

A photograph of an industrial refinery at night, with numerous tall distillation columns and towers illuminated by lights. The sky is a mix of purple and blue, suggesting twilight. The entire image is framed by a dark blue border.

Highway Diesel Fuel 2004 Pre-Compliance Reports

**Ultra-Low Sulfur
Diesel Workshop
November 15, 2004**

Highway Diesel Fuel Pre-compliance Reporting Requirements

- Pre-compliance reports due annually on June 1 from 2003 to 2005
 - Nonroad reporting will start in 2005 and go until 2011, or until a refinery produces 15 ppm NRLM
- Who is required to report?
 - Highway Diesel Refiners and Importers
- What will EPA do with the reports?
 - Present generalized data on a PADD basis in annual reports
 - Maintain confidentiality of data
 - Not hold refiners liable if actual actions deviate from reported information

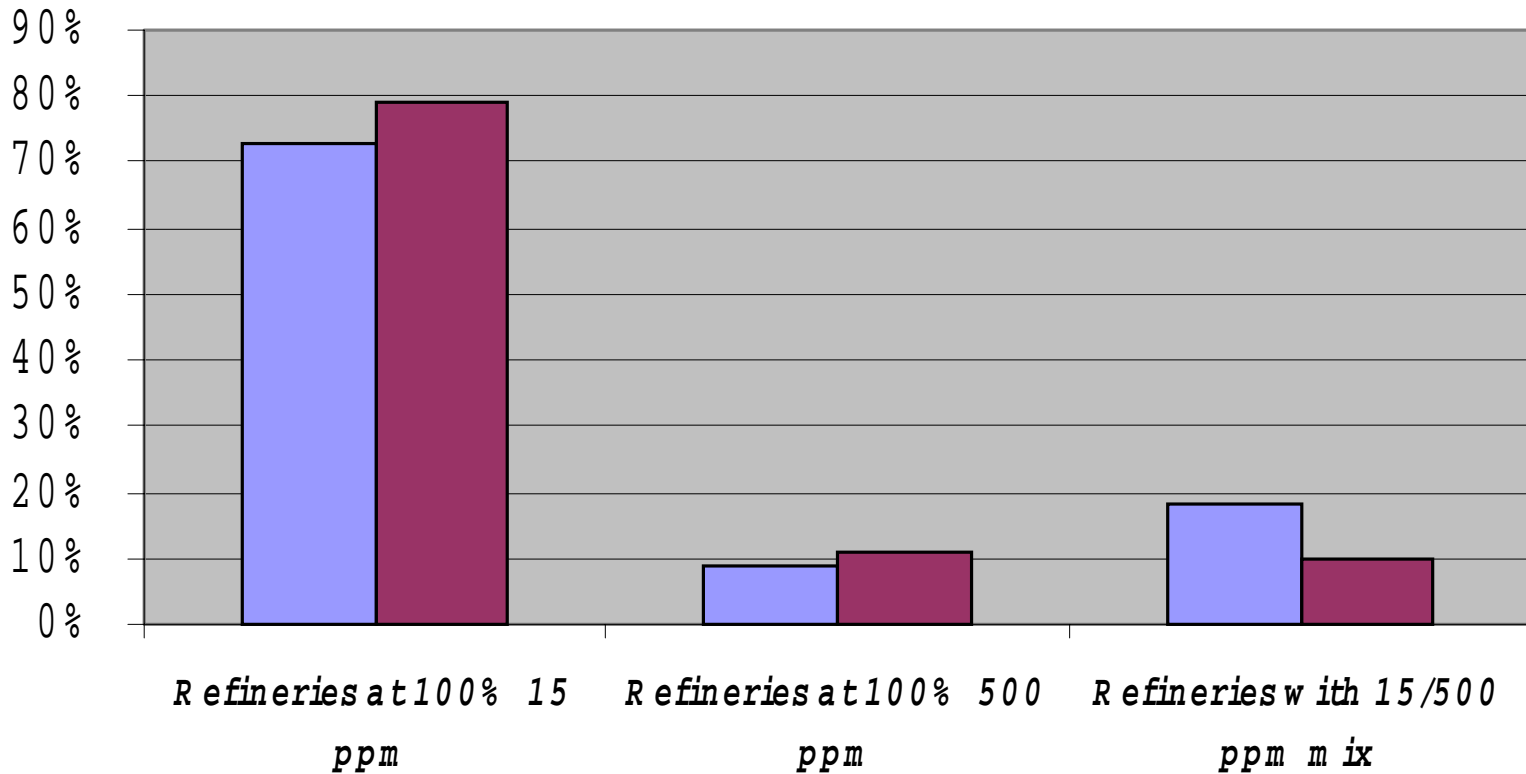
2004 Report Highlights

A number of changes by individual refineries, but on balance little overall change, hence, the same general conclusions as 2003 report...

