The Purloined Agenda:
Pursuing Competition In An Era of Secrecy, Guile, and Incompetence

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Critical Dates

April 1, 1998:	AB 1890 Implemented
May 25, 1999:	Silver Peak
May 4, 2000:	Silver Peak Settlement
May, 2000:	Enron scheme memos written
May 22, 2000:	Start of Crisis
	Extensive Fat Boys
August, 2000	Enron Fat Boy peak
October, 2000	Powerex Fat Boy peak
November 15, 2000:	Start of Physical Withholding
December 1, 2000	ISO begins artificial congestion scheme
December 6, 2000:	Yoder/Hall Memo
January 17, 2001:	First Blackouts
April 26, 2001:	Price Caps and Must Offer FERC Order
June 24, 2001:	Price Caps Extended Throughout West
July 3, 2001:	Last Emergency
December 2, 2001:	Enron Bankruptcy
January 29, 2001:	Senate Committee Orders FERC Investigation
May, 2002:	Yoder/Hall Memo released
May 26, 2002:	PA202 Affidavits
August 10, 2002:	FERC Initial Report on market manipulation
October 4, 2002	ISO Secret Report on Yoder/Hall Schemes
October 18, 2002	Enron chief trader pleads guilty to wire fraud
December 2002	El Paso trader arrested for index manipulation

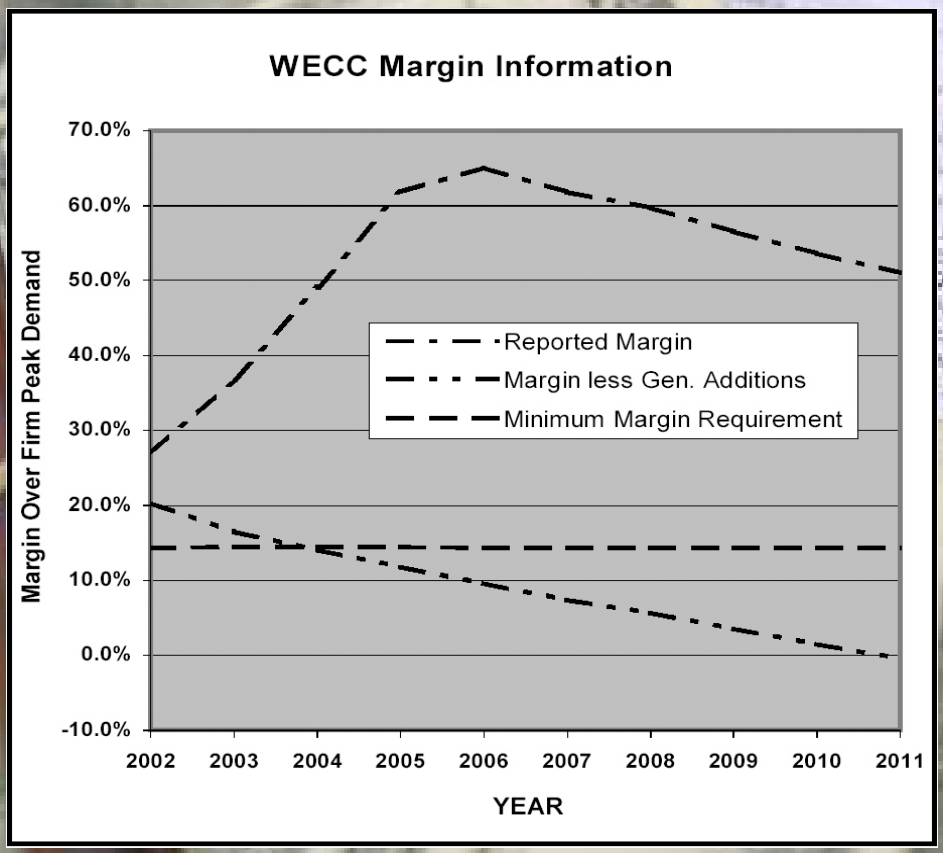
The Purloined Agenda

- Overall load/resource balance
- What happened in 1984? (Why did we get it so wrong?)
- How does this affect our future?
- Who watches the watchers?
- How Relevant is Yoder/Hall to our future?
  - What happened?
  - Did these schemes ever end?
- Updating the future (downrating the future)

