. If you need to contact me, my address and telephone number is:


Tosco Corporation  
Avon Refinery  
Martinez, CA 94553

Attn: Arthur C. Ryder

(415) 372-3166

Thank you.

Very truly yours,

  
Arthur C. Ryder

cc: M. R. Beychok  
R. D. Chittum, Esq.  
J. G. Drosdick  
W. McClave  
G. A. Turl -- Texaco

# KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

August 13, 1986

Mr. J. L. Caufield  
Manager of Environmental Affairs  
Tosco Corporation  
P.O. Box 2860  
Bakersfield, Ca. 93303

Dear Mr. Caufield:

We are in receipt of your July 15, 1986 revision to your October 28, 1986 application for emissions reduction credits banking certificate. Notwithstanding Mr. L. E. Perrier's (Plant Manager, Texaco USA) July 15, 1985 correspondence and Mr. A. C. Ryder's (Technical Manager, Tosco Corporation) July 8, 1986 correspondence, we are addressing this correspondence to the applicant of record as there are no provisions in Regulation II of the Kern County Air Pollution Control District Rules and Regulations for transfer of ownership of applications for ERC banking certificates. After issuance of a banking certificate, qualifying ERC's may change ownership pursuant to Rule 210.3.

Review of the information submitted July 15 in response to the District's February 27, 1986 deficiencies letter reveals your application is still deficient in providing the information necessary for the District to accept it as complete. The materials submitted to date are inadequate to allow determination the emissions reductions, have, in fact, actually occurred; are surplus, i.e., have not previously been required by law or utilized at a tradeoff or offset; will be permanent; can be quantified; and can be enforced. The following are more specific deficiencies:


## CARBON MONOXIDE AND HYDROCARBONS

2003027 and '027A-'027C Fluid Coker CO Boiler and Modifications. Neither Permit to Operate 2003010-Fluid Coker nor 2003027-CO Boiler (Fluid Coker) requires incineration of fluid coker exhaust. The permits require only the fluid coker exhaust through the Ducon scrubber when the CO boiler is not operating. The District's deficiency letter of February 27, 1986 notified Tosco of the need for Tosco to propose permit conditions to be added to its Permits to Operate sufficient to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

APPLIC. MADE  
BY TOSCO, N/A  
KACE 210.3  
PROVISIONS FOR  
TEXACO ASSUMING  
IT.

2.

WE HAVE UNTIL  
8/14/86 TO DETERMINE  
THIS APPLICATION  
"COMPLETE" OR "IN-  
COMPLETE".

8/14/86 

CITRON:

THIS IS THE "BOTTOM  
LINE" OF OUR ANALYSIS.  
THIS LETTER COULD  
GO EITHER TO TOSCO  
OR TEXACO DEPENDING  
UPON WHETHER WE'VE  
ALLOWED "TRANSFER"  
OF OWNERSHIP TO  
TAKE PLACE. NOTE:

Mr. Caufield  
page 2

SULFUR DIOXIDE

2003026A-'026C Claus Sulfur Recovery Tail Gas Treating Unit and Modifications. The District's deficiency letter of February 27, 1986 notified Tosco of the need for Tosco to provide actual emissions data from the Claus unit prior to installation of the tail gas treater and actual emissions data from the tail gas treating unit after it was put into service, along with sufficient process data to adjust these emissions data to a common basis, to quantify the emissions reduction credits claimed. This has not been provided. The Claus unit exhaust was required by EPA approval SJ-76-16 to be equipped with a tail gas treating unit unless Tosco installed and operated an ambient SO<sub>2</sub> monitor (which was not done.) Therefore, the claimed emissions reduction credits may not be surplus. The District also notified Tosco in the February 27th letter of the need for Tosco to propose permit conditions to be added to its Permits to Operate sufficient to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

2003076 #2 Gas Plant

The District's deficiencies letter of February 27, 1986 notified Tosco of the need for Tosco to provide actual emissions data from all fired equipment and the sulfur recovery unit, along with sufficient process data to adjust the emissions data to a common basis, both before and after installation of the #2 gas plant, to quantify the emissions reduction credits claimed. This has not been provided. The District also notified Tosco in the February 27th letter of the need for Tosco to propose permit conditions to be added to its Permits to Operate to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

Please submit the above described information necessary to accept the application as complete within a period of two weeks. Since Tosco has transferred the ownership of its Permits to Operate to Texaco, we must have authorization to make the proposed changes from Texaco. Should you have any questions, please telephone the Engineering Evaluation Section at 861-3682.

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER

Thomas Paxson, P.E., Manager  
Engineering Evaluation Section

TP/df

August 12, 1986

Mr. J. L. Caufield  
Manager of Environmental Affairs  
Tosco Corporation  
P. O. box 2860  
Bakersfield, California 93303

*Please correct  
before mailing*

*CERTIFIED,  
Must be mailed today*

Dear Mr. Caufield:

We are in receipt of your July 15, 1986 revision to your October 28, 1985 application for emissions reduction credits banking certificate. Notwithstanding Mr. L. E. Perrier's (Plant Manager, Texaco USA) July 15, 1986 correspondence AND Mr. A. C. Ryder's (Technical Manager, Tosco Corporation) July 8, 1986 correspondence, we are addressing this correspondence to you, the applicant of record, as there are no provisions in Regulation II of the Kern County Air Pollution Control District Rules and Regulations for transfer of ownership of applications for ERC banking certificates. After issuance of a banking certificate, qualifying ERC's may change ownership pursuant to Rule 210.3.

Review of the information submitted July 15 in response to the District's February 27, 1986 deficiencies letter reveals your application is still deficient in providing the information necessary *for the District to accept it as complete.* ~~to validate the requested ERC's.~~ The materials submitted to date are inadequate to allow determination that emissions reductions have, in fact, actually occurred; are surplus, i.e., have not previously been required by law or utilized at a tradeoff or offset; will be permanent; can be quantified; and can be enforced. The following deficiencies *are more specific* ~~in your submittals preclude validation of the requested emissions reduction credits.~~

CARBON MONOXIDE AND HYDROCARBONS

2003027 and '027A-'027C Fluid Coker CO Boiler and Modifications

~~The emissions reductions credits claimed from the installation of the CO boiler on the fluid coker exhaust cannot be validated because they cannot be determined to be permanent and cannot be determined to~~

~~be enforceable.~~ Neither Permit to Operate 2003010-Fluid Coker nor 2003027-CO Boiler (Fluid Coker) requires incineration of fluid coker exhaust. The permits require only the fluid coker exhaust through the Ducon scrubber when the CO boiler is not operating. The District's



~~final~~ deficiency letter of February 27, 1986 notified Tosco of the need for Tosco to propose permit conditions to be added to its Permits to Operate sufficient to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

#### SULFUR DIOXIDE

2003026A-'026C Claus Sulfur Recovery Tail Gas Treating Unit and Modifications

~~The emissions reductions credits claimed from the installation of the Claus sulfur recovery unit tail gas treating unit cannot be validated because they cannot be quantified, cannot be determined to actually have occurred, cannot be determined to be surplus and cannot be determined to be enforceable.~~ The District's ~~final~~ deficiency letter of February 27, 1986 notified Tosco of the need for Tosco to provide actual emissions data from the Claus unit prior to installation of the tail gas treater and actual emissions data from the tail gas treating unit after it was put into service, along with sufficient process data to adjust these emissions data to a common basis, to quantify the emissions reduction credits claimed. This has not been provided. The Claus unit exhaust was required by EPA approval SJ-76-16 to be equipped with a tail gas treating unit unless Tosco installed and operated an ambient SO<sub>2</sub> monitor (which was not done.) Therefore, the claimed emissions reduction credits ~~cannot be determined~~ <sup>may not</sup> be surplus. The District also notified Tosco in the February 27th letter of the need for Tosco to propose permit conditions to be added to its Permits to Operate sufficient to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

#2

~~The emissions reductions credits claimed from the installation of #2 gas plant cannot be validated because they cannot be quantified, cannot be determined to be permanent, and cannot be determined to be enforceable.~~ The District's ~~final~~ deficiencies letter of February 27, 1986 notified Tosco of the need for Tosco to provide actual emissions data from all fired equipment and the sulfur recovery unit, along with sufficient process data to adjust the emissions data to a common basis, both before and after installation of the #2 gas plant, to quantify the emissions reduction credits claimed. This has not been provided. The District also notified Tosco in the February 27th letter of the need for Tosco to propose permit conditions to be added to its Permits to Operate to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

Please submit the above described information necessary to ~~validate~~ *accept the application as complete* the emissions reduction credits within a period of two weeks. ~~Failure to do so will result in denial of your application.~~ Should you have any questions, please telephone the Engineering Evaluation Section at 861-3682.

Since Tosco has transferred the ownership of its Permits to Operate *to Texaco,* ~~it may not now be legally possible for~~ *Sincerely,* ~~Tosco to propose changes to the refinery Permits.~~

*if we must have authorization to make the proposed changes to its permits from Texaco.*

August 11, 1986

Mr. J. L. Caufield  
Manager Environmental Affairs  
Tosco Corporation  
P.O. Box 2860  
Bakersfield, California 93303

Dear Mr. Caufield:

Pursuant to Rule 210.3, Section C.2.(h) of the Kern County Air Pollution Control District Rules and Regulations your October 28, 1985 application for emissions reduction credit banking certificates is hereby denied. Utilizing the information submitted with the original application, and the numerous additions, modifications and revisions submitted since, the Control Officer has determined the emission reduction credits (ERC's) requested cannot be validated. The material submitted is inadequate to allow determination that emissions reductions have, in fact, actually occurred; are surplus, i.e., have not previously been required by law or utilized as a tradeoff or offset; will be permanent; can be quantified; and can be enforced.

This denial is based on the following deficiencies in your submittals which preclude validation of the requested emission reduction credits.

CARBON MONOXIDE AND HYDROCARBONS

2003027 and '027A-'027C Fluid Coker CO Boiler and Modifications

The emissions reductions credits claimed from the installation of the CO boiler on the fluid coker exhaust cannot be validated because they cannot be determined to be permanent and cannot be determined to be enforceable. Neither Permit to Operate 2003010-Fluid Coker nor 2003027-CO Boiler (Fluid Coker) requires incineration of fluid coker exhaust. The permits require only the fluid coker exhaust through the Ducon scrubber when the CO boiler is not operating. The District's

final deficiency letter of February 27, 1986 notified Tosco of the need for Tosco to propose permit conditions to be added to its Permits to Operate sufficient to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

SULFUR DIOXIDE

2003026A-'026C Claus Sulfur Recovery Tail Gas Treating Unit and Modifications

The emissions reductions credits claimed from the installation of the Claus sulfur recovery unit tail gas treating unit cannot be validated because they cannot be quantified, cannot be determined to actually have occurred, cannot be determined to be surplus and cannot be determined to be enforceable. The District's final deficiency letter of February 27, 1986 notified Tosco of the need for Tosco to provide actual emissions data from the Claus unit prior to installation of the tail gas treater and actual emissions data from the tail gas treating unit after it was put into service, along with sufficient process data to adjust these emissions data to a common basis, to quantify the emissions reduction credits claimed. This has not been provided. The Claus unit exhaust was required by EPA approval SJ-76-16 to be equipped with a tail gas treating unit unless Tosco installed and operated an ambient SO<sub>2</sub> monitor (which was not done.) Therefore, the claimed emissions reduction credits cannot be determined to be surplus. The District also notified Tosco in the February 27th letter of the need for Tosco to propose permit conditions to be added to it's Permits to Operate sufficient to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

2003076 #2 Gas Plant

The emissions reductions credits claimed from the installation of #2 gas plant cannot be validated because they cannot be quantified, cannot be determined to be permanent, and cannot be determined to be enforceable. The District's final deficiencies letter of February 27, 1986 notified Tosco of the need for Tosco to provide actual emissions data from all fired equipment and the sulfur recovery unit, along with sufficient process data to adjust the emissions data to a common basis, both before and after installation of the #2 gas plant, to quantify the emissions reduction credits claimed. This has not been provided. The District also notified Tosco in the February 27th letter of the need for Tosco to propose permit conditions to be added to its Permits to Operate to insure permanence and enforceability of claimed emissions reduction credits. Tosco has not done so.

Please be aware there may exist other grounds for denial of your application for emissions reduction credits banking certificates in addition to those set forth above. Pursuant to Rule 210.3, Section D.2.(b), you have 30 days to appeal this denial before the Hearing Board of the Kern County Air Pollution Control District should you so choose. Should you have any questions, please telephone the Air Quality Control Division at (805) 861-3682.

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER

**UNITED STATES POSTAL SERVICE**  
OFFICIAL BUSINESS



PENALTY FOR PRIVATE USE, \$300

**SENDER INSTRUCTIONS**

- Print your name, address, and ZIP Code in the space below.
- Complete items 1, 2, 3, and 4 on the reverse.
  - Attach to front of article if space permits, otherwise affix to back of article.
  - Endorse article "Return Receipt Requested"
  - adjacent to number.

**RETURN TO**

**KERN COUNTY AIR POLLUTION CONTROL DISTRICT**

1401 1/2 STREET, SUITE 150  
(Name of Sender)  
BAKERSFIELD, CALIFORNIA 93301

(Street or P.O. Box)

(City, State, and ZIP Code)

PS Form 3811, July 1982

SENDER: Complete items 1, 2, 3, and 4. Add your address in the "RETURN TO" space on reverse.

**(CONSULT POSTMASTER FOR FEES)**

1. The following service is requested (check one).

Show to whom and date delivered ..... \$

Show to whom, date, and address of delivery .. \$

2.  RESTRICTED DELIVERY ..... \$  
(The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL \$

3. ARTICLE ADDRESSED TO:  
Mr. J. L. Caufield  
Tosco Corp  
P.O. Box 2860  
Bak, Ca. 93303

4. TYPE OF SERVICE:  REGISTERED  INSURED  CERTIFIED MAIL  EXPRESS MAIL  
ARTICLE NUMBER: P459632701

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE:  Addressee  Authorized agent  
*[Signature]*

DATE OF DELIVERY: 8-16-86  
POSTMARK (may be on reverse side)

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE: 7a. EMPLOYEE'S INITIALS

RETURN RECEIPT

GPO: 1982-379-593

P 459 632 701

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

PS Form 3800, June 1985 \* U.S.G.P.O. 1985-480-794

Sent to: Mr. J. L. Caufield  
Street and No.: Tosco Corp  
P.O. Box 2860  
P.O., State and ZIP Code: Bakersfield Ca 93303

Postage: \$

Certified: **NOT MAILED**

Spec: **NOT MAILED**

Restr: **NOT MAILED**

Return receipt showing to whom and Date Delivered

Return Receipt showing to whom, Date, and Address of Delivery

TOTAL Postage and Fees: \$

Postmark or Date

Fold at line over top of envelope to the right of the return address

TOSCO REFINERY

T. GOFF

REQUEST FOR ERC BANKING CERTIFICATE

5 AUG '86

HYDROCARBONS & CARBON MONOXIDE

TOSCO REQUESTS ERC BANKING CERTIFICATE FOR HYDROCARBONS AND CARBON MONOXIDE REDUCTIONS DUE TO INCINERATION IN CO BOILER OF FLUID COKER EXHAUST. TOSCO CONTENDS EXISTING PERMIT CONDITIONS PROVIDE FOR PERMANENCE AND ENFORCEABILITY OF CLAIMED ERC.

EXAMINATION OF FLUID COKER AND CO BOILER (FLUID COKER) PERMITS TO OPERATE (2003010 & 2003027) REVEAL THERE ARE NO PERMIT CONDITIONS WHICH REQUIRE THE FLUID COKER EXHAUST TO BE INCINERATED IN THE CO BOILER AND THERE ARE NO CO NOR HYDROCARBON EMISSION LIMIT FOR THE UN-INCINERATED FLUID COKER EXHAUST.

IF THE PERMIT HOLDER DESIRED TO OPERATE THE FLUID COKER WITHOUT USING THE CO BOILER, SUCH IN THE CASE WHERE STEAM DEMAND IS SATISFIED ELSEWHERE (TCC CO BOILER, COGENERATION EQUIPMENT, NEIGHBORING FACILITIES, ETC.) NO EMISSION REDUCTION DUE TO INCINERATION OF THE FLUID COKER EXHAUST COULD BE REQUIRED. THEREFORE, THE HYDROCARBON AND CARBON MONOXIDE ERC'S CLAIMED CANNOT BE VALIDATED AS THEY ARE NOT PERMANENT AND ENFORCEABLE.

PER'D. DENY REQUEST FOR H.C. & C.O. ERC'S.

## SULFUR DIOXIDE

TOSCO REQUESTS ERC BANKING CERTIFICATE FOR SULFUR DIOXIDE REDUCTIONS DUE TO INSTALLING A TAIL GAS TREATING UNIT ON THE CLAUS SULFUR RECOVERY PLANT AND DUE TO #2 GAS PLANT REMOVING SULFUR COMPOUNDS FROM REFINERY FUEL GAS AND THUS REDUCING  $SO_2$  EMISSIONS FROM ALL REFINERY FIRED EQUIPMENT.

THE CLAUS SULFUR RECOVERY UNIT PERMIT TO OPERATE 2003026 (WHICH INCLUDES THE CAUSTIC SYSTEM TAIL GAS SCRUBBER) REQUIRES A MINIMUM OVERALL SULFUR RECOVERY EFFICIENCY OF 90% (BY WEIGHT OF SULFUR) AND SULFUR COMPOUNDS CONCENTRATION OF 2000 ppmv (as  $SO_2$ ) AT OUTLET OF CAUSTIC SCRUBBER. NO PERMIT CONDITIONS ARE IMAGED, OR WERE PROPOSED BY TOSCO, TO ALLOW VALIDATION (INSURE THE PERMANENCE AND ENFORCEABILITY) OF THE CLAIMED ERC. NO ACTUAL EMISSIONS DATA, PRE-PROJECT AND POST-PROJECT, ALONG WITH SUFFICIENT PROCESS DATA TO ADJUST THESE EMISSIONS DATA TO A COMMON BASIS (THE AMOUNT OF SULFUR INTO THE CLAUS UNIT AFFECTS THE SULFUR EMISSIONS, ETC.) WAS PROVIDED.

THEFORE, THIS ERC CANNOT BE VALIDATED BECAUSE IT IS NOT QUANTIFIABLE, PERMANENT, NOR ENFORCEABLE. THE TAIL GAS TREATING UNIT WAS REQUIRED BY EPA APPROVAL SJ-76-16 AND IS NOW REQUIRED FOR RULE 407 COMPLIANCE.

THE #2 GAS PLANT, 2003096 (LATER 2003095) WAS TO PROCESS REFINERY PRODUCED GAS THAT PREVIOUSLY WAS BURNED IN VARIOUS REFINERY COMBUSTION DEVICES. THIS PROCESSING INCLUDED REMOVAL OF HEATING VALUE (LPG'S WERE REMOVED FOR SALE) AND REMOVAL OF SULFUR COMPOUNDS (A PORTION (~90%+) OF WHICH WERE TO BE RECOVERED IN THE CLAUS PLANT). NO ACTUAL EMISSIONS DATA, PRE-PROJECT AND POST-PROJECT, FROM REFINERY COMBUSTION



DEVICES, SHOWING THEIR SULFUR DIOXIDE EMISSIONS CHANGES WERE PROVIDED. NO PERMIT CONDITIONS WERE PROPOSED BY TOSLO TO REQUIRE THE POST-PROJECT EMISSIONS TO BE MAINTAINED. THUS THE REQUESTED ERC CANNOT BE VALIDATED AS IT CANNOT BE QUANTIFIED, OR BE DETERMINED TO BE PERMANENT OR ENFORCEABLE.

REC'D. DENY REQUEST FOR SO<sub>2</sub> ERC'S.

NOTE: OTHER GROUNDS, NOT DISCUSSED, MAY EXIST FOR DENIAL OF THE REQUESTED E.R.C.'S. DUE TO TIME CONSTRAINTS, ONCE THE REQUEST ERC'S WERE DETERMINED TO NOT QUALIFY FOR ISSUANCE OF A BANKING CERTIFICATE, ANALYSIS OF THE REQUEST CEASED. IT IS POSSIBLE FURTHER ANALYSIS COULD REVEAL ADDITION GROUNDS FOR DENIAL.

J.E.S.

8/5/86



L E Perrier  
Plant Manager

Texaco USA

P O Box 1476  
Bakersfield CA 93302  
805 326 4200

Return Receipt Requested

August 12, 1986

Dr. Leon M. Hebertson, APCO  
Kern County APCD  
1601 'H' Street Suite 150  
Bakersfield, CA 93301

Attn: Mr. Thomas Paxson

As you recently requested from Gordon Turl please find enclosed a copy of certain portions of the Asset Purchase & Sale Agreement which has been finalized with the Tosco Corporation. The excerpts enclosed include the portions which deal with TOSCO's assignment of any and all banked emission offsets and credits. This documentation is in addition to the Assignments previously submitted to your agency and together provide conclusive documentation of TOSCO's intent on transferring the subject ERC's to Texaco.

We are anxious to finalize your agency's action leading to the issuance of these ERC's. Please contact Gordon Turl if there is any questions or concerns regarding these issues.

Very truly yours,

A handwritten signature in cursive script that reads "L. E. Perrier".

L. E. Perrier

GAT/rad

Enclosure

cc: 34040-0-A-25-X-433

RECEIVED

AUG 14 1986

KERN COUNTY AIR  
QUALITY CONTROL DISTRICT

ASSET PURCHASE AND SALE AGREEMENT

This Asset Purchase and Sale Agreement ("Agreement") is made as of the 30th day of May, 1986, by and between Tosco Corporation, a Nevada corporation ("Tosco"), and Texaco Refining and Marketing Inc., a Delaware corporation ("Texaco").

W I T N E S S E T H

WHEREAS, Tosco is the owner of certain assets formerly used in connection with the refining of petroleum products, all located near Bakersfield, California.

WHEREAS, Texaco desires to purchase such assets (the Purchased Assets as defined in Section 1.1 of this Agreement) from Tosco and to take over and assume certain contracts involving the Purchased Assets (the "Contracts"), and Tosco is willing to sell such assets to Texaco, and assign its rights under the Contracts to Texaco, on the terms and conditions set forth below:

NOW, THEREFORE, in consideration of the mutual covenants and the agreements of the parties contained herein and subject to the conditions specified herein, the parties hereto agree as follows:

## EXCERPTS

### SECTION 1. Sale of Assets.

On the Closing Date (as hereinafter defined) Tosco shall sell, convey, transfer and assign to Texaco, and Texaco shall purchase and accept all of Tosco's right, title and interest in and to the Purchased Assets.

1.1. The Purchased Assets. The term "Purchased Assets" shall mean only those items described below and more specifically described in Schedule A to this Agreement, such items being:

(a) all of Tosco's right, title and interest in and to the real property described in Part I of Schedule A including the property on which is located Tosco's refinery near Bakersfield, California and land owned by Tosco adjacent thereto and all pipes, storage tanks and other tanks, process units, cokers, distillate units, cracking units, desulfurizing systems, towers, furnaces, heaters, reactors, boilers, cooling towers, water wells, flare systems, utility systems, pumps, sulfur plant equipment, offsite tank storage, and other real property pertaining thereto (the "Bakersfield Refinery") and approximately 50 miles of pipelines and related facilities which serve the Bakersfield Refinery (the "Pipelines"), and the buildings, structures, improvements, rights-of-way or use (the "Pipeline Rights-of-Way"), leases, subleases,

franchises, deeds, servitudes, licenses, easements, tenements, hereditaments, privileges, agreements and appurtenances now or hereafter belonging or pertaining thereto (collectively, the "Purchased Real Property");

(b) all of Tosco's right, title and interest in the tangible property which is located on the Purchased Real Property (generally as listed on Part II of Schedule A), in the condition such tangible property exists on the Closing Date (collectively, the "Purchased Tangible Property"), such items including but not limited to:

(i) movable fixtures, machinery, equipment and other associated property (including pollution control equipment), pumps, tools, railway tank cars, computer and peripheral equipment, fire truck and mobile construction equipment;

(ii) owned vehicles;

(iii) any owned office equipment on site;

(iv) information and data in written or other documentary form;

(v) such materials and supplies (including office supplies, materials and supplies in warehouses, additives, TEL, chemicals, catalysts in process units, lube and grease base stocks, containers, returnable drums and replacement and spare

parts) and tank bottoms remaining in tanks, if any, which are on site;

(vi) all banked air emissions offsets and credits (including any granted after the Closing Date as provided by Section 1.3), if any, arising from or in connection with Refinery operations.

1.2 Exclusions. There shall be excluded from the assets to be transferred pursuant to this Agreement the following (the "Excluded Assets"):

(a) Tosco's logos and emblems and signs, which shall be removed or deleted by Texaco within a reasonable period of time after the Closing Date, and all right, title and interest in or to the use of all trademarks, trade names and service marks of Tosco or its subsidiaries or affiliates (excluding the sign standards);

(b) all amounts (including lease or rental payments), notes and accounts receivable owing to or becoming due to Tosco prior to or as of the Closing Date, which result from Tosco's ownership of the Purchased Real Property (or past operation of the Bakersfield Refinery), or from its leasing of pieces of the Purchased Real Property or tank usage, attributable to any period prior to the Closing Date, which shall be retained by Tosco for collection at its own cost and expense;

(c) the 4-inch pipeline located within the Northeast quarter of Section 6 Township 29 South Range 28 East, M.D.M., Kern County, California, and the 6-inch connecting pipeline in Section 30 Township 20 South Range 15 East, M.D.M., Fresno, California (both as more specifically identified in Schedule B), and all improvements and fixtures related thereto;

(d) all non-refinery related supplies stored in the office trailer located behind and south of the office building at 2201 Fruitvale Avenue, Bakersfield, California 93308 ("Fruitvale Office").

(e) all other items of personal property which (i) are not located at the Bakersfield Refinery or the facilities related to the Pipelines and (ii) have been used by Tosco primarily in support of Tosco activities other than the operation of the Bakersfield Refinery or Pipelines.

(f) certain intellectual property, including, without limitation, Tosco's trade secrets, computer software, patents, patent applications, know-how and accounting and linear systems, as more specifically set forth in Schedule C hereto.

1.3 Assignment and Assumption of Certain Contracts:

Transfer of Permits. Except as otherwise provided herein, on the Closing Date, Tosco shall assign and

transfer to Texaco all of Tosco's right, title and interest in the leases and contracts listed on Schedule D, correct copies of which have been delivered to Texaco (the "Contracts"). Within fifteen days of execution of this Agreement, Texaco shall inform Tosco of any contracts it wishes to be excluded from this transaction and Tosco shall, at its option, exclude or not exclude such contracts. Texaco shall assume all obligations arising after the Closing Date under the Contracts assigned arising after the Closing Date. If any consents or waivers of third parties are required for such assignment and assumption, Tosco and Texaco will cooperate together so as promptly to request such consent. As to those contracts which are not unconditionally assignable or transferable, Tosco shall use reasonable efforts to fulfill all conditions required for such assignment or transfer. However, if such required consent is not received on or before the Closing Date, Tosco will be under no obligation to secure such consent, nor will the securing of such consent be considered a precondition of Texaco's obligation to close its purchase of the Property, and the Contract in question will not be assigned by Tosco or assumed by Texaco. The assignments and assumptions of Contracts will be effected by separate instruments executed at the Closing in form reasonably satisfactory to counsel (generally in the form of Exhibit 1 hereto), and shall be effective as of the Closing Date, with the benefits and burdens



of such Contracts prior to the Closing Date being for Tosco's account, and on and after the Closing Date being for Texaco's account.

With respect to Tosco's process license agreements under which it operated refinery units prior to shut-down, Tosco will cooperate with Texaco to assist Texaco in completing such arrangements as Texaco may wish to undertake for the negotiation of novation agreements with process licensors of such units, provided that Tosco incurs no further cost or expense (except as provided for by Section 12) in connection with such efforts and that obtaining such novation agreements for Texaco will not be considered a precondition of Texaco's obligation to close its purchase of the Purchased Assets. Tosco will also, at no cost to Tosco, assist Texaco in obtaining any license agreements required for any other of the Purchased Assets.

On the Closing Date, Tosco shall assign and transfer to Texaco all licenses, permits, banked air emissions offsets and credits, if any, certificates and authorities from governmental agencies which it has relating to the Purchased Assets (as more specifically set forth in Schedule E hereto) to the extent they are transferrable, provided that Tosco incurs no further cost or expense, except as provided by Section 12, in connection with such transfer and that such transfer will not be considered a precondition of Texaco's obligation to

close its purchase of the Purchased Assets. Tosco will, after the Closing Date, continue, at no cost to Tosco except as provided by Section 12, to diligently prosecute its pending application to bank air emissions credits currently filed with the Kern County Air Pollution Control District. Tosco shall assign its assignable interest in such credits, if any, to Texaco promptly after final action by the District.

1.4 Title Matters.

(a) Tosco will arrange for a CLTA owner's coverage policy of title insurance (or equivalent policies), naming Texaco as an insured in the amount of \$25,000,000 issued by one or more solvent, responsible title insurance companies acceptable to Texaco. Such policy shall be issued to Texaco as of the Closing Date and shall insure Texaco's title to all Bakersfield Refinery fee property to be sold hereunder, subject only to encumbrances, defects, exceptions, restrictions or other similar matters described in the preliminary title report delivered to Texaco by Tosco and approved by or as to which Texaco has waived its objections, pursuant to the following provisions of this Section 1.4, and to current tax and assessment liens which may hereafter attach to any such properties. The costs of such policy of title insurance shall be paid by Tosco.

(b) Tosco has, at its sole cost and expense, furnished to Texaco a preliminary title report concerning the

IN WITNESS WHEREOF, the parties have each duly executed this Agreement and caused its seal to be duly affixed hereto as of the day and year first above written.

TOSCO CORPORATION

Attest: William C. Clark BY John H. Drodick

TEXACO REFINING AND MARKETING INC.

Attest: Stephen M. Masoff BY L. P. Miller  
Assistant Secretary

8387



L E Perrier  
Plant Manager

Texaco USA

P O Box 1476  
Bakersfield CA 93302  
805 326 4200

HAND DELIVERED

July 15, 1986

Dr. Leon M. Hebertson, APCO  
Kern County Air Pollution  
Control District  
1601 H Street, Suite 150  
Bakersfield, CA 93301

Attn: Mr. Thomas Paxson

Dear Mr. Paxson:

Please find enclosed our check in the amount of \$120.00 representing the additional two filing fees associated with an expansion of Tosco's original single ERC application.

Due to our recent acquisition of Tosco's Bakersfield refinery and associated assets, we are submitting their documentation of the ERCs for which they have previously applied. This documentation consists of the following:

1. Tosco's original July 11, 1986 transmittal letter to Dr. Leon M. Hebertson.
2. Three separate applications for ERCs representing SO<sub>2</sub>, NMHC and CO. These three (3) applications are considered modifications to the original single application in order to preserve the original submittal date of April 24, 1984.
3. The report entitled, "Quantification of Emissions Reduction Credits for Three Projects at the Tosco Bakersfield Refinery", dated July 10, 1986 by Milton R. Beychok.

It is our understanding that the data which is represented by this submittal is based upon Tosco's recent coordination with District staff and an in-depth analysis of past operating conditions of the specific subject refinery units. This effort represents the best evaluation available to establish the emission reduction credits pursuant to District's Rules 210.1 and 210.3.

Any future coordination with the District relative to these applications for ERCs are to be through our company. Mr. Gordon A. Turl is available to provide this coordination, if necessary. Access to applicable Tosco staff and contractors will be possible for the near future in order to provide

Dr. Leon M. Hebertson, APCO  
Kern County Air Pollution  
Control District  
Bakersfield, CA 93301

July 15, 1986  
Page 2

any necessary explanation or expansion of the submitted data.

We are anxious to finalize action on these subject applications and look forward to cooperatively pursuing such as we have in the past. As always, thank you for your understanding and assistance.

Very truly yours,

  
L. E. Perrier

GAT/jas  
Attachments .

## Office Memorandum • KERN COUNTY

TO : Dr. Hebertson, APCO/Citron Toy, CASO

DATE: 28 July 86

FROM : Thomas Paxson, ASE IV

Telephone No.

SUBJECT: TOSCO Banking Certificates Application- Acquisition of Tosco by Texaco

On October 28, 1985 KCAPCD received from Tosco Corporation an application package for a Banking Certificate for emissions reductions purportedly made at the Tosco Bakersfield refinery. We conducted a preliminary review of this application and found it to be incomplete. To date, it remains an "incomplete" application. However, on July 15, 1986 we received an additional package of material "from" Tosco, but submitted by Texaco who apparently acquired the refinery in June of 1986. Texaco has requested that we process the applications as Texaco's and that we issue Banking Certificates to Texaco.

Apparently, Texaco has acquired all of Tosco's Bakersfield refinery assets. (See attached letter.) Rule 210.3 (Emission Reductions Banking) addresses the transfer of ownership of certificates once issued, but does not address acquisition of applications for certificates. Question: Should we continue to process these applications as Tosco's or process them as Texaco's? If issued to Tosco, they could then be transferred to Texaco. If issued to Texaco, a transfer would not be needed and any SLC credit would remain intact. If desirable, we could discuss this with

P.A.S. 580 1151 395-5004 (Rev. 2/86) County Counsel.

TP

Tosco Corporation  
2401 Colorado Avenue  
P.O. Box 2401  
Santa Monica  
California 90406-2401  
Telephone 213 207-6000

**Tosco**

July 11, 1986

Leon M. Hebertson, M.D.  
Air Pollution Control Officer  
Kern County Air Pollution  
Control District  
1601 "H" Street  
Bakersfield, CA 93301

Dear Dr. Hebertson:

Enclosed are additional materials in support of our continuing application to receive Banking Certificates for Emission Reduction Credits for certain emissions reductions in our Rule 210.1 "informal bank". At your staff's request, we have divided the application into separate application documents for SOx, non-methane hydrocarbons ("NMHC"), and CO.

Each pollutant-specific application includes its own summary document addressing each of the specific requirements of Rule 210.3 and incorporating by reference the detailed emissions calculations which are organized on a project-by-project basis in the enclosed report entitled "Quantification of Emissions Reduction Credits for Three Projects at the TOSCO Bakersfield Refinery", dated July 10, 1986, by Milton R. Beychok.

In this revision, we have elected to withdraw our request to bank certain of the emission reductions previously claimed in this application. We no longer seek a banking certificate for any NOx reductions. Nor do we seek a banking certificate for reduced emissions from fired boilers which were replaced by the Coker CO boiler (although we continue to seek banking certificates for the NMHC and CO reductions achieved by controlling the coker flue gas emissions).

In this revision, we have also dropped our request to receive banking certificates for specific-limiting-condition ERCs in excess of the actual-historical ERCs.

In a matter closely related to these banking applications, we request confirmation of our understanding, as reflected in Table 1 attached, of the way in which issuance of banking certificates would affect our Rule 210.1 cumulative emissions increases and decreases. Table 1 summarizes the KCAPCD NSR determinations of cumulative net emissions changes associated with TOSCO refinery projects since December 28, 1976.

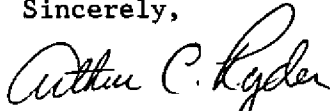
Leon M. Hebertson, M.D.  
July 11, 1986  
Page 2

The values in Table 1 above the line labeled "KCAPCD Totals for Completed Projects" were determined by KCAPCD and were taken from their files. With the exception explained in footnote 5 to Table 1, the values below that line were determined by Beychok and are documented in his report. In summary, the differences are:

- 1) Because, at the time of the District's last update of Rule 210.1 balances, the Tail Gas project had not yet been tested and there was a question about the significance of the January 1979 amendment to Rule 407, KCAPCD files do not quantify a reduction for these A/Cs. Beychok has determined that the actual SO2 emission reduction was 394 lbs/day.
- 2) In the A/C analysis for the Hydrocracker Sour Water Stripper and New Gas Plant projects, KCAPCD had projected increases in emissions from fuels combustion. The Beychok report demonstrates that no such emissions increases occurred. Therefore, the actual increase in SO2 emissions from the stripper project should only be 73 lbs/day instead of 544 lbs/day, as shown in the District records, the decrease in SO2 emissions from the gas plant project should be 4,401 lbs/day instead of 3,190 lbs/day as shown in the District records, and all other emissions should be shown as being unchanged by those projects. TOSCO requests that KCAPCD adopt the foregoing changes in their records of TOSCO's Rule 210.1 balances. At the end of Table 1, we have deducted the ERCs claimed in the pending banking applications to arrive at the Rule 210.1 balances which will remain after issuance of the banking certificates.

Finally, the refinery and related assets, including all air permits and Emissions Reduction Credits, were sold to Texaco Refining and Marketing, Inc., effective June 30, 1986. Therefore, as specified in Texaco's letter to the District, dated July 9, 1986, please process these application in the name of, and issue the banking certificates to, Texaco Refining and Marketing, Inc.

Sincerely,

  
ARTHUR C. RYDER

ACR/kjt



**TABLE 1: KCAPCD RULE 210.1  
CUMULATIVE NET EMISSION CHANGES (TOSCO REFINERY)**

Project	ATC #	Emission Changes, Lbs/Day				
		SO2	Part.	NOX	CO	HC
Sponge Iron H2S Absorber	2003017A	-2	0	0	0	0
Wastewater Treatment System	2003013A	0	0	0	0	0
Naphtha Unloading Rack	2003023	0	0	0	0	0
Low Press. Flare Modif.	2003021A	0	0	0	0	0
2 Tanks	2003024A	0	0	0	0	+14
1 Tank	2003024B	0	+1	+8	+1	0
Crude Unit Compressor	2003001B	0	0	0	0	0
4 Tanks	2003024C	0	+1	+8	+1	+1
"A" Reformer Modification	2003004B	-136	0	0	0	0
"B" Reformer Modification	2003005B	0	0	0	0	+45
Effluent Control Modif.	2003020A	+119	+5	0	0	0
TCC CO Boiler	2003030	-196	-70	-537	-177360	-2496(1)
Coker Gas Compressor	2003010B	0	0	+26	+5	+14
TCC Gas Compressor	2003006B	0	0	+110	+12	+46
Alkylation Unit Modif.	2003003A	0	0	0	0	0
Floating Roof Tank Seal	2003031	0	0	0	0	0
Floating Roof Tank Seal	2003032	0	0	0	0	0
Floating Roof Tank Seal	2003033	0	0	0	0	0
Wastewater Tank Vap. Recov.	2003020B	0	0	0	0	0
Replace Vap. Recov. Compr.	2003024D	0	0	0	0	0
Crude Heater Staged Combust.	2003001C	0	0	0	0	0(2)
Floating Roof Tank Seal	2003074A	0	0	0	0	0
Replace Coker Quench Elut.	2003010C	0	0	0	0	0
Gas Phase II Vapor Control	2003028A	0	0	0	0	0
Alkylation Unit Modif.	2003003D	0	0	0	0	0
Surface Drainage Modif.	2003020D	0	0	0	0	0
Oil/Water Separator Cover	2003020E	0	0	0	0	0
Tank Farm Vapor Control	2003019A	0	0	0	0	0(3)
Offspec NH3 Relief Valve	2003020F	0	0	0	0	0
KOH Scrubbers	2003085A	0	0	0	0	0
Alky Unit Caustic Scrubber	2003003E	0	0	0	0	0
"B" Reformer Modification	2003005C	0	0	0	0	0(3)
Wastewtr Surge/Sludge Tks	2003020G	0	0	0	0	+13(4)
Coker CO Boiler	2003027	-1681	-97	-1237	-74226	-19614
Coker CO boiler	2003027A	0	0	0	0	0
Coker CO Boiler	2003027B	0	0	0	0	0
Coker CO Boiler	2003027C	0	0	0	0	0
<b>KCAPCD Totals for Completed Projects</b>		<b>-1700</b>	<b>-90</b>	<b>-1085</b>	<b>-74207</b>	<b>-19494</b>

**Projects Recalculated by Beychok:**

Tail Gas Scrubber	2003026A		0	0	0	0
Tail Gas Scrubber	2003026B	-394	0	0	0	0
Tail Gas Scrubber	2003026C		0	0	0	0
Hydrocrkr Sour Wtr Stripper	2003020C	+73(5)	0	0	0	0
New Gas Plant	2003076	-4401(5)	0	0	0	0
Rule 210.1 Balanced as Adjusted		-6422	-90	-1085	-74207	-19494
Less ERC in Pending Bank Applic.		4156	0	0	63432	14256
Net Adjusted Rule 210.1 Balances		-2266	-90	-1085	-10775	-5238

(1) This project was never completed and the ATC has expired; these amounts are,

- (2) This project was a test for the EPA. No credits claimed.
- (3) These projects were never completed. Had they been installed, there would have been emission reductions to claim; these amounts are, therefore, not included in the totals.
- (4) This project was never completed; these amounts are, therefore, not included in the totals.
- (5) KCAPCD calculated value adjusted by deducting the amount of emission increase estimated by KCAPCD to result from increased fuel combustion.

T.P.

CT

# Office Memorandum • KERN COUNTY

TO : Dr. Hebertson, APCO/Citron Toy, CASO

DATE: 28 July 86

TO

FROM : Thomas Paxson, ASE IV

Telephone No.

SUBJECT: TOSCO Banking Certificates Application- Acquisition of Tosco by Texaco

On October 23, 1985 KCAPCD received from Tosco Corporation an application package for a Banking Certificate for emissions reductions purportedly made at the Tosco Bakersfield refinery. We conducted a preliminary review of this application and found it to be incomplete. To date, it remains an "incomplete" application. However, on July 15, 1986 we received an additional package of material "from" Tosco, but submitted by Texaco who apparently acquired the refinery in June of 1986. Texaco has requested that we process the applications as Texaco's and that we issue Banking Certificates to Texaco.

Apparently, Texaco has acquired all of Tosco's Bakersfield refinery assets. (See attached letter.) Rule 210.3 (Emission Reductions Banking) addresses the transfer of ownership of certificates once issued, but does not address acquisition of applications for certificates. Question: Should we continue to process these applications as Tosco's or process them as Texaco's? If issued to Tosco, they could then be transferred to Texaco. If issued to Texaco, a transfer would not be needed and any SIC credit would remain intact. If desirable, we could discuss this with County Counsel.

P.A.S. 580 1151 395-5004 (Rev. 2/86)

July 30, 1986

TP

Thanks for referring this to me for review and comment.

First, obtain authorization from Art Ryder to transfer the Banking Certificate Application from Tosco to Texaco.

Upon receipt of this authorization, change the name on the applications to Texaco and complete the processing under the Texaco name.

c.toy *[Signature]*

Nancy Harney (415) 974-7658  
Roger Chittum (213) 470-2050

Tosco Banking Application

- May 19 Meeting with Ryder, Caufield, Chittum, Baychock, Paxson & Goff and Dr. H on this subject. Informed that data on actual fuel use is needed to quantify emissions.
- May 20 T.C. to EPA. Discussed with Nancy Harney.  
T.C. to Chittum to apprise of discussion with EPA  
T.C. to Caufield to determine shutdown period. States that this is not a shutdown but an equipment replacement.
- May 27 T.C. to Harney. Agrees that this is equipment replacement. Will get information on banking attainment pollutants.  
T.C. to Chittum. Apprised of discussion with Harney. Suggest that a meeting with EPA and APCD may be productive. He may call Harney to express support of banking emissions. Suggested that he contact Tosco personnel and request that they continue to look for fuel use data. The suggested period is 1974, 75 & 76. Possible three months in 1977. Apprised that purpose of contacting the EPA is to determine its concerns. If it plans to place a cloud over the Banking Certificate Tosco may not want to proceed as it would be a waste of effort.  
T.C. to Gordon Turl. Apprised him of status of this process, concerns and what is needed to complete. Data to quantify is critical.
- Nancy Harney to return call with answers P.M. of 29 or 30
- June 5 T.C. from Chittum. Has talked with Nancy several times. She needs to discuss with CARB, Blackard and Rarick. Expects to inform us soon. Arranged to call each other Monday. It appears that Ryder and Caufield have found much of the needed data.
- June 11 Call from Nancy. CO boiler is a replacement to boilers and will not be considered a shutdown. Using three years prior to CO boiler startup to calculate base year emissions is satisfactory approach. Believes emissions from Tosco should be considered shutdown emissions as the plants has not been operating for some time. These emissions could be used internally. Will contact Mr. Blackard to confirm this approach. EPA comments will formally be made during the comment period ~~of~~ for the banking application.
- June 12 Call from Nancy. Mr. Blackard approves of this approach. Call to Chittum to inform of discussion. Boiler base year will be three years prior to start up of CO boilers. Base year for others will be three years prior to filing of application for A to C. Tosco is to provide fuel use data, for boilers. Emissions to sulfur plants to be provided along with emissions to atmosphere. If three years of data not available, Tosco is to justify reasons. Chittum to provide a letter reiterating these decisions and a schedule for providing data.
- June 16 Call from Chittum. Still putting data together. Letter should be here Wednesday.

# KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3882



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

April 18, 1986

## NOTICE OF PUBLIC HEARING

The Board of Supervisors of Kern County, acting as the Air Pollution Control Board, will consider adopting revisions to the Rules and Regulations of the Kern County Air Pollution Control District. The revisions under consideration are to the following:

Rule 414.6 Heavy Oil Test Stations (HOTS)  
Rule 422 New Source Performance Standards  
Rule 423 National Emission Standards for Hazardous Air Pollutants

NOTICE IS HEREBY GIVEN that a public hearing will be held on Monday, May 19, 1986, at 11:00 A.M., or as soon thereafter as may be heard, in the Board of Supervisors Chambers, 7th Floor, Kern County Civic Center, 1415 Truxtun Avenue, Bakersfield, California. All persons desiring to be heard, or present evidence on said matter, are invited to attend this public hearing and proper continuations thereof.

Copies of the proposed rules and amendments are available for inspection at Room 600, 1415 Truxtun Avenue, Bakersfield, California, and at the Air Pollution Control District, 1601 "H" Street, Suite 150, Bakersfield, California. Any interested persons may view said proposed rules and amendments, and submit data, views, comments and suggestions in writing, concerning the proposed rules and amendments, to the Air Pollution Control District.

Items for Discussion 5-7-86 1  
Tosco draft revision to banking certificate application  
Fluid Coker CO Boiler project only

1. Applicant has utilized "review of refinery records for pertinent time period. Summary include herein" to calculate emissions reductions from shutdown of boilers 1 - 6. The new numbers show 56% of heat input is oil, 44% gas. In 1975, Tosco reported the fuel usage in boilers & heaters was 8% oil and 92% gas. Is it possible at this date to quantify the actual emissions which were reduced when the boilers were shutdown? Rule 210.3 section C.2. (h) states that emission reductions which the APCO reasonable determines cannot be validated are not eligible for ERC's.
2. The applicant has inappropriately concluded that pre-Rule 210.1 Permits to Operate included "specific limiting conditions" and has thus claimed emission reduction credits based on specific limiting conditions which have never existed.
3. The NOx emission factor suggested by the applicant (from the latest revision to AP-42) has never been utilized by the District and result in an emission rate double that found appropriate for heavy oil fired steam generators-even those burning high nitrogen content oil.
4. Tosco's response for providing verification that the claimed emissions reductions have actually occurred states only that the planned reductions have been achieved and cites implemetation of A's to C -avoiding the issue of quantifying the actual emission change which took place.
5. Tosco's response for insuring the claimed reductions are permanent and enforce-able is that the EPA imposed permit condition limits, fired boiler steam production rate to 219,000 pounds of steam per hour on an annual average basis and 280,000 pounds of steam per hour -the District analysis of the CO boiler was based on a steam production rate of 160,000 pounds of steam per hour, a limit which appears on A to C 2003027A issued 9/13/78. This response doe not deal with the emissions reductions and their enforcability.

Av. Period 73-75  
74-76  
3 months

Extension Period ? 30 days  
45  
NOx emission  
Fuel based nitrogen

Emission Reduction Banking and Trading Publication No. BG200



# Emission Reduction Banking Manual

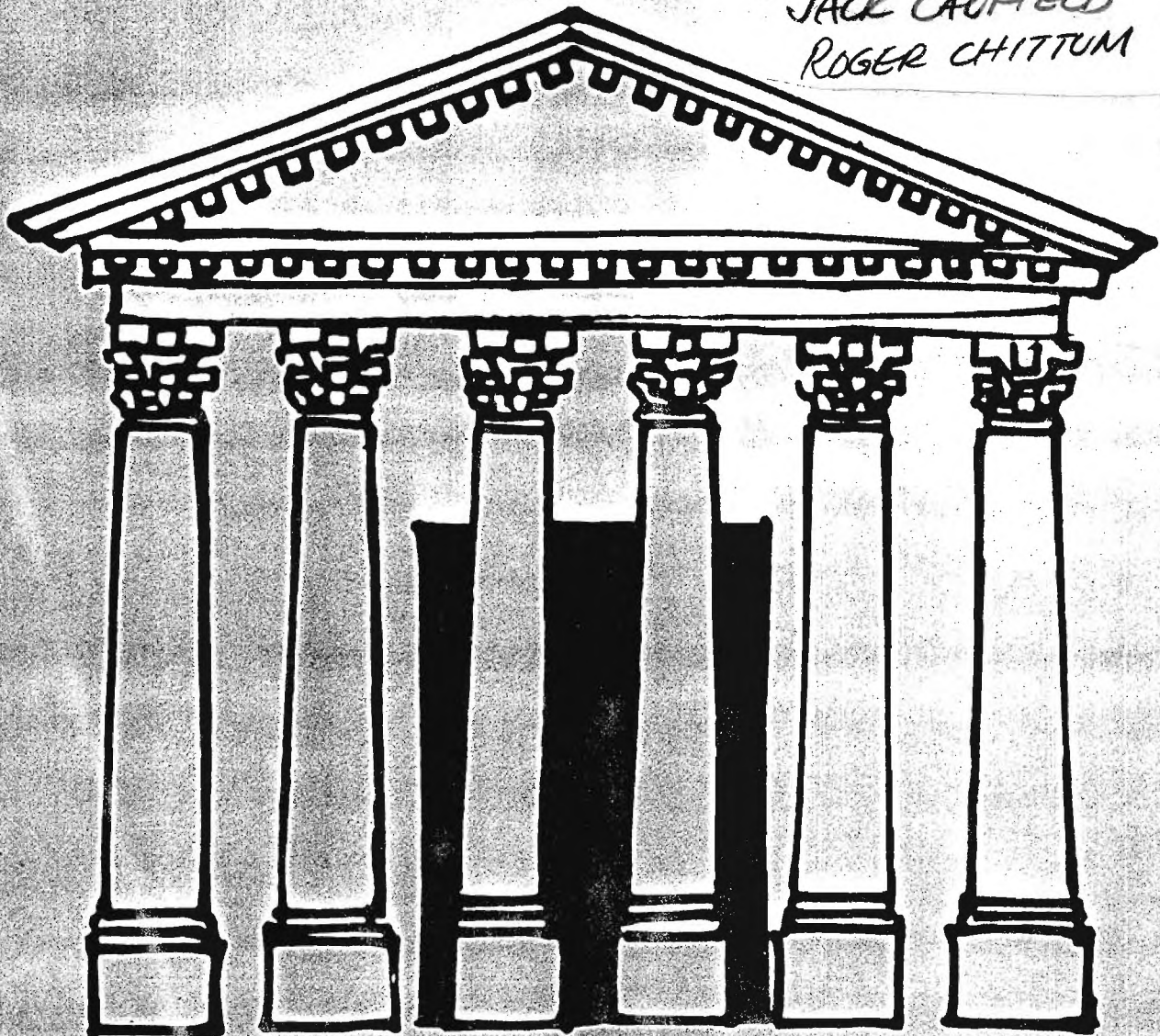
*Roger Chittum*  
~~(273) 477-0543~~

470-2050

ART RYDER DRH

JACK CAUFIELD CT

ROGER CHITTUM TP TG



**RECEIVED**  
NOV 10 1980

KERN COUNTY HEALTH DEPT.

levels of emissions. In many states, permits do not specify operating conditions, but only address technology requirements, or hourly rates. For this reason, permits specify only allowable limits and may not accurately describe actual emissions. As discussed earlier, only actual reductions can be certified in most cases.

Furthermore, in some situations a source may not be subject to a permit (e.g., a minor source or a source in a state without a permitting system), the terms of the permit may not specify a definite level of emissions that readily translates into an emission limitation (e.g., the permit specifies operating procedures, work practices, operation of equipment), or the permit may not reflect existing emissions at the time the SIP design value was calculated.

To determine the baseline in these situations, some form of engineering analysis, monitoring, or other form of audit is required. Because emission reductions must be real, permanent, and enforceable, the establishment of "before-and-after" baselines is an important function. Although the onus is clearly on the source to produce evidence documenting the creation of an emission reduction, the APCA must be able to "confirm" or verify this information. In situations where this is not possible, it may be necessary to deny a source's claim that it has created a certifiable emission reduction.

To determine actual annual operating hours, APCAs could ask sources to submit records, bills, and other documents which can substantiate the claim. Similarly, throughput on an annual basis can be estimated using engineering analyses. Establishment of a baseline will probably need to

### Four steps are involved in the process of quantifying an emission reduction.

- (1) If the source is not operating under a permit, one must be issued. In some states, permits may not have been issued for all major sources, or the permits may not specify an exact emission standard for the source (e.g., it may specify a work practice, percent removal).

In these situations it is imperative for the APCA to establish a baseline of current emissions before determining the magnitude of emission reductions created by a source. For the source to engage in banking, it is essential that an operating permit be established based on the revised emission limits which result from creating and confirming an emission reduction.

- (2) The APCA must establish the baseline and confirm the magnitude and permanence of the reduction claimed. This key step should not require the APCA to perform elaborate monitoring and measurement activities. The burden for documentation should be placed on the applying source. The APCA should clearly specify what type of information and documentation will be required. If additional supporting evidence is necessary, the APCA should require the source to obtain it; or, where desirable, the APCA could perform the tests itself, but impose the

financial cost on the source. It is necessary, of course, that the APCA review the documentation received.

- (3) The source's emission reduction permit must be legally enforceable. The APCA quantifies the source's emission reductions and rewrites the permit to reflect a lower (by the amount of confirmed emission reductions) emissions level (or a new control requirement that assures actual reductions) for the source. This has the effect of legally binding the source to emit at or below this new level. The permit change also should reflect any additional requirements that the source must meet to assure the permanency of the emission reduction--for example, periodic measurements, continuous monitoring, submission of input data--to verify that the new lower baseline is not being exceeded.

- (4) The change must be made SIP enforceable. Under provisions of the Clean Air Act, all major sources must come under federally enforceable emission limits. This requirement is satisfied by the incorporation of source-specific emission limits or state operating permits as part of SIPs.



## KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 250  
Bakersfield, California 93301

Telephone  
(805) 861-3682

## APPLICATION FOR (check appropriate items)

Authority to Construct

Emission Reduction Credits

Authority to Construct - Modification

Permit to Operate

Authority to Construct - Renewal

Transfer of Location

Transfer of Ownership

An application is required for each source operation as defined in Rule 102, Section cc

1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment:

Tosco Corporation

2. MAILING ADDRESS:

Box 2860, Bakersfield, California

Zip Code: 93303

3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED:

6500 Refinery Avenue

4. GENERAL NATURE OF BUSINESS:

Petroleum Refinery

5. EQUIPMENT FOR WHICH APPLICATION IS MADE:

This application for allowance of Emissions Reduction Credit and issuance of a Banking Certificate covers reductions in non-methane hydrocarbon emissions achieved by the Coker CO Boiler project (and modifications):

A/C 2003027

A/C 2003027A

A/C 2003027B

A/C 2003027C

It is part of the application originally filed April 24, 1984 and supplemented October 22, 1985.

Provide additional information as required by District "Instructions".

6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:

Not Applicable

7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT:

Not Applicable

8. SIGNATURE OF APPLICANT

TITLE OF SIGNER:

Manager of Environmental Affairs

9. (TYPE OR PRINT NAME OF SIGNER:

DATE:

PHONE NO.:

Jack L. Caufield

4/24/84

(805) 861-7400

Validation (A.P.C.D. use only)

**RECEIVED**

JUL 15 1986

FILING FEE: \$ 60.00

RECEIPT NO.: 608422

FEE SCHEDULE NUMBER:

DATE: 7-16-86

PERMIT FEE: \$

RECEIPT NO.:

KERN COUNTY AIR

POLLUTION CONTROL DISTRICT

APPLICATION FOR BANKING CERTIFICATE  
FOR EMISSIONS REDUCTION CREDIT

Non-Methane Hydrocarbons

Tosco Corporation

Submitted April 24, 1984

Revised October 22, 1985

Revised July 11, 1986

1. Quantification of Emissions Reductions.

The reduction of actual historical emissions of non-methane hydrocarbons ("NMHC") resulting from implementation of the Coker CO Boiler project (A/C Nos. 2003027, 2003027A, 2003027B, and 2003027C) is 14,256 lbs/day.

The detailed computations of emissions reductions for this project are in the accompanying report, "Quantification of Emission Reduction Credits for Three Projects at the Tosco Bakersfield Refinery," dated July 10, 1986, by Milton R. Beychok. The report is incorporated by reference into this application. The following paragraphs describe the projects and the method of computing the emissions decrease.

Pre-project emissions from the coker stack were determined by applying flow rates and emission factors determined in pre-project source tests to actual coker feed rate data collected for the three-year period immediately preceding start-up of the CO boiler. The post-project emissions of NMHC were assumed to be 10 lbs/hr, the limit set in the EPA permit. Post-project source tests have verified that this limit is actually attainable.

2. The claimed emissions reductions have actually occurred.

The coker CO boiler has been installed, and the emissions reductions claimed have been verified by source tests.

3. The claimed emissions reductions are surplus.

The reductions achieved were not required by any law, nor have they been used as a trade-off or offset.

KCAPCD staff have requested an explanation as to how the hydrocarbon emissions can be considered surplus if their reduction, and a larger reduction of emissions from thermally enhanced oil recovery, were assumed in the SIP to occur before 1987. Inaccuracies in the assumptions and projections used in the SIP may cause SIP approval problems if the inaccuracies are large and not offset by other inaccuracies, but such assumptions do not have the force of law such that individual sources are required to bring their emissions into line with the assumptions. Indeed, KCAPCD has held that even the adoption of a regulation

requiring the reduction of emissions from certain sources does not by itself eliminate Emissions Reduction Credits created by voluntary reductions from such sources occurring before the inclusion of the regulation in the SIP.

Staff have also requested an explanation as to why the emissions reductions resulting from the coker CO boiler project were not necessary to prevent or cure a violation of Cal. H&S Code Section 41700, which prohibits operations constituting a public nuisance. KCAPCD never issued any citations for this unit under its Rule 419, which is identical to H&S Section 41700, and we are not aware of any other evidence that this unit constituted a nuisance.

4. The claimed emissions reductions are permanent.

Permanence of the reduction from the coker CO boiler project is assured by the condition in the EPA permit that hydrocarbon emissions from the coker CO boiler will not exceed 10 lbs/hour, which is the rate assumed in the post-project emission calculation. A similar condition could be placed in KCAPCD's operating permit for this unit along with a further condition that the coker not be operated without the CO boiler for more than ten days per year without prior approval by KCAPCD.

5. The claimed emissions reductions are enforceable.

The same permit conditions which assure that the reductions are permanent would also assure that the reductions are enforceable.

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

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APPLICATION FOR (check appropriate items)

- Authority to Construct
- Authority to Construct - Modification
- Authority to Construct - Renewal
- Emission Reduction Credits
- Permit to Operate
- Transfer of Location
- Transfer of Ownership

An application is required for each source operation as defined in Rule 102, Section cc

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2. MAILING ADDRESS:  
Box 2860, Bakersfield, California Zip Code: 93303

3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED:  
6500 Refinery Avenue

4. GENERAL NATURE OF BUSINESS:  
Petroleum Refinery

5. EQUIPMENT FOR WHICH APPLICATION IS MADE:

This application for allowance of Emissions Reduction Credit and issuance of a Banking Certificate covers reductions in CO emissions achieved by the Coker CO Boiler project (and modifications):

A/C 2003027  
A/C 2003027A  
A/C 2003027B  
A/C 2003027C

It is part of the application originally filed April 24, 1984 and supplemented October 22, 1985.

Provide additional information as required by District "Instructions".

6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:  
Not Applicable

7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT:  
Not Applicable

8. SIGNATURE OF APPLICANT <i>Jack L. Caufield</i>	TITLE OF SIGNER: Manager of Environmental Affairs
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9. (TYPE OR PRINT NAME OF SIGNER: Jack L. Caufield	DATE: 4/24/84	PHONE NO.: (805) 861-7400
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Validation (A.P.C.D. use only)

**RECEIVED**  
JUL 15 1986  
KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

FILING FEE: \$ 60.00	RECEIPT NO.: 608422
FEE SCHEDULE NUMBER:	DATE: 7-16-86
PERMIT FEE: \$	RECEIPT NO.:

APPLICATION FOR BANKING CERTIFICATE  
FOR EMISSIONS REDUCTION CREDIT

CO

Tosco Corporation

Submitted April 24, 1984

Revised October 22, 1985

Revised July 11, 1986

1. Quantification of Emissions Reductions.

The reduction of actual historical emissions of CO resulting from implementation of the Coker CO Boiler project (A/C Nos. 2003027, 2003027A, 2003027B, and 2003027C) is 63,432 lbs/day.

The detailed computations of emissions reductions for this project are in the accompanying report, "Quantification of Emissions Reduction Credits for Three Projects at the Tosco Bakersfield Refinery," dated July 10, 1986, by Milton R. Beychok. The report is incorporated by reference into this application. The following paragraphs describe the projects and the method of computing the emissions decrease.

Pre-project emissions from the coker stack were determined by applying flow rates and emission factors determined in source tests to actual coker feed rate data collected for the three-year period immediately preceding start-up of the CO boiler. The post-project emissions were assumed to be the maximum which might occur given the capacity of the unit and the emission limit in the EPA permit. Post-project source tests have verified that the assumed maximum is actually attainable.

2. The claimed emissions reductions have actually occurred.

The coker CO boiler has been installed, and the emissions reductions claimed have been verified by source tests.

3. The claimed emissions reductions are surplus.

The reductions achieved were not required by any law, nor have they been used as a trade-off or offset.

KCAPCD staff have requested an explanation as to why the emissions reductions resulting from the coker CO boiler project were not necessary to prevent or cure a violation of Cal. H&S Code Section 41700, which prohibits operations constituting a public nuisance. KCAPCD never issued any citations for this unit under its Rule 419, which is identical to H&S Section 41700, and we are not aware of any other evidence that this unit constituted a nuisance.

4. The claimed emissions reductions are permanent.

Permanence of the reduction from the Coker CO Boiler project would be assured by inserting in the KCAPCD permit to operate for this unit the condition that CO emissions will not exceed 500 lbs/hr. (This would be in addition to the existing condition in the EPA permit that CO not exceed 0.1 volume percent at 2 percent oxygen.) There could also be a condition in KCAPCD's operating permit for the coker that it not be operated without the CO boiler for more than ten days per year without prior approval by KCAPCD.

5. The claimed emissions reductions are enforceable.

The same permit conditions which assure that the reductions are permanent would also assure that the reductions are enforceable.

QUANTIFICATION OF EMISSIONS REDUCTION CREDITS  
FOR ~~THREE~~ PROJECTS AT THE TOSCO BAKERSFIELD REFINERY  
ONE

SEE SO<sub>2</sub> ERC

July 10, 1986

2007148/201 F02

By

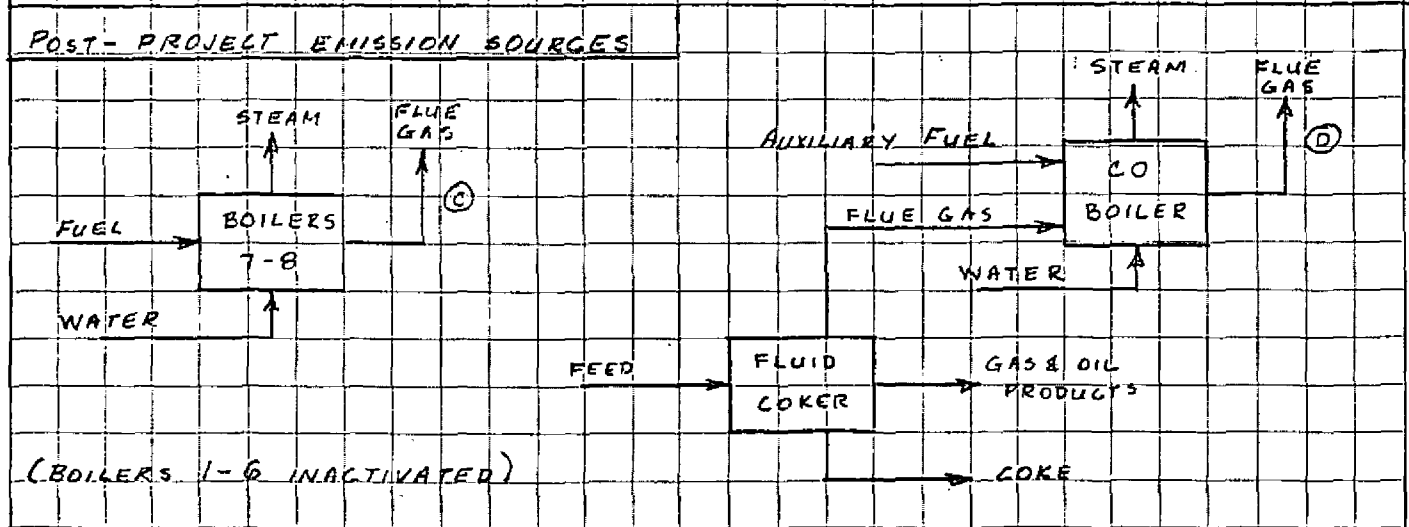
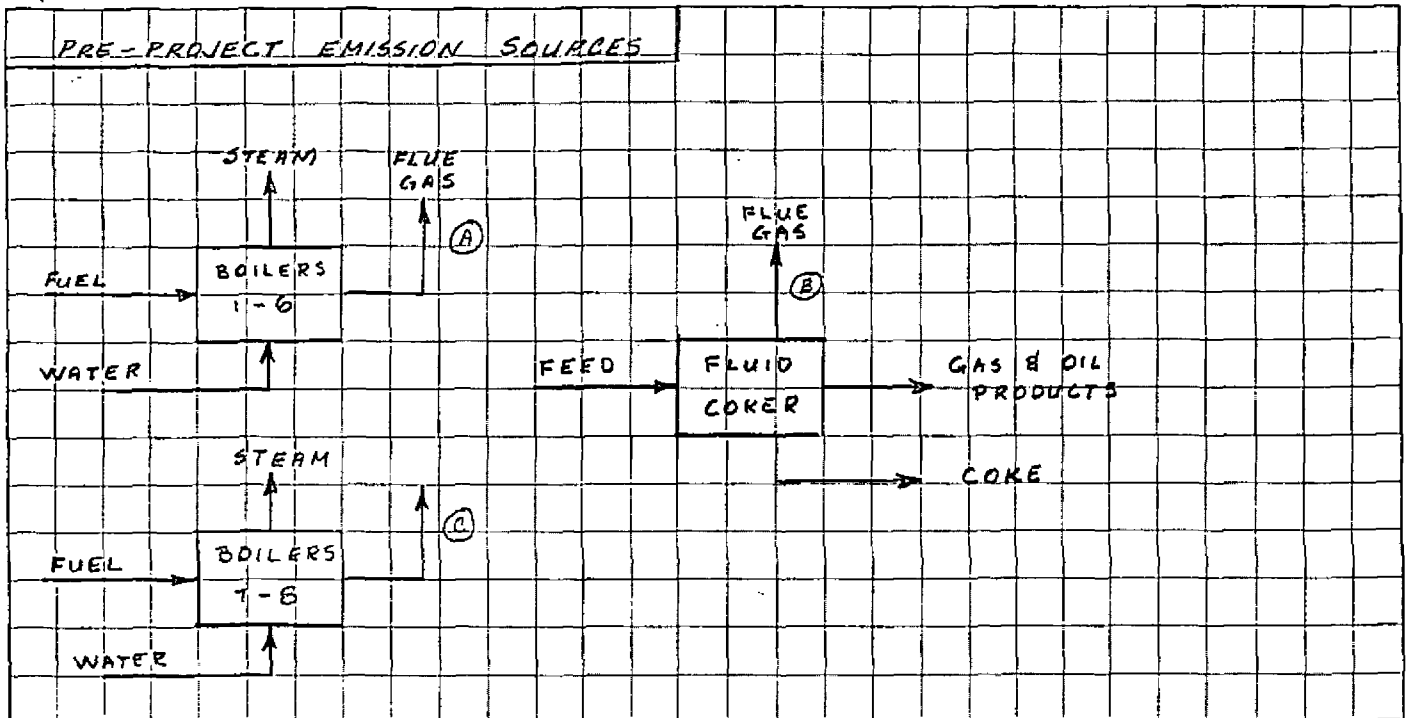
BALANCE OF INFO.

Milton R. Beychok  
Consulting Engineer

RECEIVED  
JUL 15 1986

KERN COUNTY A. P. C. D.

FLUID COKER CO BOILER (ATC 2003027)  
DETERMINATION OF AH ERC'S



EMISSION SOURCES ARE AT (A), (B), (C) AND (D)

THESE CALCULATION SUPPORT APPLICATION FOR AH ERC'S FOR CARBON MONOXIDE (CO) AND HYDROCARBONS (HC), WHICH ARE DETERMINED FROM POST-PROJECT SOURCE (D) AND PRE-PROJECT SOURCE (B).

NET EMISSION CHANGES = (POST-PROJECT) - (PRE-PROJECT)

(AH ERC'S ARE ACTUAL HISTORICAL ERC'S)



## MILTON R. BEYCHOK

CONSULTING ENGINEER

BY

SHEET NO. 2

DATE

REV. 3

FLUID COKER CO BOILER (ATC 2003 027)DETERMINATION OF ATI ERC'SBASIS FOR PRE-PROJECT EMISSIONS FROM COKER FLUE GAS:

$$(a) \text{ AVERAGE PRE-PROJECT COKER FEED RATE } (1B) \\ = 6561 \text{ B/D}$$

$$(b) \text{ COKER FEED RATE ON 12-20-73 } (1B) \\ = 6530 \text{ B/D}$$

$$(c) \text{ FROM KCAPCD SOURCE TEST } (1B) \text{ ON 12-20-73:}$$

$$\begin{aligned} \text{WET FLUE GAS FLOW} &= 1,400,000 \text{ SCFH} \\ &= (1,400,000 \text{ SCFH}) / (379 \text{ SCF/MOL}) \\ &= 3852 \text{ MOLS/HR} \end{aligned}$$

ADJUSTED TO AVERAGE PRE-PROJECT COKER FEED RATE:

$$\begin{aligned} \text{WET FLUE GAS FLOW} &= (3852) (6561 \text{ B/D}) / (6530 \text{ B/D}) \\ &= 3871 \text{ MOLS/HR} \end{aligned}$$

(d) DATA FROM TYPICAL PRE-PROJECT FLUE GAS ANALYSES (1A):

$$\begin{aligned} \text{CO} &= 2.9 \text{ MOL\% OF WET FLUE GAS} \\ \text{C}_6^+ &= 0.2 \text{ MOL\% " " " " (MAINLY BENZENE)} \end{aligned}$$

PRE-PROJECT EMISSIONS FROM COKER FLUE GAS:

$$\begin{aligned} \text{CO} &= (3871 \text{ MOLS/HR}) (2.9 \text{ MOLS CO/100 MOLS}) (28 \text{ LBS CO/MOL CO}) \\ &= 3143 \text{ LBS/HR} \end{aligned}$$

$$\begin{aligned} \text{HC} &= (3871 \text{ MOLS/HR}) (0.2 \text{ MOLS C}_6 \text{ /100 MOLS}) (78 \text{ LBS C}_6 \text{ /MOL C}_6) \\ &= 604 \text{ LBS/HR} \end{aligned}$$

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY SHEET NO. 3

DATE REV. 3

FLUID COKER CO BOILER (ATC 2003027)  
DETERMINATION OF AH EMISSIONS

BASIS FOR POST-PROJECT EMISSIONS FROM COKER FLUE GAS

TOSCO PROPOSES TO SET THE POST-PROJECT EMISSIONS OF CO AT A LEVEL WHICH WILL ALLOW OPERATION AT DESIGN CAPACITY WITH A MARGIN OF SAFETY. THE PROPOSED LIMIT IS 500 LBS/HR OF CO EMISSION

THAT THIS CAN BE ACHIEVED IS VERIFIED BY THE SOURCE TEST OF 4-27-79 (2), WHERE THE HIGHEST MEASURED CO EMISSIONS RATE WAS AN ORDER OF MAGNITUDE SMALLER THAN 500 LBS/HR:

HIGHEST SOURCE TEST CO EMISSIONS = 46.7 LBS/HR

THE SOURCE TEST RESULTS WERE OBTAINED AT A COKER FEED RATE = 7099 B/D (3).

NET EMISSION CHANGES FROM THIS PROJECT:

	CO	HC
PRE-PROJECT COKER FLUE GAS	3143	604
POST-PROJECT COKER FLUE GAS	500	10 *
NET CHANGES (POST MINUS PRE):		
LBS/HR	- 2643	- 594
LBS/DAY	- 63,432	- 14,256

\* SEE EPA PERMIT LIMITS (2)

"A" AREA OPERATING SUMMARY

DATE 4/27/75

① ODE UNIT

FLUID COKER

Net 6360  
7099

CRUDE B/D 14923  
 LES DIESEL B/D 2369  
 DIESEL TO HYDRO B/D 2972  
 STOVE B/D 2146  
 REF. NAPHTHA B/D 5272  
 HEATERS: 11H11 H 631 S 630 CHG 1772  
 11H12 CHG  
 11H13 W 629 E 630 CHG 1167  
 TOTAL CRUDE CHG B/D 29540  
 OIL BURNERS: H11 - H12 - H13  
 DESALTER WATER TO - 8 - % OIL  
 ACCUM. TEMP. HI 123 ICH 129  
 OVHD. 7450 REFLUX 8834 TOTAL 13284  
 CRUDE SWITCH #25 API 27.3  
 REMARKS: 19.0

CHG.  
 IT GAS OIL B/D 1415  
 HVY GAS OIL B/D 2761  
 RX vs QUENCH TOWER D/P 3.6  
 CYCLONE DIP LEG D/P 0  
 HORN INLET D/P 0  
 DILUTE vs DENSE BED D/P 25  
 WET GAS 3 FT/BBL 855  
 CIRCULATION T/M 123  
 RX BED LEVEL 0.1 PRESS. 17.0  
 BURNER BED LEVEL +2.5  
 RECYCLE / FRESH FEED 29.6  
 WATER IN FINAL  
 WATER RATES ZEOLITE  
 FRACT. TOP PRESS. 8.9 BT. 10.8  
 ACCUM PESSORE 52  
 REMARKS: QUENCH TWR 13.8

② AIXY UNIT

OLEFIN CHG B/D EB 1215  
 PP 794 TOTAL 2012  
 ACID CONSUMPTION B/D 135  
 ACID SETTLER TEMP 48  
 ISO TO IDRAL B/D  
 REMARKS: North <sup>15</sup> down because of 15K15

⑥ TREATER

LT TCC SWT ✓ SOUR  
 MED TCC SWT SOUR ✓  
 SPENT 40 BE AVAIL. 1179 MAKE 220  
 REMARKS: H<sub>2</sub>O Washing Propan Scrubber

④ GAS CON UNIT

HEATER 425 OIL BURNERS  
 SPS 18  
 GAS TO 50 # HEADER 1.27 MM  
 COOLING WATER TEMP 81  
 REMARKS: Recovery Good

BOILERS

C3 or C4 BURN B/D  
 FUEL OIL BURN B/D 595  
 PITCH BURN B/D  
 OIL BURNERS #1 #2 #3 #5 #6  
 REMARKS: IMPOSSIBLE TO MAKE ACCURATE B/Per day

③ DIENE UNIT

CHG B/D 1446  
 HEATER TRANSFER 439  
 RX D/P 2.4  
 REMARKS:  
 COKER INTERSTAGE WATER WASH:

⑦ INJECTION WELL

HEAD PRESS. PSI #1 900 #2 900  
 INJECTION RATE AT 8 AM 4623-4152  
 INJECTION RATE AVERAGE 4624-4305  
 SOCK D/P 10<sup>th</sup> SOCK CHANGE yed  
 REMARKS:

12-D-19 12-D-20 12-D-21 12-D-26

4 AM 16390  
 4 AM 16371  
 12,450 15,408

Chemicals and Blends:

Crude oil and purchased reduced crude  
West Coast/San Joaquin gas oil  
Other gas oil

Reduced crude  
Purchased gas oil  
Diesel  
Cycle oil  
Isobutane  
Natural gasoline

Total plant charge

Liquid Yields (Available for Sale):

Gasoline -  
Premium 100 octane  
Regular 94 octane  
Regular 91.5 octane  
Low lead

Total gasoline

Weed oil  
Diesel oil  
Residual oil  
Carbon black oil  
LPG

Total liquid yields (available for sale)

Liquid Yields for Internal Consumption:

Butane mix  
Fuel oil  
Pitch  
LPG  
N-butane

Inventory Changes:

Heavy Hydrocrate  
TCC feed  
Hydrocracker feed  
Reduced crude

Total liquid yield

Total percent liquid yield

Yields FOR:

Fuel gas  
Coke

Total yield

Total yield percent

Unit Charges:

Crude  
Vacuum  
Coke  
TCC  
Alkylation  
Hydrocracker  
Reformer "A"  
Reformer "B"

Hydrocracker service factor %

Current Month		Year-to-Date	
Actual	Budget	Actual	Budget
17,816	23,365	22,606	20,464
702	1,000	1,026	1,000
<u>1,178</u>	<u>800</u>	<u>819</u>	<u>800</u>
19,696	25,165	24,451	22,264
1,910	0	1,910	0
359	0	359	0
484	500	563	500
0	0	236	0
0	0	117	28
<u>2,972</u>	<u>1,763</u>	<u>7,555</u>	<u>1,410</u>
<u>21,371</u>	<u>27,428</u>	<u>20,191</u>	<u>24,632</u>
9,605	10,119	8,717	8,114
5,822	5,622	5,539	5,063
3,868	3,823	4,140	3,443
<u>1,461</u>	<u>2,523</u>	<u>2,023</u>	<u>7,433</u>
21,157	22,487	20,449	20,253
0	0	5	0
1	0	42	0
2,824	1,883	2,581	430
954	700	761	616
<u>767</u>	<u>1,024</u>	<u>571</u>	<u>552</u>
<u>25,703</u>	<u>26,164</u>	<u>24,509</u>	<u>21,851</u>
5	0	19	68
290	50	468	693
113	200	138	159
10	0	83	332
<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>
<u>426</u>	<u>259</u>	<u>709</u>	<u>1,252</u>
0	0	0	29
( 1,771)	( 74)	286	104
( 319)	( 75)	940	46
943	160	<u>489</u>	( 74)
<u>( 1,147)</u>	<u>11</u>	<u>1,713</u>	<u>105</u>
<u>24,262</u>	<u>26,325</u>	<u>26,331</u>	<u>22,749</u>
98.5	96.3	89.2	94.3
2,694	1,450	2,537	1,666
<u>345</u>	<u>837</u>	<u>312</u>	<u>867</u>
<u>28,021</u>	<u>28,762</u>	<u>23,769</u>	<u>21,761</u>
110.4	104.9	98.7	104.8
19,696	25,165	24,451	22,284
10,027	14,971	13,758	13,332
6,890	6,500	6,595	6,500
11,641	9,827	9,057	9,015
1,421	1,665	1,205	1,245
10,161	13,722	10,097	10,368
3,204	4,586	3,375	4,078
6,312	8,000	6,722	7,318
78.2	80.2	77.7	81.8

	Current Month		Year-to-Date	
	Actual	Quilts	Actual	Quilts
<b>Charges and Blends:</b>				
Crude oil and purchased reduced crude	27,911	27,500	23,362	23,322
West Coast/San Joaquin gas oil	679	1,000	975	1,027
Other gas oil	526	520	751	727
	<u>29,216</u>	<u>29,000</u>	<u>25,148</u>	<u>25,116</u>
Reduced crude	2,595		388	9
Purchased gas oil			2	1
Diesel	237	500	515	554
Cycle oil	-		232	292
Isobutane	-		100	100
Natural gasoline	<u>3,084</u>	<u>2,804</u>	<u>7,637</u>	<u>7,591</u>
Total plant charge	<u>25,132</u>	<u>22,304</u>	<u>28,527</u>	<u>28,524</u>
<b>Liquid Yields (Available for Sale):</b>				
<b>Gasoline -</b>				
Premium	10,368	9,526	8,959	8,854
Regular	5,246	4,715	5,456	5,318
Regular	5,394	6,948	4,323	4,551
Low Lead	-	952	987	1,132
No Lead	<u>2,620</u>	<u>2,231</u>	<u>1,295</u>	<u>1,052</u>
Total gasoline	<u>24,628</u>	<u>24,814</u>	<u>21,060</u>	<u>21,067</u>
Asphalt	1,514	1,800	221	263
Ward oil	-	-	4	4
Diesel oil	3	-	36	36
Residual oil	5,534	1,632	3,012	2,442
Carbon black oil	1,147	500	817	781
LPG	<u>1,148</u>	<u>1,323</u>	<u>741</u>	<u>738</u>
Total liquid yields (available for sale)	<u>21,972</u>	<u>19,269</u>	<u>25,891</u>	<u>25,331</u>
<b>Liquid yields for Internal Consumption:</b>				
Butane mix	34	-	21	16
Fuel oil	258	200	437	420
Hydro	104	160	132	143
LPG	-	-	71	71
N-Butane	<u>-</u>	<u>-</u>	<u>3</u>	<u>3</u>
	350	360	664	661
<b>Inventory Changes:</b>				
Heavy Hydrocrack	-	-	-	-
ICC feed	(775)	(1,690)	131	85
Hydrocracker feed	(166)	1,376	778	1,033
Reduced crude	83	67	430	432
	<u>(-158)</u>	<u>571</u>	<u>1,339</u>	<u>1,548</u>
Total liquid yield	<u>21,514</u>	<u>19,722</u>	<u>27,624</u>	<u>27,560</u>
Total percent liquid yield	95.4	96.6	96.2	96.3
<b>Yields ICC:</b>				
Fuel gas	3,109	1,432	2,620	2,378
Coke	<u>453</u>	<u>222</u>	<u>414</u>	<u>403</u>
Total yield	<u>37,172</u>	<u>31,544</u>	<u>30,639</u>	<u>30,341</u>
Total yield percent	107.0	103.3	106.7	106.2
<b>Net Charges:</b>				
Crude	29,216	29,000	25,148	25,116
Vacuum	16,159	16,000	14,115	14,086
Coke	6,602	6,500	6,609	6,582
TCC	12,159	11,892	9,545	9,506
Alkylation	1,423	-	1,237	1,029
Hydrocracker	12,798	11,750	10,492	10,339
Reformer "A"	3,157	5,200	1,342	3,641
Reformer "B"	8,679	8,313	7,008	6,955
Hydrocracker service factor percent	98.4	90.4	80.7	78.5

REFINERY CHARGES AND YIELDS B/D  
July 31, 1974

Statement 2.8

	Current Month		Year-to-Date	
	Actual	Outlook	Actual	Outlook
<b>Charges and Blends:</b>				
Crude oil and purchased reduced crude	28,388	27,500	24,021	23,855
West Coast/San Joaquin gas oil	290	1,000	886	1,020
Other gas oil	1,051	500	873	737
	<u>29,729</u>	<u>29,000</u>	<u>25,732</u>	<u>25,612</u>
Reduced crude				
Purchased gas oil			1	1
Diesel			450	463
Cycle oil			176	176
Iso-butane			87	87
Natural gasoline	3,049	2,439	2,685	2,577
Total plant charge	<u>32,778</u>	<u>31,439</u>	<u>28,131</u>	<u>28,929</u>
<b>Liquid Yields (Available for Sale):</b>				
Gasoline - Premium	10,150	9,606	9,311	8,985
Regular (94 octane)	5,350	4,563	5,477	5,309
Regular (91.5 octane)	4,725	6,724	4,374	4,828
Low lead		862	861	1,110
No lead	4,725	2,191	1,739	1,229
Total gasoline	<u>25,000</u>	<u>24,016</u>	<u>21,862</u>	<u>21,461</u>
Asphalt	1,468	1,688	380	444
Weed oil			4	4
Diesel oil	1		32	31
Residual oil	3,675	2,975	2,758	2,810
Carbon black oil	1,175	900	863	797
LPG	875	1,038	758	783
Total liquid yields (available for sale)	<u>32,194</u>	<u>30,673</u>	<u>26,357</u>	<u>26,826</u>
<b>Liquid Yields for Internal Consumption:</b>				
Butane mix	1		10	14
Fuel oil	488	300	444	400
Pitch	41	162	120	145
LPG			62	62
N-butane			7	7
	<u>530</u>	<u>362</u>	<u>616</u>	<u>628</u>
<b>Inventory Changes:</b>				
TCC feed	( 309)	( 141)	75	56
Hydrocracker feed	( 1,359)	( 1,232)	506	744
Reduced crude	768	( 774)	409	226
	<u>( 1,400)</u>	<u>( 2,147)</u>	<u>990</u>	<u>1,026</u>
Total liquid yield	<u>31,324</u>	<u>28,808</u>	<u>27,993</u>	<u>27,729</u>
Total percent liquid yield	95.6	91.9	96.1	95.8
<b>Yields FOB:</b>				
Fuel gas	3,072	1,452	2,678	2,260
Coke	328	829	404	465
Total yield	<u>34,724</u>	<u>31,219</u>	<u>31,075</u>	<u>30,454</u>
Total yield percent	106.0	99.3	106.7	105.2
<b>Unit Charges:</b>				
Crude	29,729	29,000	25,732	25,612
Vacuum	16,416	16,000	14,408	14,330
Coker	6,691	6,500	6,616	6,572
TCC	11,820	10,772	9,833	9,667
Alkylation	1,503		1,271	897
Hydrocracker	13,004	11,750	10,813	10,819
Reformer "A"	3,893	8,331	3,412	3,831
Reformer "B"	7,837	8,095	7,088	7,100
Hydrocracker service factor percent	100.0	99.4	83.2	80.8

REFINERY CHARGES AND YIELDS B/D  
August 31, 1974

Statement B-3

	Current Month		Year-to-Date	
	Actual	Outlook	Actual	Outlook
<b>Charges and Blends:</b>				
Crude oil and purchased reduced crude	26,297	23,567	24,271	23,824
West Coast/San Joaquin gas oil	720	1,000	869	1,017
Other gas oil	862	300	872	711
	27,886	25,067	25,969	25,552
Reduced crude			1	1
Purchased gas oil			400	430
Diesel			157	157
Cycle oil			78	78
Isobutene				
Natural gasoline	3,819	2,130	2,810	2,522
Total plant charge	31,705	27,197	29,413	28,748
<b>Liquid Yields Available for Sale:</b>				
Gasoline - Premium	10,211	9,066	9,232	8,994
Regular (94 octane)	4,684	4,306	5,390	5,199
Regular (91.5 octane)	5,849	6,346	4,536	4,995
Low lead		906	766	1,048
No lead	4,040	2,040	1,992	1,317
Total gasoline	24,784	22,664	21,916	21,593
Asphalt	855	1,800	423	593
Weed oil			3	3
Diesel oil		500	28	83
Residual oil	4,283	3,282	2,926	2,595
Carbon black oil	783	807	854	798
LPG	1,081	1,272	791	837
Total liquid yields (available for sale)	31,786	30,327	29,953	28,502
<b>Liquid Yields for Internal Consumption:</b>				
Butane mix			16	12
Fuel oil	131	200	409	378
Pitch	151	180	124	149
LPG			55	55
N-butane			2	2
	282	380	606	596
<b>Inventory Changes:</b>				
TCC feed	( 15)	( 919)	65	( 51)
Hydrocracker feed	( 1,519)	( 3,700)	283	256
Reduced crude	( 308)	800	331	334
	( 1,842)	( 3,819)	679	539
Total liquid yield	30,226	26,888	28,238	27,637
Total percent liquid yield	95.34	98.86	94.00	96.14
<b>Yields POC:</b>				
Fuel gas	2,982	1,127	2,711	2,335
Coke	225	475	197	468
Total yield	3,207	1,602	2,908	2,803
Total yield percent	105.80	104.75	106.56	105.18
<b>Unit Charges:</b>				
Crude	27,886	25,067	25,969	25,552
Vacuum	16,762	15,733	14,667	14,484
Coker	6,748	3,467	6,631	6,231
TCC	11,547	9,200	10,023	9,616
Alkylation	1,468		1,293	789
Hydrocracker	12,586	11,750	11,007	10,654
Reformer "A"	2,965	4,795	3,363	3,837
Reformer "B"	8,488	8,114	7,343	7,212
Hydrocracker service factor percent	86.82	80.38	84.67	81.95



TOSCO PETRO CORPORATION

	Current Month		Year-to-Date	
	Actual	Outlook	Actual	Outlook
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	29,756	32,500	24,830	24,708
West Coast/San Joaquin gas oil	1,022	1,000	885	1,015
Other gas oil	718	500	817	690
	<u>31,496</u>	<u>34,000</u>	<u>26,532</u>	<u>26,413</u>
Reduced crude				6
Purchased gas oil			1	1
Diesel	101		370	386
Cycle oil			141	141
Isobutane			70	70
Natural gasoline	<u>3,689</u>	<u>2,206</u>	<u>2,899</u>	<u>2,491</u>
Total plant charge	<u>35,286</u>	<u>36,206</u>	<u>30,011</u>	<u>29,508</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	10,851	9,348	9,396	9,030
Regular (94 octane)	6,093	4,440	5,462	5,122
Regular (91.5 octane)	3,650	6,543	4,446	5,152
Low lead	2,014	935	894	1,072
No lead	<u>2,568</u>	<u>2,103</u>	<u>2,050</u>	<u>1,398</u>
Total gasoline	<u>25,176</u>	<u>23,369</u>	<u>22,248</u>	<u>21,774</u>
Asphalt	90		398	533
Weed oil			3	3
Diesel oil	683	500	95	125
Residual oil	6,620	7,631	3,303	3,109
Carbon black oil	307	900	798	808
LPG	<u>1,099</u>	<u>420</u>	<u>824</u>	<u>794</u>
Total liquid yields (available for sale)	<u>33,975</u>	<u>32,820</u>	<u>27,669</u>	<u>27,146</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane mix			15	11
Fuel oil	404	817	408	422
Pitch	180	500	130	185
LPG	12	762	50	127
N-butane			2	2
	<u>596</u>	<u>2,079</u>	<u>605</u>	<u>747</u>