- Highway diesel fuel production will be sufficient to meet demand
- 15 ppm sulfur diesel fuel will be widely available nationwide
- Refiners are on target for complying with the 15 ppm sulfur standard on time

2004 vs. 2003 Refineries

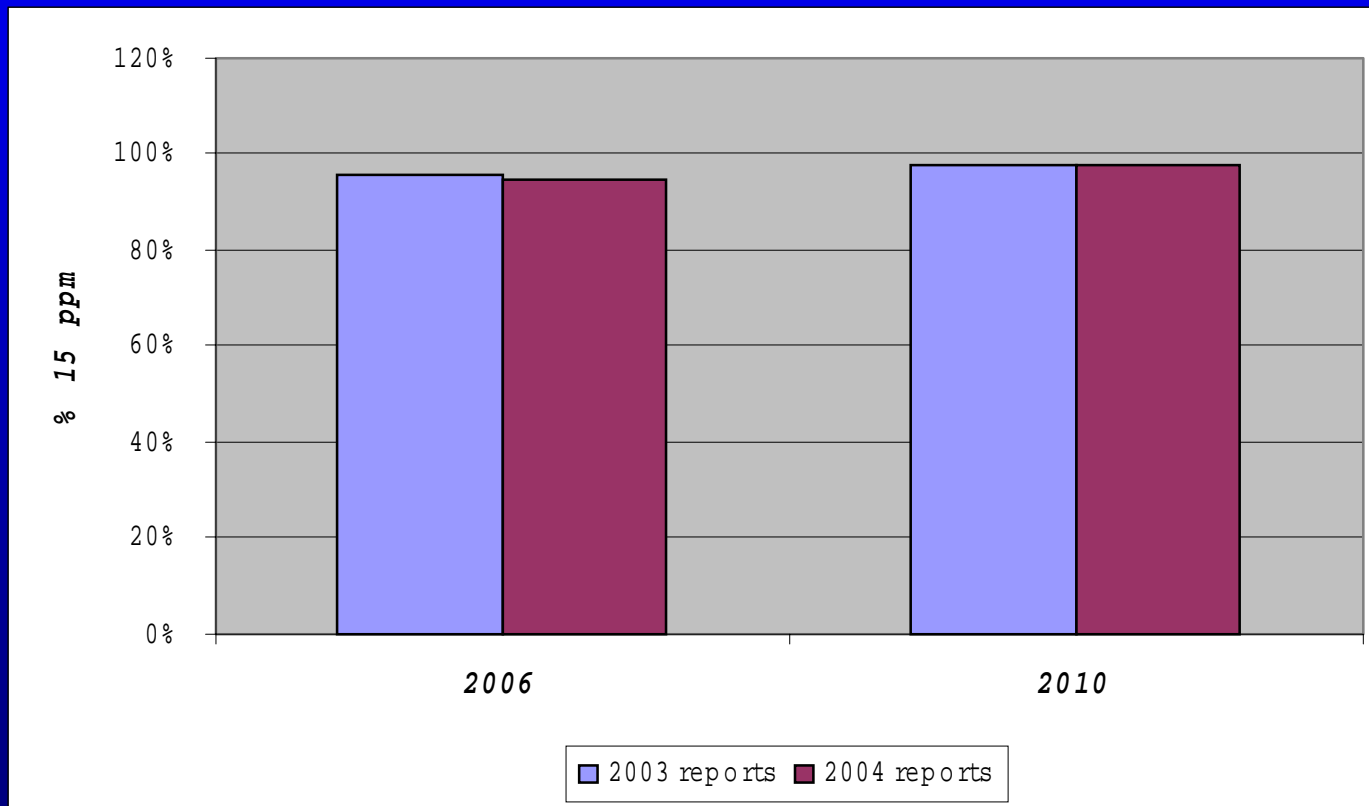
Percent of Refineries Producing Highway Diesel Fuel in 2006