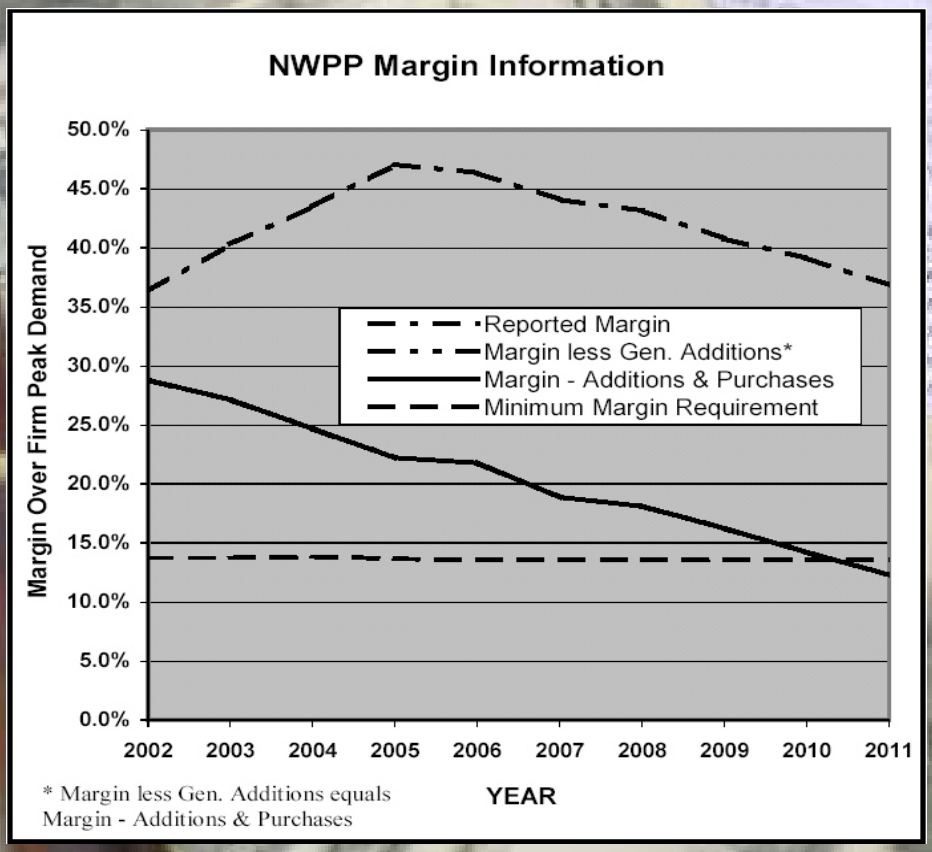
Overall load/resource balance

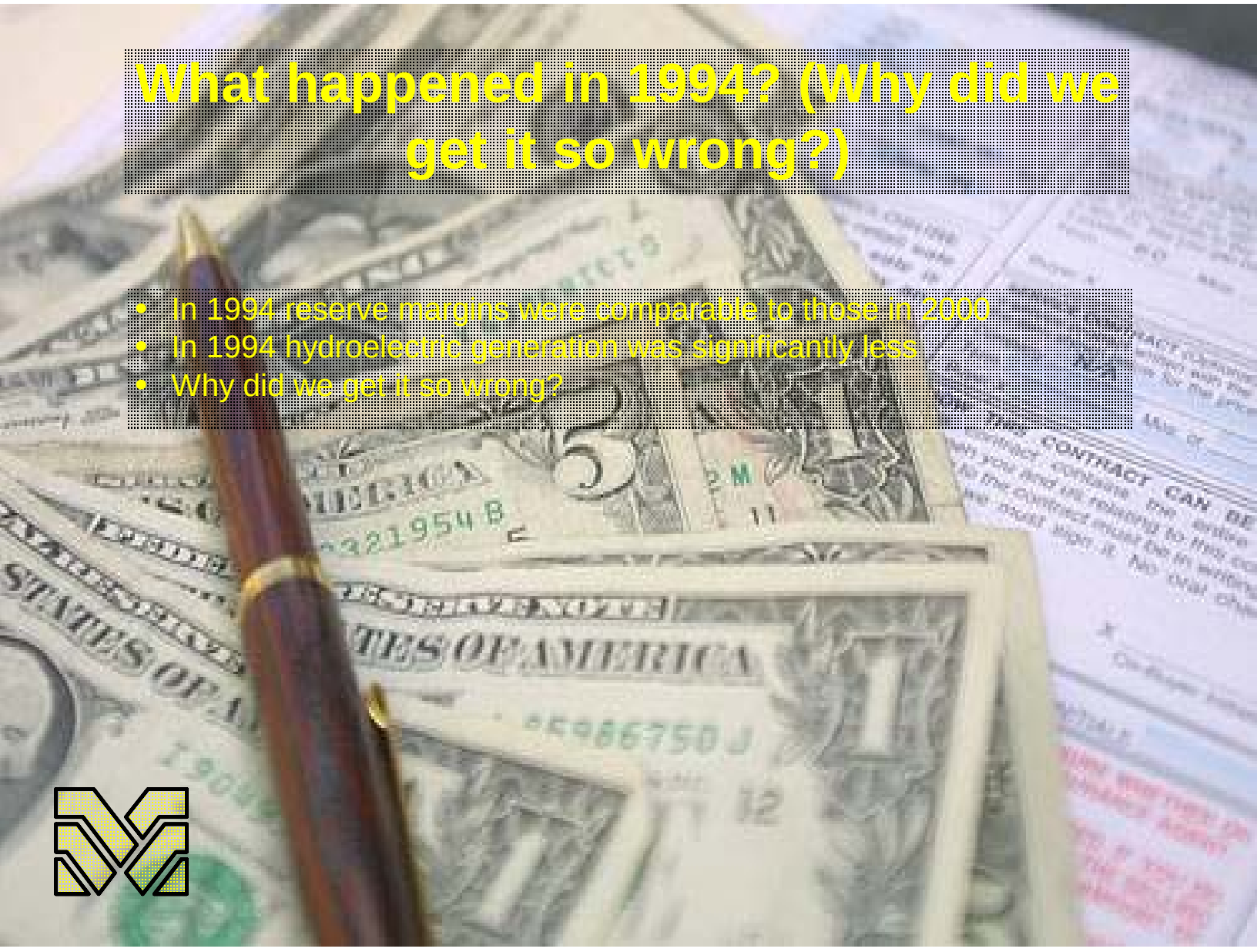
- What relevance do load resource summaries have to our future?
  - Do these resources actually exist?
  - How relevant are resources when interconnection issues are far more important than resources
- Should resources be counted when we can't count on the resources?
  - Should we be counting Helms Pumped Storage?
  - Are the units owned by the "Big Five" actually limited to 60% of their nameplate capacity?
- Who is doing hte counting?