Continued from Page 1

	<u>Current Month</u>		<u>Year-to-Date</u>	
	<u>Actual</u>	<u>Outlook</u>	<u>Actual</u>	<u>Outlook</u>
<u>Inventory Changes:</u>				
TCC feed	( 257)	210	32	( 24)
Hydrocracker feed	( 650)	( 419)	183	187
Reduced crude	1		297	300
	<u>( 906)</u>	<u>( 209)</u>	<u>517</u>	<u>463</u>
Total liquid yield	33,665	34,690	28,791	28,356
Total percent liquid yield	95.4	95.8	95.9	96.1
<u>Yields FOE:</u>				
Fuel gas	3,005	1,787	2,741	2,100
Coke	1,002	890	957	836
Total yield	<u>37,672</u>	<u>37,367</u>	<u>32,489</u>	<u>31,292</u>
Total yield percent	106.8	103.2	108.3	106.0
<u>Unit Charges:</u>				
Crude	31,496	34,000	26,532	26,413
Vacuum	16,807	16,000	14,885	14,639
Coker	6,744	6,500	6,643	6,258
TCC	12,126	10,302	10,237	9,686
Alkylation	1,516		1,315	718
Hydrocracker	11,922	11,581	11,100	10,749
Reformer "A"	3,597	5,200	3,387	4,065
Reformer "B"	8,253	6,194	7,345	7,108
Hydrocracker service factor percent	91.7	89.1	85.4	82.7

TOSCO PETRO CORPORATION

	<u>Current Month</u>		<u>Year-to-Date</u>	
	<u>Actual</u>	<u>Outlook</u>	<u>Actual</u>	<u>Outlook</u>
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	32,348	32,500	25,505	25,408
West Coast/San Joaquin gas oil	1,021	1,000	897	1,014
Other gas oil	426	500	762	673
	<u>33,795</u>	<u>34,000</u>	<u>27,164</u>	<u>27,095</u>
Reduced crude				6
Purchased gas oil				1
Diesel	165		352	351
Cycle oil			128	128
Isobutane			63	63
Natural gasoline	2,903	2,220	2,900	2,467
Total plant charge	<u>36,664</u>	<u>36,220</u>	<u>30,626</u>	<u>30,111</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	10,856	9,360	9,528	9,060
Regular (94 octane)	10,654	4,449	5,928	5,061
Regular (91.5 octane)		6,556	4,047	5,279
Low lead	2,226	936	1,013	1,060
No lead	2,730	2,107	2,112	1,461
Total gasoline	<u>26,476</u>	<u>23,414</u>	<u>22,628</u>	<u>21,921</u>
Asphalt			362	485
Weed oil			3	3
Diesel oil	513	500	132	159
Residual oil	6,393	7,456	3,560	3,499
Carbon black oil	854	900	603	816
LPG	196	557	768	773
Total liquid yields (available for sale)	<u>34,422</u>	<u>32,827</u>	<u>28,276</u>	<u>27,556</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane mix	91		22	10
Fuel oil	718	903	437	471
Pitch	165	500	133	213
LPG	104	149	55	129
N-butane				2
LPG to H <sub>2</sub> Plant	62		6	
	<u>1,140</u>	<u>1,612</u>	<u>653</u>	<u>825</u>

REFINERY CHARGES AND YIELDS B/D  
November 30, 1974

Statement 2.8  
Page 1 of 2

Continued from Page 1

	Current Month	
	Actual	Outlook
<u>Inventory Changes:</u>		
TCC feed	199	210
Hydrocracker feed	( 381)	( 567)
Reduced crude	( 41)	
	<u>( 223)</u>	<u>( 357)</u>
Total liquid yield	35,339	34,082
Total percent liquid yield	95.9	94.1
<u>Yields FOB:</u>		
Fuel gas	2,780	1,897
Coke	<u>1,002</u>	<u>890</u>
Total yield	<u>39,121</u>	<u>38,689</u>
Total yield percent	106.1	101.8
<u>Unit Charges:</u>		
Crude	33,795	34,000
Vacuum	16,817	16,000
Coker	6,743	6,500
TCC	11,477	10,302
Alkylation	1,551	
Hydrocracker	12,378	11,750
Reformer "A"	4,658	5,200
Reformer "B"	7,200	6,216
Hydrocracker service factor percent	95.2	90.4

REFINERY CHARGES AND YIELDS B/D  
November 30, 1974

Year-to-Date

Actual                      Outlook

47	( 3)
137	119
<u>267</u>	<u>273</u>
<u>451</u>	<u>399</u>
29,380	28,870
95.9	95.9

2,745	2,082
961	841
<u>33,686</u>	<u>31,793</u>

108.0	105.6
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27,185	27,095
15,059	14,761
6,652	6,280
10,349	9,741
1,337	653
11,215	10,839
3,519	4,167
7,332	7,207

86.3	83.4
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TOSCOPEYRO CORPORATION

	Current Month		Year-to-Date	
	Actual	Outlook	Actual	Outlook
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	28,073	32,500	25,723	26,010
West Coast/San Joaquin gas oil	1,013	1,000	907	1,013
Other gas oil	560	500	763	658
	<u>29,646</u>	<u>34,000</u>	<u>27,393</u>	<u>27,681</u>
Reduced crude				5
Purchased gas oil			1	1
Diesel			322	322
Cycle oil			117	117
Propane	242		21	
Isobutane			58	58
Natural gasoline	2,759	1,916	2,888	2,420
Total plant charge	<u>32,647</u>	<u>35,916</u>	<u>30,800</u>	<u>30,604</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	9,456	9,251	9,523	9,076
Regular (94 octane)	8,473	4,394	6,144	5,005
Regular (91.5 octane)		6,476	3,703	5,380
Low lead	1,911	925	1,090	1,049
No lead	2,798	2,081	2,170	1,514
Total gasoline	<u>22,638</u>	<u>23,127</u>	<u>22,630</u>	<u>22,024</u>
Asphalt			331	444
Weed oil (cycle oil)	5		3	2
Diesel oil	48	500	125	188
Residual oil	9,517	7,456	4,261	3,835
Carbon black oil	502	900	778	823
LPG	(76)	557	696	755
Total liquid yields (available for sale)	<u>32,654</u>	<u>32,540</u>	<u>28,824</u>	<u>28,071</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane mix	501		62	9
Fuel oil	873	963	474	513
Pitch	4	500	122	238
LPG	659	104	107	127
N-butane			1	1
LPG to H <sub>2</sub> Plant	4			
	<u>2,041</u>	<u>1,567</u>	<u>766</u>	<u>888</u>

Continued from Page 1

	<u>Current Month</u>		<u>Year-to-Date</u>	
	<u>Actual</u>	<u>Outlook</u>	<u>Actual</u>	<u>Outlook</u>
<u>Inventory Changes:</u>				
TCC feed	( 1,171)	210	( 56)	15
Hydrocracker feed	( 1,732)	( 581)	( 22)	60
Reduced crude	312		271	250
	<u>( 2,591)</u>	<u>( 371)</u>	<u>193</u>	<u>325</u>
Total liquid yield	32,104	33,736	29,873	29,284
Total percent liquid yield	98.3	93.9	97.0	95.7
<u>Yields PGE:</u>				
Fuel gas	1,653	1,881	2,652	2,065
Coke	162	890	893	845
Total yield	<u>33,919</u>	<u>36,507</u>	<u>33,328</u>	<u>32,194</u>
Total yield percent	103.9	101.6	108.2	105.2
<u>Unit Charges:</u>				
Crude	29,647	34,000	27,394	27,681
Vacuum	15,012	16,000	15,055	14,866
Coker	1,467	6,500	6,212	6,299
TCC	9,652	10,302	10,289	9,789
Alkylation	1,186		1,324	598
Hydrocracker	11,042	11,750	11,201	10,916
Reformer "A"	4,127	5,200	3,570	4,255
Reformer "B"	7,789	8,216	7,371	7,293
Hydrocracker service factor percent	84.9	90.4	86.2	84.0

TOSCO PETRO CORPORATION

	<u>Year-to-Date &amp; Current Month</u>	
	<u>Actual 1975</u>	<u>Budget</u>
<u>Charges and Blends:</u>		
Crude oil and purchased reduced crude	31,818	33,442
West Coast/San Joaquin gas oil	1,014	1,000
Other gas oil	<u>341</u>	<u>200</u>
	33,173	34,642
Propane	7	
Isobutane	131	
Natural gasoline	2,958	3,984
N-butane	<u>46</u>	
<u>Total Plant Charge</u>	<u>36,315</u>	<u>38,626</u>
<u>Liquid Yields (Available for Sale):</u>		
Gasoline - Premium	9,080	9,821
Regular (94 octane)	9,477	8,598
Low lead	1,895	1,958
No lead	<u>2,375</u>	<u>5,062</u>
Total gasoline	22,835	25,439
Isobutane		165
Butane-mix	20	
N-butane	48	
Diesel oil	759	197
Residual oil	7,666	8,245
Carbon black oil	280	900
LPG	<u>116</u>	<u>371</u>
<u>Total Liquid Yields (Available for Sale)</u>	<u>31,724</u>	<u>35,317</u>
<u>Liquid Yields for Internal Consumption:</u>		
Butane	212	
Fuel oil	764	961
Pitch		500
LPG	<u>247</u>	<u>295</u>
	<u>1,223</u>	<u>1,756</u>



Continued from Page 1

	<u>Year-to-Date &amp; Current Month</u>	
	<u>Actual 1975</u>	<u>Budget</u>
<u>Inventory Changes:</u>		
TCC feed	723	452
Hydrocracker feed	523	( 490)
Reduced crude	( 249)	20
	<u>597</u>	<u>( 18)</u>
Total liquid yield	33,944	37,054
Total percent liquid yield	93.5	95.9
<u>Yields FOE:</u>		
Fuel gas	2,722	1,997
Coke	982	903
<u>Total Yield</u>	<u>37,644</u>	<u>39,954</u>
Total yield percent	103.7	103.4
<u>Unit Charges:</u>		
Crude	33,067	33,000
Vacuum	16,843	16,800
Coke	6,780	6,600
TCC	11,083	11,101
Alkylation	1,069	1,250
Hydrocracker	10,279	11,750
Reformer "A"	3,712	3,944
Reformer "B"	7,394	8,800
Hydrocracker service factor percent	79.1	90.4

TOSCOPEYRO CORPORATION

	<u>Current Month</u>		<u>Year-to-Date</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	32,583	33,097	32,126	33,278
West Coast/San Joaquin gas oil	1,361	1,000	1,179	1,000
Other gas oil	6	200	182	200
	<u>33,950</u>	<u>34,297</u>	<u>33,487</u>	<u>34,478</u>
Propane	89		46	
Isobutane	360	450	240	214
Natural gasoline	2,559	3,000	2,769	3,517
N-butane	233	75	135	36
<u>Total Plant Charge</u>	<u>32,191</u>	<u>37,822</u>	<u>36,677</u>	<u>38,245</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	8,304	6,811	8,716	8,393
Regular (94 octane)	8,671	5,964	9,094	7,348
Low lead	1,947	1,359	1,920	1,674
No lead	2,787	3,512	2,571	4,326
Total gasoline	<u>21,709</u>	<u>17,646</u>	<u>22,301</u>	<u>21,741</u>
Isobutane		154		160
Butane mix	66		42	
N-butane	( 27)		12	
Diesel oil	963		856	104
Residual oil	9,760	9,203	8,660	8,700
Carbon black oil	501	900	385	900
LPG	337	450	221	408
<u>Total Liquid Yields (Available for Sale)</u>	<u>33,309</u>	<u>28,353</u>	<u>32,477</u>	<u>32,013</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane	61		140	
Fuel oil	355	618	570	798
Pitch	140	339	67	424
LPG	198		224	155
LPG to hydrogen plant	4		2	
	<u>758</u>	<u>957</u>	<u>1,003</u>	<u>1,377</u>

Continued from Page 1

	<u>Current Month</u>		<u>Year-to-Date</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Inventory Changes:</u>				
TCC feed	( 114)		326	237
Hydrocracker feed	1,478	5,945	976	2,564
Reduced crude	134		( 68)	11
	<u>1,498</u>	<u>5,945</u>	<u>1,234</u>	<u>2,812</u>
Total liquid yield	35,565	35,255	34,714	36,202
Total percent liquid yield	95.6	93.2	94.6	94.7
<u>Yields FOE:</u>				
Fuel gas	2,575	1,736	2,653	1,873
Coke	978	900	980	900
<u>Total Yield</u>	<u>39,118</u>	<u>37,891</u>	<u>38,347</u>	<u>38,975</u>
Total yield percent	105.2	100.2	104.6	101.9
<u>Unit Charges:</u>				
Crude	34,039	33,000	33,528	33,000
Vacuum	16,576	16,800	16,716	16,800
Coke	6,778	6,600	6,779	6,600
TCC	12,274	11,133	11,643	11,116
Alkylation	1,391	1,462	1,222	1,351
Hydrocracker	9,403	5,455	9,863	8,763
Reformer "A"	3,174	3,857	3,456	3,903
Reformer "B"	6,673	4,086	7,051	6,563
Hydrocracker service factor percent	72.3	42.0	75.9	67.4

TOSCO PETRO CORPORATION

	<u>Month of March</u>		<u>Three Months Ended</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	30,875	33,603	31,695	33,390
West Coast/San Joaquin gas oil	1,254	1,000	1,205	1,000
Other gas oil	<u>5</u>	<u>200</u>	<u>121</u>	<u>200</u>
	32,134	34,803	33,021	34,590
Propane			30	
Isobutane	543		344	140
Natural gasoline	3,285	3,000	2,947	3,339
Butane	<u>59</u>		<u>108</u>	<u>73</u>
<u>Total Plant Charge</u>	<u>36,020</u>	<u>37,803</u>	<u>36,450</u>	<u>38,092</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	6,513	9,149	7,957	8,653
Regular (94 octane)	7,125	8,012	8,427	7,577
Low Lead	909	1,825	1,572	1,726
No Lead	<u>1,984</u>	<u>4,717</u>	<u>2,368</u>	<u>4,461</u>
Total Gasoline	16,531	23,703	20,324	22,417
Isobutane		348		225
Butane mix	( 56)		8	
N-butane	( 13)		3	
Diesel oil	1,372		1,034	68
Residual oil	8,675	9,193	8,665	8,870
Carbon black oil	93	900	284	900
LPG	<u>480</u>	<u>552</u>	<u>310</u>	<u>458</u>
<u>Total Liquid Yields (Available for Sale)</u>	<u>27,082</u>	<u>34,696</u>	<u>30,628</u>	<u>32,938</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane			92	
Fuel oil	96	960	407	450
Pitch	170	500	102	854
LPG		<u>109</u>	<u>148</u>	<u>139</u>
	<u>266</u>	<u>1,569</u>	<u>749</u>	<u>1,443</u>

Continued from Page 1

	Month of March		Three Months Ended March 31, 1975	
	Actual	Budget	Actual	Budget
<u>Inventory Changes:</u>				
TCC feed	( 184)		150	156
Hydrocracker feed	5,904	( 332)	2,674	1,566
Reduced crude	65		( 22)	7
	<u>5,785</u>	<u>( 332)</u>	<u>2,802</u>	<u>1,729</u>
<u>Total liquid yield</u>	33,133	35,933	34,179	36,110
Total percent liquid yield	92.0	95.0	93.8	94.8
<u>Yields FOB:</u>				
Fuel gas	2,229	1,997	2,507	1,916
Coke	970	897	976	900
<u>Total Yield</u>	<u>36,132</u>	<u>38,827</u>	<u>37,662</u>	<u>38,926</u>
Total yield percent	100.9	102.7	103.3	102.2
<u>Unit Charges:</u>				
Crude	32,135	33,000	33,049	33,000
Vacuum	16,307	16,800	16,575	16,800
Coke	6,770	6,600	6,776	6,600
TCC	11,906	11,101	11,737	11,111
Alkylation	1,566	1,249	1,340	1,315
Hydrocracker	4,007	11,750	7,846	9,792
Reformer "A"	3,645	4,196	3,522	4,004
Reformer "B"	2,720	8,800	5,559	7,333
Hydrocracker service factor percent *	30.8	90.4	60.4	75.3

\* - Unit charge divided by 13,000 B/D capacity

TQSCOPEIRO CORPORATION

	<u>Month of April</u>		<u>Four Months Ended April 30, 1975</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	34,224	34,507	33,767	34,018
West Coast/San Joaquin gas oil	1,030	1,000	1,161	1,000
Other gas oil	449	200	350	200
	<u>35,703</u>	<u>35,707</u>	<u>35,308</u>	<u>35,218</u>
Diesel for Hydrocracker	221		55	
Propane			23	
Isobutane			258	105
Natural gasoline	2,955	3,000	2,949	3,254
Butane			81	18
<u>Total Plant Charge</u>	<u>33,879</u>	<u>38,707</u>	<u>33,674</u>	<u>38,585</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	9,443	8,994	8,329	8,738
Regular (94 octane)	8,658	7,675	8,425	7,651
Low Lead	1,637	1,794	1,583	1,743
No Lead	<u>2,592</u>	<u>4,637</u>	<u>2,449</u>	<u>4,505</u>
Total Gasoline	22,430	23,300	20,651	22,637
Isobutane		900		413
Butane-Mix	568		148	
N-Butane	76		21	
Diesel Oil	1,404	520	1,126	256
Residual Oil	12,362	10,326	11,572	9,234
Carbon Black Oil	693	500	387	900
LPG	442	400	343	443
Cycle Oil	17		4	
<u>Total Liquid Yields (Available for Sale)</u>	<u>37,992</u>	<u>38,726</u>	<u>34,412</u>	<u>33,853</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane	41		79	
Fuel Oil	134	940	339	880
Pitch	114	500	105	462
LPG		33	110	113
	<u>269</u>	<u>1,473</u>	<u>633</u>	<u>1,455</u>

## COKER CO BOILER REFERENCES

- (1A) Letter from TOSCO to KCAPCD of 10-8-75, transmitting pre-project analyses of Coker flue gas.
- (1B) Letter from KCAPCD to TOSCO of 1-8-74, transmitting pre-project source test of Coker flue gas flow and particulates. Also, data verifying coker feed rate.
- (1C) Pre-project analyses of Coker flue gas on 5-23-75. Also, data verifying coker feed rate.
- (2A) Letter from EPA Region IX to TOSCO of 11-19-79, with post-project permit limits for Coker CO Boiler flue gas.
- (2B) Letter from EPA Region IX to TOSCO of 6-22-83, with revised post-project permit limit for CO in Coker CO Boiler flue gas.
- (3) Chemecology source test data of 4-27-79 with post-project flow of Coker CO Boiler flue gas. Also, data verifying coker feed rate.



REFERENCE 1A  
(SHEET 1)

TOSCOPEIRO CORPORATION  
PETROLEUM REFINERS  
P. O. BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
TEL: (805) 324-4744

October 8, 1975

Tom Goff  
Kern County Air  
Pollution Control District  
P. O. Box 997  
Bakersfield, CA. 93302

Dear Tom:

Enclosed is the information you requested on the flue gas from our Fluid Coker after the wet scrubber. This data was compiled from several different tests. When burning in the CO boiler, this material will provide approximately 46.5 MM BTUs/Hr.

The leaking sampling vent you found on 10M13 was repaired today. The other vents will be checked also. If you need further information please feel free to call.

Sincerely,

*Jack L. Caufield*  
Jack L. Caufield  
Environmental Engineer

JLC:jc

cc: GDD  
JAK  
RDM  
ACR  
RWT  
DCW

Tosco Denver

H. M. Spence

RECEIVED  
OCT 13 1975

KERN COUNTY HEALTH DEPT.



TOSCOPETRO FLUID CORER  
TYPICAL FLUE GAS ANALYSIS  
(After Wet Scrubber)

RECEIVED  
OCT 13 1970

KERN COUNTY HEALTH DEPT.

Nitrogen	57.8 mol%
Oxygen	0.1 mol%
Carbon Dioxide	13.0 mol%
CO	2.9 mol%
NO	65 ppm
NO <sub>2</sub>	Nil
SO <sub>2</sub>	5-10 ppm
C <sub>1</sub>	1.0 mol%
C <sub>2</sub>	Trace
C <sub>3</sub>	Trace
C <sub>4</sub>	Trace
C <sub>5</sub>	Trace
C <sub>6</sub> + (mainly benzene with some toluene)	0.2 mol%
Cyanide	Nil
H <sub>2</sub> O	25 mol%
NH <sub>3</sub>	150 ppm
H <sub>2</sub> S	50 ppm

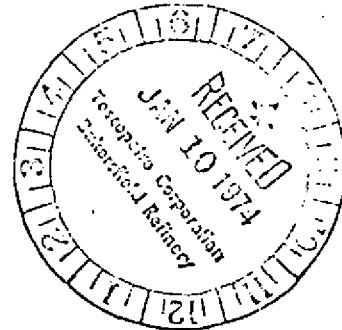
KERN COUNTY HEALTH DEPARTMENT

1700 Flower Street  
P. O. Box 997  
Bakersfield, California-93302

OWEN A. KEARNS, M.D., M.P.H.  
Director of Public Health  
Air Pollution Control Officer



January 8, 1974



J. A. Kamps, Manager of Engineering  
Toscopetro Refinery  
6500 Refinery Avenue  
Bakersfield, California

Dear Mr. Kamps:

Your copy of the report of the source test which we performed on December 20, 1973, is enclosed. As you can see, the test showed that the fluid coking unit was operated in compliance with the District's rules and regulations concerning particulate matter.

If you have any questions regarding this matter, please contact us.

Sincerely yours,

Owen A. Kearns, M.D., Health Officer  
Air Pollution Control Officer

*Larry Landis*

Larry Landis, R.S.  
Air Sanitation Chemist

LL:ld  
encl.

REFERENCE 1B

(SHEET 2)

KERN COUNTY HEALTH DEPARTMENT

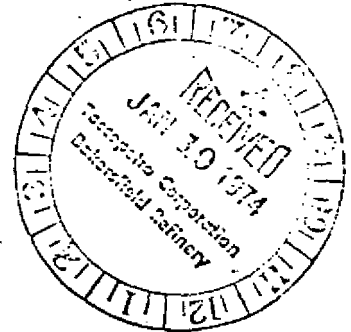
OWEN A. KEARNS, M.D., M.P.H.  
Director of Public Health  
Air Pollution Control Officer

1700 Flower Street  
P. O. Box 997  
Bakersfield, California-93302



TOSCOPEPETRO REFINERY

Source Test of December 20, 1973



Source Test Performed By: L. Landis  
T. Paxson  
M. Petty

Report Prepared By: L. Landis

A handwritten signature, likely of L. Landis, written in dark ink.

## SUMMARY OF TEST DATA

1. SAMPLING STATION	Common Values; Average	
	A	B
2. MATERIAL COLLECTED	Particulate	
3. OPERATING CONDITION		
4. AV. FLUE GAS VELOCITY, FT/SEC.	71.5	
5. AV. FLUE GAS TEMP., °F	160	
6. AREA OF FLUE, SQ. FT.	6.73	
7. FLUE GAS FLOW RATE, SCFM	2439A ← = 1,460,000 SCFH	
8. SAMPLING NOZZLE DIAMETER, INCHES	.25	
9. METER SAMPLING RATE, CFM	1.25	1.25
10. TESTING TIME, MIN.	60	60
11. AV. METER VACUUM, IN. HG	9.8	9.7
12. AV. METER TEMP., °F	71.3	72.0
13. SAMPLE GAS VOL. @ METER COND., CF	75.50	75.30
14. WATER VAPOR: CONDENSATE, ML.	125.0	127.5
VOLUME, CF, METER COND.	30.39	30.35
15. TOTAL SAMPLE GAS VOLUME, CF	105.89	105.65
16. TOTAL SAMPLE GAS VOLUME, SCF	68.50	68.08
17. WEIGHT COLLECTED, GRAMS	A. .0330	Impinger .0317
	B. .0006	Filter ---
	C. _____	
	D. _____	
TOTAL WEIGHT, GRAMS	.0336	.0317
18. CONCENTRATION, GRAINS/SCF	.007	.007
19. CONCENTRATION, GRAINS/SCF @ 12% CO <sub>2</sub>		
20. CONCENTRATION, PERCENT BY VOLUME		
21. CONCENTRATION, PPM BY VOLUME		
22. MATERIAL FLOW RATE, LBS/HR.	1.46	1.46

## COLLECTION EFFICIENCY

23. MATERIAL TO COLLECTOR, LBS/HR.	
24. LOSS TO ATMOSPHERE, LBS/HR.	
25. MATERIAL COLLECTED, LBS/HR.	
26. EFFICIENCY, %	

## ORSAT ANALYSIS

## DRY BASIS:

CO <sub>2</sub> , %	13.2	13.2
O <sub>2</sub> , %	2.6	2.6
CO, %	3.1	3.1
N <sub>2</sub> , %	81.1	81.1

## WET BASIS:

CO <sub>2</sub> , %	9.2	9.2
O <sub>2</sub> , %	1.3	1.3
CO, %	2.2	2.2
H <sub>2</sub> , %	56.5	56.7
H <sub>2</sub> O, %	30.3	30.1

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY \_\_\_\_\_ SHEET NO. \_\_\_\_\_

DATE \_\_\_\_\_

REFERENCE 1 B (SHEET 4)

REV. 3

COKER FEED RATE FOR 12-20-73:

COKER FEED RATE FOR 12-19-73 = 6540 B/D \*

COKER FEED RATE FOR 12-21-73 = 6520 B/D \*

SINCE THE COKER FEED RATE WAS NOT RECORDED ON 12-20-73, IT WAS TAKEN AS THE AVERAGE OF THE ABOVE VALUES FOR 12-19-73 AND 12-21-73 WHICH = 6530 B/D

\* THE ABOVE VALUES WERE TAKEN FROM THE ATTACHED REFINERY RECORDS (AREA SUPERVISOR'S NOTES).

4551 APT 10

REFERENCE 1 B

(SHEET 5)

12-19-73

FCC 10,600 - 925 - 3106 - 725EP  $\frac{887}{862}$  559 Blend.

Rx Pz 14.4<sup>#</sup> lots of Prob. Controlling FO to burner <sup>to 50</sup> Temp

Vac 700 -  $\frac{22.0}{66.1}$  - 13040 - GO. 4835 AT 60 1044

APRF - 2700 - 938 across 101.7 DesRx DP 6.5<sup>#</sup>

Boiler - 7500 - 933 " 98.1 Debut. OK

H<sub>2</sub>Hydro 12,500 - 645.2<sup>1/2</sup> - 764.9 - 1,557N 5, 33 - H<sub>2</sub>O - 2130

DC 710 - 764 - 765 - 78 - 32 - 788<sup>1/2</sup> ΔP  $\frac{110}{100}$  Seps 1490 - 1500<sup>DC</sup>

No C<sub>3</sub> in selsas - ΔP 28<sup>#</sup> Purity 94.2<sup>0</sup>

CoMex (6540) - 33AP - 15AT + 3.0 Circ 11.3 - Rec 28.4% Rx Pz 17<sup>#</sup>

Ally - 1840 - OK

Diene - 1850 - 460 - 26AT

DC - OK

Crude - 56,000 - 5% oil to Para. Lots of Red Cr.

Cut Chg when booster pumps down this am.

Crackers OK -

My well down for Tie ins. Hydro water to perc.

White putting in blinds.

BB - 370 No # 7 boiler on pilot for desatur <sup>repair</sup>

FO - 930 21.5 2 day Today

atch 90 Rates For Antioxidant for FCC <sup>in catalyst</sup>

APCD - 830 Tom. Test wot Sci

Atk Boiler Repairs? W. R.

(W. R.) Chloride inj. Reduce for Recom.

750. Coolers - FO to 96 m<sup>2</sup> 225 when Recom.

11 Transfer - Burn C<sub>3</sub>

850 Diene Chg scrub 700 m<sup>2</sup>

W R Salt Trk & D. coal

12-20-73

Test LT 60 cooler

Raise Diene Trans. 32-35 AT Target

Basic on H<sub>2</sub> Max?

22 API 3 day make

42 min cetane

4.1 Color

700 EP

	Current Month		Year-to-Date	
	Actual	Budget	Actual	Budget
<b>Charges and Blends:</b>				
Crude 23.3 API	24,318	20,825	23,876	21,135
West Coast/San Joaquin gas oil	1,557	1,000	1,134	1,000
Other gas oil	733	800	654	800
	<u>26,605</u>	<u>22,625</u>	<u>25,664</u>	<u>22,935</u>
Diesel	-	500	252	500
Cycle oil	264	-	303	-
Isobutane	107	145	135	87
Natural gasoline	2,760	1,713	2,214	2,004
Total plant charge	<u>29,736</u>	<u>25,003</u>	<u>28,672</u>	<u>25,426</u>
<b>Liquid Yields (Available for Sale):</b>				
<b>Gasoline -</b>				
Premium 100 octane	8,623	7,660	8,128	8,946
Regular 94 octane	4,427	4,255	4,847	4,970
Regular 91.5 octane	5,230	2,894	4,044	3,380
Low lead	1,875	2,213	2,325	2,584
Total gasoline	<u>20,155</u>	<u>17,022</u>	<u>19,344</u>	<u>19,880</u>
Road oil	3,058	2,920	2,920	-
Diesel oil	1	-	83	-
Fuel oil	( 222)	100	( 369)	( 27)
Carbon black oil	735	700	795	700
LPG	538	361	453	137
Total liquid yields (available for sale)	<u>24,220</u>	<u>18,183</u>	<u>23,224</u>	<u>20,610</u>
<b>Liquid Yields for Internal Consumption:</b>				
Butane mix	-	145	-	83
Fuel oil	476	732	722	973
Pitch	150	200	158	200
LPG	51	323	158	490
N-butane	-	-	4	-
	<u>677</u>	<u>1,400</u>	<u>1,042</u>	<u>1,746</u>
<b>Inventory Changes:</b>				
Heavy hydrocarbons	-	( 750)	-	( 99)
TCC feed	403	( 323)	102	( 111)
Hydrocracker feed	2,198	4,561	2,205	3,871
Reduced crude	91	-	232	-
	<u>2,692</u>	<u>3,488</u>	<u>2,539</u>	<u>3,661</u>
Total liquid yield	<u>27,639</u>	<u>21,071</u>	<u>25,838</u>	<u>23,777</u>
Total percent liquid yield	92.9	92.3	93.6	93.3
<b>Yields TOF:</b>				
Fuel gas	2,464	1,540	2,389	2,660
Coke	318	889	309	887
Total yield	<u>30,421</u>	<u>25,508</u>	<u>29,524</u>	<u>26,330</u>
Total yield percent	102.3	102.0	103.0	103.3
<b>Unit Charges:</b>				
Crude	26,605	22,825	25,666	22,935
Vacuum	15,366	13,586	15,171	13,782
Coke	6,369	6,500	6,837	6,500
TCC	9,642	9,493	9,408	9,360
Air-lyation	1,361	1,181	1,231	1,279
Hydrocracker	8,946	6,443	8,067	6,386
Reformer "A"	4,248	2,809	3,404	3,808
Reformer "B"	5,329	5,258	6,039	6,753
Hydrocracker service factor %	68.8	68.6	68.3	73.8

REFINERY CHARGES AND YIELDS B/D  
March 31, 1974

Statement 2.8



	Current Month		Year-to-Date	
	Actual	Budget	Actual	Budget
<b>Charges and Credits:</b>				
Crude 23.3 API	22,000	20,825	23,407	21,920
West Coast/San Joaquin gas oil	1,344	1,000	1,138	1,000
Other gas oil	580	500	723	500
	<u>24,124</u>	<u>22,625</u>	<u>25,268</u>	<u>22,850</u>
Diesel	1,047	900	451	900
Cycle oil	289	-	299	-
Isobutane	-	-	176	43
Normal gasoline	7,814	1,717	2,244	1,932
Total plant charge	<u>28,278</u>	<u>23,222</u>	<u>28,272</u>	<u>23,222</u>
<b>Liquid Yields (Available for Sale):</b>				
<b>Gasoline -</b>				
Premium 100 octane	9,435	8,463	8,470	8,823
Regular 94 octane	6,111	4,702	5,163	4,833
Regular 91.5 octane	4,832	3,197	4,241	3,334
Low lead	1,714	1,451	2,027	2,520
Total gasoline	<u>21,692</u>	<u>18,607</u>	<u>19,901</u>	<u>19,610</u>
Road oil	2,330	-	2,772	-
Diesel oil	1	-	62	-
Fuel oil	45	( 147)	( 259)	( 60)
Carbon black oil	378	373	691	610
LPG	1,271	937	642	310
Total liquid yields (available for sale)	<u>23,617</u>	<u>20,020</u>	<u>23,818</u>	<u>20,320</u>
<b>Liquid Yields for Internal Consumption:</b>				
Butene mix	89	223	30	103
Fuel oil	244	600	603	600
Pitch	64	93	130	173
LPG	-	317	119	447
N-butane	-	-	3	-
	<u>407</u>	<u>1,233</u>	<u>885</u>	<u>1,323</u>
<b>Summary Charges:</b>				
Heavy Hydrocrack	-	393	-	24
TCC feed	4,103	3,626	1,122	823
Hydrocracker feed	( 2,776)	( 2,171)	960	636
Reduced crude	182	220	124	53
	<u>1,929</u>	<u>2,068</u>	<u>2,206</u>	<u>1,516</u>
Total liquid yield	<u>22,069</u>	<u>21,491</u>	<u>22,144</u>	<u>21,002</u>
Total percent liquid yield	99.3	94.2	95.0	93.4
<b>Yields FCC:</b>				
Fuel gas	2,626	2,020	2,448	1,755
Coke	317	897	309	872
Total yield	<u>21,032</u>	<u>26,108</u>	<u>22,901</u>	<u>28,325</u>
Total yield percent	109.7	105.9	104.6	103.0
<b>Unit Charges:</b>				
Crude	24,124	22,625	26,200	22,850
Vacuum	13,800	13,367	14,828	13,670
Coker	6,816	6,500	6,557	6,500
TCC	4,702	5,301	8,230	8,366
Alkylation	740	646	1,111	1,121
Hydrocracker	13,228	11,750	9,837	9,377
Reformer "A"	3,699	4,121	3,537	3,885
Reformer "B"	8,448	8,000	6,617	7,065
Hydrocracker service factor %	101.7	99.4	98.6	98.9

REFINERY CHARGES AND YIELDS R/D  
April 30, 1974

Document 2.0

	Current Month		Year-to-Date	
	Actual	Budget	Actual	Budget
<b>Charges and Blends:</b>				
Crude oil and purchased reduced crude	24,143	15,483	23,358	19,913
West Coast/San Joaquin gas oil	906	1,000	1,091	1,000
Other gas oil	727	800	747	800
	<u>25,841</u>	<u>17,283</u>	<u>25,396</u>	<u>21,713</u>
Diesel	1,074	500	579	500
Cycle oil	222	-	283	-
Isobutane	-	-	140	34
Natural gasoline	2,922	1,558	2,481	1,856
Total plant charge	<u>30,066</u>	<u>19,341</u>	<u>28,879</u>	<u>24,194</u>
<b>Liquid Yields (Available for Sale):</b>				
Gasoline -				
Premium 100 octane	8,816	9,258	8,541	8,914
Regular 94 octane	6,661	5,144	5,470	4,952
Regular 91.5 octane	4,070	3,498	4,206	3,368
Low lead	2,320	2,674	2,091	2,575
Total gasoline	<u>21,767</u>	<u>20,574</u>	<u>20,308</u>	<u>19,809</u>
Weed oil	29	-	6	-
Diesel oil	1	-	80	-
Residual oil	2,608	913	2,533	142
Carbon black oil	844	700	722	635
LPG	682	870	632	457
Total liquid yields (available for sale)	<u>25,931</u>	<u>23,057</u>	<u>24,271</u>	<u>21,043</u>
<b>Liquid Yields for Internal Consumption:</b>				
Butane mix	27	-	21	82
Fuel oil	118	518	503	821
Pitch	149	63	141	151
LPG	6	210	96	398
N-butane	7	-	4	-
	<u>307</u>	<u>791</u>	<u>765</u>	<u>1,452</u>
<b>Inventory Changes:</b>				
Heavy Hydrocrate	-	75	-	34
TCC feed	( 959)	( 2,510)	695	139
Hydrocracker feed	2,083	( 2,116)	1,191	70
Reduced crude	641	( 722)	328	( 120)
	<u>1,765</u>	<u>( 5,250)</u>	<u>2,204</u>	<u>133</u>
Total liquid yield	<u>28,003</u>	<u>18,498</u>	<u>27,320</u>	<u>22,618</u>
Total percent liquid yield	93.1	95.6	94.6	93.8
<b>Yields TOC:</b>				
Fuel gas	2,727	1,532	2,506	1,709
Coke	315	768	315	863
Total yield	<u>31,065</u>	<u>20,728</u>	<u>20,131</u>	<u>25,195</u>
Total yield percent	103.3	107.5	104.4	104.8
<b>Unit Charges:</b>				
Crude	25,841	17,283	25,396	21,713
Vacuum	13,224	9,822	14,499	12,887
Coke	6,649	6,500	6,376	6,300
TCC	9,992	10,740	8,592	8,833
Alkylation	1,361	1,378	1,163	1,174
Hydrocracker	10,578	11,741	10,084	10,338
Reformer "A"	2,903	4,335	3,407	3,977
Reformer "B"	7,527	7,600	6,604	7,178
Hydrocracker service factor %	81.4	88.3	77.6	78.8

12-21-73

TCC 10,600 - 932 - 2860 - 730FP <sup>728CB</sup> 1226 2320 Phead 94  
Surge drum + 38° RLP 13.5"

Vac 728 <sup>28.0</sup> 24. 15,900 - GO 1700 - 17.60. 1253

Put HGO. Hot bypass in service. 467 TATC - +80°

ARF <sup>2700</sup> 3470 - 934 across 101.4 6.5VedAP

BARF 7100 - 936 " 98.5 Clout

H<sub>2</sub> Hydro - 12000 - 646.6 - 753.3 1.25TN - 3552 H<sub>2</sub> Cons 2090

DC 705 - 761 - 758 - 19 - 19 - 754 <sup>80</sup> 90' AP 5eps 1485 - 1500 <sup>DC</sup> release

H<sub>2</sub> plant Purity up. Cut Nat Gas - Replaced with R.P.

Comer. (6520) - 3.3AP - 15AT + 3.0' Cit. H. 1. P.C. 78.8% H<sub>2</sub> P. 17"

ALKY - 1324 mainly PP.

Perce - 850 - 470 - 30AT Scrubbed 750

GC - OK

Crude - 26,000 - .5% oil to Perce. Gaso, on oil/water.

Treaters OK

Injwell - 800<sup>#</sup> - 587F 14AP

FO Boiler # 7 on Wed

Co<sub>2</sub> 503 " # 1 down wed - Leaks Replaced 5 valves

Pitch 135 " # 1 on today

New inj pump - broke piston after 5-10 min <sup>from injection</sup>

Start Neetro Film in # 19 3 DA's yest.

Raised Chetant level to 3 DA to 5-8 PPM

9/11/84 220AP 3 day

42015 WR For FO cooling & LT GO cooling

on Diesel ALL Diesel to Sales 710-715 E/P

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY SHEET NO.

DATE

REFERENCE 1 B (SHEET 8)

REV. 3

COKE FEED RATES IN BBL'S/DAY FOR PRE-PROJECT :

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
JAN		6780	6770	7090
FEB		6778	6778	7055
MAR	6569	6770	6746	
APR	6616	6851	6756	
MAY	6649	6725	6959	
JUNE	6690	6758	7067	
JULY	6662	6796	7046	
AUG	6691	6759	6967	
SEPT	6748	6567	6954	
OCT	6744	5372	7076	
NOV	6743	4848	6502	
DEC	1467	6745	7099	

AVERAGE PRE-PROJECT COKE FEED RATE

= 6561 B/D

ABOVE VALUES WERE OBTAINED FROM THE ATTACHED REFINERY RECORDS

Continued from Page 1

	<u>Month of April</u>		<u>Four Months Ended April 30, 1975</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Inventory Changes:</u>				
TCC feed	801	( 127)	213	85
Hydrocracker feed	( 1,944)	( 300)	1,519	1,160
Reduced crude	( 222)	(1,062)	( 72)	( 252)
	<u>(1,365)</u>	<u>(1,494)</u>	<u>1,250</u>	<u>923</u>
<b>Total Liquid Yield</b>	<b>36,916</b>	<b>35,765</b>	<b>35,845</b>	<b>35,201</b>
<b>Total Percent Liquid Yield</b>	<b>95.0</b>	<b>94.9</b>	<b>95.3</b>	<b>94.0</b>
<u>Yields FOB:</u>				
Fuel gas	2,412	2,140	2,483	1,972
Coke	322	902	939	901
<b>Total Yield</b>	<b>40,150</b>	<b>39,767</b>	<b>40,267</b>	<b>39,134</b>
<b>Total Yield Percent</b>	<b>103.3</b>	<b>102.7</b>	<b>104.1</b>	<b>101.4</b>
<u>Unit Charges:</u>				
Crude	30,950	35,707	32,524	33,677
Vacuum	12,240	18,800	15,492	17,300
Coke	6,851	6,600	6,795	6,600
TCC	8,563	12,000	10,940	11,323
Alkylation	1,353	1,223	1,346	1,292
Hydrocracker	11,676	11,750	8,803	10,281
Reformer "A"	3,892	4,289	3,614	4,075
Reformer "B"	7,952	8,600	6,158	7,760
<b>Hydrocracker service factor percent*</b>	<b>89.8</b>	<b>90.4</b>	<b>84.2</b>	<b>79.1</b>

\* - Unit charge divided by 13,000 B/D capacity.