2003 reports 2004 reports

Overall Supply

- Anticipated production volumes in this year's reports are slightly less than those predicted in 2003 reports



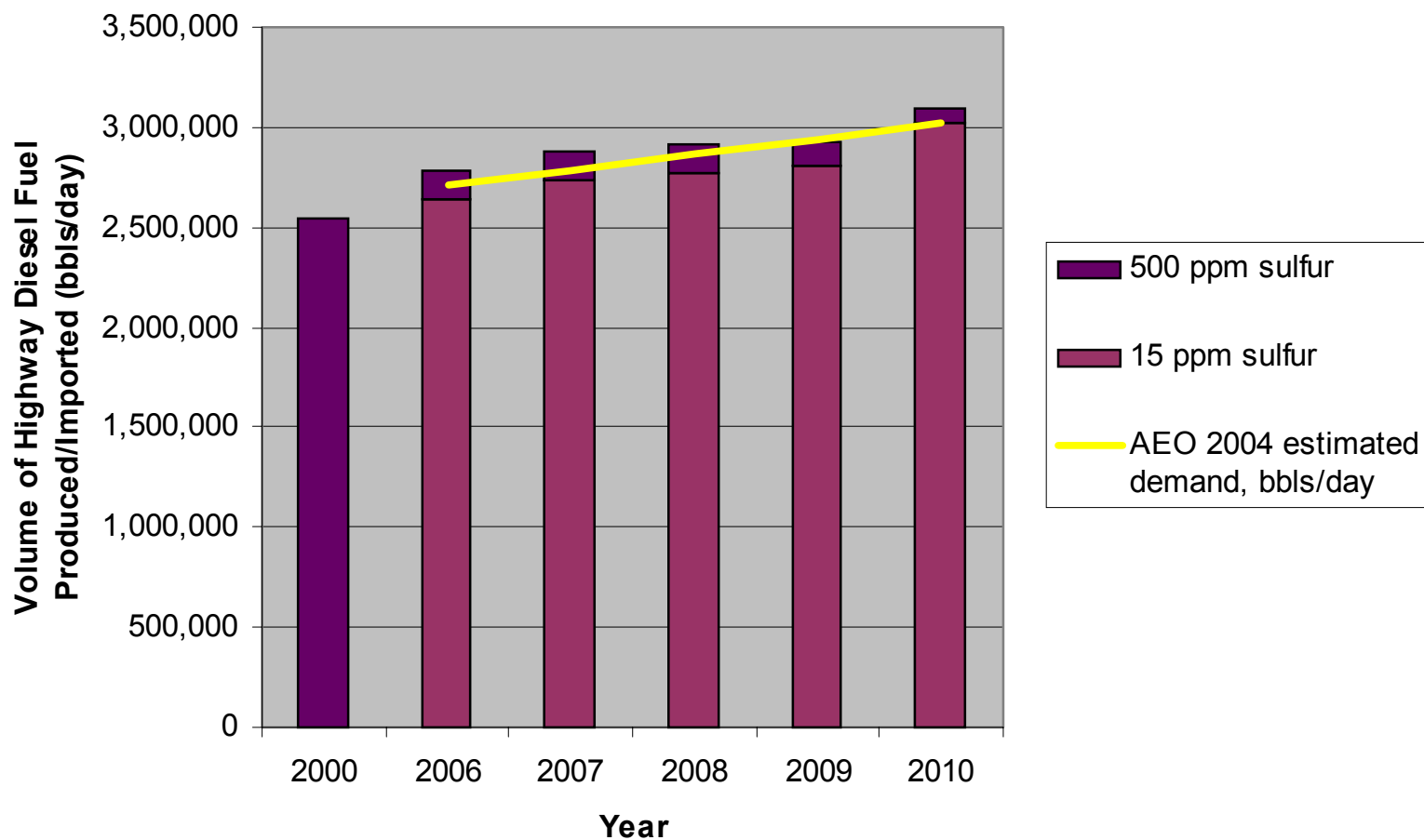
Number of Refineries: 2006-2010

- 2003 baseline: 115 highway diesel refineries
- 6 refineries will be shifting into the highway market by 2010 (4 by 2006)
- Up to 9 refineries may be shifting out of the market (this decreases to 7 by 2010)
 - 1 refinery has announced plans to shut down (Shell Bakersfield) due to crude supply issues
 - 1 refinery will be transporting diesel to another refinery for desulfurization
- Bottom line...
 - No significant changes
 - 114 refineries plan to be producing highway diesel fuel in 2010 vs 2003 baseline of 115