WECC Margins



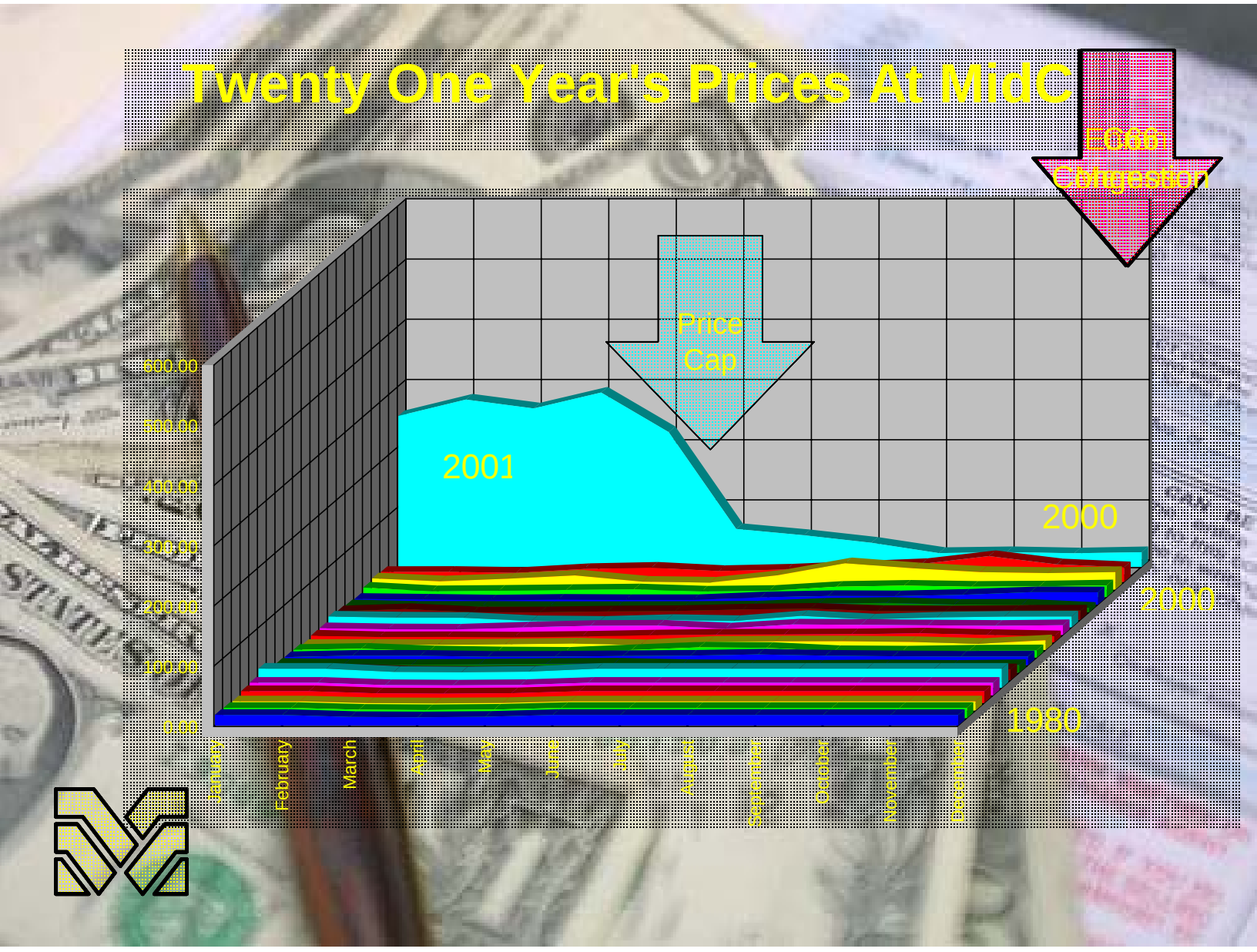
NWPP Margins



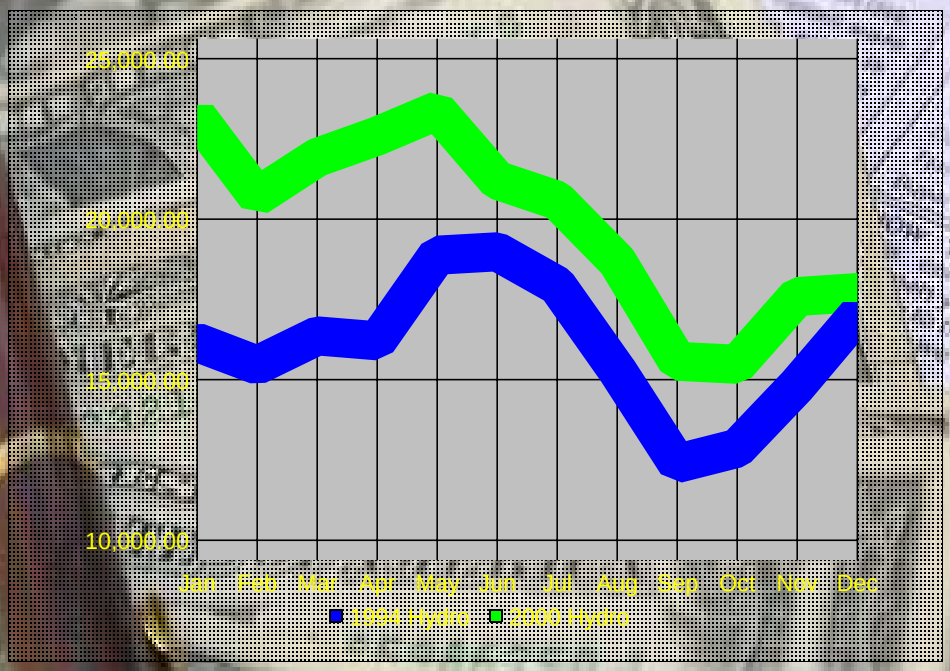


What happened in 1994? (Why did we get it so wrong?)