TOSCOPEIRO CORPORATION

	<u>Month of May</u>		<u>Five Months Ended</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>May 31, 1975</u> <u>Budget</u>
<b><u>Charges and Blends:</u></b>				
Crude oil and purchased reduced crude	32,410	33,080	31,276	33,548
West Coast/San Joaquin gas oil	1,044	1,000	1,137	1,000
Other gas oil	424	200	389	200
Raw material charge	<u>33,878</u>	<u>34,280</u>	<u>32,802</u>	<u>34,748</u>
Diesel for Hydrocracker	1,695		392	
Propane			18	
Isobutane			205	84
Natural gasoline	2,711	3,000	2,900	3,202
N-butane			65	14
<u>Total Plant Charge</u>	<u>38,284</u>	<u>37,280</u>	<u>36,382</u>	<u>38,048</u>
<b><u>Liquid Yields (Available for Sale):</u></b>				
Gasoline - Premium	9,104	8,747	8,488	8,740
Regular (94 octane)	9,917	7,660	8,779	7,653
Low lead	2,246	1,745	1,723	1,743
No lead	<u>2,629</u>	<u>4,510</u>	<u>2,486</u>	<u>4,506</u>
Total gasoline	<u>23,896</u>	<u>22,662</u>	<u>21,476</u>	<u>22,642</u>
Isobutane		681		468
Butane mix	434		207	
N-butane	170	22	52	5
Diesel oil	1,064	433	1,114	292
Residual oil	9,600	8,528	8,844	9,089
Carbon black oil	663	697	443	858
LPG	409	381	356	431
Cycle oil	<u>125</u>		<u>29</u>	
Total Liquid Yields (Available for Sale)	<u>36,361</u>	<u>33,404</u>	<u>32,521</u>	<u>33,785</u>
<b><u>Liquid Yields for Internal Consumption:</u></b>				
Butane			63	
Fuel oil	65	1,018	283	909
Pitch	191	442	123	458
LPG	<u>51</u>	<u>51</u>	<u>1</u>	<u>100</u>
	<u>256</u>	<u>1,511</u>	<u>470</u>	<u>1,467</u>

Continued from Page 1

	Month of May		Five Months Ended May 31, 1975	
	Actual	Budget	Actual	Budget
<b>Inventory Changes:</b>				
TCC feed	( 93)	967	230	266
Hydrocracker feed	178	( 1,258)	1,285	615
Reduced crude	103	645	( 36)	( 75)
	<u>388</u>	<u>354</u>	<u>1,479</u>	<u>806</u>
Total liquid yield	<u>37,005</u>	<u>35,269</u>	<u>34,470</u>	<u>36,058</u>
Total percent liquid yield	96.7	94.6	94.7	94.8
<b>Yields FOE:</b>				
Fuel gas	2,820	1,826	2,552	1,942
Coke	<u>957</u>	<u>843</u>	<u>943</u>	<u>889</u>
Total Yield	<u>40,782</u>	<u>37,938</u>	<u>37,965</u>	<u>38,889</u>
Total yield percent	106.5	101.8	104.4	102.2
<b>Unit Charge:</b>				
Crude	33,878	33,987	32,802	33,740
Vacuum	17,171	14,531	15,836	16,732
Coke	6,725	6,665	6,439	6,613
TCC	11,304	9,290	11,019	10,914
Alkylation	1,573	1,098	1,393	1,252
Hydrocracker	12,249	11,750	9,511	10,583
Reformer "A"	3,439	4,168	3,578	4,860
Reformer "B"	8,109	8,800	6,558	7,926
Hydrocracker service factor percent	94.2	90.4	73.2	81.4

TOSCO PETRO CORPORATION

	Month of June		Six Months Ended June 30, 1975	
	Actual	Budget	Actual	Budget
<u>Changes and Blends:</u>				
Crude oil and purchased reduced cruce	31,123	33,887	31,233	33,604
West Coast/San Joaquin gas oil	1,211	1,000	1,149	1,000
Other gas oil	120	200	345	200
Raw material charge	32,454	35,087	32,727	34,804
Diesel for hydrocracker	1,033		498	
Propane			15	
Isobutane			171	73
Natural gasoline	2,449	3,000	2,825	3,169
N-butane			54	12
Total Plant Charge	35,936	38,087	36,290	38,055
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	9,224	9,301	8,609	8,833
Regular (94 octane)	9,838	8,145	8,953	7,735
Low lead	2,129	1,856	1,790	1,762
No lead	2,893	4,795	2,553	4,554
Total gasoline	24,084	24,097	21,905	22,884
Isobutane		357		450
Butane mix	327		227	
N-Butane	72	127	55	25
Diesel oil	1,549	820	1,185	379
Residual oil	7,635	9,086	8,175	9,088
Carbon black oil	316	900	422	865
LPG	345	483	354	440
Cycle oil	217		60	
Total Liquid Yields (Available for Sale)	34,545	35,870	32,383	34,131
<u>Liquid Yields for Internal Consumption:</u>				
Butane	12		73	
Fuel oil	54	631	245	863
Pitch	185	370	133	444
LPG			1	83
	251	1,001	452	1,390



Continued from Page 1

	Month of June		Six Months Ended June 30, 1975	
	Actual	Budget	Actual	Budget
<u>Inventory Changes:</u>				
TCC feed	( 147)		167	222
Hydrocracker feed	( 106)	( 406)	1,054	446
Reduced crude	( 76)		43	( 63)
	<u>( 329)</u>	<u>( 406)</u>	<u>1,264</u>	<u>605</u>
Total liquid yield	<u>34,467</u>	<u>36,465</u>	<u>34,099</u>	<u>36,126</u>
Total percent liquid yield	95.9	95.7	94.0	94.9
<u>Yields FOE:</u>				
Fuel gas	2,717	1,887	2,579	1,933
Coke	<u>1,323</u>	<u>902</u>	<u>1,308</u>	<u>891</u>
Total Yield	<u>38,507</u>	<u>39,254</u>	<u>37,986</u>	<u>38,950</u>
Total yield percent	107.2	103.1	104.7	102.4
<u>Unit Charges:</u>				
Crude	32,454	35,087	32,727	33,963
Vacuum	18,034	19,000	16,199	17,108
Coke	6,758	6,600	6,491	6,611
TCC	11,928	12,000	11,168	11,094
Alkylation	1,610	1,442	1,426	1,283
Hydrocracker	11,823	11,750	9,893	10,776
Reformer "A"	3,747	4,217	3,606	4,753
Reformer "B"	8,171	8,800	6,825	8,071
Hydrocracker service factor percent	90.9	90.4	76.1	82.9

TOSCOPEIRO CORPORATION

	<u>Month of July</u>		<u>Seven Months Ended</u>	
	<u>Actual</u>	<u>Budget</u>	<u>July 31, 1975</u>	<u>Budget</u>
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	26,805	32,955	30,877	33,664
West Coast/San Joaquin gas oil	1,391	1,000	1,184	1,000
Other gas oil	139	200	315	200
Raw material charge	<u>30,335</u>	<u>34,155</u>	<u>32,376</u>	<u>34,864</u>
Diesel for hydrocracker			425	
Propane			13	
Isobutane	58		155	60
Natural gasoline	2,690	3,000	2,834	3,056
N-butane			46	11
Total Plant Charge	<u>33,283</u>	<u>37,155</u>	<u>35,849</u>	<u>37,991</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	8,746	9,367	8,629	8,911
Regular (94 octane)	10,228	8,203	9,139	7,803
Low lead	1,692	1,969	1,776	1,778
No lead	3,502	4,829	2,692	4,594
Total gasoline	<u>24,168</u>	<u>24,368</u>	<u>22,236</u>	<u>23,086</u>
Isobutane		439		448
Butane mix	265		232	
N-butane	67	293	57	64
Diesel oil	1,801	820	1,275	443
Residual oil	4,662	6,941	8,060	9,366
Carbon black oil	( 1)	900	360	870
LPG	398	552	361	457
Cycle oil	300		95	
Total Liquid Yields (Available for Sale)	<u>31,660</u>	<u>36,213</u>	<u>32,676</u>	<u>34,434</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane	3		47	
Fuel oil	62	200	62	766
Pitch	111	200	218	408
LPG				71
	<u>176</u>	<u>400</u>	<u>327</u>	<u>1,245</u>

Continued from Page 1

	Month of July		Seven Months Ended July 31, 1975	
	Actual	Budget	Actual	Budget
<u>Inventory Changes:</u>				
TCC feed	( 13)		140	190
Hydrocracker feed	( 323)	( 581)	844	296
Reduced crude	222		78	( 54)
	<u>( 114)</u>	<u>( 561)</u>	<u>1,062</u>	<u>432</u>
Total liquid yield	21,717	16,632	34,065	36,111
Total percent liquid yield	95.3	97.0	95.0	95.0
<u>Yield FOE:</u>				
Fuel gas	2,650	1,552	2,590	1,877
Coke	985	903	953	893
Total Yield	<u>35,352</u>	<u>38,487</u>	<u>37,608</u>	<u>38,881</u>
Total yield percent	106.2	103.6	104.9	102.3
<u>Unit Charges:</u>				
Crude	30,335	34,155	32,388	33,991
Vacuum	10,830	19,500	16,298	17,385
Coke	6,796	6,600	6,536	6,609
TCC	11,060	12,000	11,155	11,227
Alkylation	1,649	1,729	1,458	1,348
Hydrocracker	10,902	11,750	10,040	10,919
Reformer "A"	4,328	4,194	3,711	4,672
Reformer "B"	7,724	8,800	6,956	8,178
Hydrocracker service factor percent	83.9	90.4	77.2	84.0

TOSCOPEIRO CORPORATION

	<u>Month of August</u>		<u>Eight Months Ended</u>	
	<u>Actual</u>	<u>Budget</u>	<u>August 1, 1975</u>	<u>Budget</u>
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	28,726	32,955	30,601	33,573
West coast/San Joaquin gas oil	800	1,000	1,135	1,000
Other gas oil	222	200	303	200
Raw material charge	29,748	34,155	32,039	34,773
Diesel for hydrocracker			371	
Propane			11	
Isobutane			135	56
Natural Gasoline	3,084	3,000	2,866	3,048
N-Butane			40	9
<u>Total Plant Charge</u>	<u>32,832</u>	<u>37,155</u>	<u>35,462</u>	<u>37,886</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	9,508	9,367	8,740	8,969
Regular (94 octane)	9,746	8,203	9,216	7,854
Low lead	2,130	1,869	1,829	1,790
No lead	3,675	4,829	2,817	4,623
<u>Total Gasoline</u>	<u>25,119</u>	<u>24,268</u>	<u>22,602</u>	<u>23,236</u>
Butane mix	542	439	272	446
N-Butane	43	203	55	93
Diesel oil	1,003	820	1,252	491
Residual oil	4,204	8,941	7,537	9,050
Carbon black oil	497	900	378	874
LPG	488	552	377	469
Cycle oil	114		98	
<u>Total Liquid Yields (Available for Sale)</u>	<u>32,780</u>	<u>36,211</u>	<u>32,621</u>	<u>34,659</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane	55	200	41	694
Fuel oil	90	200	197	381
Pitch			126	62
LPG			54	62
	<u>154</u>	<u>400</u>	<u>418</u>	<u>1,117</u>

Continued from Page 1

	Month of August		Eight Months Ended August 31, 1975	
	Actual	Budget	Actual	Budget
<u>Inventory Changes:</u>				
TCC feed	( 190)		98	166
Hydrocracker feed	( 703)	( 581)	647	194
Reduced crude	( 443)	---	11	( 47)
	<u>(1,336)</u>	<u>( 511)</u>	<u>756</u>	<u>303</u>
Total liquid yield	<u>31,608</u>	<u>\$36,032</u>	<u>31,865</u>	<u>\$36,099</u>
Total percent liquid yield	96.3%	97.0%	95.5%	95.4%
<u>Yield FOE:</u>				
Fuel gas	2,654	1,552	2,598	1,835
Coke	962	903	953	894
Total yield	<u>35,774</u>	<u>36,437</u>	<u>37,116</u>	<u>38,628</u>
Total yield percent	107.3%	103.6%	105.5%	102.6%
<u>Unit Charges:</u>				
Crude	29,749	31,155	32,050	34,011
Vacuum	16,482	19,000	16,321	17,591
Coke	6,759	6,608	6,564	6,607
TCC	11,147	12,000	11,153	11,326
Alkylation	1,571	1,729	1,473	1,397
Hydrocracker	11,787	11,750	10,263	11,024
Reformer "A"	4,334	4,194	3,791	4,135
Reformer "B"	8,047	8,500	7,095	8,257
Hydrocracker Service Factor Percent	90.7%	90.4%	78.0%	84.8%

TOSCOPEIRO CORPORATION

	<u>Month of September</u>		<u>Nine Months Ended 9/30/75</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	26,779	34,853	30,142	33,713
West Coast/San Joaquin gas oil	963	1,000	1,115	1,000
Other gas oil	615	200	75	200
Raw material charge	<u>28,357</u>	<u>36,053</u>	<u>31,332</u>	<u>34,913</u>
Diesel for hydrocracker	444		379	
Propane			10	
Isobutane			120	50
Natural gasoline	3,056	3,000	2,883	3,043
N-butane			36	8
Total plant charge	<u>31,857</u>	<u>39,053</u>	<u>34,760</u>	<u>38,014</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	9,777	8,962	8,954	8,968
Regular (94 octane)	10,500	7,847	9,459	7,853
Low lead	1,922	1,788	1,860	1,789
No lead	3,115	4,620	2,882	4,623
Total gasoline	<u>25,314</u>	<u>23,217</u>	<u>23,155</u>	<u>23,233</u>
Isobutane				397
Butane mix	554		302	
N-butane			49	83
Diesel oil	102	850	1,124	527
Residual oil	4,119	9,196	7,229	9,066
Carbon black oil	400	900	380	676
LPG	456	227	385	443
Cycle oil			87	
Total liquid yields (available for sale)	<u>30,945</u>	<u>34,360</u>	<u>32,711</u>	<u>34,625</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane		157	36	17
Fuel oil	46	960	180	723
Pitch	134	500	127	395
LPG		378	48	97
	<u>180</u>	<u>1,995</u>	<u>391</u>	<u>1,232</u>



Continued from Page 1...

	<u>Month of September</u>		<u>Nine Months Ended 9/30/75</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Inventory Changes:</u>				
Heavy hydrocrate		1,047		115
TCC feed	59		94	148
Hydrocracker feed	( 509)	( 287)	526	132
Reduced crude	276		( 16)	( 42)
	<u>( 174)</u>	<u>760</u>	<u>604</u>	<u>353</u>
<u>Total liquid yield</u>	<u>30,951</u>	<u>37,115</u>	<u>33,706</u>	<u>36,210</u>
<u>Total percent liquid yield</u>	<u>97.2</u>	<u>95.0</u>	<u>97.0</u>	<u>95.3</u>
<u>Yields FOE:</u>				
Fuel gas	2,612	1,923	2,596	1,845
Coke	929	902	948	895
<u>Total yield</u>	<u>34,492</u>	<u>39,940</u>	<u>37,250</u>	<u>38,950</u>
<u>Total yield percent</u>	<u>108.3</u>	<u>102.3</u>	<u>107.2</u>	<u>102.5</u>
<u>Unit Charges:</u>				
Crude	28,564	36,053	31,623	34,236
Vacuum	15,843	19,000	16,245	17,745
Coke	6,567	6,600	6,743	6,607
TCC	10,082	12,000	11,020	11,400
Alkylation	1,502	1,399	1,474	1,397
Hydrocracker	12,798	11,750	10,526	11,104
Reformer "A"	4,508	5,200	3,864	4,252
Reformer "B"	8,064	6,747	7,191	8,091
<u>Hydrocracker service factor percent</u>	<u>98.4</u>	<u>90.4</u>	<u>80.9</u>	<u>85.4</u>

TCSCOPETRO CORPORATION

	<u>Month of October</u>		<u>Ten Months Ended 10/31/75</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	25,415	34,813	32,117	33,719
West Coast/San Joaquin gas oil	667	1,000	1,072	1,000
Other gas oil	1,180	200	442	200
Raw material charge	<u>27,262</u>	<u>36,013</u>	<u>33,631</u>	<u>34,919</u>
Diesel for hydrocracker	84			349
Cycle oil	57			
Propane			9	
Isobutane			108	45
Natural gasoline	2,734	3,000	2,874	3,151
N-butane			32	8
Total plant charge	<u>30,137</u>	<u>39,013</u>	<u>36,654</u>	<u>38,472</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	7,684	9,326	8,736	8,985
Regular (94 octane)	9,475	8,167	9,373	7,867
Low lead	1,731	1,860	1,829	1,792
No lead	3,684	4,803	2,876	4,632
Total gasoline	<u>21,974</u>	<u>24,161</u>	<u>22,814</u>	<u>23,276</u>
Isobutane			294	
Butane mix	216		51	
N-butane	63			
Diesel oil		820	1,012	555
Residual oil	6,785	9,193	9,594	9,085
Carbon black oil	78	500	350	880
LPG	469	371	394	864
Cycle oil			78	
Total liquid yields (available for sale)	<u>29,585</u>	<u>35,445</u>	<u>34,587</u>	<u>34,660</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane			33	
Fuel oil	56	960	168	747
Pitch	136	500	128	405
LPG		476	43	150
	<u>192</u>	<u>1,936</u>	<u>372</u>	<u>1,302</u>



Continued from Page 1...

	Month of October		Ten Months Ended 10/31/75	
	Actual	Budget	Actual	Budget
<b>Inventory Changes:</b>				
Heavy hydrocrate		( 684)		( 684)
TCC feed	( 322)		51	
Hydrocracker feed	( 535)	( 274)	412	198
Reformer charge		690		69
Reduced crude	( 10)		( 16)	
	( 867)	( 268)	447	( 417)
<b>Total liquid yield</b>	<b>28,910</b>	<b>37,113</b>	<b>35,406</b>	<b>35,545</b>
<b>Total percent liquid yield</b>	<b>95.9</b>	<b>95.1</b>	<b>96.6</b>	<b>92.4</b>
<b>Yields FOB:</b>				
Fuel gas	2,472	1,877	2,588	1,849
Coke	766	903	934	896
<b>Total yield</b>	<b>32,148</b>	<b>39,893</b>	<b>39,228</b>	<b>38,290</b>
<b>Total yield percent</b>	<b>106.7</b>	<b>102.3</b>	<b>107.0</b>	<b>99.5</b>
<b>Unit Charges:</b>				
Crude	26,223	36,013	31,216	31,116
Vacuum	15,663	19,000	16,219	16,973
Coke	5,372	6,600	6,617	6,607
TCC	10,210	12,000	10,960	11,463
Alkylation	1,442	1,448	1,474	1,403
Hydrocracker	10,862	11,750	10,582	11,121
Reformer "A"	3,005	4,194	3,784	4,245
Reformer "B"	7,940	8,800	7,283	8,123
<b>Hydrocracker service factor percent</b>	<b>83.6</b>	<b>90.4</b>	<b>81.4</b>	<b>85.6</b>

TOSCO PETRO CORPORATION

	<u>Month of November</u>		<u>Eleven Months Ended 11/30/75</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<u>Charges and Blends:</u>				
Crude oil and purchased reduced crude	35,490	34,603	32,371	33,800
West Coast/San Joaquin gas oil	676	1,000	1,035	1,000
Other gas oil	1,294	200	518	200
Raw material charge	37,460	35,803	33,924	35,000
Diesel for hydrocracker	84		338	
Cycle oil	1,056		100	
Propane			8	
Isobutane			98	41
Natural gasoline	3,227	3,000	2,902	3,089
N-butane			29	7
<u>Total Plant Charges</u>	<u>41,827</u>	<u>38,803</u>	<u>37,399</u>	<u>38,137</u>
<u>Liquid Yields (Available for Sale):</u>				
Gasoline - Premium	9,454	9,726	8,796	9,052
Regular (94 octane)	11,809	8,517	9,580	7,926
Low lead	1,810	1,940	1,826	1,806
No lead	3,081	5,014	2,891	4,667
<u>Total gasoline</u>	<u>26,154</u>	<u>25,197</u>	<u>23,093</u>	<u>23,451</u>
Butane mix			267	
N-butane			46	
Diesel oil		820	920	579
Residual oil	12,741	9,196	9,866	9,095
Carbon black oil	428	900	356	881
LPG	570	337	410	816
Cycle oil	24		73	
<u>Total liquid yields (available for sale)</u>	<u>39,917</u>	<u>36,450</u>	<u>35,031</u>	<u>34,822</u>
<u>Liquid Yields for Internal Consumption:</u>				
Butane			30	
Fuel oil	56	960	160	766
Pitch	142	500	129	414
LPG		382	39	171
	<u>198</u>	<u>1,842</u>	<u>358</u>	<u>1,351</u>

Continued from Page 1...

	Month of November		Eleven Months Ended 11/30/75	
	Actual	Budget	Actual	Budget
<u>Inventory Changes:</u>				
TCC feed	42		50	30
Heavy hydrocracker		( 333)		155
Hydrocracker feed	232	( 273)	396	23
Reformer charge		( 667)		
Reduced crude	302		13	
	<u>576</u>	<u>( 1,273)</u>	<u>459</u>	<u>268</u>
<u>Total Liquid Yield</u>	<u>40,691</u>	<u>37,019</u>	<u>35,848</u>	<u>36,381</u>
Total percent liquid yield	97.3	95.4	95.6	95.4
<u>Yields FOE:</u>				
Fuel gas	2,388	1,883	2,567	1,851
Coke	677	902	906	898
<u>Total Yield</u>	<u>43,756</u>	<u>39,804</u>	<u>39,321</u>	<u>39,130</u>
Total yield percent	104.6	102.6	105.1	102.6
<u>Unit Charges:</u>				
Crude	33,592	35,803	31,322	34,543
Vacuum	16,688	19,000	16,243	17,976
Coke	4,848	6,600	6,451	6,605
TCC	11,082	12,000	10,958	11,510
Alkylation	1,412	1,444	1,466	1,406
Hydrocracker	12,391	11,750	10,732	11,227
Reformer "A"	4,159	5,200	3,832	4,331
Reformer "B"	7,477	8,800	7,292	8,222
Hydrocracker service factor percent	95.3	90.4	82.6	86.3

TOSCOPEIRO CORPORATION  
(R/D)

	<u>Month of December</u>		<u>Twelve Months Ended 12/31/75</u>	
	<u>Actual</u>	<u>Budget</u>	<u>Actual</u>	<u>Budget</u>
<b>Charges and Blends:</b>				
Crude oil and purchased reduced crude	35,266	34,606	32,673	34,516
West Coast/San Joaquin gas oil	588	2,000	998	1,019
Other gas oil	935	200	554	204
Raw material charge	<u>36,789</u>	<u>35,806</u>	<u>34,225</u>	<u>35,739</u>
Diesel for hydrocracker	989		394	
Cycle oil	5		92	
Propane			7	
Isobutane			90	
Natural gasoline	2,960	3,000	2,912	3,141
N-butane			27	
<b>Total Plant Charges</b>	<u>40,743</u>	<u>38,806</u>	<u>37,747</u>	<u>38,880</u>
<b>Liquid Yields (Available for Sale):</b>				
Gasoline - Premium	9,301	9,087	8,854	9,228
Regular (94 octane)	10,033	7,957	9,637	8,081
Low Lead	1,809	1,813	1,827	1,841
No Lead	3,778	4,685	2,971	4,758
<b>Total gasoline</b>	<u>24,921</u>	<u>23,542</u>	<u>23,289</u>	<u>23,908</u>
Butane mix			245	
N-butane			42	
Diesel oil		820	870	611
Residual oil	12,555	9,196	10,112	9,278
Carbon black oil	557	900	374	900
LPG	514	1,010	419	848
Cycle oil	2		67	
<b>Total liquid yields (available for sale)</b>	<u>38,549</u>	<u>35,468</u>	<u>35,418</u>	<u>35,545</u>
<b>Liquid Yields for Internal Consumption:</b>				
Butane	67		33	
Fuel oil	101	960	155	786
Pitch	79	500	125	421
LPG	37	475	3	196
	<u>284</u>	<u>1,935</u>	<u>316</u>	<u>1,403</u>

Continued from Page 1...

	Month of December		Twelve Months Ended 12/31/75	
	Actual	Budget	Actual	Budget
<b>Inventory Changes:</b>				
TCC feed	( 5)		46	110
Heavy hydrocrack	924	( 274)	441	28
Hydrocracker feed				3
Reformer charge	( 373)		( 20)	( 34)
Reduced crude	546	( 274)	467	107
<b>Total Liquid Yield</b>	<b>39,379</b>	<b>37,129</b>	<b>36,201</b>	<b>37,055</b>
<b>Total yield percent</b>	<b>96.0</b>	<b>95.7</b>	<b>95.1</b>	<b>95.3</b>
<b>Yields FOE:</b>				
Fuel gas	2,719	1,897	2,585	1,855
Coke	967	903	915	898
<b>Total Yield</b>	<b>41,065</b>	<b>39,929</b>	<b>39,701</b>	<b>39,808</b>
<b>Total yield percent</b>	<b>105.0</b>	<b>102.9</b>	<b>104.3</b>	<b>102.4</b>
<b>Unit Charges:</b>				
Crude	33,018	35,806	31,519	34,649
Vacuum	17,164	19,000	16,349	18,062
Coker	6,745	6,600	6,487	6,605
TCC	10,866	12,000	10,969	11,531
Alkylation	1,494	1,444	1,471	1,409
Hydrocracker	11,800	11,750	10,842	11,267
Reformer "A"	4,041	4,234	3,856	4,323
Reformer "B"	8,484	8,800	7,405	8,270
<b>Hydrocracker service factor percent</b>	<b>90.8</b>	<b>90.4</b>	<b>83.4</b>	<b>86.7</b>

YOSCO CORPORATION BAKERSFIELD REFINERY 24 HRS.

COKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT
	ACTUAL BPCU	PER CENT	
PITCH	6756.	95.6	
SLOP	310.	4.4	
TOTAL CHG	7066.	100.0	
YIELD			
GAS FDE	869.	17.3	9.2
CONDENSATE	909.	12.9	17.1
COKER NAPH	1446.	20.5	20.3
LT GAS OIL	134.	1.9	2.4
HVY GAS OIL	2892.	40.9	40.5
SLOP	20.	0.3	0.3
COKE NET	966.	13.7	13.1
COKE BURNED	361.		
TOTAL YLD	7236.	102.4	103.0
DIFFERENCE	170.	2.4	
WT PCT PROD/CHG		99.9	
DAYS ON STREAM		84.	
GAS (MCF)		5974.	
COKER NAPH RETURN			
NAPH CHARGE	1469.	100.0	
LT NAPH YLD	632.	43.0	47.2
NAPH RTS YLD	837.	57.0	52.8
TOTAL YLD	1469.	100.0	100.0
WT PCT PROD/CHG		100.0	
COMPOSITION OF GAS AND CONDENSATE			
GAS (FDE)	797.	11.3	7.8
PROPANE	187.	2.6	2.9
PROPYLENE	265.	3.8	4.8
I-BUTANE	14.	0.2	0.3
N-BUTANE	46.	0.7	0.5
BUTYLENES	201.	2.8	3.6
LTCC CUT	305.	4.3	8.7

		M O N T H T O D A T E			
-----		A C T U A L		-----	
AVG BPCD	BARRELS	PER CENT	PER CENT	EXPECTED PER CENT	
6770.	209871.	95.9			
287.	8883.	4.1			
7057.	218754.	100.0			
893.	27693.	12.7		9.2	
896.	27790.	12.7		17.2	
1466.	45452.	20.0		20.4	
84.	2655.	1.2		2.4	
2973.	92171.	42.1		40.3	
20.	620.	0.3		0.3	
959.	29735.	13.6		13.2	
370.	11483.				
7294.	226106.	103.4		103.1	
237.	7352.	3.4			
		99.0			
<i>14803</i> <i>18019</i> <hr/> <i>22840</i>	6041.	187264.			
1423.	44098.	100.0			
568.	17621.	40.0		47.2	
854.	26477.	60.0		52.8	
1423.	44098.	100.0		100.0	
		100.0			
806.	24991.	11.4		7.8	
189.	5863.	2.7		2.9	
268.	8308.	3.8		4.8	
15.	450.	0.2		0.3	
47.	1449.	0.7		0.5	
203.	6288.	2.9		3.6	
308.	9560.	4.4		8.7	

COKER

TOSCOPETRO CORPORATION BAKERSFIELD REFINERY 24 HRS.

COOKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT
	-----ACTUAL----- BPCD	PER CENT	
PITCH	6767.	95.6	
SLOP	310.	4.4	
TOTAL CHG	7076.	100.0	
YIELD			
GAS FOF	901.	12.7	9.2
CONDENSATE	889.	12.6	17.1
COKER NAPH	1459.	20.6	20.3
LT GAS OIL	107.	1.5	2.4
HVY GAS OIL	2917.	41.2	40.5
SLOP	20.	0.3	0.3
COKE NET	960.	13.6	13.2
COKE BURNED	369.		
TOTAL YLD	7252.	102.5	103.0
DIFFERENCE	176.	2.5	
WT PCT PROD/CHG		98.5	
DAYS ON STREAM	113.		
GAS(MCF)	6057.		
COKER NAPH PERUN			
NAPH CHARGE	1393.	100.0	
LT NAPH YLD	562.	40.3	47.2
NAPH DIS YLD	871.	59.7	52.0
TOTAL YLD	1393.	100.0	100.0
WT PCT PROD/CHG		100.0	
COMPOSITION OF GAS AND CONDENSATE			
GAS (FOE)	808.	11.4	7.0
PROPANE	170.	2.7	7.9
PROPYLENE	269.	3.8	4.0
I-BUTANE	15.	0.2	0.3
N-BUTANE	47.	0.7	0.5
BUTYLENES	203.	2.9	3.6
LTCC CUT	309.	4.4	8.7



BEGINNING 8 AM FEB. 29, 1976

UNIT YIELD REPORT

SECT 5.04

-----	M O N T H T O D A T E		E X P E C T E D
	A C T U A L	PER CENT	
AVG BUCD	BARRELS		COKER
6778.	196570.	96.8	
224.	6484.	3.2	
7002.	203054.	100.0	
885.	25656.	12.6	9.2
918.	26635.	13.1	17.3
1435.	41627.	20.5	20.6
92.	2677.	1.3	2.5
2889.	83795.	41.3	39.7
20.	580.	0.3	0.3
964.	27956.	13.8	13.3
367.	10649.		
7204.	203924.	102.9	103.1
202.	5870.	2.9	
		93.0	
6065.	175895.		
1458.	42273.	100.0	
567.	16335.	30.6	47.2
894.	25938.	61.4	52.8
1458.	42273.	100.0	100.0
		100.0	
809.	23464.	11.6	7.9
190.	5507.	2.7	3.0
269.	7874.	3.8	4.9
15.	473.	0.2	0.3
47.	1361.	0.7	0.5
204.	5907.	2.9	3.6
310.	8980.	4.4	8.8

COKING UNIT CHARGE	T O D A Y		M O N T H T O D A Y E				
	ACTUAL BPCD	PER CENT	EXPECTED PER CENT	AVG BPCD	ACTUAL BARRELS	PER CENT	EXPECTED PER CENT
PITCH	6291.	93.5		6746.	209120.	94.7	
SLOP	438.	6.5		375.	11616.	5.3	
TOTAL CHG	6729.	100.0		7121.	220736.	100.0	
YIELD							
GAS FOE	805.	12.0	9.0	890.	27605.	12.5	9.1
CONDENSATE	816.	12.1	16.7	802.	27392.	12.4	17.0
COKE NAPH	1513.	22.5	19.9	1506.	46697.	21.7	20.1
LT GAS OIL	109.	1.6	2.4	103.	3178.	1.4	2.4
HVY GAS OIL	2566.	38.1	41.8	2806.	87000.	39.4	41.0
SLOP	20.	0.3	0.3	20.	620.	0.3	0.3
COKE NFT	883.	13.1	12.9	957.	29680.	13.4	13.0
COKE BURNED	352.			367.	11390.		
TOTAL YLD	6712.	99.8	103.0	7166.	222133.	100.6	103.0
DIFFERENCE	-17.	-0.2		48.	1397.	0.6	
WT PCT PROD/CHG		94.8				96.4	
DAYS ON STREAM	144.						
GAS (MCF)	5469.			5996.	185075.		
COKE NAPH RERUN							
NAPH CHARGE	1581.	100.0		1507.	46708.	100.0	
LT NAPH YLD	563.	35.6	47.2	563.	17441.	37.3	47.2
NAPH BTS YLD	1018.	64.4	52.8	944.	29267.	62.7	52.8
TOTAL YLD	1581.	100.0	100.0	1507.	46708.	100.0	100.0
WT PCT PROD/CHG		100.0				100.0	
COMPOSITION OF GAS AND CONDENSATE							
GAS (FOE)	730.	10.8	7.6	800.	24795.	11.2	7.7
PROPANE	171.	2.5	2.9	188.	5819.	2.6	2.9
PROPYLENE	243.	3.6	4.7	266.	8246.	3.7	4.8
I-BUTANE	13.	0.2	0.3	14.	447.	0.2	0.3
N-BUTANE	42.	0.6	0.5	46.	1438.	0.7	0.5
BUTYLENES	184.	2.7	3.5	201.	6242.	2.8	3.6
LTCC CUT	279.	4.1	8.5	306.	9489.	4.3	8.6

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11,390  
18,400  
29,790

## LION OIL COMPANY BAKERSFIELD REFINERY

24 HRS. BEGINNING

COKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT
	-----ACTUAL----- BPCD	PER CENT	
PITCH	6747.	93.2	
SLOP	490.	6.8	
TOTAL CHG	7237.	100.0	
YIELD			
GAS FOR	902.	12.5	9.0
CONDENSATE	904.	12.5	16.7
COKER NAPH	1427.	19.7	19.8
LT GAS OIL	125.	1.7	2.4
HVY GAS OIL	2797.	38.7	42.0
SLOP	20.	0.3	0.3
COKE NET	960.	13.3	12.9
COKE BURNED	365.		
TOTAL YLD	7136.	98.6	103.0
DIFFERENCE	-101.	-1.4	
WT PCT PROD/CHG		94.7	
DAYS ON STREAM	174.		
GAS(MCF)	6104.		
COKER NAPH REFIN			
NAPH CHARGE	1565.	100.0	
LT NAPH YLD	574.	36.7	47.2
NAPH RTS YLD	991.	63.3	52.8
TOTAL YLD	1565.	100.0	100.0
WT PCT PROD/CHG		100.0	
COMPOSITION OF GAS AND CONDENSATE			
GAS(FOR)	814.	11.3	7.6
PROPANE	191.	2.6	2.0
PROPYLENE	271.	3.7	4.7
I-BUTANE	15.	0.2	0.3
N-BUTANE	47.	0.7	0.5
BUTYLENES	205.	2.8	3.5
LTCC CUT	312.	4.3	8.4

8 AM APR. 30, 1976

UNIT YIELD REPORT

SECT 5.04

AVG BPCD	M O N T H T O D A T E		EXPECTED PER CENT
	A C T U A L	PER CENT	
			COKER
6756.	202685.	93.0	
511.	15341.	7.0	
7268.	218026.	100.0	
909.	26677.	12.2	9.0
982.	26446.	12.1	16.6
1540.	46213.	21.2	19.8
115.	3462.	1.6	2.4
2915.	84463.	38.7	42.1
20.	600.	0.3	0.3
960.	38796.	13.2	12.8
367.	11020.		
7222.	216646.	99.4	103.0
-46.	-1380.	-0.6	
		95.3	
5988.	179633.		
1557.	46578.	100.0	
512.	15363.	33.0	47.2
1041.	31215.	67.0	52.8
1553.	46578.	100.0	100.0
		100.0	
799.	23963.	11.0	7.6
187.	5624.	2.6	2.8
266.	7970.	3.7	4.7
14.	432.	0.2	0.3
46.	1390.	0.6	0.5
201.	6032.	2.8	3.5
306.	9171.	4.2	8.4

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## LION OIL COMPANY BAKERSFIELD REFINERY

24 HRS. BEGINNING

COCKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT
	-----ACTUAL----- BPCD	PER CENT	
PITCH	6998.	92.0	
SLCP	607.	8.0	
TOTAL CHG	7605.	100.0	
YIELD			
GAS FCC	1033.	13.6	8.9
CONDENSATE	1002.	13.2	16.5
COCKER NAPH	1780.	23.5	19.6
LT GAS CIL	92.	1.2	2.4
HVY GAS CIL	2887.	38.0	42.7
SLOP	20.	0.3	0.3
COKE NET	1007.	13.2	12.7
COKE BURNED	367.		
TOTAL YLD	7878.	102.9	102.9
DIFFERENCE	223.	2.9	
WT PCT FCCD/CHG		96.9	
DAYS ON STREAM	205.		
GAS (MCF)	6893.		
COCKER NAPH RERUN			
NAPH CHARGE	1766.	100.0	
LT NAPH YLD	553.	31.3	47.2
NAPH RTS YLD	1213.	68.7	52.8
TOTAL YLD	1766.	100.0	100.0
WT PCT FCCD/CHG		100.0	
COMPOSITION OF GAS AND CONDENSATE			
GAS (FCC)	919.	12.1	7.5
PRCPANE	216.	2.8	2.8
PRCPYLENE	306.	4.0	4.7
I-BUTANE	17.	0.2	0.3
N-BUTANE	53.	0.7	0.5
BUTYLENES	232.	3.1	3.5
LTCC CUT	352.	4.6	8.3

8 AM MAY 31, 1976

UNIT YIELD REPORT

SECT 5.04

AVG BPCD	MONTHLY DATE		EXPECTED PER CENT
	ACTUAL	PER CENT	
			COCKER
6959.	215737.	94.4	
412.	12769.	5.6	
7371.	228507.	100.0	
941.	29159.	12.8	5.1
879.	27239.	11.9	16.9
1559.	48331.	21.2	20.1
121.	3749.	1.6	2.4
3019.	93581.	41.0	41.2
20.	620.	0.3	0.3
997.	30893.	13.5	13.0
370.	11477.		
7535.	233573.	102.2	103.0
163.	5066.	2.2	
		97.2	
6288.	194940.		
1540.	47747.	100.0	
499.	15458.	32.4	47.2
1042.	32289.	67.6	52.8
1540.	47747.	100.0	100.0
		100.0	
850.	26348.	11.5	7.7
186.	5758.	2.5	2.9
263.	8159.	3.6	4.8
14.	442.	0.2	0.3
53.	1628.	0.7	0.5
200.	6186.	2.7	3.5
303.	9389.	4.1	8.5

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→ 11,477  
 12,663  
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 24,140

page # 17

Amended

LION OIL COMPANY BAKERSFIELD REFINERY

24 HRS. BEGINNING 8 AM JUNE 30, 1976

UNIT YIELD REPORT

SECT 5.04

COKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT	M O N T H T O D A T E			EXPECTED PER CENT	COKER
	-----ACTUAL----- BPCD	PER CENT		-----ACTUAL----- AVG BPCD	BARRELS	PER CENT		
PITCH	7064.	97.0		7067.	211999.	95.2		
SLOP	222.	3.0		357.	10700.	4.8		
TOTAL CHG	7285.	100.0		7423.	222699.	100.0		
YIELD								
GAS F0E	467.	13.3	9.3	985.	29562.	13.3	9.2	
CONDENSATE	961.	13.2	17.3	971.	29142.	13.1	17.0	
COKER NAPH	1605.	22.0	20.6	1607.	48218.	21.7	20.2	
LT GAS OIL	117.	1.6	2.5	125.	3760.	1.7	2.4	
HVY GAS OIL	2969.	40.8	39.7	3020.	90590.	40.7	40.8	
SLOP	20.	0.3	0.3	20.	600.	0.3	0.3	
COKE NET	1024.	14.1	13.3	1023.	30680.	13.8	13.1	
COKE BURNED	363.			345.	10955.			
TOTAL YLD	7664.	105.2	103.1	7752.	232552.	104.4	103.0	
DIFFERENCE	378.	5.2		328.	9853.	4.4		
WT PCT PROD/CHG		100.5				99.7		
DAYS ON STREAM	235.							
GAS (MCF)	6515.			6619.	198556.			
COKER NAPH KERUN								
NAPH CHARGE	1769.	100.0		1627.	48811.	100.0		
LT NAPH YLD	391.	22.1	47.2	491.	14727.	30.2	47.2	
NAPH RTS YLD	1378.	77.9	52.8	1136.	34004.	69.8	52.8	
TOTAL YLD	1769.	100.0	100.0	1627.	48811.	100.0	100.0	
WT PCT PROD/CHG		100.0				100.0		
COMPOSITION OF GAS AND CONDENSATE								
GAS (F0E)	869.	11.9	7.9	893.	26487.	11.0	7.8	
PROPANE	204.	2.3	3.0	207.	6216.	2.8	2.9	
PROPYLENE	289.	4.0	4.9	294.	8909.	4.0	4.8	
I-BUTANE	16.	0.2	0.3	16.	477.	0.2	0.3	
N-BUTANE	50.	0.7	0.5	51.	1537.	0.7	0.5	
BUTYLENES	220.	3.0	3.6	223.	6694.	3.0	3.6	
LTCC CUT	333.	4.6	8.8	338.	10137.	4.6	8.6	

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→ 10,955  
 12,156 SEE PAGE 19  
 TOTAL BURN 23111

## LION OIL COMPANY BAKERSFIELD REFINERY

24 HRS. BEGINNING

COKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT
	-----ACTUAL----- BPCD	PER CENT	
PITCH	7017.	92.2	
SLOP	590.	7.8	
TOTAL CHG	7608.	100.0	

## YIELD

GAS FOE	813.	10.7	8.9
CONDENSATE	1187.	15.6	16.5
COKER NAPH	1556.	20.5	19.6
LT GAS OIL	111.	1.5	2.4
HVY GAS OIL	3072.	40.4	42.6
SLOP	20.	0.3	0.3
COKE NET	1006.	13.2	12.7
COKE BURNED	373.		
TOTAL YLD	7765.	102.1	102.9
DIFFERENCE	157.	2.1	

## WT PCT PROD/CHG

DAYS ON STREAM	265.	98.1	
GAS(MCF)	5857.		

## COKER NAPH RERUN

NAPH CHARGE	1573.	100.0	
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LT NAPH YLD	634.	40.3	47.2
NAPH BTS YLD	939.	59.7	52.8
TOTAL YLD	1573.	100.0	100.0

## WT PCT PROD/CHG

100.0

## COMPOSITION OF GAS AND CONDENSATE

GAS(FOE)	719.	9.5	7.5
PROPANE	179.	2.4	2.8
PROPYLENE	249.	3.3	4.7
I-BUTANE	19.	0.2	0.3
N-BUTANE	50.	0.7	0.5
BUTYLENES	210.	2.8	3.5
LTCC CUT	625.	8.2	8.4



8 AM JULY 31, 1976

UNIT YIELD REPORT

SECT 5.04

A ----- AVG BPCD	M O N T H T O D A T E		E ----- PER CENT	EXPECTED PER CENT
	A ----- C T U A L BARRELS	L ----- PER CENT		
				COKER
7046.	218441.	94.8		
386.	11981.	5.2		
7433.	230422.	100.0		
924.	28641.	12.4		9.1
1027.	31852.	13.8		17.0
1592.	49343.	21.4		20.1
97.	3015.	1.3		2.4
3011.	93353.	40.5		41.0
20.	620.	0.3		0.3
1018.	31547.	13.7		13.0
366.	11354.			
7689.	238370.	103.4		103.0
256.	7948.	3.4		
		98.9		
6294.	195103.			
1590.	49301.	100.0		
505.	15656.	31.8		47.2
1085.	33644.	68.2		52.8
1590.	49301.	100.0		100.0
		100.0		
812.	25159.	10.9		7.7
202.	6272.	2.7		2.9
275.	8528.	3.7		4.8
17.	542.	0.2		0.3
51.	1581.	0.7		0.5
220.	6825.	3.0		3.6
434.	13444.	5.8		8.6

## LION OIL COMPANY BAKERSFIELD REFINERY

24 HRS. BEGINNING 8 AM AUG. 31, 1976

## UNIT YIELD REPORT

SECT 5.04

COKING UNIT	T O D A Y		EXPECTED PER CENT	M O N T H T O D A T E			EXPECTED PER CENT
	ACTUAL BPCD	PER CENT		ACTUAL BARRELS	PER CENT	PER CENT	
CHARGE				AVG BPCD			
PITCH	6664.	91.8		6967.	215967.	94.0	
SLOP	596.	8.2		441.	13685.	6.0	
TOTAL CHG.	7261.	100.0		7408.	229652.	100.0	
YIELD							
GAS FOE	1271.	17.5	8.8	847.	26269.	11.4	9.1
CONDENSATE	140.	1.9	16.4	1107.	34314.	14.9	16.8
COKER NAPH	1591.	21.9	19.5	1584.	49099.	21.4	20.0
LT GAS OIL	113.	1.6	2.3	108.	3345.	1.5	2.4
HVY GAS OIL	2780.	38.3	42.9	3002.	93055.	40.5	41.5
SLOP	20.	0.3	0.3	20.	620.	0.3	0.3
COKE NET	933.	12.8	12.6	999.	30958.	13.5	12.9
COKE BURNED	376.			370.	11457.		
TOTAL YLD	6848.	94.3	102.9	7666.	237660.	103.5	103.0
DIFFERENCE	-413.	-5.7		258.	8008.	3.5	
WT PCT PROD/CHG		92.7				99.0	
DAYS ON STREAM	297.						
GAS(MCF)	7711.			5971.	185094.		
COKER NAPH RERUN							
NAPH CHARGE	1567.	100.0		1579.	48934.	100.0	
LT NAPH YLD							
NAPH DIS YLD	0.	0.0	47.2	410.	12709.	26.0	47.2
TOTAL YLD	1567.	100.0	52.8	1169.	36225.	74.0	52.8
	1567.	100.0	100.0	1579.	48934.	100.0	100.0
WT PCT PROD/CHG		100.0				100.0	
COMPOSITION OF GAS AND CONDENSATE							
GAS(FDE)	1269.	17.5	7.5	755.	23395.	10.2	7.7
PROPANE	0.	0.0	2.8	167.	5177.	2.3	2.9
PROPYLENE	0.	0.0	4.6	232.	7183.	3.1	4.8
I-BUTANE	0.	0.0	0.3	17.	541.	0.2	0.3
N-BUTANE	143.	2.0	0.5	56.	1738.	0.8	0.5
BUTYLENES	0.	0.0	3.4	196.	6062.	2.6	3.5
LTCC CUT	0.	0.0	8.3	582.	18035.	7.9	8.5

## LION OIL COMPANY BAKERSFIELD REFINERY

24 HRS.

COOKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT
	BPCC	PER CNT	
PITCH	7100.	100.0	
SLOP	0.	0.0	
TOTAL CHG	7100.	100.0	
YIELD			
GAS FDE	1413.	20.0	9.6
CONDENSATE	70.	1.0	17.9
COKER NAPH	2463.	34.7	21.2
LT GAS OIL	53.	0.7	2.5
HVY GAS OIL	1311.	25.5	37.8
SLOP	20.	0.2	0.3
COKE NET	1020.	14.4	13.7
COKE BURNED	374.		
TOTAL YLD	6855.	96.5	103.2
DIFFERENCE	-245.	-3.5	
WT PCT PROD/CHG		92.1	
DAYS ON STREAM	327.		
GAS(MCF)	8511.		
COKER NAPH REHUN			
NAPH CHARGE	2608.	100.0	
YIELD			
LT NAPH YLD	549.	21.1	47.2
NAPH BTS YLD	2058.	79.9	52.8
TOTAL YLD	2608.	100.0	100.0
WT PCT PROD/CHG		100.0	
COMPOSITION OF GAS AND CONDENSATE			
GAS(FDE)	1420.	20.0	8.1
PROPANE	0.	0.0	3.0
PROPYLENE	0.	0.0	5.0
I-BUTANE	0.	0.0	0.3
N-BUTANE	66.	0.9	0.5
BUTYLENES	0.	0.0	3.7
LTCC CUT	0.	0.0	9.0

BEGINNING 8 AM SEPT 30, 1976

UNIT YIELD REPORT

SECT 5.04

M O N T H T O D A T E		C T U A L		EXPECTED
AVG BPCD	BARRELS	PER CENT	PER CENT	COKER
6954.	208609.	95.6		
321.	9616.	4.4		
7274.	218226.	100.0		
1065.	31940.	14.6	9.2	
555.	16651.	7.6	17.1	
1553.	46591.	21.3	20.3	
78.	2351.	1.1	2.4	
3086.	92403.	42.3	40.5	
20.	660.	0.3	0.3	
990.	29599.	13.6	13.1	
376.	11271.			
7341.	220235.	100.9	103.0	
67.	2010.	0.9		
		98.9		
6359.	190777.			
1443.	43289.	100.0		
390.	11705.	27.0	47.2	
1053.	31584.	73.0	52.8	
1443.	43289.	100.0	100.0	
		100.0		
825.	24754.	11.3	7.8	
164.	4910.	2.2	2.9	
227.	6812.	3.1	4.8	
17.	513.	0.2	0.3	
55.	1659.	0.8	0.5	
190.	5706.	2.6	3.6	
570.	17103.	7.8	8.7	

COKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT
	BFGD	PER CENT	
PITCH	7093.	96.6	
SLOP	251.	3.4	
TOTAL CHG	7344.	100.0	

YIELD			
GAS FOE	867.	11.8	9.3
CONDENSATE	1283.	17.5	17.3
COKER NAPH	1639.	22.3	20.5
LT GAS OIL	77.	1.0	2.5
HVY GAS OIL	2650.	36.1	39.9
SLOP	20.	0.3	0.3
COKE NET	1027.	14.0	13.3
COKE BURNED	366.		
TOTAL YLD	7563.	103.0	103.1
DIFFERENCE	219.	3.0	

WT PCT PRGD/CHG		97.1	
DAYS ON STREAM	358.		
GAS(MCF)	6289.		