Supply vs. Estimated Demand

- EIA's estimated highway demand in their Annual Energy Outlook decreased slightly from AEO 2003 to AEO 2004
- As a result, projected highway diesel fuel production still exceeds estimated demand
- Imports have not all been accounted for (~ 2% of total highway diesel fuel volume)

Projected Production vs. Estimated Demand



U.S. Aggregated Report Information

Volumes and Credits 2006 - 2010

Year	2006	2007	2008	2009	2010
Total 15 ppm, Mbbls/day	2,637	2,730	2,767	2,808	3,022
Total 500 ppm, Mbbls/day	141	145	147	114	67
Total 15 + 500 ppm, Mbbls/day	2,778	2,875	2,914	2,922	3,090
% 500 of total 15 + 500 ppm	5.1	5.0	5.0	3.9	2.2
Vol. change vs. 2000, Mbbls/day	233	330	368	377	544
% change from 2000 highway vol.	9.1	13.0	14.5	14.8	21.4
Credit generation, Mbbls/day	415	420	425	433	
Credit usage, Mbbls/day	69	67	67	41	20

Small Refiners and GPA Refineries

- Small Refiners – 3 options
- Option A – produce all highway at 500 ppm (if 15 ppm supply adequate in marketing area)
- Option B – generate credits for any 15 ppm highway production
- Option C – delay gasoline sulfur standards by 2 yrs if 15 ppm production is 85% of highway diesel baseline (can't generate highway diesel credits)
- GPA (PADD 4+ND+NM+AK+parts of 6 other states) refineries – 1 option
- Delay gasoline sulfur standards by 2 yrs if 15 ppm production is 85% of highway diesel baseline (can't generate highway diesel credits)

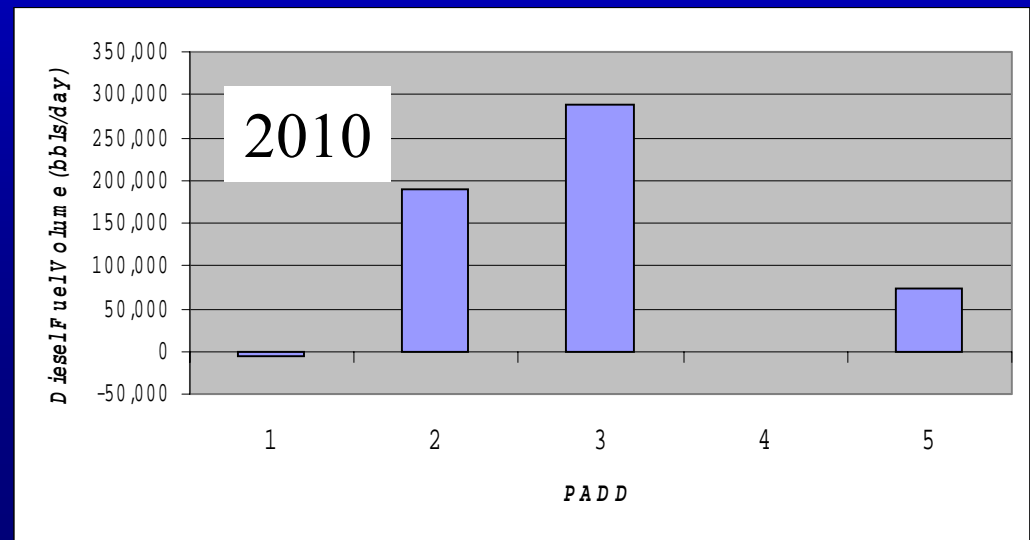
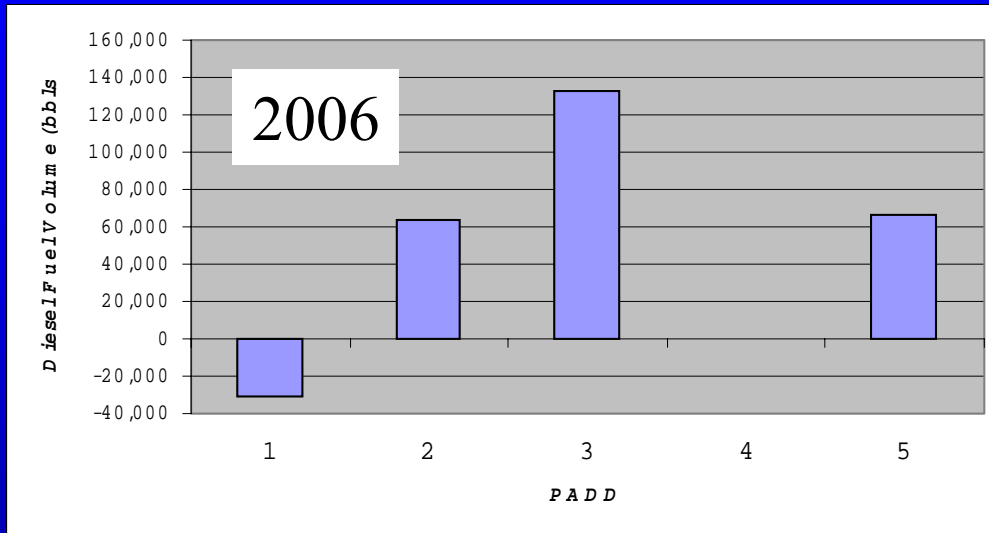
Small Refiners and GPA Refineries