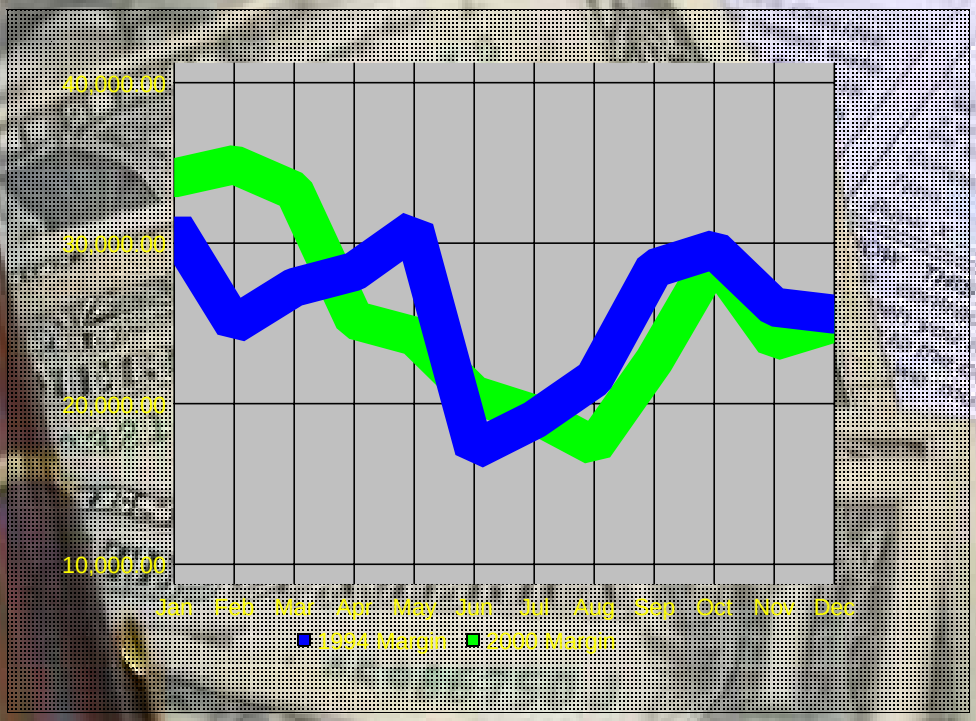
- In 1994 reserve margins were comparable to those in 2000
- In 1994 hydroelectric generation was significantly less
- Why did we get it so wrong?