COKER NAPH RERUN			
NAPH CHARGE	1733.	100.0	

LT NAPH YLD	0.	0.0	47.2
NAPH RTS YLD	1733.	100.0	52.8
TOTAL YLD	1733.	100.0	100.0

WT PCT PROD/CHG		100.0	
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COMPOSITION OF GAS AND CONDENSATE			
GAS(FOE)	772.	10.5	7.9
PROPANE	193.	2.6	2.9
PROPYLENE	267.	3.6	4.9
I-BUTANE	20.	0.3	0.3
N-BUTANE	54.	0.7	0.5
BUTYLENES	224.	3.0	3.6
LTCC CUT	671.	9.1	8.7

M O N T H T O D A T E		E X P E C T E D	
A V G B P C D	A C T U A L	B A R R E L S	P E R C E N T
7076.	219344.	95.1	
361.	11184.	4.9	
7436.	230526.	100.0	
C O K E R			
877.	27198.	11.8	9.2
1268.	39319.	17.1	17.0
1611.	49932.	21.7	20.2
97.	2997.	1.3	2.4
2768.	85795.	37.2	40.8
20.	620.	0.3	0.3
1017.	31523.	13.7	13.1
373.	11556.		
7658.	237385.	103.0	103.0
221.	6857.	3.0	
98.0			
6293.	195081.		
1719.	53295.	100.0	
228.	7074.	13.3	47.2
1491.	46221.	86.7	52.8
1719.	53295.	100.0	100.0
100.0			
772.	23946.	10.4	7.8
193.	5977.	2.6	2.9
268.	8294.	3.6	4.8
20.	625.	0.3	0.3
54.	1661.	0.7	0.5
224.	6947.	3.0	3.6
672.	20824.	9.0	8.6

## LION OIL COMPANY BAKERSFIELD REFINERY

24 HRS. BEGINNING 8 A

COKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT
	-----ACTUAL----- BPCD	PER CENT	
PITCH	7091.	96.1	
RFUCE CRUDE	0.	0.0	
SLOP	289.	3.9	
TOTAL CHG	7380.	100.0	
YIELD			
GAS FDE	1127.	15.3	9.3
CONDENSATE	114.	1.5	17.2
COKE R NAPH	1590.	21.5	20.4
LT GAS OIL	85.	1.2	2.5
HVY GAS OIL	2864.	38.8	40.2
SLOP	20.	0.3	0.3
COKE NET	1008.	13.7	13.2
COKE BURNED	385.		
TOTAL YLD	6809.	92.3	103.1
DIFFERENCE	-571.	-7.7	
WT PCT PROD/CHG			
DAYS ON STREAM	388.	90.6	
GAS(MCF)	6797.		
COKFR NAPH RERUN			
NAPH CHARGE	1492.	100.0	
LT NAPH YLD	351.	23.5	47.2
NAPH RTS YLD	1141.	76.5	52.8
TOTAL YLD	1492.	100.0	100.0
WT PCT PROD/CHG			
100.0			
COMPOSITION OF GAS AND CONDENSATE			
GAS(FDE)	1118.	15.2	7.8
PROPANE	0.	0.0	2.9
PROPYLENE	0.	0.0	4.9
I-BUTANE	0.	0.0	0.3
N-BUTANE	126.	1.7	0.5
BUTYLENES	0.	0.0	3.6
LTCC CUT	0.	0.0	8.7

NOV. 30, 1976

UNIT YIELD REPORT

SECT 5.04

AVG BPCD	M O N T H T O D A T E		EXPECTED PER CENT
	A C T U A L B A R R E L S	P E R C E N T	
4340.	130208.	63.0	
2162.	64871.	31.4	
385.	11557.	5.6	
6888.	206636.	100.0	
769.	23082.	11.2	7.7
1112.	33554.	16.2	14.4
1517.	45498.	22.0	17.1
107.	3220.	1.6	2.1
2862.	85873.	41.6	35.8
20.	600.	0.3	0.3
695.	20848.	10.1	11.0
369.	11082.		
7089.	212674.	102.9	88.4
201.	6038.	2.9	
		98.2	
5623.	168690.		
1447.	43401.	100.0	
248.	7445.	17.2	47.2
1199.	35956.	22.8	52.8
1447.	43401.	100.0	100.0
		100.0	
701.	21039.	10.2	6.5
165.	4961.	2.4	2.5
230.	6899.	3.3	4.1
17.	519.	0.3	0.3
50.	1504.	0.7	0.5
192.	5771.	2.8	3.0
567.	17000.	8.2	7.3



COKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT
	-----ACTUAL----- BPCD	PER CENT	
PITCH	7121.	51.9	
SLOP	627.	8.1	
TOTAL CHG	7749.	100.0	

## YIELD

GAS FOE	963.	12.4	8.9
CONDENSATE	991.	12.8	16.4
COKER NAPH	1664.	21.5	19.5
LT GAS OIL	145.	1.9	2.3
HVY GAS OIL	3080.	39.8	42.8
SLOP	20.	0.3	0.3
COKE NET	1024.	13.2	12.6
COKE BURNED	375.		
TOTAL YLD	7888.	101.8	102.9
DIFFERENCE	140.	1.8	

WT PCT PROD/CHG		98.7	
DAYS ON STREAM	419.		
GAS(MCF)	6440.		

COKER NAPH RERUN NAPH CHARGE	1630.	100.0	
---------------------------------	-------	-------	--

LT NAPH YLD	540.	33.1	47.2
NAPH RTS YLD	1090.	66.9	52.8
TOTAL YLD	1630.	100.0	100.0

WT PCT PROD/CHG		100.0	
-----------------	--	-------	--

## COMPOSITION OF GAS AND CONDENSATE

GAS(FGE)	350.	11.0	7.5
PROPANE	154.	2.4	2.3
PROPYLENE	302.	3.9	4.6
I-BUTANE	21.	0.3	0.3
N-BUTANE	55.	0.7	0.5
BUTYLENES	226.	2.9	3.5
LTCC CUT	379.	4.9	8.3

-----A	M O N T H T O D A T E		E X P E C T E D
	C T U A	L-----	
AVG PPCD	BARRELS	PER CENT	PER CENT
			COXER
7095.	220093.	92.9	
545.	16897.	7.1	
7544.	236979.	100.0	
1070.	33167.	14.0	8.9
714.	22132.	9.3	16.6
1581.	49012.	20.7	19.7
125.	3876.	1.6	2.4
3035.	94075.	39.7	42.2
20.	620.	0.3	0.3
1019.	31597.	13.3	12.8
375.	11636.		
7564.	234470.	98.9	103.0
-81.	-2510.	-1.1	
		96.2	
645d.	200209.		
1612.	49963.	100.0	
492.	15249.	30.5	47.2
1120.	34713.	69.5	52.8
1612.	49963.	100.0	100.0
		100.0	
855.	27430.	11.6	7.6
153.	4908.	2.1	2.8
242.	7504.	3.2	4.7
17.	526.	0.2	0.3
67.	2066.	0.9	0.5
191.	5916.	2.5	3.5
323.	10013.	4.2	6.4

## LION OIL COMPANY BAKERSFIELD REFINERY

24 HRS.

T O D A Y

COKING UNIT CHARGE	-----ACTUAL-----		EXPECTED PER CENT
	BPCD	PER CENT	
PITCH	7114.	97.2	
SLOP	204.	2.8	
TOTAL CHG	7318.	100.0	

YIELD			
GAS FOE	907.	12.4	9.4
CONDENSATE	983.	13.4	17.4
COKER NAPH	1587.	21.6	20.7
LT GAS OIL	136.	1.9	2.5
HVY GAS OIL	2863.	39.1	39.5
SLOP	20.	0.3	0.3
COKE NET	1030.	14.1	13.4
COKE BURNED	367.		
TOTAL YLD	7522.	102.8	103.1
DIFFERENCE	204.	2.8	

WT PCT PROD/CHG		97.4	
DAYS ON STREAM	450.		
GAS(MCF)	6190.		

COKER NAPH RERUN NAPH CHARGE	1643.	100.0	
------------------------------	-------	-------	--

LT NAPH YLD	574.	34.9	47.2
NAPH RTS YLD	1069.	65.1	52.8
TOTAL YLD	1643.	100.0	100.0

WT PCT PROD/CHG		100.0	
-----------------	--	-------	--

## COMPOSITION OF GAS AND CONDENSATE

GAS (FOE)	817.	11.2	7.9
PROPANE	177.	2.4	3.0
PROPYLENE	290.	4.0	4.9
I-BUTANE	20.	0.3	0.3
N-BUTANE	53.	0.7	0.5
BUTYLENES	218.	3.0	3.6
LTCC CUT	364.	5.0	8.8

BEGINNING 8 AM JAN. 31, 1977

UNIT YIELD REPORT

SECT 5.04

M O N T H T O D A T E			
-----A C T U A L-----			
AVG BPCD	BARRELS	PER CENT	EXPECTED PER CENT
7090.	219783.	97.9	
152.	4717.	2.1	
7242.	224499.	100.0	

COKER

941.	29173.	13.0	9.4
954.	29560.	13.2	17.5
1497.	46419.	20.7	20.8
140.	4353.	1.9	2.5
2920.	90532.	40.3	39.1
20.	620.	0.3	0.3
1020.	31610.	14.1	13.5
373.	11555.		
7492.	232267.	103.5	103.1
251.	7768.	3.5	

98.8

6251. 193773.

1533. 47509. 100.0

547.	16968.	35.7	47.2
985.	30541.	64.3	52.8
1533.	47509.	100.0	100.0

100.0

825.	25563.	11.4	8.0
179.	5550.	2.5	3.0
293.	9074.	4.0	4.9
20.	621.	0.3	0.3
53.	1650.	0.7	0.5
220.	6813.	3.0	3.7
367.	11390.	5.1	8.9

## LION OIL COMPANY BAKERSFIELD REFINERY

24 HRS.

COKING UNIT CHARGE	T O D A Y		EXPECTED PER CENT.
	-----ACTUAL----- RPOD	PER CENT	
PITCH	6873.	99.9	
SLOP	13.	0.2	
TOTAL CHG	6886.	100.0	
YIELD			
GAS FOF	844.	17.3	0.6
CONDENSATE	946.	13.7	17.9
COKE NAPH	1525.	22.1	21.2
LT GAS OIL	125.	1.8	2.5
HVY GAS OIL	2571.	37.3	37.9
SLOP	20.	0.3	0.3
COKE NET	970.	14.1	13.7
COKE RETURNED	380.		
TOTAL YLD	7000.	101.7	103.2
DIFFERENCE	114.	1.7	
WT PCT PROD/CHG		97.6	
DAYS ON STREAM	478.		
GAS (MCF)	5844.		
COKE NAPH RETURN			
NAPH CHARGE	1645.	100.0	
LT NAPH YLD			
NAPH RTS YLD	0.	0.0	47.2
TOTAL YLD	1645.	100.0	52.8
			100.0
WT PCT PROD/CHG		100.0	
COMPOSITION OF GAS AND CONDENSATE			
GAS (FOF)	771.	11.2	8.1
PROPANE	167.	2.4	3.0
PROPYLENE	274.	4.0	5.0
I-BUTANE	19.	0.3	0.3
N-BUTANE	50.	0.7	0.5
BUTYLENES	205.	3.0	3.7
LTCC CUT	343.	5.0	9.0

BEGINNING 8 AM FEB. 28, 1977

UNIT YIELD REPORT

SECT 5.00

AVG RPCD	MONTH TO DATE		EXPECTED PER CENT
	ACTUAL	PER CENT	
7055.	197577.	97.4	
185.	5171.	2.6	
7240.	202718.	100.0	
876.	24542.	12.1	9.4
966.	27049.	13.3	17.4
1553.	43491.	21.5	20.7
146.	4088.	2.0	2.5
2809.	78655.	38.8	39.4
20.	560.	0.3	0.3
1014.	28397.	14.0	13.4
371.	10398.		
7385.	206782.	102.0	103.1
145.	4064.	2.0	
		97.8	
6023.	168636.		
1569.	43935.	100.0	
109.	3056.	7.0	47.2
1460.	40879.	93.0	52.8
1569.	43935.	100.0	100.0
		100.0	
795.	22247.	11.0	7.9
173.	4830.	2.4	3.0
282.	7897.	3.9	4.9
19.	540.	0.3	0.3
51.	1436.	0.7	0.5
212.	5929.	2.9	3.7
354.	9912.	4.9	8.8

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY

SHEET NO.

DATE

REV. 1

REFERENCE 1 C (SHEET 1)

ATTACHED ARE 2 DRY BASIS ANALYSES OF COKER FLUE GAS, SAMPLED AT 11<sup>30</sup> AM AND 11<sup>45</sup> AM OF 5-23-75. THE 11<sup>30</sup> AM SAMPLE REPRESENTS TYPICAL, NORMAL OPERATION. THE 11<sup>45</sup> AM SAMPLE DOES NOT REPRESENT TYPICAL, NORMAL OPERATION BECAUSE AIR WAS INJECTED INTO THE FLUE GAS STACK TO ASCERTAIN THE EFFECT OF AIR INJECTION ON THE VISIBLE PLUME.

THIS IS A COMPARISON OF THE 11<sup>30</sup> AM, 5-23-75 SAMPLE WITH THE TYPICAL ANALYSES GIVEN IN REFERENCE 1 A :

	DRY MOL %	REFERENCE 1 A	
	(11 <sup>30</sup> AM, 5-23-75)	WET MOL %	DRY MOL %
NITROGEN	79.2	57.8	77.07
HYDROGEN	1.0	-	-
OXYGEN	0.1	0.1	0.13
CARBON MONOXIDE	4.1	2.9	3.87
CARBON DIOXIDE	14.0	13.0	17.33
NO	-	6.5 PPM	87 PPM
NO <sub>2</sub>	-	-	-
SO <sub>2</sub>	-	5-10 PPM	7-13 PPM
C <sub>1</sub>	1.20	1.0	1.33
C <sub>2</sub>	0.10	Tr	Tr
C <sub>3</sub>	Tr	Tr	Tr
C <sub>4</sub>	-	Tr	Tr
C <sub>5</sub>	-	Tr	Tr
C <sub>6</sub> <sup>+</sup>	0.32	0.2	0.27
H <sub>2</sub> O	-	25.0	-
	100.0	100.0	100.0

THUS THE 11<sup>30</sup> AM, 5-23-75 SAMPLE SUBSTANTIATES THE TYPICAL ANALYSES GIVEN IN REFERENCE 1 A.

TOSCOPEYRO CORPORATION  
BAKERSFIELD REFINERY

REFERENCE 1C  
(SHEET 2)

GAS ANALYSIS REPORT

LABORATORY		OPERATOR		DATE	
GAS LAB		D. L. WALKER		MAY 23, 1975	
UNIT	STACK GAS BY AIR INJECTION	STACK GAS BY AIR INJECTION			
COKER					
SAMPLE DATE	5-23-75	—			
SAMPLE TIME	11 <sup>30</sup> AM	11 <sup>45</sup> AM			
PERCENT	GAS VOL.	—			
HYDROGEN	13 1.0	0.3			
NITROGEN + INERTS	9 79.2	81.6			
OXYGEN	* 0.1	* 0.7			
CARBON MONOXIDE	17 4.1	3.6			
CARBON DIOXIDE	21 14.0	12.8			
HYDROGEN SULFIDE	25				
METHANE	29 1.20	0.85			
ETHANE	33 0.07	0.04			
ETHYLENE	37 0.03	0.02			
PROPANE	41 TRACE	0.01			
PROPYLENE	45 TRACE	0.01			
ISOBUTANE	49				
NORMAL BUTANE	53				
TOTAL BUTENES	57				
1,3-BUTADIENE	61				
ISOPENTANE	65				
NORMAL PENTANE	69				
TOTAL PENTENES	73				
TOTAL C6 PLUS	77 0.32	0.05			
DIST: JAK ACR KWT(2) JPS JLC	REMARKS * BY ORSAT	PREPARED BY <u>D. L. Walker</u> SUBMITTED BY <u>D. L. Walker</u>			



MILTON R. BEYCHOK

CONSULTING ENGINEER

BY \_\_\_\_\_ SHEET NO. \_\_\_\_\_

DATE \_\_\_\_\_

REFERENCE 1C (SHEET 3)

REV. 3

ATTACHED IS A COPY OF THE A-AREA OPERATING  
SUMMARY FOR 5-23-75 WHICH SHOWS THE  
COKER FEED RATE TO BE

$$= 6775 \text{ B/D}$$

CRUDE UNIT

FLUID COKER

REDUCED CRUDE B/D 23811  
 SALES DIESEL B/D 1000  
 DIESEL TO HYDRO B/D 5243  
 STOVE B/D 1993  
 REF. NAPHTHA B/D 2607  
 HEATERS: 11H11 N635 S636 CHG 21428  
 11H12 --- CHG ---  
 11H13 W133 E614 CHG 13858  
 TOTAL CRUDE CHG B/D 35286  
 OIL BURNERS: H11 - H12 - H13 -  
 DESALTER WATER TO CONDENSATE 0 % OIL  
 ACCUM. TEMP. HI 122 LOW 109  
 OVHD. 3058 REFLUX 4740 TOTAL 7798  
 CRUDE SWITCH 5-22 API 19.6  
 REMARKS: \_\_\_\_\_

CHG. 6705 P1:4(6775)  
~~LT GAS OIL B/D~~ NAP 1510  
 HVY GAS OIL B/D 2760  
 RX vs QUENCH TOWER D/P 2.5  
 CYCLONE DIP LEG D/P 7.3  
 HORN INLET D/P .45  
 DILUTE vs DENSE BED D/T 99°  
 WET GAS 3 FT/BBL 9.5  
 CIRCULATION T/M 11.8  
 RX BED LEVEL 2.5' PRESS. 17.0  
 BURNER BED LEVEL +1.5'  
 RECYCLE / FRESH FEED 29.2  
 WATER IN FINAL TRACED  
 WATER RATES 473  
 FRACT. TOP PRESS. 7.5  
 ACCUM PRESSURE 7.0  
 REMARKS: \_\_\_\_\_

ALKY UNIT

OLEFIN CHG B/D BB 1219  
 PP 49% TOTAL 1715  
 ACID CONSUMPTION B/D 1419  
 ACID SETTLER TEMP 49  
 ISO TO NORMAL B/D 0  
 REMARKS: \_\_\_\_\_

TREATER

LT TCC SWT  SOUR \_\_\_\_\_  
 MED TCC SWT  SOUR \_\_\_\_\_  
 SPENT 40 BE AVAIL. 8751 MAKE TP9  
 REMARKS: \_\_\_\_\_

GAS CON UNIT

BOILERS

HEATER 440 OIL BURNERS  
 SFS 15  
 GAS TO 50 # HEADER \_\_\_\_\_  
 COOLING WATER TEMP 68  
 REMARKS: \_\_\_\_\_

G3. or C4 EURN B/D \_\_\_\_\_  
 FUEL OIL EURN B/D 74.0  
 PITCH EURN B/D 192.9  
 OIL BURNERS #1 / #2 / #3 / #5 / #6 \_\_\_\_\_  
 REMARKS: \_\_\_\_\_

DIENE UNIT

INJECTION WELL

CHG B/D 1256  
 HEATER TRANSFER 508  
 RX D/T 33  
 REMARKS: \_\_\_\_\_

HEAD PRESS. PSI #1 102.5 #2 115.0  
 INJECTION RATE AT 8 AM 4351 2346  
 INJECTION RATE AVERAGE 4474 2359  
 SOCK D/P 11 SOCK CHANGE NO  
 REMARKS: \_\_\_\_\_



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street  
San Francisco, Ca. 94105RECEIVED  
NOV 26 1979

KERN COUNTY HEALTH DEPT.

In Reply E-3-2  
Refer to: ENF 3-9-2Mr. Jack L. Caufield  
Environmental Engineer Supervisor  
Tosco Corporation  
P.O. Box 2860  
Bakersfield, California 93303

NOV 19 1979

Dear Mr. Caufield:

This is in response to your letter of October 10, 1979, which transmitted a copy of source test results on your coker CO boiler. The results indicate that by using fuel oil with a nitrogen content of 0.5% the boiler complies with the NO<sub>x</sub> limits stated in your amended New Source Review (NSR) permit (NSR 4-4-8, SJ 76-16) issued August 6, 1979. However, during the September 20, 1979, test the boiler failed to meet the CO emission limit. In fact, our review of the test results over the past two years indicates that at no time during the 8 tests was compliance simultaneously demonstrated for each pollutant (see attachment). Due to the fact that many modifications have been made to the boiler and considering that the most recent tests for SO<sub>2</sub> and particulate matter were conducted over a year ago and prior to some boiler modifications, we cannot consider the boiler in full compliance with the NSR permit limits when firing fuel oil as the auxiliary boiler fuel. To demonstrate compliance when firing fuel oil you are required to perform source tests for all five permitted pollutants (NO<sub>x</sub>, SO<sub>2</sub>, CO, particulate matter and non-methane volatile organic compounds).

Since the CO boiler is normally operated with fuel gas as the auxiliary fuel, we are not requiring you to test immediately. You may delay testing until January 1980 when the latest burner modifications are completed. However, should you switch to firing all fuel oil as the auxiliary boiler fuel, you must immediately report this to EPA and a source test may be required at that time.

In no event should the nitrogen content of the fuel oil used to fire the boiler exceed 0.5%. In addition, you are required to submit a monthly report to EPA of the amount of fuel oil used per day to fire the CO boiler.

Nevertheless, if you wish to certify in writing that the CO boiler will be fired with fuel gas only as the auxiliary fuel, we will consider the CO boiler to be in compliance with all MSR permit requirements. Otherwise, the boiler will not be considered in full compliance until a source test is conducted and results are submitted to this office which show compliance with all permit limits.

If you have any questions, please contact Paula Bisson of my staff at (415)556-6150.

Sincerely yours,

ORIGINAL SIGNED BY:  
DAVID P. HOWECAMP  
FOR Clyde B. Eller  
Director  
Enforcement Division

Attachment

cc: California Air Resources Board  
~~Kern~~ County Air Pollution Control District

Table of Coker CO Boiler Emissions

Test Date	Emissions (lbs/hr)				
	NO <sub>x</sub>	SO <sub>2</sub>	CO	Particulate Matter	Non-Methane Volatile Organic Compounds
5-24-77	<sup>nc</sup> 102.3	168	40.6	14.9	<sup>nc</sup> 1562.1
5-25-77	<sup>nc</sup> 139.5	<sup>nc</sup> 207.8	23.5	16.3	<sup>nc</sup> 1138.7
2-10-78	82.4	<sup>nc</sup> 208.9	8.5	-	<sup>nc</sup> 80.2
2-10-78	82.4	183.4	8.9	-	<sup>nc</sup> 46.8
9-20-78	92.9	112.1	7.1	-	<sup>nc</sup> 100
4-27-79	<sup>nc</sup> 137	-	42.8	-	1.34
8-3-79	<sup>nc</sup> 107	-	<sup>nc</sup> 48.4	-	6.52
9-20-79	89.9	-	<sup>nc</sup> 74.8	-	-
Permit Limit	91.9	188.5	<u>45.0</u>	18.04	10.

→ SUBSEQUENTLY REVISED TO 0.1 VOL %



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
215 Fremont Street  
San Francisco, Ca. 94105

22 JUN 1983

In Reply A-3-1  
Refer to: NSR 4-4-8  
SJ 76-16

Mr. Jack L. Caufield  
Manager of Environmental Affairs  
Tosco Corporation  
P.O. Box 2860  
Bakersfield, CA 93303

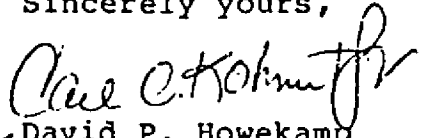
Dear Mr. Caufield:

In accordance with provisions of the Clean Air Act, as amended (42 U.S.C. 7401 et seq.), the Environmental Protection Agency has reviewed Tosco Corporation's December 23, 1982 request that their November 2, 1976 EPA Approval to Construct be amended.

A request for public comment regarding EPA's proposed action on the above application has been published. After consideration of the expressed views of all interested persons (including State and local agencies), and pertinent Federal statutes and regulations, the EPA hereby issues the enclosed Approval to Construct/Modify a Stationary Source for the facilities described above. This action does not constitute a significant change from the proposed action set forth and offered for public comment.

This amendment shall take effect immediately.

Sincerely yours,

  
for David P. Howekamp  
Director  
Air Management Division

Enclosures

cc: California Air Resources  
Board  
Kern County Air Pollution  
Control District

Amendment to Tosco Corporation's  
November 2, 1976 Approval to Construct  
(NSR 4-4-8, SJ 76-16)

The EPA hereby amends Permit Condition VII. Special Condition I.3. to read as follows:

3. On or after the date of start-up, Tosco Corporation shall not discharge or cause the discharge into the atmosphere from the CO boiler any gases which contain carbon monoxide in excess of 0.1% (2-hour average) by volume at 2% O<sub>2</sub>.

All of the other permit conditions are unchanged and remain in effect.

REFERENCE 3  
(SHEET 1)

FIELD DATA SOURCE TEST

Prepared for TOSCO

P.O. BOX 2860

Bakersfield, Calif. 93303

Attention: Jack Caufield

Regarding: \_\_\_\_\_

Regulatory Agency EPA

Purpose Compliance

Test Date April 27, 1979

Unit Tested: CO Boiler Outlet (Oil Fired)

Report Number a-737

Reviewed By *Perry Allbatt*  
CHEMECOLOGY CORP.



SUMMARY SELECTED RESULTS: 4/27/79

<u>PROCESS CONDITIONS:</u>	<u>1320-1350</u>	<u>1815-1830</u>	<u>AVG</u>
Volume Flow, SDCFM:	56,400	54,900	55,650
Avg. Td, °F:	461	466	464
% vol H <sub>2</sub> O:	15.4	14.0	14.7

<u>GASEOUS CONCENTRATIONS:</u>	<u>Run #1</u>	<u>Run #2</u>	<u>Run #3</u>	<u>Run #4</u>	
% Vol O <sub>2</sub> :	3.0	3.5	3.1	3.6	3.3
ppm vol CO:	165	191	165	192	178
lb/hr, CO:	40.1	46.4	40.1	46.7	43.3
Lt. HC by G.C., ppm:	1.8	2.6	2.6	-	2.3
, lb/hr:	0.9	1.0	1.2	-	1.0
Carbonyls, ppm:	1.5	0.9	0.7	-	1.0
, lb/hr:	0.40	0.23	0.17	-	0.2
NO <sub>x</sub> as NO <sub>2</sub> , ppm:	AVG = 348				
, lb/hr:	= 137 NC				

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY \_\_\_\_\_ SHEET NO. \_\_\_\_\_

DATE \_\_\_\_\_

REFERENCE 3 (SHEET 3)

REV. 3

ATTACHED IS A COPY OF THE A-AREA OPERATING  
SUMMARY FOR 4-27-79 WHICH SHOWS THE  
COKER FEED RATE TO BE:

= 7099 B/D

TRANSMITTAL LETTER

**DRAFT**

Dear Dr. Hebertson:

Enclosed are additional materials in support of our continuing application to receive Banking Certificates for Emission Reduction Credits for cumulative net reductions in our "informal bank."

At your staff's request, we have divided the application into separate application documents for NO<sub>x</sub>, SO<sub>x</sub>, NMHC, and CO. Our check for \$\_\_\_\_\_ to pay additional filing fees resulting from this division is also enclosed.

Each pollutant-specific application includes its own brief summary document addressing each of the specific requirements of Rule 210.3 and incorporating by reference the detailed emissions calculations which are organized on a project-by-project basis in the report entitled "Quantification of Emissions Changes at the Tosco Bakersfield Refinery since December 28, 1976" by Milton R. Beychok. A copy of this report is also enclosed.

Sincerely,

**RECEIVED**  
APR 17 1986

KERN COUNTY A. P. C. D.

*Revised 4/17/86*

KCAPCD form #580 4110 400 (6/81)--one for each pollutant.

Item 5: This application for allowance of Emissions Reduction Credit and issuance of a Banking Certificate covers all reductions in \_\_\_ emissions achieved since December 28, 1976. It is a part of the application originally filed April 24, 1984 and supplemented October 22, 1985.

APPLICATION FOR BANKING CERTIFICATE  
FOR EMISSIONS REDUCTION CREDIT

NOx

Tosco Corporation

Submitted April 24, 1984

Revised October 22, 1985

Revised May \_\_, 1986

1. Quantification of Emissions Reductions.

The reduction of actual historical emissions ("AHE") of NOx is \_\_\_ lbs/day. The reduction of NOx emissions from the level authorized by specific limiting conditions ("SLC") in permits is \_\_\_ lbs/day.

The Emission Reduction Credits ("ERC") for NOx were created by emissions decreases in the following projects:

<u>Project Name</u>	<u>A/C Number</u>	<u>AHE Change lbs/day</u>	<u>SLC Change lbs/day</u>
Coker CO boiler	2003027	-225.6	-2,587
[Other projects]		_____	_____
Cumulative net decrease			

The detailed computations of emissions changes for these projects are in the accompanying report, "Quantification of Emissions Changes at the Tosco Bakersfield Refinery since December 28, 1976" by Milton R. Beychok. The report is incorporated by reference into this application. Much of the basic documentation relied on by Mr. Beychok is not in suitable form to copy and submit with this application but is available for inspection by KCAPCD staff.

A portion of the cumulative net decrease has been used as internal offsets in the following projects for which Authorities to Construct have been issued:

<u>Project Name</u>	<u>A/C Number</u>	<u>Increase lbs/day</u>
[List projects]		_____
Total NSR increases		

The Emissions Reduction Credits available for banking are computed by deducting these increases from the cumulative net decreases:

AHE ERC \_\_\_\_\_ lbs/day  
SLC ERC \_\_\_\_\_ lbs/day

2. The claimed emissions reductions have actually occurred.

All of the projects creating NOx emissions reductions have actually been implemented and the planned reductions achieved. KCAPCD inspections were conducted and Permits to Operate issued.

3. The claimed emissions reductions are surplus.

The reductions achieved were not required by any law, nor have they been used as trade-offs or offsets except as noted above.

4. The claimed emissions reductions are permanent.

Permanence of the reduction from the coker CO boiler project is assured by special conditions in the EPA permit:

Boilers 1 through 6 will be removed from steam production service and not operated unless the CO boiler, Boiler No. 7, or Boiler No. 8 is shut down. Average yearly steam production from fired boilers will not exceed 219,200 lbs/hour. Steam production from fired boilers will not exceed 280,000 lbs/ hour at anytime.

Sufficient recording instrumentation will be provided to document total steam production from fired boilers, and a log or suitable recording instruments will be provided to document times of individual boiler operation.

NOx emissions from the coker CO boiler will not exceed 91.9 lbs/hour.

[Address other projects too.]

5. The claimed emissions reductions are enforceable.

The same permit conditions which assure that the reductions are permanent also assure that the reductions are enforceable.

APPLICATION FOR BANKING CERTIFICATE  
FOR EMISSIONS REDUCTION CREDIT

NMHC

Tosco Corporation

Submitted April 24, 1984

Revised October 22, 1985

Revised May \_\_, 1986

1. Quantification of Emissions Reductions.

The reduction of actual historical emissions ("AHE") of NMHC is \_\_\_ lbs/day. The reduction of NMHC emissions from the level authorized by specific limiting conditions ("SLC") in permits is \_\_\_ lbs/day.

The Emissions Reduction Credits ("ERC") for NMHC were created by emissions decreases in the following projects:

<u>Project Name</u>	<u>A/C Number</u>	<u>AHE decrease lbs/day</u>	<u>SLC decrease lbs/day</u>
Coker CO boiler	2003027	-28,978	-28,980
[Other projects]			
Cumulative decrease			

The detailed computations of emissions changes for each project are in the accompanying report, "Quantification of Emissions Changes at the Tosco Bakersfield Refinery since December 28, 1976" by Milton R. Beychok. The report is incorporated by reference into this application. Much of the basic documentation relied on by Mr. Beychok is not in suitable form to copy and submit with this application but is available for inspection by KCAPCD staff.

A portion of the cumulative net decrease has been used as internal offsets in the following projects for which Authorities to Construct have been issued:

<u>Project Name</u>	<u>A/C Number</u>	<u>Increase lbs/day</u>
[List projects]		
Total NSR increases		

The Emissions Reduction Credits available for banking are computed by deducting these increases from the cumulative net decreases:

AHE ERC \_\_\_\_\_ lbs/day  
SLC ERC \_\_\_\_\_ lbs/day

2. The claimed emissions reductions have actually occurred.

All of the projects creating NMHC emissions reductions have actually been implemented and the planned reductions achieved. KCAPCD inspections were conducted and permits to operate issued.

3. The claimed emissions reductions are surplus.

The reductions achieved were not required by any law, nor have they been used as a trade-off or offset except as noted above.

Page 4 of the attachment to Mr. Paxson's letter of February 27, 1986 asks for an explanation as to why the emissions reductions resulting from the coker CO boiler project were not necessary to prevent or cure a violation of Cal. H&S Code Section 41700, which prohibits operations constituting a public nuisance. KCAPCD never issued any citations for this unit under its Rule 419, which is identical to H&S Section 41700, and we are not aware of any other evidence that this unit constituted a nuisance.

Page 4 of the attachment to Mr. Paxson's letter of February 27 also requests an explanation as to how the NMHC emissions can be considered surplus if their reduction, and a larger reduction of emissions from thermally enhanced oil recovery, were assumed in the SIP to occur before 1987. Inaccuracies in the assumptions and projections used in the SIP may cause SIP approval problems if the inaccuracies are large and not offset by other inaccuracies, but such assumptions do not have the force of law such that individual sources are required to bring their emissions into line with the assumptions. Indeed, KCAPCD has held that even the adoption of a regulation requiring the reduction of emissions from certain sources does not by itself eliminate Emissions Reduction Credits created by voluntary reductions from such sources occurring before the inclusion of the regulation in the SIP.

4. The claimed emissions reductions are permanent.

Permanence of the reduction from the coker CO boiler project is assured by special conditions in the EPA permit:

Boilers 1 through 6 will be removed from steam production service and not operated unless the CO boiler, Boiler No. 7, or Boiler No. 8 is shut down. Average yearly steam production from fired boilers will not exceed 219,200 lbs/hour. Steam production from fired boilers will not exceed 280,000 lbs/hour at anytime.

Sufficient recording instrumentation will be provided to



document total steam production from fired boilers, and a log or suitable recording instruments will be provided to document times of individual boiler operation.

NMHC emissions from the coker Co boiler will not exceed 10 lbs/hour.

5. The claimed emissions reductions are enforceable.

The same permit conditions which assure that the reductions are permanent also assure that the reductions are enforceable.

APPLICATION FOR BANKING CERTIFICATE  
FOR EMISSIONS REDUCTION CREDIT

SO2

Tosco Corporation

Submitted April 24, 1984

Revised October 22, 1985

Revised May \_\_, 1986

1. Quantification of Emissions Reductions.

The reduction of actual historical emissions ("AHE") of SO2 is \_\_\_ lbs/day. The reduction of SO2 emissions from the level authorized by specific limiting conditions ("SLC") in permits is \_\_\_ lbs/day.

The Emissions Reduction Credits ("ERC") for SO2 were created by emissions decreases in the following projects:

<u>Project Name</u>	<u>A/C Number</u>	<u>AHE decrease lbs/day</u>	<u>SLC decrease lbs/day</u>
Coker CO boiler	2003027	-252	-5,318
Other projects		_____	_____
Cumulative decrease			

The detailed computations of emissions changes for each project are in the accompanying report, "Quantification of Emissions Changes at the Tosco Bakersfield Refinery since December 28, 1976" by Milton R. Beychok. The report is incorporated by reference into this application. Much of the basic documentation relied on by Mr. Beychok is not in suitable form to copy and submit with this application but is available for inspection by KCAPCD staff.

A portion of the cumulative net decrease has been used as internal offsets in the following projects for which Authorities to Construct have been issued:

<u>Project Name</u>	<u>A/C Number</u>	<u>Increase lbs/day</u>
[List projects]		_____
Total NSR increases		

The Emissions Reduction Credits available for banking are computed by deducting these increases from the cumulative net decreases:

AHE ERC \_\_\_\_\_ lbs/day  
SLC ERC \_\_\_\_\_ lbs/day

2. The claimed emissions reductions have actually occurred.

All of the projects creating NMHC emissions reductions have actually been implemented and the planned reductions achieved. KCAPCD inspections were conducted and permits to operate issued.

3. The claimed emissions reductions are surplus.

The reductions achieved were not required by any law, nor have they been used as a trade-off or offset except as noted above.

Page 4 of the attachment to Mr. Paxson's letter of February 27, 1986 asks for an explanation as to why the emissions reductions resulting from the coker CO boiler project were not necessary to prevent or cure a violation of Cal. H&S Code Section 41700, which prohibits operations constituting a public nuisance. KCAPCD never issued any citations for this unit under its Rule 419, which is identical to H&S Section 41700, and we are not aware of any other evidence that this unit constituted a nuisance.

4. The claimed emissions reductions are permanent.

Permanence of the reduction from the coker CO boiler project is assured by special conditions in the EPA permit:

Boilers 1 through 6 will be removed from steam production service and not operated unless the CO boiler, Boiler No. 7, or Boiler No. 8 is shut down. Average yearly steam production from fired boilers will not exceed 219,200 lbs/hour. Steam production from fired boilers will not exceed 280,000 lbs/ hour at anytime.

Sufficient recording instrumentation will be provided to document total steam production from fired boilers, and a log or suitable recording instruments will be provided to document times of individual boiler operation.

SO2 emissions from the coker CO boiler will not exceed 188.5 lbs/hour.

[Address other projects too.]

5. The claimed emissions reductions are enforceable.

The same permit conditions which assure that the reductions are permanent also assure that the reductions are enforceable.

APPLICATION FOR BANKING CERTIFICATE  
FOR EMISSIONS REDUCTION CREDIT

CO

Tosco Corporation

Submitted April 24, 1984

Revised October 22, 1985

Revised May \_\_, 1986

1. Quantification of Emissions Reductions.

The reduction of actual historical emissions ("AHE") of CO is \_\_\_ lbs/day. The reduction of CO, emissions from the level authorized by specific limiting conditions ("SLC") in permits is \_\_\_ lbs/day.

The Emissions Reduction Credits ("ERC") for CO were created by emissions decreases in the following projects:

<u>Project Name</u>	<u>A/C Number</u>	<u>AHE decrease lbs/day</u>	<u>SLC decrease lbs/day</u>
Coker CO boiler	2003027	-65,525	-65,585
Other projects		_____	_____
Cumulative decrease			

The detailed computations of emissions changes for each project are in the accompanying report, "Quantification of Emissions Changes at the Tosco Bakersfield Refinery since December 28, 1976" by Milton R. Beychok. The report is incorporated by reference into this application. Much of the basic documentation relied on by Mr. Beychok is not in suitable form to copy and submit with this application but is available for inspection by KCAPCD staff.

A portion of the cumulative net decrease has been used as internal offsets in the following projects for which Authorities to Construct have been issued:

<u>Project Name</u>	<u>A/C Number</u>	<u>Increase lbs/day</u>
[List projects]		_____
Total NSR increases		

The Emissions Reduction Credits available for banking are computed by deducting these increases from the cumulative net decreases:

AHE ERC \_\_\_\_\_ lbs/day  
SLC ERC \_\_\_\_\_ lbs/day

2. The claimed emissions reductions have actually occurred.

All of the projects creating NMHC emissions reductions have actually been implemented and the planned reductions achieved. KCAPCD inspections were conducted and permits to operate issued.

3. The claimed emissions reductions are surplus.

The reductions achieved were not required by any law, nor have they been used as a trade-off or offset except as noted above.

Page 4 of the attachment to Mr. Paxson's letter of February 27, 1986 asks for an explanation as to why the emissions reductions resulting from the coker CO boiler project were not necessary to prevent or cure a violation of Cal. H&S Code Section 41700, which prohibits operations constituting a public nuisance. KCAPCD never issued any citations for this unit under its Rule 419, which is identical to H&S Section 41700, and we are not aware of any other evidence that this unit constituted a nuisance.

4. The claimed emissions reductions are permanent.

Permanence of the reduction from the coker CO boiler project is assured by special conditions in the EPA permit:

Boilers 1 through 6 will be removed from steam production service and not operated unless the CO boiler, Boiler No. 7, or Boiler No. 8 is shut down. Average yearly steam production from fired boilers will not exceed 219,200 lbs/hour. Steam production from fired boilers will not exceed 280,000 lbs/ hour at anytime.

Sufficient recording instrumentation will be provided to document total steam production from fired boilers, and a log or suitable recording instruments will be provided to document times of individual boiler operation.

SO2 emissions from the coker CO boiler will not exceed 188.5 lbs/hour.

[Address other projects too.]

5. The claimed emissions reductions are enforceable.

The same permit conditions which assure that the reductions are permanent also assure that the reductions are enforceable.

# MILTON R. BEYCHOK

CONSULTING ENGINEER

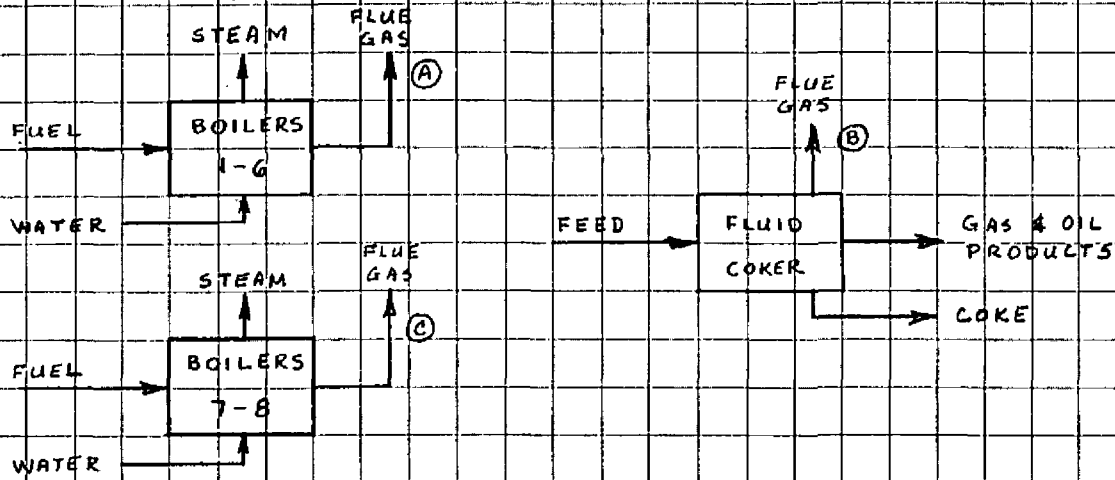
BY \_\_\_\_\_ SHEET NO. 1

DATE \_\_\_\_\_

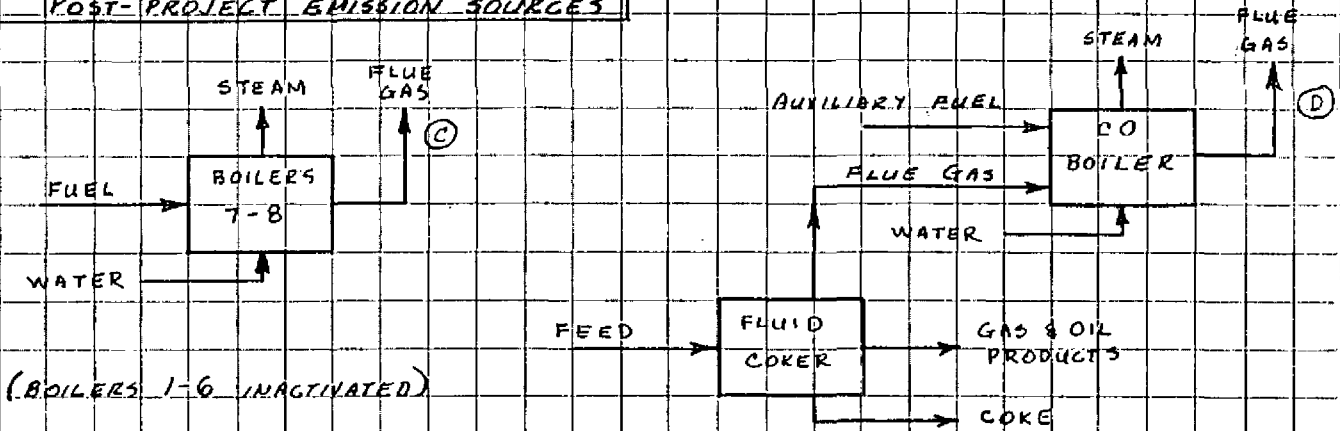
## FLUID COKER CO BOILER DETERMINATION OF ERC'S

(ATC 2003027)

### PRE-PROJECT EMISSION SOURCES



### POST-PROJECT EMISSION SOURCES



- (A) DETERMINED BY COMBUSTION CALCULATIONS AND EMISSION FACTORS BASED ON FUEL PROPERTIES, STEAM PRODUCTION AND/OR FUEL CONSUMPTION.
- (B) DETERMINED BY SOURCE TESTS (1).
- (C) NO CHANGE BETWEEN PRE-PROJECT AND POST-PROJECT.
- (D) DETERMINED BY EPA PERMIT CONDITIONS (2).