Intended Small Refiner & GPA Refinery Compliance Options by Number of Refineries and Highway Diesel Fuel Production Capacity			
Option	Description	Number of Refineries	Highway Diesel Fuel Production, 2000 (Mbp/d)
A.	500 ppm option	5	5
B.	Credit option	6	33
C.	Diesel-gasoline compliance option	9	99
GPA	Diesel-gasoline compliance option	12	92
	Total	32	230

15 ppm sulfur diesel fuel will be widely available nationwide

- 95% of highway diesel will be 15 ppm
- 89% of refineries will be producing 15 ppm (79% producing all 15 ppm)
- The 11% producing exclusively 500 ppm are not the sole suppliers in their markets
- Change in highway production from 2000 to 2006 varies for different PADDs

Projected Production Changes by PADD vs 2000



Projected Volumes of Highway Diesel Fuel by PADD for 2006

PADD	1	2	3	4	5	U.S.
Total 15 ppm, Mbbls/day	268	679	1,163	118	409	2,637
Total 500 ppm, Mbbls/day	1	39	88	3	10	141
Total 15 + 500 ppm, Mbbls/day	270	718	1,251	121	418	2,778
% 500 of total 15 + 500 ppm	0.4	5.4	7.0	2.7	2.3	5.1
Vol. change vs. 2000, Mbbls/day	-31	64	133	0	67	233
% change from 2000 highway vol.	-10.3	9.8	11.9	0.3	19.0	9.1
Credit generation, Mbbls/day	52	106	235	6	17	415
Credit usage, Mbbls/day	0	7	62	0	0	69