Twenty One Year's Prices At MidC
Price Cap
2001
2000
2000
1980
600.00
500.00
400.00
300.00
200.00
100.00
0.00
January
February
March
April
May
June
July
August
September
October
November
December

1994 and 2000 Hydro



1994 and 2000 Capacity Margins

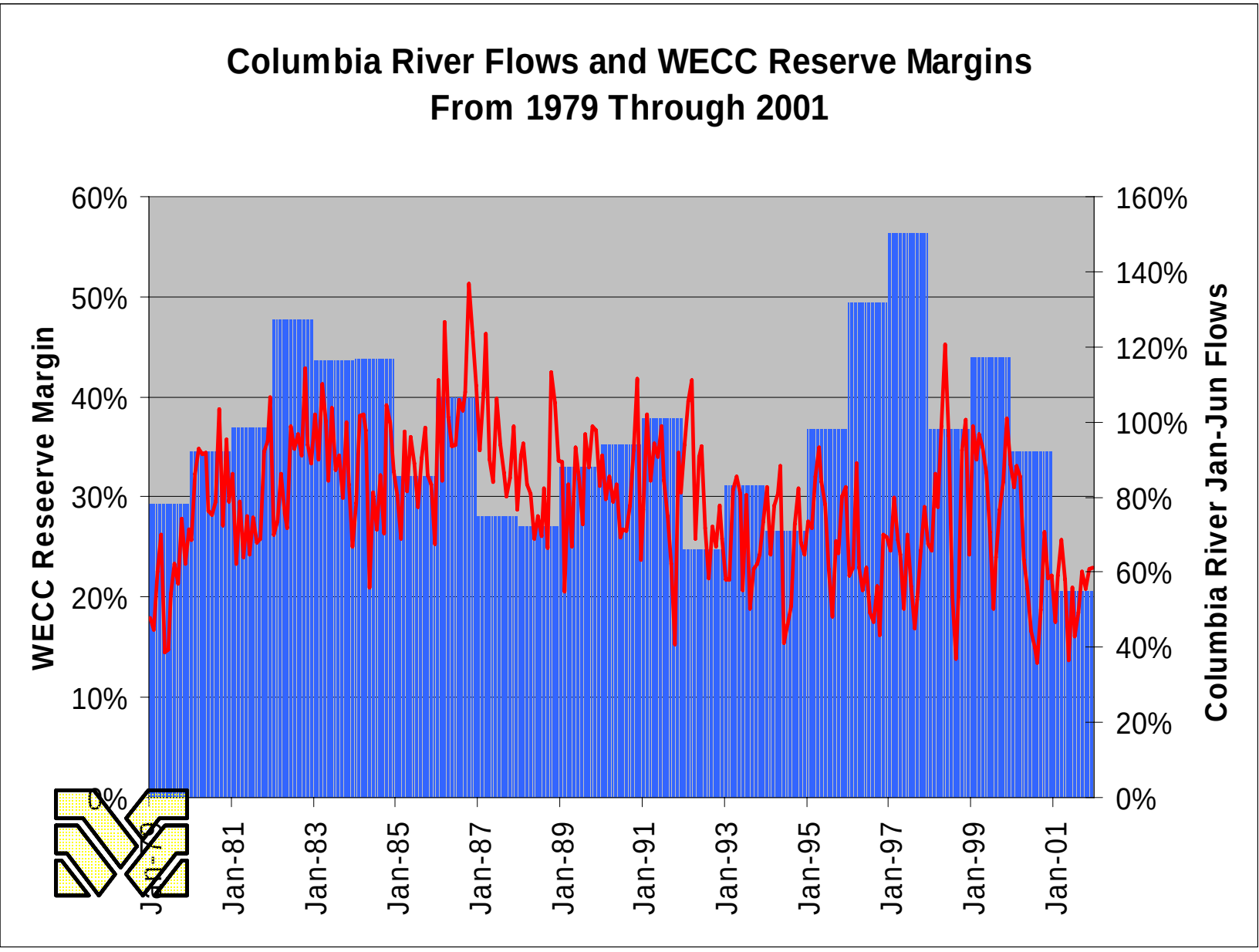


How does this affect our future?