NET EMISSION CHANGES = (POST-PROJECT) - (PRE-PROJECT)

FOR NSR ESTABLISHED SPECIFIC LIMITING CONDITION ERC'S, (A) IS BASED UPON BOILERS 1-6 STEAM PRODUCTION MAXIMUM CAPABILITY.

FOR ACTUAL HISTORICAL ERC'S, (A) IS BASED ON BOILERS 1-6 ACTUAL HISTORICAL FUEL CONSUMPTION.

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY \_\_\_\_\_ SHEET NO. 2  
DATE \_\_\_\_\_

FLUID COKER CO. BOILER (ATC 2003027)  
DETERMINATION OF AH ERC \*

BASIS FOR PRE-PROJECT EMISSIONS FROM COKER FLUE GAS:

DATA FROM SOURCE TESTS (1):

$$\begin{aligned} \text{FLUE GAS FLOW} &= (1,460,000 \text{ SCF/HR}) / (379 \text{ SCF/MOL}) \\ &= 3852 \text{ MOL/HR} \end{aligned}$$

FLUE GAS POLLUTANTS:

$$\text{PARTICULATES} = 1.46 \text{ LBS/HR}$$

$$\text{SO}_2 = 7.5 \text{ PPM VOL. } \left. \begin{array}{l} \\ \\ \end{array} \right\} 57.5 \text{ PPM VOL.}$$

$$\text{H}_2\text{S} = 50 \text{ PPM VOL.}$$

$$\text{NO}_x = 6.5 \text{ PPM VOL.}$$

$$\text{CO} = 2.9 \text{ MOL \%}$$

$$\text{C}_1 = 1.0 \text{ MOL \%}$$

$$\text{C}_6^+ = 0.2 \text{ MOL \% (MAINLY BENZENE)}$$

PRE-PROJECT EMISSIONS FROM COKER FLUE GAS:

$$\text{PARTICULATES} = 1.46 \text{ LBS/HR (SEE JUST ABOVE)}$$

$$\begin{aligned} \text{SO}_2 &= (3852 \text{ MOL/HR}) (60 \text{ MOL S} / 10^6 \text{ MOL S}) (64 \text{ LBS SO}_2 / \text{MOL S}) \\ &= 14.8 \text{ LBS/HR} \end{aligned}$$

$$\begin{aligned} \text{NO}_x &= (3852 \text{ MOL/HR}) (6.5 \text{ MOL NO}_x / 10^6 \text{ MOL S}) (46 \text{ LBS NO}_x / \text{MOL NO}_x) \\ &= 11.5 \text{ LBS/HR} \end{aligned}$$

$$\begin{aligned} \text{CO} &= (3852 \text{ MOL/HR}) (2.9 \text{ MOL CO} / 100 \text{ MOL S}) (28 \text{ LBS CO} / \text{MOL CO}) \\ &= 3.128 \text{ LBS/HR} \end{aligned}$$

$$\begin{aligned} \text{HC} &= (3852) (1.0 / 100) (16) + (3852) (0.2 / 100) (78) \\ &= 12.17 \text{ LBS/HR} \end{aligned}$$

\* AH ERC = ACTUAL HISTORICAL EMISSION REDUCTION CREDITS

**MILTON R. BEYCHOK**

CONSULTING ENGINEER

BY \_\_\_\_\_ SHEET NO. 3

DATE \_\_\_\_\_

FLUID COKER CO BOILER

(ATC 2003027)

DETERMINATION OF AN ERC

BASIS FOR PRE-PROJECT EMISSIONS FROM BOILERS 1-6

STEAM PRODUCTION, EFFICIENCY AND FUEL HEAT DATA: (3)

BOILER	STEAM		% EFFICIENCY	FUEL HEAT 10 <sup>6</sup> BTU/HR	
	LB3/HR	10 <sup>6</sup> BTU/HR			
1	28,300	29.15	71.8	40.60	} 176.89 (GAS + OIL)
2	22,300	22.97	78.7	29.19	
3	22,300	22.97	75.6	30.38	
5	26,500	27.30	68.2	40.03	
6	26,400	27.19	74.1	36.69	
4	16,100	16.58	70.3	23.59	(ALL GAS)

AVERAGE BOILER FUEL OIL USAGE = 11,173 BBL3/MONTH (4)  
 = 651 GALS/HR  
 = (651 GALS/HR)(152,000 BTU/GAL)  
 = 99.0 X 10<sup>6</sup> BTU/HR

FUEL OIL = 1.04 WGT % SULFUR, 8000 PPM NITROGEN (4)

FUEL GAS = 1200 BTU/SCF, 0.50 VOL % H<sub>2</sub>S (4)

STEAM = 1030 BTU/LB (3)

PRE-PROJECT BOILER FUEL USAGE:

FUEL OIL FIRED = 651 GALS/HR (SEE JUST ABOVE)

FUEL GAS FIRED:

IN BOILER 4 = 23.59 X 10<sup>6</sup> BTU/HR (SEE JUST ABOVE)

IN BOILERS 1,2,3,5,6 = 176.89 X 10<sup>6</sup> - 99.0 X 10<sup>6</sup> (SEE JUST ABOVE)

= 77.89 X 10<sup>6</sup> BTU/HR \*

TOTAL = 77.89 + 23.59

= (101.48 X 10<sup>6</sup> BTU/HR) / (1200 BTU/SCF)

= 84,567 SCF/HR

\* THUS, BOILERS 1,2,3,5,6 BURNED 44% GAS & 56% OIL.



# MILTON R. BEYCHOK

CONSULTING ENGINEER

BY

SHEET NO. 4

DATE

FLUID COKER CO BOILER

(ATC 2003027)

DETERMINATION OF AH ERC

PRE-PROJECT EMISSIONS FROM BOILER FUEL COMBUSTION:

USING LATEST AP-42 EMISSION FACTORS (5)

LBS/HR

SO<sub>2</sub> FROM OIL-BURNING

$$= (651 \text{ GALS/HR}) (8.33 \text{ LBS/GAL}) (0.0104 \text{ LBS S/LB}) (2 \text{ LBS SO}_2/\text{LBS S}) = 112.8$$

SO<sub>2</sub> FROM GAS-BURNING

$$= (84,567 \text{ SCF/HR}) (0.005 \text{ SCF H}_2\text{S/SCF}) (64 \text{ LBS SO}_2/379 \text{ SCF H}_2\text{S}) = 71.4$$

SO<sub>2</sub> = 184.2

PARTIC. FROM OIL-BURNING

$$= (651 \text{ GALS/HR}) (13.4 \text{ LBS}/10^3 \text{ GAL}) = 8.7$$

PARTIC. FROM GAS-BURNING

$$= (84,567 \text{ SCF/HR}) (5.0 \text{ LBS}/10^6 \text{ SCF}) = 0.4$$

PARTIC. = 9.1

NO<sub>x</sub> FROM OIL-BURNING

$$= (651 \text{ GALS/HR}) (120 \text{ LBS}/10^3 \text{ GAL}) = 78.1$$

NO<sub>x</sub> FROM GAS-BURNING

$$= (84,567 \text{ SCF/HR}) (140 \text{ LBS}/10^6 \text{ SCF}) = 11.8$$

NO<sub>x</sub> = 89.8

CO FROM OIL-BURNING

$$= (651 \text{ GALS/HR}) (5 \text{ LBS}/10^3 \text{ GAL}) = 3.3$$

CO FROM GAS-BURNING

$$= (84,567 \text{ SCF/HR}) (35 \text{ LBS}/10^6 \text{ SCF}) = 3.0$$

CO = 6.3

NMHC FROM OIL-BURNING

$$= (651 \text{ GALS/HR}) (0.28 \text{ LBS}/10^3 \text{ GALS}) = 0.2$$

NMHC FROM GAS-BURNING

$$= (84,567 \text{ SCF/HR}) (2.8 \text{ LBS}/10^3 \text{ GALS}) = 0.2$$

HC = 0.4

**MILTON R. BEYCHOK**

CONSULTING ENGINEER

BY

SHEET NO. 5

DATE

FLUID COKER CO BOILER

(ATC 2003027)

DETERMINATION OF AH ERC

POST-PROJECT EMISSIONS :

BOILERS 1-6 INACTIVATED AFTER CO BOILER WAS INSTALLED.

POST-PROJECT EMISSIONS FROM CO BOILER FLUE GAS ARE BASED ON EPA PERMIT LIMITS FOR THE CO BOILER (2), WHICH ARE :

SO<sub>2</sub> = 188.5 LBS/HR  
 PARTIC. = 18.8 LBS/HR  
 NO<sub>x</sub> = 91.9 LBS/HR  
 CO = 0.15 VOL % @ 2 % O<sub>2</sub>  
 NMHC = 10.0 LBS/HR

POST-PROJECT CO BOILER FLUE GAS FLOW, FROM SOURCE TEST OF 3-27-79 (6) :

FLUE GAS = 55,650 DRY SCFM @ 14.7 % H<sub>2</sub>O  
 = 55,650 / (1 - .147)  
 = 65,240 WET SCFM @ 3.3 % O<sub>2</sub>  
 = (65,240)(21 - 3.3) / (21 - 2.0)  
 = 60,776 WET SCFM @ 2.0 % O<sub>2</sub>

THUS, EPA PERMIT LIMIT FOR CO

$$= (60,776 \text{ SCFM})(0.15 \text{ SCFM CO}/100 \text{ SCFM})(28 \text{ LBS CO}/329 \text{ SCF CO})(60 \text{ MIN}/\text{HR})$$

$$= 404.1 \text{ LBS}/\text{HR}$$

NET EMISSION CHANGES RESULTING FROM THIS PROJECT :

	SO <sub>2</sub>	PARTIC.	NO <sub>x</sub>	CO	HC
PRE-PROJECT COKER FLUE GAS	14.8	1.5	11.5	312.8	1217
PRE-PROJECT BOILERS 1-6	184.2	9.1	89.8	6.3	0.4
PRE-PROJECT TOTAL	199.0	10.6	101.3	319.1	1217.4
POST-PROJECT CO BOILER FLUE GAS	188.5	18.8	91.9	404.1	10.0

NET CHANGES (POST MINUS PRE) :

LBS/HR	- 10.5	+ 8.2	- 9.4	- 273.2	- 1207.4
LBS/DAY	- 252.0	+ 196.8	- 225.6	- 65,529	- 28,978

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY

SHEET NO. 6

DATE

FLUID COKER CO BOILER

(ATC 2003027)

DETERMINATION OF LC ERC \*

PRA - PROJECT EMISSIONS FROM COKER FLUE GAS :

DETERMINED FROM SOURCE TESTS (1) AND SAME AS FOR AH ERC'S  
(SEE PAGE 2 HEREIN) :

PARTICULATES = 1.46 LBS/HR

SO<sub>2</sub> = 14.8 LBS/HR

NO<sub>x</sub> = 11.5 LBS/HR

CO = 3128 LBS/HR

HC = 1217 LBS/HR

BASIS FOR PRE-PROJECT EMISSIONS FROM BOILERS 1-6 :

THE MAXIMUM FUEL HEAT RELEASE CAPABILITIES OF BOILERS 1-6  
WERE (7) :

BOILER	FUEL HEAT	
	10 <sup>6</sup> BTU/HR	
1	73	} 233 (ALL OIL)
2	36	
3	36	
5	44	
6	44	
4	36	

FUEL OIL = 1.25 WT % SULFUR (MAXIMUM), 8000 PPM NITROGEN (4)

FUEL GAS = 1200 BTU/SCF, 1.5 VOL % H<sub>2</sub>S (MAXIMUM) (4)

STEAM = 1030 BTU/LB (3)

FUEL OIL FIRED =  $(233 \times 10^6 \text{ BTU/HR}) / (152,000 \text{ BTU/GAL}) = 1,533 \text{ GAL/HR}$

FUEL GAS FIRED =  $(36 \times 10^6 \text{ BTU/HR}) / (1200 \text{ BTU/SCF}) = 30,000 \text{ SCF/HR}$

\* LC ERC = NEW SOURCE REVIEW ESTABLISHED SPECIFIC LIMITING  
CONDITION EMISSION REDUCTION CREDITS

**MILTON R. BEYCHOK**

CONSULTING ENGINEER

BY

SHEET NO. 7

DATE

FLUID COKER CO BOILER (ATC 2003027)

DETERMINATION OF LC ERC

		LBS/HR
<u>PRE-PROJECT EMISSIONS FROM BOILERS 1-6:</u>		
USING LATEST AP-42 EMISSION FACTORS (5)		
SO <sub>2</sub> FROM OIL-BURNING		
= (1533 GALS/HR) (8.35 LBS/GAL) (0.0125 LBS S/LB) (2 LBS SO <sub>2</sub> /LBS S)	=	319.3
SO <sub>2</sub> FROM GAS-BURNING		
= (30,000 SCF/HR) (0.015 SCF H <sub>2</sub> S/SCF) (64 LBS SO <sub>2</sub> /379 SCF H <sub>2</sub> S)	=	76.0
	SO <sub>2</sub>	= 395.3
PARTIC. FROM OIL-BURNING		
= (1533 GALS/HR) (15.5 LBS/10 <sup>3</sup> GALS)	=	23.8
PARTIC. FROM GAS-BURNING		
= (30,000 SCF/HR) (5.0 LBS/10 <sup>6</sup> SCF)	=	0.2
	PARTIC.	= 24.0
NO <sub>x</sub> FROM OIL-BURNING		
= (1533 GALS/HR) (120 LBS/10 <sup>3</sup> GALS)	=	184.0
NO <sub>x</sub> FROM GAS-BURNING		
= (30,000 SCF/HR) (140 LBS/10 <sup>6</sup> SCF)	=	4.2
	NO <sub>x</sub>	= 188.2
CO FROM OIL-BURNING		
= (1533 GALS/HR) (5 LBS/10 <sup>3</sup> GALS)	=	7.7
CO FROM GAS-BURNING		
= (30,000 SCF/HR) (35 LBS/10 <sup>6</sup> SCF)	=	1.1
	CO	= 8.8
NMHC FROM OIL-BURNING		
= (1533 GALS/HR) (0.28 LBS/10 <sup>3</sup> GALS)	=	0.4
NMHC FROM GAS-BURNING		
= (30,000 SCF/HR) (2.8 LBS/10 <sup>3</sup> GALS)	=	0.1
	HC	= 0.5

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY \_\_\_\_\_ SHEET NO. 8

DATE \_\_\_\_\_

FLUID COKER CO BOILER (ATC 2003027)  
DETERMINATION OF LG ERC

POST-PROJECT EMISSIONS:

BOILERS 1-6 INACTIVATED AFTER CO BOILER WAS INSTALLED.

POST-PROJECT EMISSIONS FROM CO BOILER FLUE GAS ARE BASED ON EPA PERMIT LIMITS FOR THE CO BOILER (2), WHICH ARE AS DERIVED ON PAGE 5 HEREIN:

SO<sub>2</sub> = 188.5 LBS/HR  
PARTIC. = 18.8 LBS/HR  
NO<sub>x</sub> = 91.9 LBS/HR  
CO = 404.1 LBS/HR  
NMHC = 10.0 LBS/HR

NET EMISSION CHANGES RESULTING FROM THIS PROJECT:

	SO <sub>2</sub>	PARTIC.	NO <sub>x</sub>	CO	HC
PRE-PROJECT COKER FLUE GAS	14.8	1.5	11.5	3128	1217
PRE-PROJECT BOILERS 1-6	395.3	24.0	188.2	8.8	0.5
PRE-PROJECT TOTAL	410.1	25.5	199.7	3136.8	1217.5
POST-PROJECT CO BOILER FLUE GAS	188.5	18.8	91.9	404.1	10.0

NET CHANGES (POST MINUS PRE):

LBS/HR            -221.6     -6.7     -107.8     -2732.7     -1207.5  
LBS/DAY           -5318     -160     -2587     -65585     -28980

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY

SHEET NO. 10

DATE

FLUID COKER CO BOILER  
DETERMINATION OF ERC'S

(ATC 2003027)

DOCUMENTATION REFERENCES

(1) LETTER FROM CAUFIELD (TOSCO) TO GORE (KCAPCD) OF 10-8-75,  
TRANSMITTING SOURCE TEST DATA. COPY INCLUDED HEREIN.

LETTER FROM LANDIS (KCAPCD) TO KAMPS (TOSCO) OF 1-8-79,  
TRANSMITTING COPY OF KCAPCD SOURCE TEST OF 12-20-73.  
PERTINENT EXCERPT INCLUDED HEREIN.

(2) LETTER FROM EPA REGION IX TO CAUFIELD (TOSCO) OF 11-19-79  
WITH POST-PROJECT PERMIT LIMITS FOR COKER CO BOILER.  
COPY INCLUDED HEREIN.

LETTER FROM EPA REGION IX TO CAUFIELD (TOSCO) OF 6-22-83  
WITH REVISED PERMIT LIMIT FOR CARBON MONOXIDE. COPY  
INCLUDED HEREIN.

(3) LETTER FROM CAUFIELD (TOSCO) TO HERBERTSON (KCAPCD) OF  
11-15-79. PERTINENT EXCERPT INCLUDED HEREIN. (EXCERPT  
OF ATTACHMENT I TO THIS LETTER).

TYPICAL COPY OF MONTHLY SUMMARY OF BOILER STEAM PRO-  
DUCTION (DECEMBER 1976) INCLUDED HEREIN.

(4) REVIEW OF REFINERY RECORDS FOR PERTINENT TIME PERIOD.  
SUMMARY INCLUDED HEREIN.

(5) A.P.-42 UPDATED THRU SUPPLEMENT 15 OF JANUARY 1984.  
TABLES 1.3-1 AND 1.4-1 INCLUDED HEREIN.

(6) SOURCE TEST OF 3-27-79 BY CHEMICOLOGY. COPY INCLUDED  
HEREIN.

(7) MEMO FROM PROCESS ENGINEERING (TOSCO) TO ENVIRONMENTAL  
ENGINEERING (TOSCO), SUBJECT: "MAXIMUM REFINERY FUEL  
BURNING". COPY INCLUDED HEREIN.



REFERENCE (1)

**TOSCO PETRO CORPORATION**  
PETROLEUM REFINERS  
P. O. BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
TEL: (805) 324-4744

October 8, 1975

Tom Goff  
Kern County Air  
Pollution Control District  
P. O. Box 997  
Bakersfield, CA. 93302

Dear Tom:

Enclosed is the information you requested on the flue gas from our Fluid Coker after the wet scrubber. This data was compiled from several different tests. When burning in the CO boiler, this material will provide approximately 46.5 MM BTUs/Hr.

The leaking sampling vent you found on 10M13 was repaired today. The other vents will be checked also. If you need further information please feel free to call.

Sincerely,

*Jack L. Caulfield*  
Jack L. Caulfield  
Environmental Engineer

JLC:jc

cc: GDD  
JAK  
RDM  
ACR  
RWT  
DCW

Tosco Denver

H. M. Spence

**RECEIVED**  
OCT 13 1975

KERN COUNTY HEALTH DEPT.

TOSCOPETRO FLUID COKER  
TYPICAL FLUE GAS ANALYSIS  
(After Wet Scrubber)

RECEIVED  
OCT 13 1973

KERN COUNTY HEALTH DEPT.

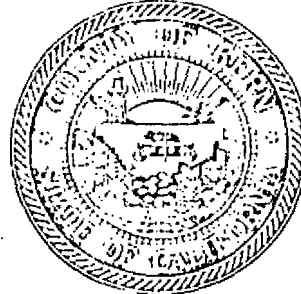
Nitrogen	57.8 mol%
Oxygen	0.1 mol%
Carbon Dioxide	13.0 mol%
CO	2.9 mol%
NO	65 ppm
NO <sub>2</sub>	Nil
SO <sub>2</sub>	5-10 ppm
C <sub>1</sub>	1.0 mol%
C <sub>2</sub>	Trace
C <sub>3</sub>	Trace
C <sub>4</sub>	Trace
C <sub>5</sub>	Trace
C <sub>6</sub> + (mainly benzene with some toluene)	0.2 mol%
Cyanide	Nil
H <sub>2</sub> O	25 mol%
NH <sub>3</sub>	150 ppm
H <sub>2</sub> S	50 ppm



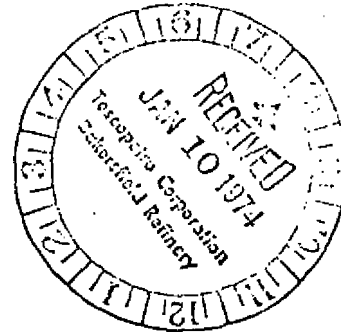
KERN COUNTY HEALTH DEPARTMENT

1700 Flower Street  
 P. O. Box 997  
 Bakersfield, California-93302

OWEN A. KEARNS, M.D., M.P.H.  
 Director of Public Health  
 Air Pollution Control Officer



January 8, 1974



J. A. Kamps, Manager of Engineering  
 Toscopetro Refinery  
 6500 Refinery Avenue  
 Bakersfield, California

Dear Mr. Kamps:

Your copy of the report of the source test which we performed on December 20, 1973, is enclosed. As you can see, the test showed that the fluid coking unit was operated in compliance with the District's rules and regulations concerning particulate matter.

If you have any questions regarding this matter, please contact us.

Sincerely yours,

Owen A. Kearns, M.D., Health Officer  
 Air Pollution Control Officer

A handwritten signature in cursive script that reads "Larry Landis".

Larry Landis, R.S.  
 Air Sanitation Chemist

LL:ld  
 encl.

KERN COUNTY HEALTH DEPARTMENT

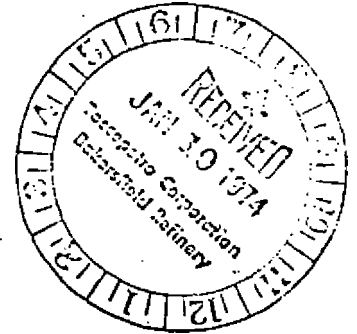
1700 Flower Street  
P. O. Box 997  
Bakersfield, California-93302

OWEN A. KEARNS, M.D., M.P.H.  
Director of Public Health  
Air Pollution Control Officer



TOSCOFETRO REFINERY

Source Test of December 20, 1973



Source Test Performed By: L. Landis  
T. Paxson  
M. Petty

Report Prepared By: L. Landis

A handwritten signature in dark ink, appearing to be "L.L." or similar initials.

SUMMARY OF TEST DATA

	Common Values;	
	A	Average B
1. SAMPLING STATION		
2. MATERIAL COLLECTED		Particulate
3. OPERATING CONDITION		
4. AV. FLUE GAS VELOCITY, FT/SEC.		71.5
5. AV. FLUE GAS TEMP., °F		160
6. AREA OF FLUE, SQ. FT.		6.78
7. FLUE GAS FLOW RATE, SCFM		24394 ← = 1,460,000 SCFH
8. SAMPLING NOZZLE DIAMETER, INCHES		.25
9. METER SAMPLING RATE, CFM	1.25	1.25
10. TESTING TIME, MIN.	60	60
11. AV. METER VACUUM, IN. HG	9.8	9.7
12. AV. METER TEMP., °F	71.3	72.6
13. SAMPLE GAS VOL. @ METER COND., CF	75.50	75.30
14. WATER VAPOR: CONDENSATE, ML.	125.0	127.5
VOLUME, CF, METER COND.	30.39	30.36
15. TOTAL SAMPLE GAS VOLUME, CF	105.89	105.66
16. TOTAL SAMPLE GAS VOLUME, SCF	68.80	69.68
17. WEIGHT COLLECTED, GRAMS		
A.	.0330	Impinger .0317
B.	.0006	Filter ---
C.		
D.		
TOTAL WEIGHT, GRAMS	.0336	.0317
18. CONCENTRATION, GRAINS/SCF	.007	.007
19. CONCENTRATION, GRAINS/SCF @ 12% CO <sub>2</sub>		
20. CONCENTRATION, PERCENT BY VOLUME		
21. CONCENTRATION, PPM BY VOLUME		
22. MATERIAL FLOW RATE, LBS/HR.	1.46	1.46

COLLECTION EFFICIENCY

23. MATERIAL TO COLLECTOR, LBS/HR.	
24. LOSS TO ATMOSPHERE, LBS/HR.	
25. MATERIAL COLLECTED, LBS/HR.	
26. EFFICIENCY, %	

ORSAT ANALYSIS

DRY BASIS:

CO <sub>2</sub> , %	13.2	13.2
O <sub>2</sub> , %	2.6	2.6
CO, %	3.1	3.1
N <sub>2</sub> , %	81.1	81.1

WET BASIS:

CO <sub>2</sub> , %	9.2	9.2
O <sub>2</sub> , %	1.3	1.3
CO, %	2.2	2.2
H <sub>2</sub> , %	56.5	56.7
H <sub>2</sub> O, %	30.3	30.1



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

215 Fremont Street  
San Francisco, Ca. 94105

RECEIVED  
NOV 26 1979  
KERN COUNTY HEALTH DEPT.

In Reply E-3-2  
Refer to: ENF 3-0-2

Mr. Jack L. Caufield  
Environmental Engineer Supervisor  
Tosco Corporation  
P.O. Box 2860  
Bakersfield, California 93303

NOV 19 1979

Dear Mr. Caufield:

This is in response to your letter of October 10, 1979, which transmitted a copy of source test results on your coker CO boiler. The results indicate that by using fuel oil with a nitrogen content of 0.5% the boiler complies with the NO<sub>x</sub> limits stated in your amended New Source Review (NSR) permit (NSR 4-4-8, SJ 76-16) issued August 6, 1979. However, during the September 20, 1979, test the boiler failed to meet the CO emission limit. In fact, our review of the test results over the past two years indicates that at no time during the 8 tests was compliance simultaneously demonstrated for each pollutant (see attachment). Due to the fact that many modifications have been made to the boiler and considering that the most recent tests for SO<sub>2</sub> and particulate matter were conducted over a year ago and prior to some boiler modifications, we cannot consider the boiler in full compliance with the NSR permit limits when firing fuel oil as the auxiliary boiler fuel. To demonstrate compliance when firing fuel oil you are required to perform source tests for all five permitted pollutants (NO<sub>x</sub>, SO<sub>2</sub>, CO, particulate matter and non-methane volatile organic compounds).

Since the CO boiler is normally operated with fuel gas as the auxiliary fuel, we are not requiring you to test immediately. You may delay testing until January 1980 when the latest burner modifications are completed. However, should you switch to firing all fuel oil as the auxiliary boiler fuel, you must immediately report this to EPA and a source test may be required at that time.

In no event should the nitrogen content of the fuel oil used to fire the boiler exceed 0.5%. In addition, you are required to submit a monthly report to EPA of the amount of fuel oil used per day to fire the CO boiler.

Nevertheless, if you wish to certify in writing that the CO boiler will be fired with fuel gas only as the auxiliary fuel, we will consider the CO boiler to be in compliance with all MSR permit requirements. Otherwise, the boiler will not be considered in full compliance until a source test is conducted and results are submitted to this office which show compliance with all permit limits.

If you have any questions, please contact Paula Bisson of my staff at (415)556-6150.

Sincerely yours,

ORIGINAL SIGNED BY:

DAVID P. HOWECAMP

FOR

Clyde B. Eller

Director

Enforcement Division

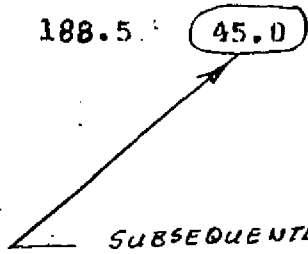
Attachment

cc: California Air Resources Board

~~Kern~~ County Air Pollution Control District

Table of Coker CO Boiler Emissions

Test Date	Emissions (lbs/hr)				
	NO <sub>x</sub>	SO <sub>2</sub>	CO	Particulate Matter	Non-Methane Volatile Organic Compounds
5-24-77	102.3	168	40.6	14.9	1562.1
5-25-77	139.5	207.8	23.5	16.3	1138.7
2-10-78	82.4	208.9	8.5	-	80.2
2-10-78	82.4	183.4	8.9	-	46.8
9-20-78	92.9	112.1	7.1	-	100
4-27-79	137	-	42.8	-	1.34
8-3-79	107	-	48.4	-	6.52
9-20-79	89.9	-	74.8	-	-
Permit Limit	91.9	188.5	45.0	18.84	10.


 SUBSEQUENTLY REVISED TO 0.1 VOL %



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 REGION IX  
 215 Fremont Street  
 San Francisco, Ca. 94105

22 JUN 1983

In Reply A-3-1  
 Refer to: NSR 4-4-8  
 SJ 76-16

Mr. Jack L. Caufield  
 Manager of Environmental Affairs  
 Tosco Corporation  
 P.O. Box 2860  
 Bakersfield, CA 93303

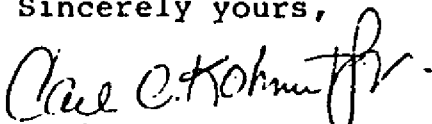
Dear Mr. Caufield:

In accordance with provisions of the Clean Air Act, as amended (42 U.S.C. 7401 et seq.), the Environmental Protection Agency has reviewed Tosco Corporation's December 23, 1982 request that their November 2, 1976 EPA Approval to Construct be amended.

A request for public comment regarding EPA's proposed action on the above application has been published. After consideration of the expressed views of all interested persons (including State and local agencies), and pertinent Federal statutes and regulations, the EPA hereby issues the enclosed Approval to Construct/Modify a Stationary Source for the facilities described above. This action does not constitute a significant change from the proposed action set forth and offered for public comment.

This amendment shall take effect immediately.

Sincerely yours,

*for*   
 David P. Howekamp  
 Director  
 Air Management Division

Enclosures

cc: California Air Resources  
 Board  
 Kern County Air Pollution  
 Control District

Amendment to Tosco Corporation's  
November 2, 1976 Approval to Construct  
(NSR 4-4-8, SJ 76-16)

The EPA hereby amends Permit Condition VII. Special Condition I.3. to read as follows:

3. On or after the date of start-up, Tosco Corporation shall not discharge or cause the discharge into the atmosphere from the CO boiler any gases which contain carbon monoxide in excess of 0.1% (2-hour average) by volume at 2% O<sub>2</sub>.

All of the other permit conditions are unchanged and remain in effect.



DRAFT COPY.

REFERENCE (3)

TOSCO CORPORATION

POST OFFICE BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
805/327-2121

November 15, 1979

Leon M. Hebertson, M.D.  
Kern County Air Pollution Control District  
1601 H Street, Suite 250  
Bakersfield, CA 93301

Gentlemen:

At the September 7, 1979 Air Resources Board Meeting, the ARB staff was directed to establish the amount of banked tradeoffs in Kern County since December 28, 1976. We have discussed these tradeoffs with your staff, ARB staff and reviewed the recent letter from Citron Toy of your staff. Attached are calculations and our estimate of the banked tradeoffs.

In general, your staff's interpretation of rule 210.1, passed December 28, 1976, conforms with our understanding of how the rule was to be interpreted. Therefore, we have based our operating levels for the purposes of establishing tradeoffs on the operating levels of the equipment from December 1976 to the time of equipment startup. The projects included in the attached analysis are the Fluid Coker CO Boiler, the A Reformer Desulfurizer Modification, and the Citrate Plant Installation.

Several projects which have occurred since December 1976 are not included in our assessment. These projects (including for example two compressor additions) have either had little effect on emissions, were changes in steam usage under our EPA limits, or were required by regulations.

Sincerely,

TOSCO CORPORATION

Jack L. Caufield  
Environmental Engineering Supervisor

JLC/jb

I - COKER CO BOILER INSTALLATION

A. Boilers before Coker CO Boiler

1. The operating average for each fired boiler for the months of December 1976, January 1977 and February 1977 follows. Calculations are derived from daily operating data records except that the data for December 12, 1976 could not be found. The Coker CO Boiler started in March 1977. The daily operating average steam production reached as high as 273 Mlbs/hr. <sup>(4)</sup>

Equipment	Efficiency <sup>(1)</sup> (1975 Avg.)	Dec. 1976 thru Feb. 1977 Daily Avg. Steam Load lbs/hr.	Input heat at 1030 RTU/lb. Steam
81B11	71.8%	28,300	$(1030)(28,300) = 40.6$ MMBTU/hr .718
81B12	78.7%	22,300	$(1030)(22,300) = 29.2$ MMBTU/hr .787
81B13	75.6%	22,300	$(1030)(22,300) = 30.4$ MMBTU/hr .756
81B14 <sup>(3)</sup>	70.3%	16,100	$(1030)(16,100) = 23.6$ MMBTU/hr .703
81B15	68.2%	26,500	$(1030)(26,500) = 40.0$ MMBTU/hr .682
81B16	74.1%	26,400	$(1030)(26,400) = 36.7$ MMBTU/hr .741
81B17	71.3%	37,800	$(1030)(37,800) = 54.6$ MMBTU/hr .713
81B18 <sup>(2)</sup>	68.7%	39,800	$(1030)(39,800) = 59.7$ MMBTU/hr .687
TOTAL		219,500	314.8 MMBTU/hr

- (1) Latest efficiency data available and the same data as used in the permit application for the Coker CO Boiler.
- (2) Normally fire pitch instead of fuel oil at 6.7 MMBTU/Bbl. Data based on firing number 6 fuel oil at 6.4 MMBTU/Bbl., 0.8% nitrogen and 1.25% sulfur using AP-42. Fuel gas is normally used for control purposes.
- (3) Number 4 boiler has gas burners only, so emissions calculated using 0.5% sulfur fuel gas, 7lbs/MMSCF TSP, 210lbs/MMSCF NO<sub>x</sub> and AP-42.
- (4) We also reviewed operation of the boilers during 1974, 1975, and 1976 as ARB staff requested. The annual average for 1974 was 209.1 Mlbs/day (excluding December 1974 when the fluid coker, a large steam user, was down for two separate turnarounds), for 1975 was 191.1 (11 months data available) and for 1976 was 204.7 Mlbs/day.
- (5) All Boiler emissions except Boiler 81B14 are based on firing 100% #6 fuel oil with 0.8% Nitrogen and 1.25% Sulfur using AP-42. Natural gas or fuel gas is normally used for control purposes. We consider #6 Fuel oil usage as the worst case condition, so the assessment has been done on the worst case basis.

EXCERPT

6.1  
2192  
21

TOTAL STEAM MAKE  
FOR MONTH OF DEC 1976  
23 0-11 4500 max  
THOUSANDS OF LBS. PER HOUR

20512  
22-A-12

DAY	#1 DEAERATOR				#3 DEAERATOR					#2 DEAERATOR										#1 DEAERATOR				
	#2	#3	#4	TOTAL	#1	#5	#8	#7	#8	TOTAL	12E13	12E14	12E15	12E11	18E1314	17E14	17E15	17E16	17E62	17E16	TOTAL	20E11	20E	
1				78	31	21	27.5	32	39	150.5	0	8.32	12.42	13.78	22.0	2.1	15.8	0	0	0	0	25	16	
2	30	30	26	86	31	28.9	28.8	35	35	152.6	0	8.09	12.025	17.40	24.6	2.1	15.8	0	0	0	0	61	15	
3	20	21	21	62	31	30	32	40	40	143	0	8.09	12.08	17.40	24.6	2.1	15.6	0	0	0	0	52	15	
4	31	31	26	88	32	33.4	33.6	40	41	145	0	8.55	15.31	16.28	24.9	2.1	14.6	0	0	0	0			
5	31	31	23	85	32	33.0	32.0	42	41	179	0	7.52	15.54	17.18	16.3	2.8	14.0	0	1.2	4.4	3.7			
6			4	73	32	35	35	42	42	146		7.40	13.275	17.18										
7				73	32	35	35	42	42	146		7.36	13.105	16.98										
8				65	32	35	34	43	41	143		7.94	14.92	16.98										
9	15	15	18	48	32	31	32	41	39	175	1.2	2.5	0	13.92	5.5	25.4	0	1.2	1.6	28.4	0	33	15	
10				62	32	32	32	36	35	167		8.24	15.07	14.98										
11				50	32	30	30	42	43	177	15.0	6.36	11.07	12.82	5.3	3.2	0	0	5.3	1.7	30.8	0	37	15
12												7.63	15.30	15.18										
13	27	21	21	69	27	27	35	30	30	151	1.68	15.1	10.06	16.50	17.44	17.14	11.2	14.0	0	4.6	3.1	32.1	0	0
14	22	14	20	61	30	32	31	32	31	151	1.61	15.1	9.36	15.71	17.15		11.2	0	4.3	4.8	30.3	0	0	
15			22	73	30	32	32	20	22	136	13.6	11.3	7.17	17.18	14.0	4.2	10.8	0	7.3	5.7	22.3	0	0	
16				69	31	32	31.6	28	30	152.6	13.6	11.3	5.12	15.54	18.2	4.7	4.2	0	6.0	4.4	32.5	0	0	
17				67	31	30	30	40	38	146	13.6		19	14.0	5.2	14.8	0	7.8	4.4	27.3	0	0		
18	35	24	18	77	29	30	30	39	36	164	13.7	18.1	7.75	14.10	15.0	13.6	14.2	0	4.4	4.4	31.7	0	0	
19	25	25	18.5	68.5	30	24.5	23.5	40	36.5	162.5	13.4	14.8	7.13	16.52	16.54	14.2	3.0	0	10.2	4.1	22.5	0	0	
20	32	22	18	72	31	24	25	42	39	161.0	10.2	14.8	7.57	15.07	20.7	20.4	15.1	0	1.2	4.6	29.9	0	0	
21	25	25	18	68	31	28	26.5	35	35	155.0	0	7.7	4.11	17.18	26.2	19.3	4.9	0	0	4.9	29.0	0	0	
22	25	22	19	66	30	25	26.5	27	26.0	158.4	0	9.1	4.05	16.23	17.2	21.4	5.0	0	0	4.7	29.5	0	0	
23	24	20	16	60	30	22	23	27	26.0	158.4	0	9.1	4.67	16.46	17.12	21.4	5.0	0	0	4.7	24.2	0	0	
24	23	22	16	61	30	21	22	42	35	156.0	0	15.5	2.55	16.23	17.15	16.9	5.6	0	0	4.8	27.5	0	0	
25	25	20	19	64	22	20	20	4.0	4.0	142	0	7.1	4.16	16.23	16.78	17.4	4.7	0	0	5.3	30.4	0	0	
26	25	14	15	54	30	24	24	35	32	154	0	16.8	5.21	15.54	16.97	19.0	6.1	16.1	0	1.2	4.9	27.5	0	0
27			16	60	29	27.2	27.0	35	37	159.8	0	16.8	4.97	15.54	16.98	19.0	5.1	16.1	0	1.2	4.9	27.5	0	0
28			15	63.5	26	27.0	28.1	34	38	158.5	0	16.8	6.02	15.54	17.18	19.7	5.2	16.0	0	1.2	4.9	28.0	0	0
29			18	61.5	27	28	27.2	34	37	159	0	16.8	6.13	15.54	16.98	21.4	5.3	16.0	0	1.2	4.9	28.5	0	0
30			19	62	27	28	26	35	34	159	0	16.8	6.07	15.54	16.98	21.4	5.4	16.0	0	1.2	4.9	28.5	0	0
31	50	50	146.5	846.5	863	842	843	1101	1326	4766														
32	15	15	15	45	28	27	27	36	44	143														

1189  
611  
230.5  
Dec 28, 1976  
Dec 29, 1976  
Dec 30, 1976  
Dec 31, 1976

REFERENCE (3)

MILTON R. BEYCHOK

CONSULTING ENGINEER

BY \_\_\_\_\_ SHEET NO. \_\_\_\_\_

DATE \_\_\_\_\_

REVIEW OF REFINERY RECORDS

REFERENCE (4)

FUEL OIL SULFUR CONTENT:

(a) 1974 : 350 TESTS AVERAGING 1.13 WT %  
 1975 : 353 TESTS AVERAGING 1.04 WT %  
 1976 : AVERAGING 0.96 WT %  
 OVERALL AVG. =  $(1.13 + 1.04 + 0.96) / 3$   
 = 1.04 WT %

(b) MAXIMUM = 1.25 WT % BASED ON SCAN OF 1974-1976 TESTS.

FUEL OIL NITROGEN CONTENT:

8000 PPM BASED ON SCAN OF LAB TEST RECORDS.

BOILER FUEL OIL USAGE:

DEC. 1976 = 10,983 BBL'S  
 JAN. 1977 = 15,429 BBL'S  
 FEB. 1977 = 7,106 BBL'S

AVERAGE =  $(10983 + 15429 + 7106) / 3 = 11,173$  BBL'S / MONTH  
 =  $(11,173 / 30)(42 / 2.4)$   
 = 651 GALS / HR

FUEL GAS H<sub>2</sub>S CONTENT: (#1 FUEL GAS DRUM)

1-2-74	0.9 VOL %	
7-1-74	1.5 "	AVERAGE = 0.5 VOL % H <sub>2</sub> S
12-4-74	0.3 "	MAXIMUM = 1.5 VOL % H <sub>2</sub> S
3-3-75	0.3 "	
8-29-75	0.1 "	
11-28-75	0.1 "	
3-8-76	0.4 "	
5-27-76	0.6 "	
8-26-76	0.3 "	
2-27-76	0.3 "	

(AP-42)

TABLE 1.3-1. UNCONTROLLED EMISSION FACTORS FOR FUEL OIL COMBUSTION

EMISSION FACTOR RATING: A

1.3-2

Boiler Type <sup>a</sup>	Particulate <sup>b</sup> Matter		Sulfur Dioxide <sup>c</sup>		Sulfur Trioxide		Carbon Monoxide <sup>d</sup>		Nitrogen Oxide <sup>e</sup>		Volatile Organics <sup>f</sup> Nonmethane		Methane	
	kg/10 <sup>3</sup> l	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> l	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> l	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> l	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> l	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> l	lb/10 <sup>3</sup> gal	kg/10 <sup>3</sup> l	lb/10 <sup>3</sup> gal
Utility Boilers Residual Oil	g	g	19S	157S	0.34S <sup>h</sup>	2.9S <sup>h</sup>	0.6	5	8.0 (12.6)(5) <sup>1</sup>	67 (105)(42) <sup>1</sup>	0.09	0.76	0.03	0.28
Industrial Boilers Residual Oil	g	g	19S	157S	0.24S	2S	0.6	5	6.6 <sup>j</sup>	55 <sup>3</sup>	0.034	0.28	0.12	1.0
Distillate Oil	0.24	2	17S	142S	0.24S	2S	0.6	5	2.4	20	0.024	0.2	0.006	0.052
Commercial Boilers Residual Oil	g	g	19S	157S	0.24S	2S	0.6	5	6.6	55	0.14	1.13	0.057	0.475
Distillate Oil	0.24	2	17S	142S	0.24S	2S	0.6	5	2.4	20	0.04	0.34	0.026	0.216
Residential Furnaces Distillate Oil	0.3	2.5	17S	142S	0.24S	2S	0.6	5	2.2	18	0.085	0.713	0.214	1.78

EMISSION FACTORS

<sup>a</sup>Boilers can be approximately classified according to their gross (higher) heat rate as shown below:

- Utility (power plant) boilers: >106 x 10<sup>9</sup> J/hr (>100 x 10<sup>6</sup> Btu/hr)
- Industrial boilers: 10.6 x 10<sup>9</sup> to 106 x 10<sup>9</sup> J/hr (10 x 10<sup>6</sup> to 100 x 10<sup>6</sup> Btu/hr)
- Commercial boilers: 0.5 x 10<sup>9</sup> to 10.6 x 10<sup>9</sup> J/hr (0.5 x 10<sup>6</sup> to 10 x 10<sup>6</sup> Btu/hr)
- Residential furnaces: <0.5 x 10<sup>9</sup> J/hr (<0.5 x 10<sup>6</sup> Btu/hr)

<sup>b</sup>References 3-7 and 24-25. Particulate matter is defined in this section as that material collected by EPA Method 5 (front half catch).

<sup>c</sup>References 1-5. S indicates that the weight % of sulfur in the oil should be multiplied by the value given.