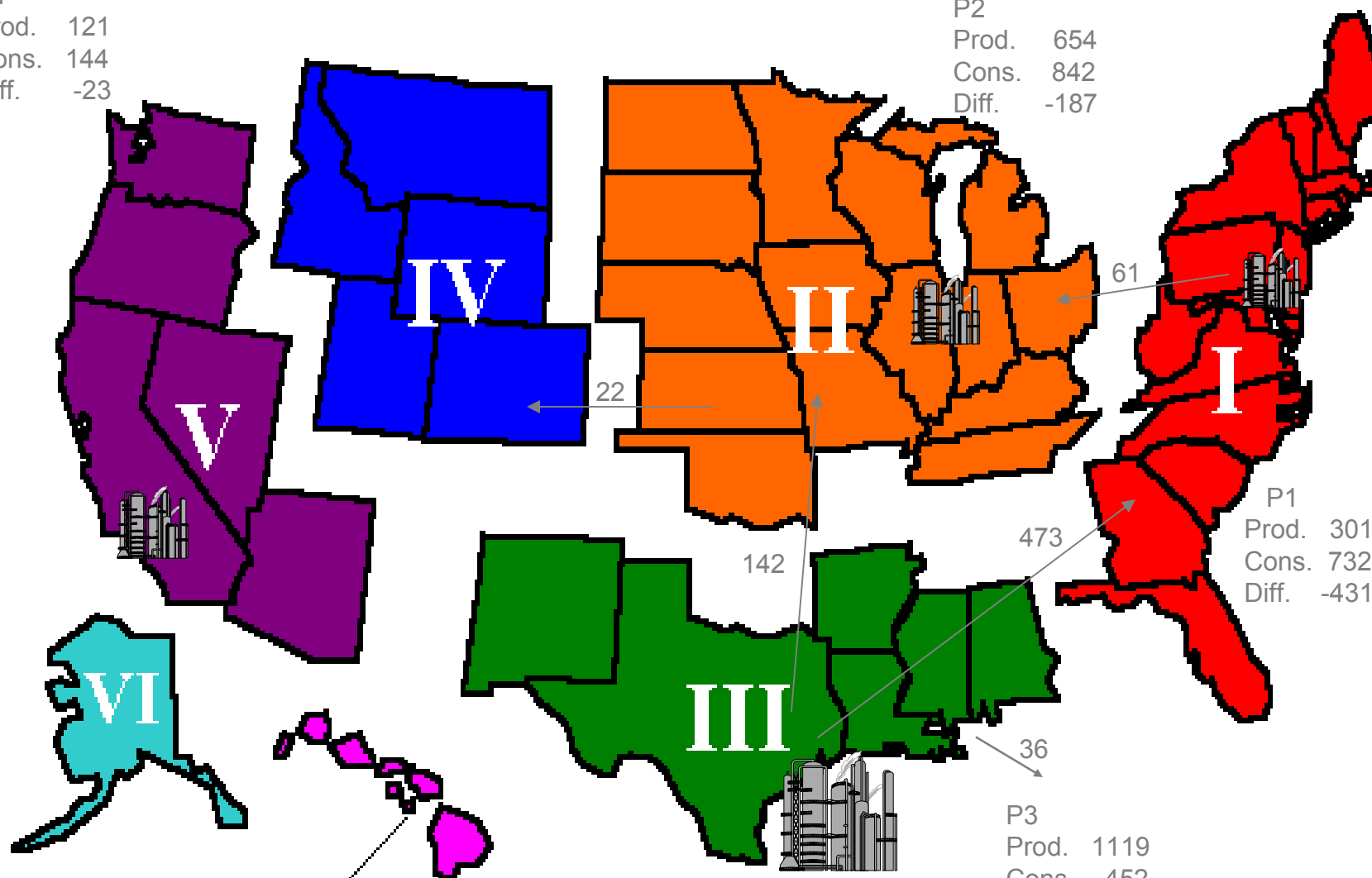
Projected Volumes of Highway Diesel Fuel by PADD for 2010

PADD	1	2	3	4	5	U.S.
Total 15 ppm, Mbbls/day	294	804	1,382	119	423	3,022
Total 500 ppm, Mbbls/day	1	39	25	1	1	67
Total 15 + 500 ppm, Mbbls/day	295	843	1,407	121	424	3,090
% 500 of total 15 + 500 ppm	0.4	4.6	1.8	1.0	0.3	2.2
Net vol. change vs. 2000, Mbbls/day	-6	189	288	0	73	544
% change from 2000 highway vol.	-1.9	28.8	25.8	-0.3	20.7	21.4
Credit generation, Mbbls/day	0	0	0	0	0	0
Credit usage, Mbbls/day	0	7	13	0	0	20