- Less and less market information
- More accent on maneuverability -- rules rather than dispatch

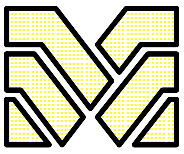
Secrecy as a goal

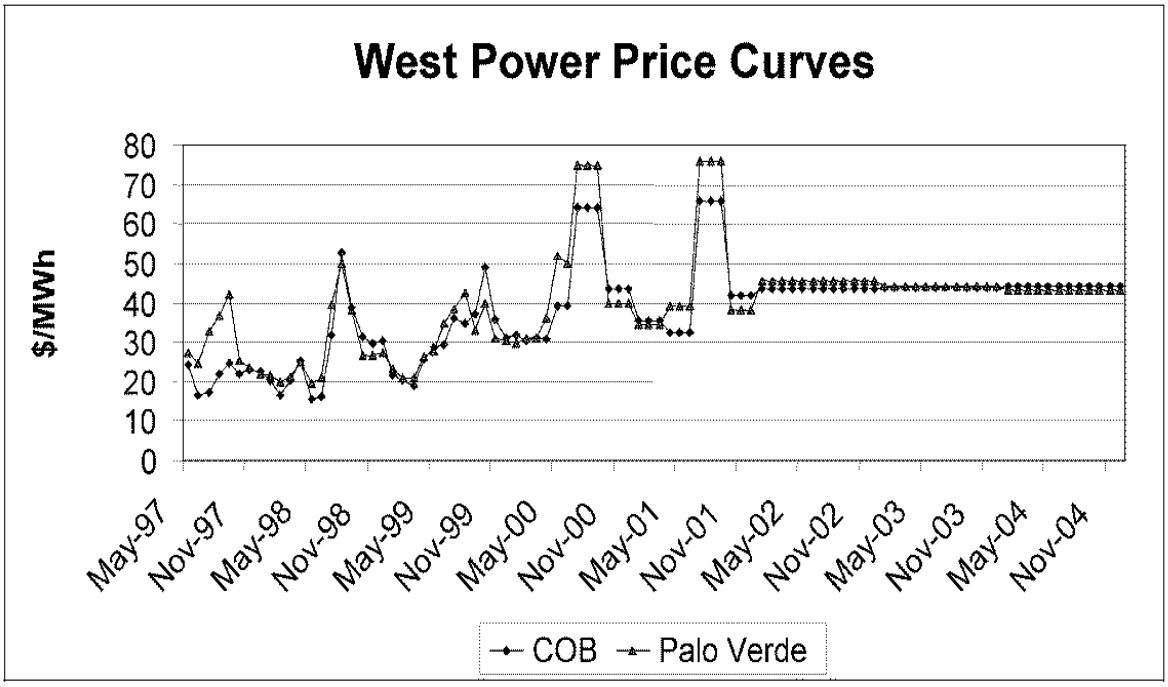
- WECC is gradually being lobbied to go "dark"
- FERC confidentiality even forbids responding to U.S. subpoenas
- State Commissions are continuing to allow secrets without review