<sup>d</sup>References 3-5 and 8-10. Carbon monoxide emissions may increase by factors of 10 to 100 if the unit is improperly operated or not well maintained.

<sup>e</sup>Expressed as NO<sub>2</sub>. References 1-5, 8-11, 17 and 26. Test results indicate that at least 95% by weight of NO<sub>x</sub> is NO for all boiler types except residential furnaces, where about 75% is NO.

<sup>f</sup>References 18-21. Volatile organic compound emissions are generally negligible unless boiler is improperly operated or not well maintained, in which case emissions may increase by several orders of magnitude.

<sup>g</sup>Particulate emission factors for residual oil combustion are, on average, a function of fuel oil grade and sulfur content:

- Grade 6 oil: 1.25(S) + 0.38 kg/10<sup>3</sup> liter [10(S) + 3 lb/10<sup>3</sup> gal] where S is the weight % of sulfur in the oil. This relationship is based on 81 individual tests and has a correlation coefficient of 0.65.
- Grade 5 oil: 1.25 kg/10<sup>3</sup> liter (10 lb/10<sup>3</sup> gal)
- Grade 4 oil: 0.88 kg/10<sup>3</sup> liter (7 lb/10<sup>3</sup> gal)

<sup>h</sup>Reference 25.

<sup>1</sup>Use 5 kg/10<sup>3</sup> liters (42 lb/10<sup>3</sup> gal) for tangentially fired boilers, 12.6 kg/10<sup>3</sup> liters (105 lb/10<sup>3</sup> gal) for vertical fired boilers, and 8.0 kg/10<sup>3</sup> liters (67 lb/10<sup>3</sup> gal) for all others, at full load and normal (>15%) excess air. Several combustion modifications can be employed for NO<sub>x</sub> reduction: (1) limited excess air can reduce NO<sub>x</sub> emissions 5-20%, (2) staged combustion 20-40%, (3) using low NO<sub>x</sub> burners 20-50%, and (4) ammonia injection can reduce NO<sub>x</sub> emissions 40-70% but may increase emissions of ammonia. Combinations of these modifications have been employed for further reductions in certain boilers. See Reference 23 for a discussion of these and other NO<sub>x</sub> reducing techniques and their operational and environmental impacts.

<sup>3</sup>Nitrogen oxides emissions from residual oil combustion in industrial and commercial boilers are strongly related to fuel nitrogen content, estimated more accurately by the empirical relationship:

kg NO<sub>x</sub>/10<sup>3</sup> liters = 2.75 + 50(N)<sup>2</sup> [1b NO<sub>2</sub>/10<sup>3</sup> gal = 22 + 400(N)<sup>2</sup>] where N is the weight % of nitrogen in the oil. For residual oils having high (>0.5 weight %) nitrogen content, use 15 kg NO<sub>2</sub>/10<sup>3</sup> liter (120 lb NO<sub>2</sub>/10<sup>3</sup> gal) as an emission factor.

$$NO_x = 120 \text{ LBS}/10^3 \text{ GALS} \quad \text{FOR } N_2 = 8000 \text{ ppm} = 0.8 \text{ WT } \%$$

$$\begin{aligned} \text{PARTIC.} &= 10(1.25) + 3 = 15.5 \text{ LBS}/10^3 \text{ GAL} \quad \text{FOR } S = 1.25 \text{ WT } \% \\ &= 10(1.04) + 3 = 13.4 \text{ LBS}/10^3 \text{ GAL} \quad \text{FOR } S = 1.04 \text{ WT } \% \end{aligned}$$

8/82

REFERENCE (5)

(AP-42) TABLE 1.4-1. UNCONTROLLED EMISSION FACTORS FOR NATURAL GAS COMBUSTION<sup>a</sup>

Furnace Size & Type (10 <sup>6</sup> Btu/hr heat input)	Particulates <sup>b</sup>		Sulfur <sup>c</sup> Dioxide		Nitrogen <sup>d,e</sup> Oxide		Carbon <sup>f,g</sup> Monoxide		Volatile Organics			
	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	Nonmethane		Methane	
	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>
Utility boilers (>100)	16-80	1-5	9.6	0.6	8800 <sup>h</sup>	550 <sup>h</sup>	640	40	23	1.4	4.8	0.3
→ Industrial boilers (10 - 100)	16-80	1-5	9.6	0.6	2240	140	560	35	44	2.8	48	3
Domestic and commercial boilers (<10)	16-80	1-5	9.6	0.6	1600	100	320	20	84	5.3	43	2.7

<sup>a</sup>All emission factors are expressed as weight per volume fuel fired.

<sup>b</sup>References 15-18.

<sup>c</sup>Reference 4 (based on an average sulfur content of natural gas of 4600 g/10<sup>6</sup> Nm<sup>3</sup> (2000 gr/10<sup>6</sup> scf)).

<sup>d</sup>References 4-5,7-8,11,14,18-19,21.

<sup>e</sup>Expressed as NO<sub>2</sub>. Test results indicate that about 95 weight % of NO<sub>x</sub> is NO.

<sup>f</sup>References 4,7-8,16,18,22-25.

<sup>g</sup>References 16 and 18. May increase 10 to 100 times with improper operation or maintenance.

<sup>h</sup>Use 4400 kg/10<sup>6</sup> m<sup>3</sup> (275 lb/10<sup>6</sup> ft<sup>3</sup>) for tangentially fired units. At reduced loads, multiply this factor by the load reduction coefficient given in Figure 1.4-1. See text for potential NO<sub>x</sub> reductions by combustion modifications. Note that the NO<sub>x</sub> reduction from these modifications will also occur at reduced load conditions.

CHEMECOLOGY CORPORATION

2065 COMMERCE AVE.  
CONCORD, CALIFORNIA 94520  
(415) 689-0621

REFERENCE (6)

FIELD DATA SOURCE TEST

Prepared for TOSCO

P.O. BOX 2860

Bakersfield, Calif. 93303

Attention: Jack Caufield

Regarding: \_\_\_\_\_

Regulatory Agency EPA

Purpose Compliance

Test Date April 27, 1979

Unit Tested: CO Boiler Outlet (Oil Fired)

Report Number a-737

Reviewed By *Perry Albert*  
CHEMECOLOGY CORP.

SUMMARY SELECTED RESULTS:

<u>PROCESS CONDITIONS:</u>	<u>1320-1350</u>	<u>1815-1830</u>	<u>AVG</u>
Volume Flow, SDCFM:	56,400	54,900	55,650
Avg. Td, °F:	461	466	464
% vol H <sub>2</sub> O:	15.4	14.0	14.7

<u>GASEOUS CONCENTRATIONS:</u>	<u>Run #1</u>	<u>Run #2</u>	<u>Run #3</u>	<u>Run #4</u>	<u>AVG</u>
% Vol O <sub>2</sub> :	3.0	3.5	3.1	3.6	3.3
ppm vol CO:	165	191	165	192	178
lb/hr, CO:	40.1	46.4	40.1	46.7	43.3
Lt. HC by G.C., ppm:	1.8	2.6	2.6	-	2.3
, lb/hr:	0.9	1.0	1.2	-	1.0
Carbonyls, ppm:	1.5	0.9	0.7	-	1.0
, lb/hr:	0.40	0.23	0.17	-	0.27
NO <sub>x</sub> as NO <sub>2</sub> , ppm:	AVG = 348				
, lb/hr:	= 137				



From Process Engineering

To: Environmental Engineering

Subject: Maximum Refinery Fuel Burning

The attached July 26, 1973 summary by M.G. Boone is a list of design heat releases of all refinery heaters. Per your request we have reviewed the list to see if it is as correct as possible. We have the following comments:

1. The list (far right column) gives Design Heat Release. However, the maximum is probably 120% of design. We were able to find ~~test run~~<sup>operating</sup> data at heat releases above those listed.
2. Design heat release for 11-H-11 is wrong and should be 107 MMBTU/hr. See Oil and Gas Journal Article May 4, 1981 p 249
3. TCC Kilns should be included.
4. TCC Heaters 17H12 and 17H13 seldom run but could be included at 10 MMBTU/hr each design heat release.
5. 21-H-11 and 21-H-12 are identical heaters and should both be listed at 17.4 MMBTU/hr design heat release.
6. 21-H-15 and 21-H-16 are identical heaters and should both be listed at 13.3 MMBTU/hr design heat release.
7. The Coker burner has a high heat release yet, it is not listed.
8. The ~~data on the~~ boilers 81-B-11 to 81-B-18 efficiency at 80% is too high. 70% is more normal. In addition, 81-B-11 is rated at 50,000 lb/hr per July 1979 Major Energy ~~Customer~~ Customer Data, Southern Calif Gas Company.

The Design maximum heat releases for the boilers

then become:

<u>Boiler</u>	<u>Heat Release</u>
81-B-11	73
81-B-12	36
81-B-13	36
81-B-14	36
81-B-15	44
81-B-16	44
81-B-17	88
81-B-18	88

cc JLC (2)

JAK

JPM

Submitted by

G. D. Davis

Tosco Corporation  
2401 Colorado Avenue  
P.O. Box 2401  
Santa Monica  
California 90406-2401  
Telephone 213 207-6000

TG

**Tosco**

July 3, 1986

CERTIFIED MAIL #P 708 371 585  
RETURN RECEIPT REQUESTED

Kern County Air Pollution Control District  
1601 H. Street, Suite 150  
Bakersfield, CA 93301

ATTN: Mr. Tom Goff

Dear Mr Goff:

Effective June 30, 1986, Tosco Corporation ("Tosco") sold its Bakersfield refinery to Texaco Refining and Marketing Inc. ("Texaco"), which is a wholly-owned subsidiary of Texaco Inc., and has offices located at 10 Universal City Plaza, Universal City, CA 91608-1097. In connection with the transfer of the refinery, Tosco has surrendered to Texaco all rights and privileges under the following Kern County Air Pollution Control District "Permits to Operate" associated with the Bakersfield refinery:

2003001-011, inclusive  
2003015-032, inclusive  
2003034-081, inclusive  
2003083-085, inclusive  
4080002-003, inclusive  
4080006-010, inclusive

You and Julia Girard, corporate counsel for Tosco, have spoken about this matter, and as a result of your conversations, it is our understanding that in order for your office to complete the transfer of these permits you will need, in addition to this letter from Tosco, an Application for Transfer of Permits from Texaco, together with a \$20 filing fee for each permit transferred. We have informed Texaco about this matter, and they will be writing to your office to obtain an application form.

It is our understanding that Tosco's Kern County Air Pollution Control District "Authorities to Construct" Nos. 2003024C, 2003030 and 2003004B are not transferable. We have therefore informed Texaco that if they wish to do the construction authorized by these Authorities, they will need to submit new applications and pay the \$60 filing fee for each one.

RECEIVED  
JUL 8 1986

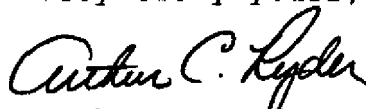
9461

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

Mr. Tom Goff  
July 3, 1986  
Page 2

If you have any questions about the matters discussed in this letter or if you need any additional information from Tosco, please do not hesitate to call either me at 213/207-7382 or Julia Girard at 213/207-7027. If you need to contact Texaco, you can call Stephen Mazoff at 818/505-3005.

Very truly yours,

  
Arthur C. Ryder

cc: Julia M. Girard, Esq.  
Stephen M. Mazoff, Esq.

## KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 250  
Bakersfield, California 93301

Telephone  
(805) 861-3682

APPLICATION FOR (check appropriate items)

- |  |   |
|--|---|
| <input type="checkbox"/> Authority to Construct                | <input type="checkbox"/> Permit to Operate                |
| <input type="checkbox"/> Authority to Construct - Modification | <input type="checkbox"/> Transfer of Location             |
| <input type="checkbox"/> Authority to Construct - Renewal      | <input checked="" type="checkbox"/> Transfer of Ownership |

An application is required for each source operation as defined in Rule 102, Section cc

**1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment:**

Texaco Refining and Marketing Inc., Bakersfield Plant

**2. MAILING ADDRESS:**

P. O. Box 1476, Bakersfield, CA Zip Code: 93302

**3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED:**

6451 Rosedale Highway - West Plant, Bakersfield, CA

**4. GENERAL NATURE OF BUSINESS:**

Petroleum refining

**5. EQUIPMENT FOR WHICH APPLICATION IS MADE:**

Application for applicable Emission Reduction Certificate (ERC) previously filed by Tosco Corporation. See attached assignment.

Provide additional information as required by District "Instructions".

**6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:**

**7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT:**

<b>8. SIGNATURE OF APPLICATION</b> <i>L. E. Perrier</i>	<b>TITLE OF SIGNER:</b> Plant Manager	
--	--	--

<b>9. TYPE OR PRINT NAME OF SIGNER:</b> L. E. Perrier	<b>DATE:</b> 7/9/86	<b>PHONE NO.:</b> 805/326-4200
--	------------------------	-----------------------------------



Validation (A.P.C.D. use only)

FILING FEE: \$ <u>60.00</u>	RECEIPT NO.: <u>608388</u>
FEE SCHEDULE NUMBER:	DATE:

7/10/86

RECEIPT		COUNTY OF KERN STATE OF CALIFORNIA		RECEIPT NO. A-608388	
REFERENCE NO.	9149	DATE RECEIVED	7/10/86	19	
RECEIVED FROM	Texaco Refining & Marketing Inc.				
AMOUNT ON ACCOUNT OF	Sixty Dollars & No/100		DOLLARS	\$ 60.00	
A/C - transfer CK# 00515					
AMT. OF ACC.	\$ 60.00	HOW PAID		DEPARTMENT	KCAPCD
AMT. PAID	\$ 60.00	CASH	<input type="checkbox"/>	LOCATION	BKSpd
BAL. DUE	\$ 0	CHECK	<input checked="" type="checkbox"/>	BY	RL
		M.O.	<input type="checkbox"/>		Ⓛ

Tosco Corporation  
2401 Colorado Avenue  
P.O. Box 2401  
Santa Monica  
California 90406-2401  
Telephone 213 207-6000

**Tosco**

May 23, 1986

Leon M. Hebertson, M.D.  
Kern County Air Pollution Control District  
1601 H Street, Suite 150  
Bakersfield, CA 93301-5199

Attn: Tom Paxson


Dear Dr. Hebertson:

During our meeting on May 19, we informed your staff that Tosco has decided to drop from its application for an Emission Reduction Credits Certificate, all previously identified projects except the following four projects:

Coker CO Boiler (and modifications)	ATC 2003027 ATC 2003027A ATC 2003027B ATC 2003027C
Citrate Scrubber (and modifications)	ATC 2003026A ATC 2003026B ATC 2003026C
#2 Gas Plant	ATC 2003076
Hydrocracker Sour Water Stripper	ATC 2003020C

We believe that this decision on our part will greatly reduce the computational effort required of our respective staffs.

Very truly yours,

  
Arthur C. Ryder

cc: Leon M. Hebertson, M.D.  
Kern County Health Department  
1700 Flower Street  
Bakersfield, CA 93305-4198

**RECEIVED**  
MAY 27 1986

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

May 9, 1986

Mr. A. C. Ryder  
Technical Manager  
Tosco Corporation  
P. O. Box 2401  
Santa Monica, CA 90406-2401

Dear Mr. Ryder:

On April 25, 1983 the Kern County Air Pollution Control Board adopted Rule 210.3- Emission Reduction Banking. Section C.4.(b) of that rule states "Applications for qualifying emissions reductions occurring before the date of adoption of this rule shall be filed within one year of adoption." On April 24, 1984 Tosco Corp. proffered a Kern County Health Department Form HD #5080 4110 400 (6/81) modified by Tosco as an application for emissions reduction credit. This was returned the same date with the explanation that no documentation of emission reductions was submitted.

On October 28, 1985 Tosco Corp. submitted the same modified form and support information requesting validation of emission reduction credits of 237 pounds per day of particulate matter, 10,377 pounds per day of sulfur dioxide, 2,240 pounds per day of oxides of nitrogen, 28,129 pounds per day of hydrocarbons, 74,316 pounds per day of carbon monoxide and 543 pounds per day of hydrogen sulfide. On November 27, 1985 the District notified Tosco that in order for a banking certificate to be issued, Rule 210.3 requires the Control Officer to validate the claimed emission reduction credit by finding it to be real, surplus, permanent, quantifiable and enforceable.

*On 1/27/86  
and discussed  
to be resolved*

On February 24, 1986 at Tosco's request, a meeting was held concerning Tosco's application. At that meeting ~~it was agreed that the District would provide another listing of the requirements of Rule 210.3 and that Tosco would resolve these issues in a timely manner. The District letter of February 27, 1986 fulfilled its commitment. It appears Tosco may have misunderstood this commitment.~~

*The District agreed to clarify further. The issues identified in the letter of Feb 27 1986*

*to*

*was noted that Tosco had had over 2 years.*

As ~~Tosco agreed~~, if the data submitted cannot be reasonably validated by the Control Officer, the door to further submittal and negotiation would close. The data submitted is not actual emission data and actual process data. It is contradictory and inconsistent with information previously entered into District records. It consists of numbers which have no credibility- this is not actual data. Therefore, the emissions reduction credits requested October 28, 1985 cannot be reasonably validated, and pursuant to Rule 210.3 section C.2.(h) are not eligible for receipt of banking certificates. Accordingly, we are hereby denying your October 28, 1985 request for a banking certificate.



A.C. Ryder  
Tosco  
May 9, 1986

Page 2

Pursuant to Rule 210.3 Section D.2.(b), you have 30 days to appeal this denial to the Kern County Air Pollution Control District Hearing Board should you so choose. Regulation V of the Rules and Regulations of the Kern County Air Pollution Control District sets forth procedures before the Hearing Board.

Sincerely,

Leon M Hebertson, M.D.  
Air Pollution Control Officer

LH/TG/nn

Copy to: J.L. Caufield, Mgr.  
Environmental Affairs  
Tosco Corp.  
P.O. Box 2860  
Bakersfield, CA 93303

ZRYDER

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DRAFT

not sent in this form

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

May 9, 1986

Mr. A. C. Ryder  
Technical Manager  
Tosco Corporation  
P. O. Box 2401  
Santa Monica, CA 90406-2401

Dear Mr. Ryder:

On April 25, 1983 the Kern County Air Pollution Control Board adopted Rule 210.3- Emission Reduction Banking. Section C.4.(b) of that rule states "Applications for qualifying emissions reductions occurring before the date of adoption of this rule shall be filed within one year of adoption." On April 24, 1984 Tosco Corp. proffered a Kern County Health Department Form HD #5080 4110 400 (6/81) modified by Tosco as an application for emissions reduction credit. This was returned the same date with the explanation that no documentation of emission reductions was submitted.

On October 28, 1985 Tosco Corp. submitted the same modified form and support information requesting validation of emission reduction credits of 237 pounds per day of particulate matter, 10,377 pounds per day of sulfur dioxide, 2,240 pounds per day of oxides of nitrogen, 28,129 pounds per day of hydrocarbons, 74,316 pounds per day of carbon monoxide and 543 pounds per day of hydrogen sulfide. On November 27, 1985 the District notified Tosco that in order for a banking certificate to be issued, Rule 210.3 requires the Control Officer to validate the claimed emission reduction credit by finding it to be real, surplus, permanent, quantifiable and enforceable.

On February 24, 1986 at Tosco's request, a meeting was held concerning Tosco's application. At that meeting it was agreed that the District would provide another listing of the requirements of Rule 210.3 and that Tosco would resolve these issues in a timely manner. The District letter of February 27, 1986 fulfilled its commitment. It appears Tosco may have misunderstood this commitment.

As Tosco agreed, if the data submitted cannot be reasonably validated by the Control Officer, the door to further submittal and negotiation would close. The data submitted is not actual emission data and actual process data. It is contradictory and inconsistent with information previously entered into District records. It consists of numbers which have no credibility- this is not actual data. Therefore, the emissions reduction credits requested October 28, 1985 cannot be reasonably validated, and pursuant to Rule 210.3 section C.2.(h) are not eligible for receipt of banking certificates. Accordingly, we are hereby denying your October 28, 1985 request for a banking certificate.

A.C. Ryder  
Tosco  
May 9, 1986

Page 2

Pursuant to Rule 210.3 Section D.2.(b), you have 30 days to appeal this denial to the Kern County Air Pollution Control District Hearing Board should you so choose. Regulation V of the Rules and Regulations of the Kern County Air Pollution Control District sets forth procedures before the Hearing Board.

Sincerely,

Leon M Hebertson, M.D.  
Air Pollution Control Officer

LH/TG/nn

Copy to: J.L. Caufield, Mgr.  
Environmental Affairs  
Tosco Corp.  
P.O. Box 2860  
Bakersfield, CA 93303

May 1986

Mr. A. C. Ryder  
Technical Manager  
Tosco Corporation  
P. O. Box 2401  
Santa Monica, CA 90406-2401

Dear Mr. Ryder:

On April 25, 1983 the Kern County Air Pollution Control Board adopted Rule 210.3- Emission Reduction Banking. Section C.4.(b) of that rule states "Applications for qualifying emissions reductions occurring before the date of adoption of this rule shall be filed within one year of adoption." On April 24, 1984 Tosco Corp. proffered a Kern County Health Department Form HD #580 4110 400 (6/81) modified by Tosco as an application for emissions reduction credit. This was returned the same date with the explanation that no documentation of emission reductions was submitted.

On October 28, 1985 Tosco Corp. submitted the same modified form and support information requesting validation of emission reduction credits for particulate matter, sulfur dioxide, oxides of nitrogen, hydrocarbons, carbon monoxide and hydrogen sulfide. By letter of November 27, 1985 the District notified Tosco that for the issuance of a banking certificate, Rule 210.3 requires the Control Officer to validate the claimed emission reduction credit by finding it to be real, surplus, permanent, quantifiable, and enforceable. This letter also identified additional issues to be resolved.

May 15, 1986

On February 24, 1986 at Tosco's request, a meeting concerning the requirements of Rule 210.3 was held. At that meeting it was noted that Tosco had had over two years to authenticate the ERC requested. The District agreed to prepare another letter clarifying the issues identified in the letter of November 27, 1985 and detailing the type of information necessary for validation. The District letter of February 27, 1986 fulfilled its commitment.

On April 17, 1986, Tosco submitted additional information in support of its application for a banking certificate. This information, which summarizes refinery operational records, represents a body of data which does not and can not authenticate the emissions reduction credit claimed. As specified by Rule 210.3 section D.1.(b), identified in District correspondence of November 27, 1985 and February 27, 1986, and emphasized in the meeting of February 24, 1986, to be bankable the emissions reductions must be validated, ie. found to be real, permanent, quantifiable, and enforceable. The type of information provided by Tosco on October 28, 1985, January 17, 1986, and April 17, 1986 does not enable the Control Officer to make the findings required by Rule 210.3. Therefore, the emissions reductions credits requested October 28, 1985 cannot be validated and, pursuant to Rule 210.3 section C.2.(h) are not eligible for receipt of banking certificates. Accordingly we are hereby denying your October 28, 1985 request for a banking certificate.

May 15, 1986

Pursuant to Rule 210.3 Section D.2.(b), you have 30 days to appeal this denial to the Kern County Air Pollution Control District Hearing Board should you so choose. Regulation V of the Rules and Regulations of the Kern County Air Pollution Control District sets forth procedures before the Hearing Board.

Sincerely,

Leon M Hebertson, M.D.  
Air Pollution Control Officer

LH/TG/nn

Copy to: J.L. Caufield, Mgr.  
Environmental Affairs  
Tosco Corp.  
P.O. Box 2860  
Bakersfield, CA 93303

Tosco Corporation  
2401 Colorado Avenue  
P.O. Box 2401  
Santa Monica  
California 90406-2401  
Telephone 213 207-6000

TP

**Tosco**

May 2, 1986

Leon M. Hebertson, M.D.  
Kern County Air Pollution Control District  
1601 H Street, Suite 150  
Bakersfield, CA 93301-5199

Attn: Tom Paxson


Dear Dr. Hebertson:

In followup to my letter of March 19 concerning emission reduction credits, we delivered a draft of our proposed documentation on one of the projects to the District on Friday, April 18. The District staff agreed to review it and meet with us to discuss its adequacy before we finish work on the balance of the projects.

In followup telephone conversations, we have learned that the District staff is very busy on other projects with very short time schedules and, understandably, has not been able to devote time to review our draft. However, we will be hard pressed to meet our self-imposed deadline of May 15 for final submission of our application, having lost a significant amount of time awaiting the District review. Therefore, we will request an extension to our May 15 deadline as soon as we can meet with the District staff and determine an appropriate date.

We appreciate your time and efforts.

Very truly yours,

  
Arthur C. Ryder

cc: Leon M. Hebertson, M.D.  
Kern County Health Department  
1700 Flower Street  
Bakersfield, CA 93305-4198

**RECEIVED**  
MAY 5 1986

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

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(11)

TOSCO CORPORATION

POST OFFICE BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
805/861-7400

March 19, 1986

Leon M. Hebertson, M.D.  
Kern County Air Pollution Control District  
1601 H Street, Suite 150  
Bakersfield, CA 93301-5199

Attn: Tom Paxson

Dear Dr. Hebertson:

We have received and reviewed your February 27 letter in which you discuss our banking application for emission reduction credits. As stated to you yesterday in a telephone conversation, we feel we now have a clearer picture of the type of data you will require to document our application. We feel we can provide all the data for a final submission by May 15, 1986.

In order to gain as much benefit and enlightenment as possible from past experiences, we will begin our task by commissioning Roger Chittum and Milton Beychok to examine the District files regarding past banking applications which have resulted in the granting of banking certificates. We hope this will further solidify our understanding of the type of supporting documentation which the District will accept. We started this examination today and will finish it this week.

We then propose to rework the documentation on one project and discuss it in draft form with you to ascertain whether we are on the right track. We anticipate submitting the draft to you for discussion in three to four weeks. Assuming your prompt response and our reaching prompt agreement on method and quality of data required, we will proceed to rework the balance of the projects and make our submission to you by May 15. We recognize that time is of the essence and we fully intend to complete our submission as soon as possible -- we hope before May 15.

We appreciate your time and efforts in meeting with us and helping to guide us in our submission.

Very truly yours,

*Arthur C. Ryder*  
Arthur C. Ryder

cc: Leon M. Hebertson, M.D.  
Kern County Health Department  
1700 Flower Street  
Bakersfield, CA 93305-4198

**RECEIVED**

MAR 20 1986

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT



DR. HERBERTSON:

\* DOES TIME FRAME DESCRIBED CONFORM TO YOUR EXPECTATIONS ?

\* I BELIEVE THAT MAY 15TH WOULD BE AFTER TEXACO'S OPTION TO BUY<sup>4</sup> EXPIRES - IN OTHER WORDS TOSCO MAY NOT OWN REFINERY AT THAT TIME.

<sup>2-</sup>  
"THIS MAY "CONU-  
PLICATE" ISSUANCE  
OF BANKING  
CERTIFICATE TO  
TOSCO.

TOM  
PAXSON

3-20-86

CF  
T.P.

(10/2/86)

**TOSCO CORPORATION**  
POST OFFICE BOX 2880  
BAKERSFIELD, CALIFORNIA 93303  
805/323-9400

March 10, 1986

Leon M. Hebertson, M.D.  
Kern County Air Pollution Control District  
1601 H Street, Suite 150  
Bakersfield, CA 93301-5199

Attn: Mr. Tom Paxson

Dear Dr. Hebertson:

Confirming my telephone conversation with Tom Paxson today, Tosco requested, and was granted, an extension to the March 15 deadline set forth in the letter from Tom Paxson to A. C. Ryder, dated February 27. The extension is to March 22.

We do not necessarily think it will take us that long to respond, but we just received the February 27 letter today. In addition, the copy for our consultant, Mr. Milton Beychock, was mailed to Mr. Ryder. He sent it to Mr. Beychock today via Federal Express, for delivery tomorrow, March 11.

Very truly yours,

*Jack L. Caufield*  
Jack L. Caufield  
Manager, Environmental Affairs

cc: L. M. Hebertson  
A. C. Ryder

**RECEIVED**  
MAR 11 1986  
KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

February 27, 1986

Mr. A. C. Ryder  
Refinery Manager  
Tosco Corporation  
P. O. Box 2860  
Bakersfield, CA 93303

SUBJECT: Banking Certificate Application Deficiencies

Dear Mr. Ryder:

Tosco Corporation's application for an emission reduction credit (ERC) banking certificate has been received by this office, it has been reviewed by our staff, additional information has been requested, and information submitted. Based on your submittals, your application has been found to be incomplete, i.e. your submittals have not satisfied the District's requests.

Please submit, pursuant to Rule 210.3 Section D. 3.(5) (b), a separate application and filing fee for each criteria air contaminant for which an ERC is requested. Please identify, for each air contaminant, both the Rule 210.1 New Source Review established specific limiting condition ERC requested and the actual historical ERC requested.

As stated in Rule 210.3 Section A. 1. (b), one of the purposes of the banking rule is to provide the District with a means by which it can verify that emissions reductions are surplus, permanent, quantifiable and enforceable. The Air Pollution Control Officer must determine that the proposed ERC has, in fact, actually occurred, is surplus, will be permanent, can be quantified, and can be enforced. To provide for this determination, the attached list, in conjunction with this and previous correspondence and the Rules and Regulations of the Kern County Air Pollution Control District, identify the deficiencies in your submittal.

Because the statutory period for application and issuance of banking certificates representing validated emission reduction credits effected before April 25, 1983 expired over one year ago (see Rule 210.3), it is imperative these issues be resolved in a timely manner. By March 15, 1986, please notify the Air Pollution Control Officer in writing as to when you will satisfy this request.

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER

  
Thomas Paxson, P.E., Manager  
Engineering Evaluation Section

TG/nn

2003017A: Sponge Iron Sulfur Compounds Absorber For Standby Blanket Gas Supply for Tank Farm issued 1/2/76

The District analysis of this proposal did not quantify an expected emission rate reduction. The equipment was proposed to be used only during periods of natural gas curtailment which Tosco had previously indicated were expected to occur with negligible frequency with respect to impact on emissions. Without actual emissions data and process data showing actual sulfur compounds emitted prior to 1/2/76 at fuel gas combustion devices burning MEA scrubbed reabsorber gas used as tank farm vapor control system standby makeup gas and actual emissions data and process data showing actual sulfur compounds emitted after 7/12/78 (or actual date of startup) at fuel gas combustion devices burning sponge iron absorber desulfurized makeup gas used as tank farm vapor control system standby makeup gas, along with other process variables (ie. tank contents and throughputs, gas plant operating conditions, fuel gas combustion devices operating conditions, etc.) which could also effect such sulfur compound emissions taken into account, it is not possible to validate the emission reduction credit claimed. Tosco has not proposed, and the District is unable to formulate, appropriate conditions to be added to Tosco's Permits to Operate to insure such an emission reduction is permanent and enforceable.

2003027: Fluid Coker CO Boiler issued 1/13/76

District analysis calculated an expected emission reduction due to incineration of air contaminants in scrubbed fluid coker exhaust and shutdown of existing boilers 1-6. The expected emissions reduction due to incineration of the scrubbed fluid coker exhaust was calculated using the gas analysis of the fluid coker exhaust gas provided by Tosco and the fluid coker exhaust gas flowrate measured by the District on 12/20/73 and assuming the CO boiler emits per the manufacturer's guarantee while burning fuel oil producing 160,000 pounds of steam per hour for 50 weeks per year and 200,000 pounds of steam per hour for 2 weeks per year. The expected emissions reduction due to shutdown of boilers 1-6 was calculated on the basis all six boilers producing at maximum rated capacity burning oil. Tosco has previously indicated that the boilers burned gas when it was available, that boiler 4 was not normally used, and that over 90% of the fuel burned (on a heat input basis) in process heater and boilers was gas. Tosco must provide actual emissions data and process data sufficient to establish the actual emissions from boilers 1-6 in the years 1973 through 1975. Results of actual stack emissions testing and records of actual types and amounts of fuels consumed must be used to establish the actual emissions from these units. Tosco must provide actual emissions data and process data sufficient to establish the actual emissions from the scrubbed fluid coker exhaust in the years 1973-1975. Information previously provided is contradictory with respect to the emissions which may have occurred in the mid-1970's from the boilers and the fluid coker and therefore cannot be used to validate the proposed ERC. Tosco has not identified appropriate conditions to be added to it's Permits to Operate to insure such emissions reductions are permanent and enforceable.

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2003026A: Citrate Scrubber on Claus Plant Exhaust issued 1/16/78

The citrate scrubber was identified as a pilot plant in the application submittal. The District analysis of this proposal did not quantify an expected emission rate reduction. The proposal was approved on the basis that an emission rate increase in excess of KCAPCD rules was not expected. Without actual emissions data and process data showing actual sulfur compounds emitted from the Claus plant prior to 1/16/78 and actual emissions data and process data showing actual sulfur compounds emitted from the Claus plant and the citrate scrubber after 5/30/79 (or actual date of startup), along with other process variables (ie. feedstream to Claus plant, etc) which could also effect such sulfur compound emissions taken into account, it is not possible to validate the emission reduction credit claimed. The Claus plant exhaust was required to be equipped with a tail gas treating unit by EPA approval SJ 76-16, 11/2/76, (fluid coker CO boiler, phenolic sour water stripper, etc.) therefore no emission reduction can be credited pursuant to Rules 210.1 Section 4.F. and 210.3 Section C.3. Tosco has not identified any appropriate conditions which could be added to it's Permits to Operate which would insure any emission reduction would be permanent and enforceable.

2003004B: A Reformer Expansion issued 6/23/78

District analysis of this proposal included a discussion of the impact of expansion on refinery sulfur flows. Impact of this proposal on emission rate changes which may be expected to occur as a result of changes in combustion rates and fuel sulfur contents and changes to other process units was not included. Without actual emission data and process data showing actual emissions prior to 6/23/78 at fuel gas combustion devices and all other process equipment (ie. naphtha producers and processors, etc.) which may have experience and emission rate change due to this proposal and actual emissions data and process data showing actual emissions after 7/13/82 (or actual date of startup) at fuel gas combustion devices and all other process equipment which may have experienced an emission rate change due to this proposal, along with other process variables (ie. crude unit operating conditions, vacuum unit operating conditions, fluid coker operating conditions, gas plant operating conditions, fuel gas combustion devices operating conditions, etc.) which could also effect such emissions taken into account, it is not possible to validate the emission reduction credit claimed. Tosco has not proposed and, the District is unable to formulate, appropriate conditions to be added to Tosco's Permits to Operate to insure such emissions reductions are permanent and enforceable.

2003026B: Citrate Scrubber Absorption Tower Replacement issued 11/29/79

According to District files this proposal was not implemented. No emission change is expected to have occurred.

2003026C: Caustic Scrubber Serving Claus Plant Exhaust (Replacing Citrate Plant) issued 9/10/82

This Authority to Construct expired 9/10/84. No emission reduction is known to have occurred. The Claus plant exhaust was required to be equipped with a tail gas treating unit by EPA approval SJ 76-16, 11/2/76 (fluid coker CO boiler, phenolic sour water stripper, etc.), therefore no emission reduction can be credited pursuant to Rules 210.1 Section 4.f. and 210.3 Section C.3.

2003076: Gas Plant #2 issued 11/17/80

The District analysis of this proposal quantified an expected hydrocarbon emission increase due to an increase number of fugitive emission sources. An increase in SO<sub>2</sub> emissions was expected at the Claus plant tail gas unit exhaust due to the increased load resultant from gas plant #2. An increase in combustion contaminant emissions was expected from fired equipment to provide the steam demand of gas plant #2. Without actual emissions data and process data showing actual emissions from all fired equipment and the Claus plant tail gas unit prior to 11/17/80 and actual emissions data and process data showing actual emissions from all fired equipment and the Claus plant tail gas unit after 7/13/82 (or actual date of startup), along with other process variables (ie. refinery process rate, feedstock composition, products produced, etc.) which could also effect such emissions taken into account, it is not possible to validate the emission reduction credit claimed. Tosco has not proposed, and the District is unable to formulate, appropriate conditions to be added to Tosco's Permits to Operate to insure such emissions reductions are permanent and enforceable.

#### EMISSIONS INCREASES:

District approval of 2003024A was based on a 14 pound per day increase of hydrocarbons. Tosco must propose a condition for addition to it's Permit to Operate that the tanks be vapor-tight (no emissions detectable) and an emission limit of zero to negate this increase.

District approval of 2003005B utilized then available emission factors to characterize expected emission change. In order to recalculate the expected emission change due to the change in the AP-42 emission factors, Tosco must submit an application for Authority to Construct and \$60 filing fee along with a pre-project and post-project identification of potential fugitive emission source types and process stream types (as defined in AP-42 Section 9.1). This identification must be specific to the actual potential fugitive sources in existence before 8/2/78 and the actual potential fugitive sources in existence after 12/20/79 (or actual date of startup). Tosco should propose appropriate conditions to be added to it's Permit to Operate to insure B reformer emissions are consistent with the revised analysis.

**OTHER CONSIDERATIONS:**

The oxidant non-attainment area plan adopted by the Kern County Air Pollution Control Board identified reactive organic gas (r.o.g.) emission reductions resulting from installation of the Tosco fluid coker CO boiler installation as the second largest r.o.g. emission reduction expected to occur from stationary sources by 1987. The largest reduction was expected to occur from reduced thermally enhanced oil recovery operations emissions, but these reductions were expected to occur as production declined, a trend not yet evidenced. Considering this plan, Tosco must explain how these reductions can be found to be surplus.

California Health and Safety Code Section 41700 prohibits the discharge of air contaminants which cause injury, detriment, nuisance, or annoyance to the public or which endangers the comfort, repose, health or safety of any such persons or which has a natural tendency to cause injury, or damage to business or property. Tosco should explain how the large sulfur compounds, hydrocarbons and carbon monoxide emissions reductions made on the fluid coker exhaust were not necessary to protect the public.

(4)

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

February 12, 1986

Mr. J. L. Caufield  
Manager, Environmental Affairs  
Tosco Corporation  
Box 2860  
Bakersfield, CA 93303

Dear Mr. Caufield:

On April 24, 1984, one day before the expiration of the one year filing time limit set forth in Rule 210.3 C. 4. (b), you requested a banking certificate for previously effected emissions reductions. The District returned your request and explained that documentation of the actual emission reduction was required pursuant to Rule 210.3 C. 3. and D. 1. (a) and (b) to validate the bankable emission reduction credit.

Over 17 months later, on October 28, 1985, you again requested a banking certificate for previously effected emissions reductions. This request included emissions calculations made in a manner not in accordance with Rule 210.3 C. 3. and lacked documentation of actual emission reductions which may have occurred. On November 27, 1985 the District notified you of the deficiencies in your submittal. Your January 15, 1986 response failed to revise the computations to be consistent with Rule 210.3 C. 3. and did not provide documentation necessary pursuant to Rule 210.3 D. 1. (a) and (b) to validate any bankable emission reduction credit.

Pursuant to Rule 210.3 D. 2. (b), your application for banking certificate is hereby denied. You have 30 days during which you may appeal this denial before the Hearing Board of the Kern County Air Pollution Control District. Should you have any questions, please telephone the Air Quality Control Division at (805) 861-3682.

Sincerely,

LEON M HEBERTSON  
AIR POLLUTION CONTROL OFFICER

Thomas Paxson, P.E., Manager  
Engineering Evaluation Section

TP/nn



Completeness letter  
or deficiency letter

before 2/14/86

TOSCO APPLICATION FOR BANKING CERTIFICATE

*off records*

1. Is application timely?

Rule 210.3 C.4.b. requires applications for qualifying reductions made before adoption of Rule 210.3 be filed by April 25, 1984.

*did Tosco make application?*

Tosco identifies other pressing matters as primary reason statutory deadline not met.

2. Tosco disagrees with previous District emissions calculations and asks that additional ERC's be computed.

District's identification of need for additional information to find the reductions "real, surplus, permanent, quantifiable and enforceable" met with Tosco's response "Placing the EPA limits of 219,000 lbs/hr annual average on our gas plant permit is acceptable to us." and that information on file is sufficient to quantify E.R.C.'s.

3. District pointed out that emissions calculations in past have not been consistent with Rule 210.3 (which basically requires current Rule 210.1 section 4 methodology be used to ascertain the actual historical E.R.C.) and that insufficient information is available to determine the actual, historical ERC.

Tosco response "Our banking application as submitted contains documentation and incorporates by reference previously filed material, which we believe is adequate under the rules and past KCAPCD practice."

District could, if application is deemed timely, issue a banking certificate for specific limiting condition (SLC) ERC based on the specific limiting conditions appearing on the Authorities to Construct and Permits to Operate issued since 12/28/76. (Undoubtedly these are supported by the District analysis of each of the projects.)

It seems that additional documentation would be required to change ESL ERC's now (presumably the analyses previously prepared reflected the information filed with the District and the practices in use at those times).

It seems that additional documentation would be required to add ESL ERC's now (see above).

It seems that additional documentation would be required to determine the actual, historical ERC's because most previous analyses were made under previous MSR's which utilized "worst case", etc.

( )  
( )  
( )  
( )  
( )

**TOSCO CORPORATION**

POST OFFICE BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
805/323-9400

February 14, 1986

Leon M. Hebertson, M.D.  
Kern County Air Pollution Control District  
1601 H Street, Suite 150  
Bakersfield, California 93301-5199

Attn: Mr. Tom Paxson

Dear Dr. Hebertson:

We will be pleased to meet with you to discuss our banking application and we agree to a 30-day extension to the completion date for the application.

Very truly yours,

*Jack Caufield*  
Jack Caufield

**RECEIVED**

FEB 14 1986

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

Engle

1030

TOSCO CORPORATION

POST OFFICE BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
805/323-9400

January 15, 1986

Leon M. Hebertson, M.D.  
Kern County Air Pollution Control District  
1601 H Street, Suite 150  
Bakersfield, CA 93301-5199

Attention: Tom Paxson

Dear Dr. Hebertson:

We sincerely appreciate your working with us to bank our past emission reductions. We have reviewed your letter of November 17, 1985 and respond as follows:

1. Timing of Request: See attached letter to Dr. Hebertson of June 14, 1985 for the explanation.

2. Disagreement with Previous KCAPCD Calculations, Assumptions, etc.: Placing the EPA limits of 219,200 lbs/hr annual average on our gas plant permit is acceptable to us.

3. Documentation of Actual Emissions Reduction: Our banking application as submitted contains documentation and incorporates by reference previously filed material, which we believe is adequate under the rules and past KCAPCD practice. Accordingly, we would like to accept your invitation to have a meeting in order to understand the particular areas in which you want more information or information presented in a different format.

4. Consideration of Previously Unquantified Reductions: Same answer as number 3

Thank you for your cooperation in this matter. We request that a meeting with your staff be arranged as soon as possible to resolve any remaining problem areas. I'll call Tom Paxson to arrange a meeting date.

Sincerely,

*Jack L. Caufield*

Jack L. Caufield  
Manager of Environmental Affairs

RECEIVED

JAN 16 1986

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

cc: Dr. Hebertson, 1700 Flower Street, Bakersfield

Tosco Corporation  
2401 Colorado Avenue  
P.O. Box 2401  
Santa Monica  
California 90406-2401  
Telephone 213 207-6000

**Tosco**

June 14, 1985

Leon M. Hebertson, M.D.  
Air Pollution Control Officer  
Kern County Air Pollution Control District  
1601 H Street, Suite 250  
Bakersfield, California 93301-5199

RECEIVED

JAN 16 1986

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

Dear Dr. Hebertson:

I am writing to follow up on your recent telephone conversation with Jack Caufield of our Bakersfield Refinery, in which you discussed Tosco's application to enter its internally banked emission credits in the emissions bank under Rule 210.3. At that time, you suggested that Tosco send you a letter regarding our banking application, the reasons why we have not yet supplied the supplemental materials requested by the District staff, and our current plans for preparing and submitting those materials.

For your information, in early 1984, Tosco submitted an application for a variance to extend the April 24, 1984 deadline to apply for banking of emissions reductions credits. The district staff took the position that no variance could be granted because there was no actual or imminent violation of any regulations.

Tosco then prepared a banking application and submitted it to the District on April 24, 1984, along with the applicable filing fee. (A copy of the application and the transmittal letter is enclosed as Attachment 1.) These were returned with a letter from Mr. Paxson stating that documentation of the emissions reductions would be necessary and that the application would be reconsidered when this documentation had been prepared. (A copy of this letter is enclosed as Attachment 2.)

The delays in completing the supplemental documentation and in resuming normal refinery operations have resulted from a prolonged series of very difficult corporate financial problems, starting with the nearly unprecedented collapse of petroleum product prices in early 1983. As you know, most of the nation's independent refiners and many refineries owned by major oil companies have been permanently forced out of business by the financial consequences resulting from the price collapse.

Leon M. Hebertson, M.D.

6/14/85

Page 2

In March of 1983, Tosco's financial condition had so deteriorated that its lenders forced a major restructure of the company's capital structure, its management, and its operations. Most of these changes became effective in June, 1983, but the company was given until September, 1983 to find alternative sources of working capital for the Bakersfield Refinery. Tosco was able to line up temporary working capital for three months beginning in September when the bank financing ended. However, we were unable to renew that arrangement or to find alternative financing, even though the Bakersfield Refinery was then operating profitably.