Highway Diesel Balance - 2000, Mbbbls/day

P4
 Prod. 121
 Cons. 144
 Diff. -23

P2
 Prod. 654
 Cons. 842
 Diff. -187



P1
 Prod. 301
 Cons. 732
 Diff. -431

P3
 Prod. 1119
 Cons. 452
 Diff. 668

P5
 Prod. 351
 Cons. 383
 Diff. -32

VII

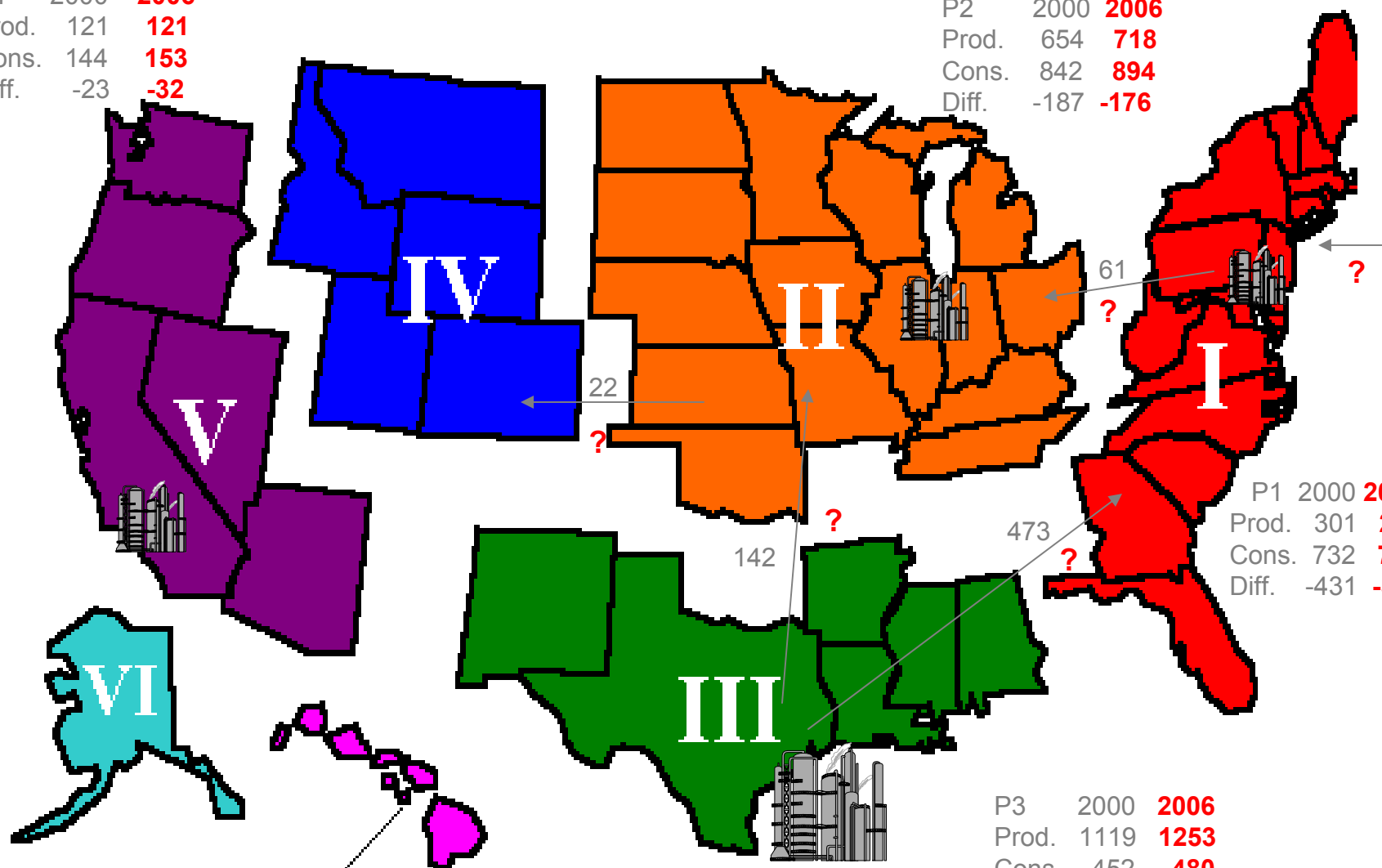
Notes for 2000

Prod. = PADD production + imports (doesn't include ~60 Mbbbls/day non-reporter imports)
 Cons. = PADD consumption, EIA Petroleum Supply Annual 2000
 Diff. = Prod. - Cons.
 Transfers into PADDs are net (EIA PSA 2000), transfers < 10 Mbbbls/day not shown