When financing for the inventories became unavailable, it was impossible to keep the refinery running, and operations were suspended in November, 1983. Because of Tosco's continuing difficulties in meeting its cash requirements and because it appeared that Bakersfield operations would have to remain suspended at least through the winter of 1983-84, about 90 percent of the Bakersfield Refinery staff and management was laid off.

While efforts to raise working capital for the Bakersfield Refinery continued, Seaside Oil Company, which had previously offered to buy the refinery made another such offer, which Tosco accepted in early 1984. This contract imposed on the much-depleted refinery staff the need to do a great deal of work to prepare for a closing of the sales transaction, as well as to perform other work (including environmental matters) necessary to keep the refinery ready for resumption of operations on short notice. You will note that these demands arose just at the time when we would otherwise have been working on supplemental detailed documentation for our banking application.

Through the spring and summer of 1984, Seaside continued to seek financing and Tosco staff continued to lend support. These efforts to consummate the refinery sale were unsuccessful due to the buyer's inability to obtain the necessary financing, and were discontinued in September, 1984. It became necessary at that time to reduce staff still further, leaving just one person in the refinery environmental group. Since the few personnel who remain in the refinery have been focusing on efforts to maintain the refinery in a state of physical readiness to resume operations, there has been insufficient time to do the supplemental work on the banking application.

Since September, 1984, Tosco has resumed its efforts to find other methods to finance operations or to sell the facility as an operable entity. Numerous organizations, including a group of employees and former employees, have initiated serious studies of the refinery with a view toward purchasing it. At least six are considered to be active

Leon M. Hebertson, M.D.

6/14/85

Page 3

prospects at this time. Although we have not yet succeeded in these efforts, our fortunes appear to be improving.

With regard to regulations, we have been diligent in maintaining our operating permits, have applied for new permits required when operations are resumed, and have continued to participate in rulemaking activities which might adversely affect our ability to resume operations.

The financial problems which forced Tosco to suspend operations at Bakersfield and at the Duncan, Oklahoma Refinery are on the way to being solved. We have successfully restructured our long term debt three times, while avoiding the more dire consequences which have been the fate of so many other independent refiners. We have succeeded in selling our refinery in El Dorado, Arkansas and are concentrating the company in its western markets -- primarily California -- and our operations now appear profitable. The recent acceleration of the EPA gasoline lead phasedown program improves the chances for resuming operations at Bakersfield because our refinery is not dependent on lead to produce high octane gasoline.

Recognizing that a special expenditure of effort must be applied directly to the development of the supplemental materials for the banking application, Tosco has now decided to hire a consultant to accomplish this task. We expect to hire a contractor and finish the work in about 120 days. Meanwhile, we emphasize that the suspension of operations at our refinery is temporary and, therefore, that our position in the District-wide emissions inventory needs to be preserved and that refinery operations, as presently permitted (including its internally banked credits) need to be taken into account in all modeling, rule development, and other aspects of the pending SIP revision.

Thank you for this opportunity to report to you on Tosco's situation and our efforts to restore the refinery's contribution to the Kern County economy.

Very truly yours,

*Arthur C. Ryder*  
Arthur C. Ryder

**TOSCO CORPORATION**

POST OFFICE BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
805/861-7400

April 24, 1984

Leon M. Hebertson, M.D.  
Air Pollution Control Officer  
Kern County Air Pollution Control District  
1601 "H" Street, Suite 150  
Bakersfield, CA. 93301

Dear Dr. Hebertson:

Enclosed is an application for Emission Reduction credits to allow us to put our banked credits into the banking system and the \$60 filing fee.

As per our previous communications, there are some misunderstandings of our operations and credits that need to be resolved. When your staff have reviewed the records and have a draft assessment, we suggest a meeting to resolve these issues.

Thank you for your consideration of our request.

Sincerely,



J.L. Caufield  
Manager of Environmental Affairs

JLC:paa

Enclosures

APR 24 1984  
KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 250  
Bakersfield, California 93301

Telephone  
(805) 861-3682

APPLICATION FOR (check appropriate items)

- |  |  |
|--|--|
| <input type="checkbox"/> Authority to Construct                | <input checked="" type="checkbox"/> Emission Reduction Credits |
| <input type="checkbox"/> Authority to Construct - Modification | <input type="checkbox"/> Permit to Operate                     |
| <input type="checkbox"/> Authority to Construct - Renewal      | <input type="checkbox"/> Transfer of Location                  |
|  | <input type="checkbox"/> Transfer of Ownership                 |

An application is required for each source operation as defined in Rule 102, Section cc

1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment:

Tosco Corporation

2. MAILING ADDRESS:

Box 2860, Bakersfield, California

Zip Code: 93303

3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED:

6500 Refinery Avenue

4. GENERAL NATURE OF BUSINESS:

Petroleum Refinery

5. EQUIPMENT FOR WHICH APPLICATION IS MADE:

Application is made for banking of all Emission Reduction Credits accumulated before passage of Rule 210.3 Emission Reduction Banking adopted April 25, 1983. As agreed to by KCAPCD we reserve the right to meet with KCAPCD to establish what trade-offs have been used by the New Gas Plant and Hydrocracker Sour Water Strippers.

Provide additional information as required by District "Instructions".

6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:

Not Applicable

7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT:

Not Applicable

8. SIGNATURE OF APPLICANT

*Jack L. Caufield*

TITLE OF SIGNER:

Manager of Environmental Affairs

9. TYPE OR PRINT NAME OF SIGNER:

Jack L. Caufield

DATE:

4/24/84

PHONE NO.:

(805) 861-7400

Validation (A.P.C.D. use only)

FILING FEE: \$

RECEIPT NO.:

FEE SCHEDULE NUMBER:

DATE:

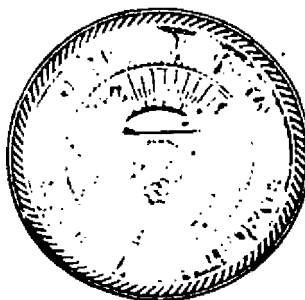
PERMIT FEE: \$

RECEIPT NO.:



## KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 250  
Bakersfield, California 93301-5199  
Telephone: (806) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

April 24, 1984

CERTIFIED

Mr. Jack L. Caufield, Manager  
Environmental Affairs  
Tosco Corporation  
P. O. Box 2860  
Bakersfield, CA 93303

Dear Mr. Caufield:

Attached is your check for the filing fee and the application for a Banking Certificate. It is being return because no documentation of emission reductions was submitted with the application. We will reconsider accepting the application after you have prepared the necessary emissions reduction documentation, ~~and~~

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER

*Thomas Paxson*  
Tom Paxson, P.E.  
Manager of Engineering

GT/FP/pb  
Enclosure  
ck # 46085  
ERE Application

# KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M. HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

November 27, 1985

Mr. J. L. Caufield  
Manager of Environmental Affairs  
Tosco Corporation  
P. O. Box 2860  
Bakersfield, CA 93303

Dear Mr. Caufield:

On October 28, 1985 your request for an emissions reduction Banking Certificate for the Tosco Corporation Bakersfield Refinery was delivered to our office. This request was previously delivered on April 24, 1984, but was not received and was returned pursuant to Section C.4.b. of KCAPCD Rule 210.1 (Emissions Reductions Banking) due to lack of sufficient information for the District to conduct the "validation" required by Section D.1. Examination of your current submittal has revealed the following issues which must be resolved:

1. Timing of Request: Please explain how your submittal qualifies as an application for a Banking Certificate pursuant to Rule 210.3 considering the content of Section C.4.b. which requires that an application for a reduction effected before adoption of Rule 210.3 be filed as prescribed by the APCO no later than April 25, 1984.
2. Disagreement with Previous KCAPCD Calculations, Assumptions, etc.: You have identified certain portions of KCAPCD engineering analyses associated with previously issued Authorities to Construct with which you disagree, e.g. effect of the new gas plant project on refinery steam production. For the issuance of a Banking Certificate Rule 210.3 requires the District to find the emissions reduction under consideration to be "real", "surplus", "permanent", "quantifiable", and "enforceable". Please describe the type of Permit to Operate condition(s) to which Tosco is agreeable to enable the District to guarantee these findings if we modify our original analysis and Conditions of Approval for one or more Authorities to Construct.
3. Documentation of Actual Emissions Reduction: Emissions reduction calculations associated with the various Tosco projects requiring Authority to Construct since December 28, 1976 have been based on several different approaches depending upon the District's current New Source Review Rule and policies. For example, the fluid coker CO boiler project was evaluated under the "100 ton per year" NSR rule utilizing "hypothetical worst case" emissions. For the

J. L. Caufield  
November 27, 1985  
Page 2

purpose of identifying emissions reduction credits available pursuant to Rule 210.3, Section D.1.b. we must identify the actual emissions reductions effected. Consequently, it may not be possible in the evaluation of a request for a Banking Certificate to utilize several years old New Source Review analyses. Please describe the type of documentation Tosco is willing to provide to establish actual emissions reductions which may have occurred several years ago. How will actual reductions be documented for sources never having had an emissions test?

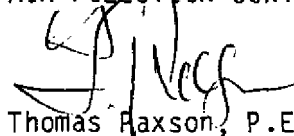
4. Consideration of Previously Unquantified Reductions: You have requested consideration of emissions reductions identified by KCAPCD in its analyses as "unquantifiable". Please describe the documentation Tosco is willing to provide to establish the actual emissions reductions associated with these projects.

Thank you for your cooperation in this matter. If all of the above issues are favorably resolved and KCAPCD is able to process your submittal as an application for a Banking Certificate, please be aware that additional amplification, clarification, information, or applications and filing fees may be required.

Should you wish to meet with District personnel to discuss these issues, a meeting will be arranged at your request and convenience. Should you have any questions, please telephone the Air Quality Control Division at (805) 861-3682.

Sincerely,

LEON M. HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER



Thomas Raxson, P.E., Manager  
Engineering Evaluation Section

TP:nn

TOSCO CORPORATION

POST OFFICE BOX 2860  
BAKERSFIELD, CALIFORNIA 93303  
805/323-9400

October 22, 1985

Leon M. Hebertson, M.D.  
Kern County Health Department  
1700 Flower Street  
Bakersfield, CA 93305-4198

RECEIVED  
OCT 26 1985

KERN COUNTY HEALTH DEPT.

Dear Dr. Hebertson:

As a consequence of our meeting with you in June, we are proceeding to supply the documentation requested by your staff to allow us to receive emission reduction credits under Rule 210.3. We hired Milton R. Beychok, Consulting Engineer, to prepare the documentation. Milton has an excellent background for this project having worked in the refining industry for years, been a consultant for environmental matters and permitting world wide and is the author of several publications from such diverse subjects as flare emissions to a complete description of refinery wastes and treatments.

Since our meeting with you, I discussed our internally banked emission credits with Tom Paxson and came to the conclusion the best procedure to follow was to let Milton familiarize himself with Tosco's and the KCAPCD's records of Tosco's projects, have him prepare the documentation of the credits and then submit them to you and your staff for review. We would appreciate it if your staff can review the documentation, prepare any questions or comments, and phone us when you are prepared to discuss them.

As noted in the "Supporting Document," your staff's calculations were used unless sufficient justification was present to re-calculate. The same approach as your staff was used where possible. Our main concerns with past calculations was charging steam usage emissions for the Gas Plant and Sour Water Stripper projects. Operation of the refinery since installation of these projects demonstrates that a steam usage increase did not occur. Tosco continued to operate within EPA limits. Steam usage from fired boilers is flexible in the refinery due to the ability to use electric driven equipment instead of steam driven equipment to keep our steam usage below EPA limits, but at a sufficient rate to handle safe unit operation.

We appreciate your time on these important matters to Tosco and understand your desire to have all internally banked credits placed into the banking system. Tosco looks forward to the time when our temporary shutdown ends and this valuable modern refinery can again be a major contributor to the Bakersfield economy.

Sincerely,

*Jack L. Caufield*  
Jack L. Caufield  
Manager of Environmental Affairs

cc: KCAPCD- Tom Paxson with application fee of \$60

RECEIVED  
OCT 30 1985

KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT

Tosco Corporation  
2401 Colorado Avenue  
P.O. Box 2401  
Santa Monica  
California 90406-2401  
Telephone 213 207-6000

Angel

**Tosco**

October 11, 1985

**RECEIVED**  
OCT 15 1985

**KERN COUNTY AIR  
POLLUTION CONTROL DISTRICT**

Leon M. Hebertson, M.D.  
Air Pollution Control Officer  
Kern County Air Pollution  
Control District  
1601 H Street  
Bakersfield, California 93301

Dear Dr. Hebertson:

Thank you for meeting with Jack Caufield, Roger Chittum, and me in your office on June 17. The matters we discussed are very important to Tosco, and we appreciated being able to get so much of your time.


We are preparing and will shortly send other letters each addressing one of the specific questions which remained after our meeting. As you have suggested, we will send copies to the KCAPCD staff to facilitate their review and any necessary responses. Specifically, we have hired Milton R. Beychok, Consulting Engineer, to provide documentation for our banking application. We will shortly be sending that documentation to you.

A principal reason for our meeting was to bring you up to date on the reasons why our Bakersfield Refinery operations have been suspended since November, 1983 and to confirm that our understanding is the same as yours about the regulatory significance of this suspension. Throughout this period, it has been our understanding that the refinery is not "shut down" for purposes of determining when a banking application is still timely and that our NSR emissions baseline has not been eroding by reason of the suspension. However, we have occasionally been concerned by some of the decisions made and positions taken (especially by EPA) about the proper way of determining baselines under such circumstances. Particularly troublesome is the notion that there might be some unavoidable "Catch 22" -- that if a non-operating source is "shut down" it must file a banking application within 90 days in order to avoid loss of that option for preserving assets, and if it is not "shut down," there is an automatic erosion of its emissions baseline by including in it periods of non-operation.

Leon M. Hebertson, M.D.  
October 11, 1985  
Page Two

For these reasons and because there is no written definition of "shut down," we were glad to have your reassurance that you do not consider our Bakersfield Refinery to have been "shut down" and that you still intend that our NSR baseline will be an equitable one reflecting normal historical operations. Although we have no specific plans to modify the refinery in the near future, it is important to our efforts to resume operations in the present configuration that any modernization needs which do arise will not be frustrated by an eroded emissions baseline for NSR.

Very truly yours,

  
Arthur C. Ryder  
Technical Manager

ACR/lmf

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 250  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

April 24, 1984

CERTIFIED

Mr. Jack L. Caufield, Manager  
Environmental Affairs  
Tosco Corporation  
P. O. Box 2860  
Bakersfield, CA 93303

Dear Mr. Caufield:

Attached is your check for the filling fee and the application for a Banking Certificate. It is being return because no documentation of emission reductions was submitted with the application. We will reconsider accepting the application after you have prepared the necessary emissions reduction documentation.

Sincerely,

LEON M HEBERTSON, M.D.  
AIR POLLUTION CONTROL OFFICER

Tom Paxson, P.E.  
Manager of Engineering

CT/TP/pb  
Enclosure  
Check # 46085  
ERC Application

COPY

TOSCO CORPORATION

POST OFFICE BOX 2880  
BAKERSFIELD, CALIFORNIA 93303  
805/861-7400

April 24, 1984

Leon M. Hebertson, M.D.  
Air Pollution Control Officer  
Kern County Air Pollution Control District  
1601 "H" Street, Suite 150  
Bakersfield, CA. 93301

Dear Dr. Hebertson:

Enclosed is an application for Emission Reduction credits to allow us to put our banked credits into the banking system and the \$60 filing fee.

As per our previous communications, there are some misunderstandings of our operations and credits that need to be resolved. When your staff have reviewed the records and have a draft assessment, we suggest a meeting to resolve these issues.

Thank you for your consideration of our request.

Sincerely,



J.L. Caufield  
Manager of Environmental Affairs

COPY

JLC:paa

Enclosures



1601 "H" Street, Suite 250  
Bakersfield, California 93301

Telephone  
(805) 861-3682

APPLICATION FOR (check appropriate items)

- Authority to Construct
- Authority to Construct - Modification
- Authority to Construct - Renewal

- Emission Reduction Credits
- Permit to Operate
- Transfer of Location
- Transfer of Ownership

An application is required for each source operation as defined in Rule 102, Section cc

1. PERMIT TO BE ISSUED TO: Name of organization to operate the following equipment:  
Tosco Corporation

2. MAILING ADDRESS:  
Box 2860, Bakersfield, California Zip Code: 93303

3. LOCATION AT WHICH THE EQUIPMENT IS TO BE OPERATED:  
6500 Refinery Avenue

4. GENERAL NATURE OF BUSINESS:  
Petroleum Refinery

5. EQUIPMENT FOR WHICH APPLICATION IS MADE:  
Application is made for banking of all Emission Reduction Credits accumulated before passage of Rule 210.3 Emission Reduction Banking adopted April 25, 1983. As agreed to by KCAPCD we reserve the right to meet with KCAPCD to establish what trade-offs have been used by the New Gas Plant and Hydrocracker Sour Water Strippers.

COPY

Provide additional information as required by District "Instructions".

6. TYPE AND ESTIMATED COST OF AIR POLLUTION CONTROL EQUIPMENT:  
Not Applicable

7. TYPE AND ESTIMATED COST OF BASIC PROCESS EQUIPMENT:  
Not Applicable

8. SIGNATURE OF APPLICANT: <i>Jack L. Caufield</i>	TITLE OF SIGNER: Manager of Environmental Affairs
---	--

9. TYPE OR PRINT NAME OF SIGNER: Jack L. Caufield	DATE: 4/24/84	PHONE NO.: (805) 861-7400
--	------------------	------------------------------

Validation (A.P.C.D. use only)

FILING FEE: \$	RECEIPT NO.:
FEE SCHEDULE NUMBER:	DATE:
PERMIT FEE: \$	RECEIPT NO.:

ENGINEERING EVALUATION OF APPLICATIONS FOR

BREAKDOWN OF PROCESSING TIME

Name of Company: TOSCO CORP TEXACO REFINING & MARKETING, INC.

Description of Project: SO<sub>2</sub>, HC & CO ERC RANKING CERTIFICATES

Receipt Date of Application: 10/25/85

Processing Dates, Including Preliminaries: 10/31/85, 11/25-26, 2/4/86, 2/11-12, 24-28, 3/3-6, 5/7, 8, 13-15, 19, 8/7, 8, 11, 12, 7/2, 10/9, 11/24, 1/6/87, 20-22, 3/4, 5/22, 28, 27, 6/4, 5, 8, 9

<u>PROCESSING ACTIVITY:</u>	<u>ACTIVITY TIME (HOURS):</u>	<u>INITIAL:</u>
<u>MEETINGS</u>	_____	_____
Preliminary Review:	_____	_____
Organization/Familiarization:	<u>13<sup>3</sup>/<sub>4</sub></u>	<u>TEG</u>
Project Description/Schematic/Equip. Listing:	<u>1<sup>1</sup>/<sub>2</sub></u>	<u>TEG</u>
Listing of Applicable Rules:	<u>1/2</u>	<u>TEG</u>
Design Review of Air Pollution Control Equip.:	_____	_____
Calculation of Expected Emissions:	<u>11<sup>1</sup>/<sub>2</sub></u>	<u>TEG</u>
Air Quality Impact Assessment Review:	_____	_____
Preparation of Emission Profiles:	_____	_____
Preparation of Written Requests for Info.:	<u>63.5</u>	<u>TEG</u>
Telephone and Verbal Requests for Info.:	_____	_____
Reworking of Application Due to Changes:	_____	_____
Preparation of Documents	<u>6<sup>3</sup>/<sub>4</sub></u>	<u>TEG</u>
Meetings	<u>13<sup>1</sup>/<sub>2</sub></u>	<u>TEG</u>
<b><u>TOTAL TIME SPENT ON EVALUATION:</u></b>	<u>111 hrs</u>	_____

2007148/501 & 2007148/601

HC & CO E.R.C. BANKING CERTIFICATE

T. Goff

4 MAR '87

TEXACO REFINING AND MARKETING, INC

BAKERSFIELD REFINERY (ACQUIRED FROM TOXCO)

I. PROPOSAL: BANK PREVIOUSLY EFFECTED HC & CO EMISSIONS REDUCTIONS THAT RESULTED FROM INSTALLATION OF CO BOILER 2003027 (AND SUBSEQUENT MODIFICATIONS, 2003027A-E...) ON THE FLUID COKER, 2003027, EXHAUST AT THE TOXCO CORP. REFINERY. FLUID COKER CO BOILER ATC ISSUED 11/2/76  
FLUID COKER CO BOILER STARTED UP 5/77

II. RULE 210.3 - EMISSIONS REDUCTIONS BANKING APPLIES TO THIS PROPOSAL

III. ANALYSIS:

A. EMISSIONS FROM FLUID COKER EXHAUST PRIOR TO INSTALLATION OF CO BOILER.

THE EMISSION RATE FROM THE FLUID COKER PRIOR TO INSTALLATION OF CO BOILER WILL BE BASED ON A "TYPICAL FLUE GAS ANALYSIS" OF THE FLUID COKER EXHAUST GAS SUPPLIED BY TOXCO TO THE DISTRICT ON 10/13/75 IN SUPPORT OF ITS APPLICATION FOR AUTHORITY TO CONSTRUCT THE CO BOILER AND THE EXHAUST GAS VOLUME FLOW RATE FROM THE FLUID COKER AS DETERMINED BY THE KCAPCD ON 12/20/73 ADJUSTED FOR THE AVERAGE COKER CHARGE RATE FROM MARCH 1974 THROUGH FEBRUARY OF 1977. (THE 3-YEAR PERIOD PRECEDING STARTUP OF THE CO BOILER)

TOSCO FLUID COKER EXHAUST GAS SAMPLE OF 10/8/75

FLUID COKER EXHAUST GAS CONSTITUENT	MOL FRACTION	MOLECULAR WEIGHT	WEIGHT IN ONE MOL	WEIGHT FRACTION
METHANE (C <sub>1</sub> )	0.010	16	(0.16)	0.0058
BENZENE (C <sub>6</sub> )	0.002	78	(0.16)	0.0058
CO	0.029	28	0.81	0.0294
N <sub>2</sub>	0.578	28	16.18	0.5871
CO <sub>2</sub>	0.130	44	5.72	0.2075
O <sub>2</sub>	0.001	32	0.03	0.0011
SO <sub>2</sub>	1.00x10 <sup>-5</sup>	64	6.40x10 <sup>-4</sup>	2.32x10 <sup>-5</sup>
H <sub>2</sub> O	0.250	18	4.50	0.1633
Σ = Fluid Coker Exhaust	1.000		27.56 <sup>lbm</sup> / <sub>lbmol</sub>	1.0000

AVG. MOLECULAR WEIGHT OF FLUID COKER EXHAUST GAS ON 10/8/75

$$P = \frac{27.56 \frac{\text{lbm}}{\text{lbmol}} \times 2116.8 \frac{\text{lb}_f}{\text{ft}^2}}{1545.35 \frac{\text{ft}^3 \cdot \text{lb}_f}{\text{lbmol} \cdot \text{R}} \times 520 \text{ R}} = 7.26 \times 10^{-4} \frac{\text{lbm}}{\text{ft}^3} \quad P = \frac{1}{V} = \frac{M P}{R T}$$

ASSUMING FLUID COKER EXHAUST GAS APPROXIMATES AN "IDEAL GAS"

KCAPCD SOURCE TEST OF FLUID COKER EXHAUST OF 12/20/73 SHOWED FLUID COKER EXHAUST GAS FLOW RATE OF  $1.46 \times 10^8 \text{ SFT}^3/\text{HR}$ ; COKER FEED RATE WAS 6530 BBL/DY. ACCORDING TO TOSCO RECORDS.

CALCULATED MASS FLOW RATE OF FLUID COKER EXHAUST =  $1.46 \times 10^8 \frac{\text{SFT}^3}{\text{HR}} \times 7.26 \times 10^{-4} \frac{\text{lbm}}{\text{SFT}^3} = 1.06 \times 10^5 \text{ lbm/hr}$

CONSTITUENT	WT FRACTION (See above)	TOTAL FLOW LBM/HR	COM/HR
METHANE	0.0058	$1.06 \times 10^5$	614.8
BENZENE	0.0058	$1.06 \times 10^5$	614.8
CO	0.0294	$1.06 \times 10^5$	(31164)
N <sub>2</sub>	0.5871	$1.06 \times 10^5$	62232.6
CO <sub>2</sub>	0.2075	$1.06 \times 10^5$	21995.0
O <sub>2</sub>	0.0011	$1.06 \times 10^5$	116.6
SO <sub>2</sub>	$2.32 \times 10^{-5}$	$1.06 \times 10^5$	2.5
H <sub>2</sub> O	0.1633	$1.06 \times 10^5$	17,309.8

III A. EMISSIONS FROM FLUID COKER (CONT.)

@ 24 HRS/DY NORMAL FLUID COKER OPERATION.

FLUID COKER EXHAUST GAS CONSTITUENT	MASS FLOW RATE LBM/HR PG②	HRS/DY	FLUID COKER EMISSION RATE LBM/DY
METHANE	614.8	24	14,755.2
BENZENE	614.8	24	14,755.2
CO	3116.4	24	74,793.6

AVERAGE FLUID COKER FEED RATE 3/74 - 2/77 = 6560.00 LBY PER TONS RECYCLES

ADJUSTMENT =  $\frac{6560 \text{ LBY/DY } 3\% \text{ AVE}}{6530 \text{ LBY/DY } 12/1/75 \text{ DOCUMENT}} = 1.00$  % FLUID COKER PRE-CO BOILER EMISSIONS ARE AS CALCULATED - ABOVEB. EMISSIONS FROM CO BOILER WHEN BURNING FLUID COKER EXHAUSTHYDROCARBONS

KCAPCD ENGINEERING ANALYSIS CONDUCTED UNDER 100 TON/YR VERSION OF RULE 210.1 AND ACKNOWLEDGE HC EMISSIONS EXPECTED TO DECREASE SUBSTANTIALLY. EXPECTED EMISSIONS WERE 12.56 LBM/HR (NOT A RULE 210.1 "SPECIFIC LIMITING CONCENTRATION")

THE HIGHEST APPROVABLE EMISSION RATE WAS IDENTIFIED AS 1210 LBM HC/HR

EPA NSR APPROVAL 4-4-8 SJ 76-16 (6/29/76) AS DESCRIBED

IN NOTICE OF VIOLATION DOCKET NO 9-78-19 (8/7/78)

LIMITED THE HC EMISSIONS TO 16.3 tons/yr  $\approx$  3.72 LBM/HR

FLUID COKER CO BOILER SOURCE TESTING OF 5/25/77 SHOWED NMHC = 1553  $\frac{\text{LBM}}{\text{HR}}$ , 1282  $\frac{\text{LBM}}{\text{HR}}$  & 528  $\frac{\text{LBM}}{\text{HR}}$

" 9/20/78 " " = 112  $\frac{\text{LBM}}{\text{HR}}$ , 84  $\frac{\text{LBM}}{\text{HR}}$  & 96  $\frac{\text{LBM}}{\text{HR}}$

(NOTE: RESULTS ARE NMHC EXPRESSED AS CARBON)

THE SOURCE TESTS OF 9/20/78 ARE DEEMED TO REPRESENT THE ACTUAL HYDROCARBON EMISSION RATE ACHIEVED. USE HIGHEST VALUE MEASURED, 112 LBM/HR, AS HC EMISSION RATE ABLE TO BE CONSISTENTLY ACHIEVED.

III B. EMISSIONS FROM CO BOILER (CONT.)1. HYDROCARBONS (CONT.)

$$112 \frac{\text{LBM}}{\text{HR}} \times 24 \frac{\text{HRS}}{\text{DY}} = 2688 \frac{\text{LBM}}{\text{DY}} \text{ HC}$$

2. CARBON MONOXIDE

NSR SPECIFIC LIMITING CONDITION = 1500 PPMV

$$= 353.88 \frac{\text{LBM}}{\text{HR}} \quad (2003027E)$$

SOURCE TEST RESULTS: 5/24/77: 45  $\frac{\text{LBM}}{\text{HR}}$ , 37  $\frac{\text{LBM}}{\text{HR}}$ , 37  $\frac{\text{LBM}}{\text{HR}}$ 9/20/78: 5.9  $\frac{\text{LBM}}{\text{HR}}$ , 8.3  $\frac{\text{LBM}}{\text{HR}}$ , 7.1  $\frac{\text{LBM}}{\text{HR}}$ 9/22/82: 96.36  $\frac{\text{LBM}}{\text{HR}}$ 

TOSCO HAS ASKED BANKING CERTIFICATE DE BASED ON A POST-PROJECT EMISSION RATE OF 500  $\frac{\text{LBM}}{\text{HR}}$  CO

THIS WILL BE DONE AS SOURCE TESTING DOCUMENTS. THIS EMISSION RATE CAN CONSISTENTLY BE ACHIEVED.

(IT IS NOTED, HOWEVER, THAT SUCH AN EMISSION RATE WOULD NOT BE IN COMPLIANCE WITH                          EPA PERMIT CONDITIONS)

$$500 \frac{\text{LBM}}{\text{HR}} \times 24 \frac{\text{HRS}}{\text{DY}} = 12,000 \frac{\text{LBM}}{\text{DY}} \text{ CO}$$

C. AMOUNT OF ERC UNALLOTTED

$$\text{PDST CO BOILER} - \text{PRE CO BOILER} = \text{ERC}$$

$$\text{HYDROCARBONS: } 2688 \frac{\text{LBM}}{\text{DY}} - 14,755.2 \frac{\text{LBM}}{\text{DY}} = -12,067.20 \frac{\text{LBM}}{\text{DY}} \text{ HC}$$

$$\text{CARBON MONOXIDE: } 12,000 \frac{\text{LBM}}{\text{DY}} - 74,793.6 \frac{\text{LBM}}{\text{DY}} = -62,793.60 \frac{\text{LBM}}{\text{DY}} \text{ CO}$$

D. ENFORCEABILITY

ON SEPTEMBER 15, 1986, TEXACO REFINING AND MARKETING CO. SUBMITTED APPLICATION AND FILING FEE FOR MODIFIED PERMIT TO OPERATE THE FLUID COKER CO BOILER.

ON JULY 8, 1986 TORO CORP. NOTIFIED THE DISTRICT OF THE SALE OF PERMIT TO OPERATE 2003027 AND ALL ACCOMPANYING RIGHTS AND PRIVILEGES TO TEXACO REFINING & MARKETING, INC EFFECTIVE 6/30/86. TEXACO REFINING & MARKETING, INC. PROPOSES TO MODIFY PERMIT TO OPERATE THE FLUID COKER TO REQUIRE THAT THE FLUID COKER EXHAUST BE INCINERATED WHENEVER THE FLUID COKER IS OPERATING AND TO MODIFY THE PERMIT TO OPERATE THE CO BOILER TO LIMIT THE NON-METHANE HYDROCARBON EMISSIONS TO 112 LB/HR (SEE PG(4)) (TEXACO R. & M. INC. PROPOSED A LIMIT OF 10 LB/HR NMHC BUT SUCH AN LIMIT HAS NOT BEEN DEMONSTRATED AS BEING CONSISTENTLY ACHIEVABLE AND CANNOT BE USED TO VALIDATE AN E.R.C.) AND TO LIMIT THE CO EMISSION TO 500 LB/HR (NOTWITHSTANDING MORE RESTRICTIVE EPA CO LIMIT - SEE PG(4)). TEXACO REFINING & MARKETING, INC. HAS INDICATED THAT IT INTENDS TO SEEK A VARIANCE FROM THE KERN COUNTY AIR POLLUTION CONTROL DISTRICT HEARING BOARD ANNUALLY TO ALLOW THE FLUID COKER TO EXHAUST TO THE ATMOSPHERE WITHOUT BEING INCINERATED IN THE CO BOILER, WITHOUT ACHIEVING THE NMHC & CO EMISSION LIMITS, AND WITHOUT EFFECTING NMHC & CO EMISSIONS REDUCTION FOR UP TO 10 DAY PER YEAR WHEN NORMAL INSPECTION MAINTENANCE OF THE CO BOILER IS NECESSARY (AND DURING BREAKDOWN CONDITIONS).

### III D. ENFORCABILITY (CONT.)

THE FEDERAL ENVIRONMENTAL PROTECTION AGENCY WAS CONSULTED AND INDICATED THIS INTENTION IS CONTRARY TO EPA'S BANKING POLICY. BANKABLE EMISSION REDUCTION CREDITS MUST BE REAL AND PERMANENT. THEREFORE, THE FLUID COKER MUST BE CURTAILED SUCH THAT THE  $\text{NO}_x$ ,  $\text{H}_2\text{C}$  &  $\text{CO}_2$  EMISSIONS DO NOT EXCEED THE EMISSIONS RATES, (112  $\text{LB}/\text{HR}$  AND 500  $\text{LB}/\text{HR}$ ), WHICH WERE USED TO VALIDATE THE CLAIMED ERC. WHEN THE FLUID COKER CO BOILER GOES DOWN FOR ANNUAL INSPECTION, THE FLUID COKER MUST BE CURTAILED OR SHUTDOWN TO RESULT IN COMPLIANCE WITH THE 112  $\text{LB}/\text{HR}$   $\text{H}_2\text{C}$  AND 500  $\text{LB}/\text{HR}$   $\text{CO}$  EMISSION LIMITS PROPOSED TO VALIDATE THE CLAIMED ERC.

### III E. TIMING OF REQUEST

THE KERN COUNTY AIR POLLUTION CONTROL BOARD ADOPTED RULE 210.3, EMISSION REDUCTIONS BANKING, APRIL 25, 1983. SECTION C.4. (b) STATES "APPLICATIONS FOR QUALIFYING EMISSIONS REDUCTIONS OCCURRING BEFORE THE DATE OF ADOPTION OF THIS RULE SHALL BE FILED WITHIN ONE YEAR OF ADOPTION."

ON APRIL 24, 1984, TOSCO CORP. SUBMITTED ONE SINGLE PAGE APPLICATION AND ONE PAGE COVER LETTER TO BANK ALL PREVIOUSLY AFFECTED EMISSION REDUCTIONS. THAT SUBMITTAL WAS RETURNED THE SAME DAY BECAUSE NO DOCUMENTATION OF EMISSION REDUCTIONS WAS SUBMITTED WITH THE APPLICATION.



III E. TIMING OF REQUEST (CONT)

ON OCTOBER 25, 1985, TOSCO CORP. SUBMITTED TO THE APCO THEIR FIRST ATTEMPT AT DOCUMENTATION OF THE CLAIMED EMISSION REDUCTION. BASED ON TOSCO EXPLANATION OF THE LENGTH OF TIME WHICH HAD PASSED ("PROLONGED SERIES OF DIFFICULT CORPORATE FINANCIAL PROBLEMS", "... IMPOSED ON THE MUCH DEPLETED REFINERY STAFF THE NEED TO DO A GREAT DEAL OF WORK ... [INCLUDING ENVIRONMENTAL MATTERS] NECESSARY TO KEEP THE REFINERY READY FOR RESUMATION OF OPERATIONS ON SHORT NOTICE") AND ITS<sup>0</sup> EXPLANATION THAT "SUSPENSION" OF OPERATIONS SINCE NOVEMBER, 1983, SHOULD NOT BE VIEWED AS "'SHUT DOWN' FOR PURPOSES OF DETERMINING WHEN A BANKING APPLICATION IS STILL TIMELY ... " LED THE APCO TO NOT REJECT THE APPLICATION.

ON JULY 10, 1986, TEXACO REFINING AND MARKETING, INC. SUBMITTED APPLICATION AND FILING FEE TO TRANSFER OWNERSHIP OF THE "APPLICATION FOR APPLICABLE EMISSION REDUCTION CERTIFICATE (ERC) PREVIOUSLY FILED BY TOSCO CORPORATION." AND AN "ASSIGNMENT" FROM TOSCO CORPORATION TO TEXACO REFINING AND MARKETING, INC. OF "ALL AIR PERMITS AND EMISSIONS REDUCTIONS CREDITS" EFFECTIVE JUNE 30, 1986.

THE PERMIT TO OPERATE THE FLUID COKER WAS ASSIGNED TEXACO REFINING AND MARKETING, INC. PERMIT # 2007134 AND THE CO BOILER # 2007148. THE HYDROCARBON ERC APPLICATION WILL BE RE-NUMBERED 2007148/501 AND THE CO ERC WILL BE RE-NUMBERED 2007148/601.

IV CONCLUSIONS

1. A HC AND CO EMISSION REDUCTION TOOK PLACE WHEN THE CO BOILER INCINERATED FLUID COKER EXHAUST GAS.
2. NEITHER TOSCO CORPORATION NOR TEXACO REFINING AND MARKETING, INC. HAVE UTILIZED THESE EMISSIONS REDUCTIONS AS AN OFFSET OR TRADEOFF NOR HAVE THESE REDUCTIONS BEEN REQUIRED BY LAW.
3. THE E.R.C.'S HAVE BEEN FOUND TO BE PERMANENT BY IMPOSITION OF 3 CONDITIONS OF THE OPERATION OF THE FLUID COKER AND THE CO BOILER
  - i. ALL FLUID COKER EXHAUST GAS TO BE INCINERATED IN CO BOILER,
  - ii. NMHC EMISSION RATE  $\leq$  112.00 LBM/HR
  - and iii. CO EMISSION RATE  $\leq$  500.00 LBM/HR
4. THE E.R.C.'S HAVE BEEN QUANTIFIED USING
  - i. TOSCO FLUID COKER FEED RATE RECORDS
  - ii. TOSCO FLUID COKER EXHAUST GAS ANALYSIS OF 10/8/75
  - iii. KCAPCD FLUID COKER EXHAUST GAS FLOW RATE MEASUREMENT OF 12/20/73
  - iiii. KCAPCD WITNESSED SOURCE TESTS OF FLUID COKER CO BOILER EXHAUST ON 5/24 & 25/77, 9/20/78, & 9/22/82

VI CONCLUSIONS (CONT.)

5. THE ERC'S CAN BE ENFORCED BY IMPOSING APPROPRIATE CONDITIONS ON THE PERMIT TO OPERATE THE FLUID COKER AND THE CO BOILER

i. FLUID COKER EXHAUST GAS TO BE INCINERATED IN CO BOILER

ii. HC EMISSION RATE FROM FLUID COKER AND CO BOILER COMBINED SHALL NOT EXCEED 112.00 POUNDS PER HOUR

iii. CO EMISSION RATE FROM FLUID COKER AND CO BOILER COMBINED SHALL NOT EXCEED 500.00 POUNDS PER HOUR.

VII RECOMMENDATION

ISSUE PRELIMINARY DECISION TO APPROVE ISSUANCE OF ERC BANKING CERTIFICATES TO TEXACO REFINING & MARKETING FOR 12,067.20 LBM/DAY NON-METHANE HYDROCARBONS AND 62,793 LBM/DAY CARBON MONOXIDE EFFECTED BY TOXCO CORP. AT ITS BAKERFIELD REFINERY BY START-UP OF ITS CO BOILER INCINERATING FLUID COKER EXHAUST IN THE FIRST HALF OF 1977 (5/77 APPROXIMATE START-UP).

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150  
Bakersfield, California 93301-5199  
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer

May 9, 1986

Mr. A. C. Ryder  
Technical Manager  
Tosco Corporation  
P. O. Box 2401  
Santa Monica, CA 90406-2401

Dear Mr. Ryder:

On April 25, 1983 the Kern County Air Pollution Control Board adopted Rule 210.3- Emission Reduction Banking. Section C.4.(b) of that rule states "Applications for qualifying emissions reductions occurring before the date of adoption of this rule shall be filed within one year of adoption." On April 24, 1984 Tosco Corp. proffered a Kern County Health Department Form HD #5080 4110 400 (6/81) modified by Tosco as an application for emissions reduction credit. This was returned the same date with the explanation that no documentation of emission reductions was submitted.

On October 28, 1985 Tosco Corp. submitted the same modified form and support information requesting validation of emission reduction credits of 237 pounds per day of particulate matter, 10,377 pounds per day of sulfur dioxide, 2,240 pounds per day of oxides of nitrogen, 28,129 pounds per day of hydrocarbons, 74,316 pounds per day of carbon monoxide and 543 pounds per day of hydrogen sulfide. On November 27, 1985 the District notified Tosco that in order for a banking certificate to be issued, Rule 210.3 requires the Control Officer to validate the claimed emission reduction credit by finding it to be real, surplus, permanent, quantifiable and enforceable.

*On 1/27/86  
and discussed  
to be resolved*

On February 24, 1986 at Tosco's request, a meeting was held concerning Tosco's application. At that meeting ~~it was agreed that the District would provide another listing of the requirements of Rule 210.3 and that Tosco would resolve these issues in a timely manner. The District letter of February 27, 1986 fulfilled its commitment. It appears Tosco may have misunderstood this commitment.~~

*The District agreed to clarify further. The issues identified in the letter of Feb 27 1986*

*to*

*was noted that Tosco had had over 2 years.*

As ~~Tosco agreed~~, if the data submitted cannot be reasonably validated by the Control Officer, the door to further submittal and negotiation would close. The data submitted is not actual emission data and actual process data. It is contradictory and inconsistent with information previously entered into District records. It consists of numbers which have no credibility- this is not actual data. Therefore, the emissions reduction credits requested October 28, 1985 cannot be reasonably validated, and pursuant to Rule 210.3 section C.2.(h) are not eligible for receipt of banking certificates. Accordingly, we are hereby denying your October 28, 1985 request for a banking certificate.

A.C. Ryder  
Tosco  
May 9, 1986

Page 2

Pursuant to Rule 210.3 Section D.2.(b), you have 30 days to appeal this denial to the Kern County Air Pollution Control District Hearing Board should you so choose. Regulation V of the Rules and Regulations of the Kern County Air Pollution Control District sets forth procedures before the Hearing Board.

Sincerely,

Leon M Hebertson, M.D.  
Air Pollution Control Officer

LH/TG/nn

Copy to: J.L. Caufield, Mgr.  
Environmental Affairs  
Tosco Corp.  
P.O. Box 2860  
Bakersfield, CA 93303

ZRYDER

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

DRAFT

*not sent in this form*

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On October 28, 1985 Tosco Corp. submitted the same modified form and support information requesting validation of emission reduction credits of 237 pounds per day of particulate matter, 10,377 pounds per day of sulfur dioxide, 2,240 pounds per day of oxides of nitrogen, 28,129 pounds per day of hydrocarbons, 74,316 pounds per day of carbon monoxide and 543 pounds per day of hydrogen sulfide. On November 27, 1985 the District notified Tosco that in order for a banking certificate to be issued, Rule 210.3 requires the Control Officer to validate the claimed emission reduction credit by finding it to be real, surplus, permanent, quantifiable and enforceable.

On February 24, 1986 at Tosco's request, a meeting was held concerning Tosco's application. At that meeting it was agreed that the District would provide another listing of the requirements of Rule 210.3 and that Tosco would resolve these issues in a timely manner. The District letter of February 27, 1986 fulfilled its commitment. It appears Tosco may have misunderstood this commitment.

As Tosco agreed, if the data submitted cannot be reasonably validated by the Control Officer, the door to further submittal and negotiation would close. The data submitted is not actual emission data and actual process data. It is contradictory and inconsistent with information previously entered into District records. It consists of numbers which have no credibility- this is not actual data. Therefore, the emissions reduction credits requested October 28, 1985 cannot be reasonably validated, and pursuant to Rule 210.3 section C.2.(h) are not eligible for receipt of banking certificates. Accordingly, we are hereby denying your October 28, 1985 request for a banking certificate.

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On October 28, 1985 Tosco Corp. submitted the same modified form and support information requesting validation of emission reduction credits for particulate matter, sulfur dioxide, oxides of nitrogen, hydrocarbons, carbon monoxide and hydrogen sulfide. By letter of November 27, 1985 the District notified Tosco that for the issuance of a banking certificate, Rule 210.3 requires the Control Officer to validate the claimed emission reduction credit by finding it to be real, surplus, permanent, quantifiable, and enforceable. This letter also identified additional issues to be resolved.



May 15, 1986

On February 24, 1986 at Tosco's request, a meeting concerning the requirements of Rule 210.3 was held. At that meeting it was noted that Tosco had had over two years to authenticate the ERC requested. The District agreed to prepare another letter clarifying the issues identified in the letter of November 27, 1985 and detailing the type of information necessary for validation. The District letter of February 27, 1986 fulfilled its commitment.

On April 17, 1986, Tosco submitted additional information in support of its application for a banking certificate. This information, which summarizes refinery operational records, represents a body of data which does not and can not authenticate the emissions reduction credit claimed. As specified by Rule 210.3 section D.1.(b), identified in District correspondence of November 27, 1985 and February 27, 1986, and emphasized in the meeting of February 24, 1986, to be bankable the emissions reductions must be validated, ie. found to be real, permanent, quantifiable, and enforceable. The type of information provided by Tosco on October 28, 1985, January 17, 1986, and April 17, 1986 does not enable the Control Officer to make the findings required by Rule 210.3. Therefore, the emissions reductions credits requested October 28, 1985 cannot be validated and, pursuant to Rule 210.3 section C.2.(h) are not eligible for receipt of banking certificates. Accordingly we are hereby denying your October 28, 1985 request for a banking certificate.

May 15, 1986

Pursuant to Rule 210.3 Section D.2.(b), you have 30 days to appeal this denial to the Kern County Air Pollution Control District Hearing Board should you so choose. Regulation V of the Rules and Regulations of the Kern County Air Pollution Control District sets forth procedures before the Hearing Board.

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