Highway Diesel Balances - 2000 and 2006, Mbbls/day

P4	2000	2006
Prod.	121	121
Cons.	144	153
Diff.	-23	-32

P2	2000	2006
Prod.	654	718
Cons.	842	894
Diff.	-187	-176



P1	2000	2006
Prod.	301	270
Cons.	732	777
Diff.	-431	-507

P5	2000	2006
Prod.	351	416
Cons.	383	407
Diff.	-32	9

P3	2000	2006
Prod.	1119	1253
Cons.	452	480
Diff.	668	773

VII

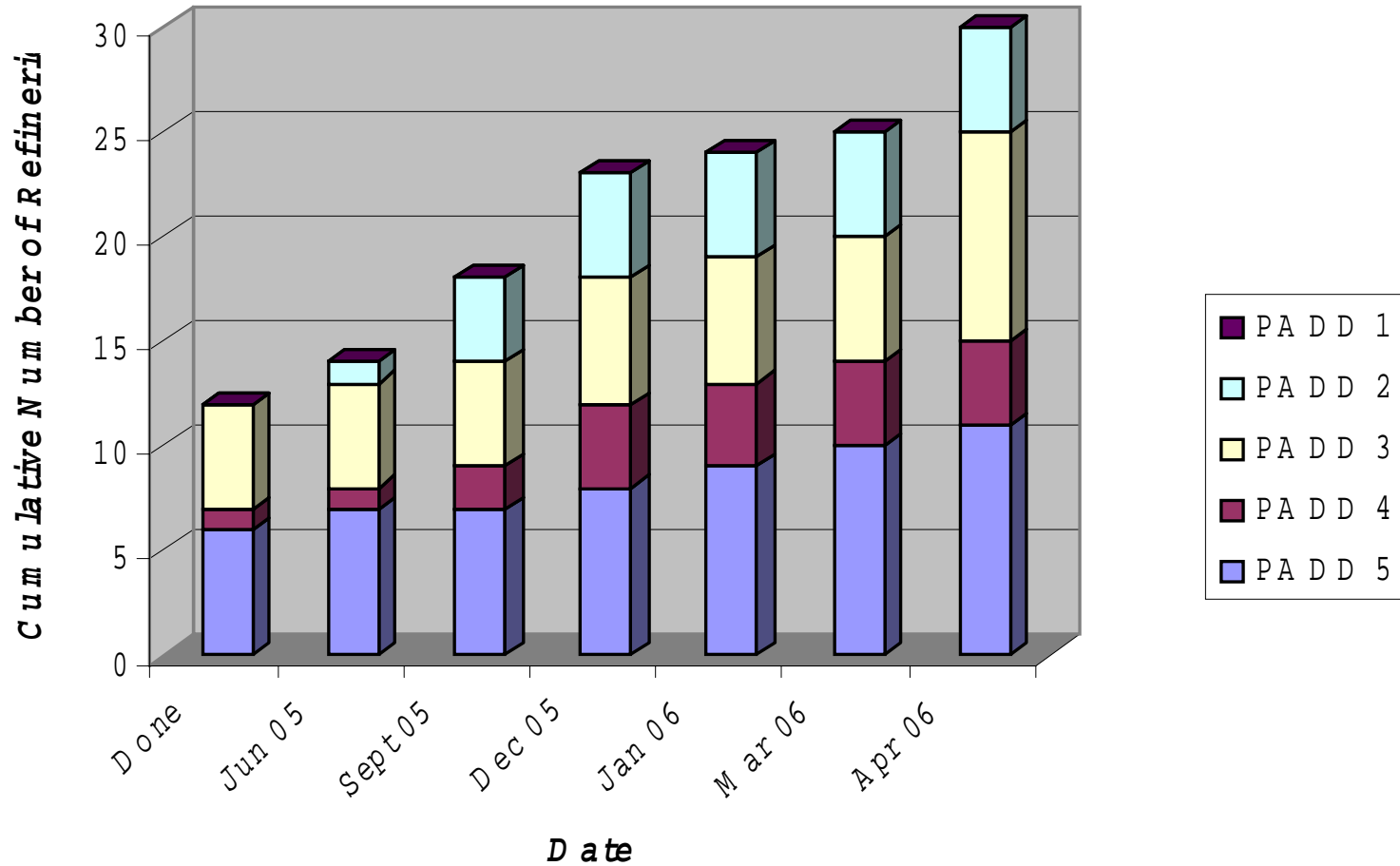
Notes for 2006

Prod. = PADD production + imports from reports
 Cons. = Adjust 2000 volumes using calculated growth factor from EIA Ann. En. Outlook 2004
 Diff. = Prod. - Cons.
 Transfers into PADDs are net, transfers < 10 Mbbls/day not shown

Refineries Appear to be On Track for 2006

- 79 refineries reported their project scope
- 88 refineries reported their project timeline
- 32 refineries reported that by the end of the year they will have completed their engineering work and will be starting construction
- 5 are already producing 15 ppm
- 7 more refineries are currently capable of producing 15 ppm
- This early 15 ppm should be available for retrofit fleets and for testing out the distribution system

Early 15 ppm Production



For further information ...

www.epa.gov/otaq/diesel.htm