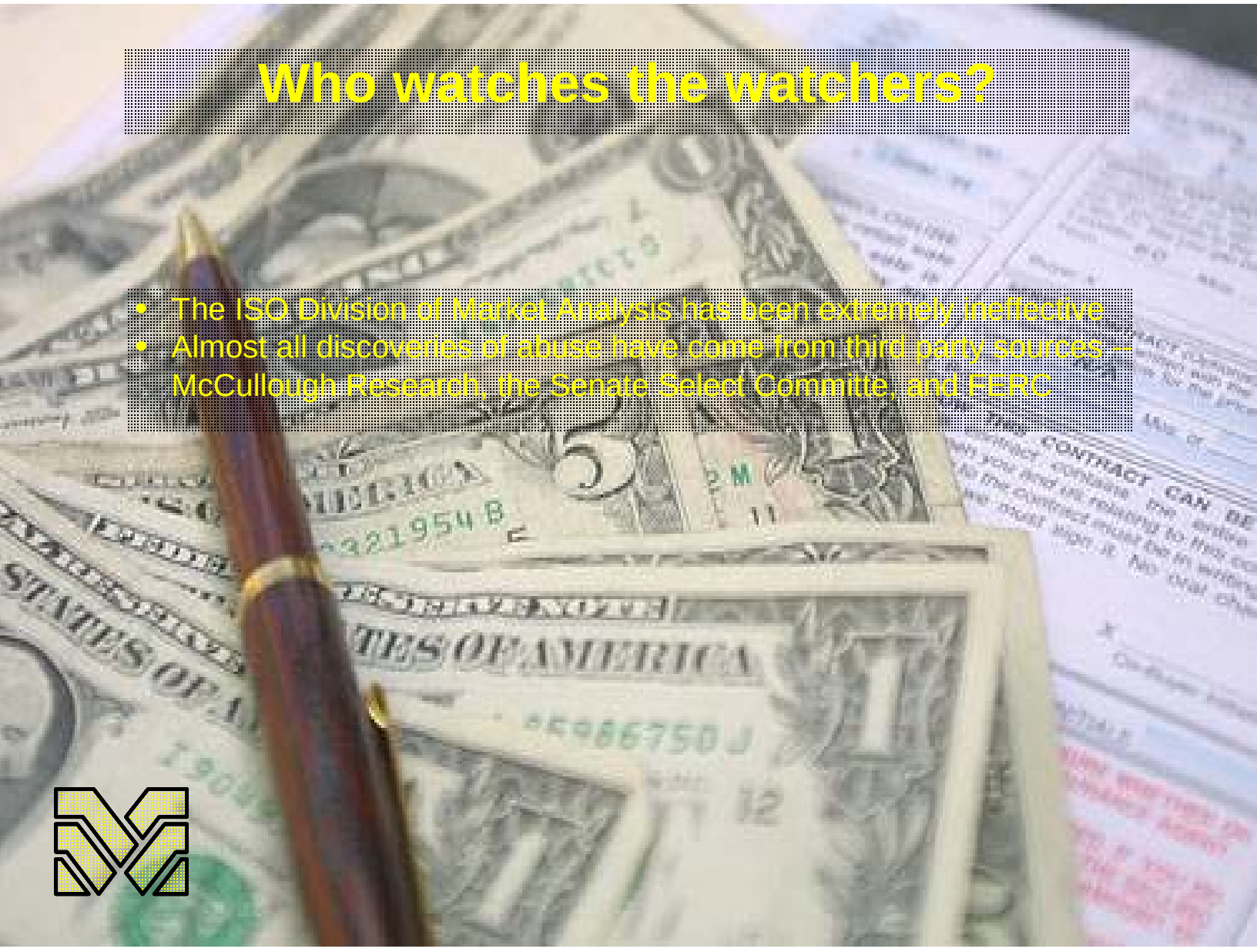

Columbia River Flows and WECC Reserve Margins
From 1979 Through 2001
WECC Reseerve Margin
Columbia River Jan-Jun Flows
60%
50%
40%
30%
20%
10%
0%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Jan-81
Jan-83
Jan-85
Jan-87
Jan-89
Jan-91
Jan-93
Jan-95
Jan-97
Jan-99
Jan-01

California Market Structure

- CA ISO responsible for reliability, transmission access, and ancillary services
- PX Runs Energy Market
- Full Retail Access
- ISO and PX have complex set of rules that are prone to gaming




West Power Price Curves
$/MWh
80
70
60
50
40
30
20
10
0
May-97
Nov-97
May-98
Nov-98
May-99
Nov-99
May-00
Nov-00
May-01
Nov-01
May-02
Nov-02
May-03
Nov-03
May-04
Nov-04
COB
Palo Verde



Who watches the watchers?

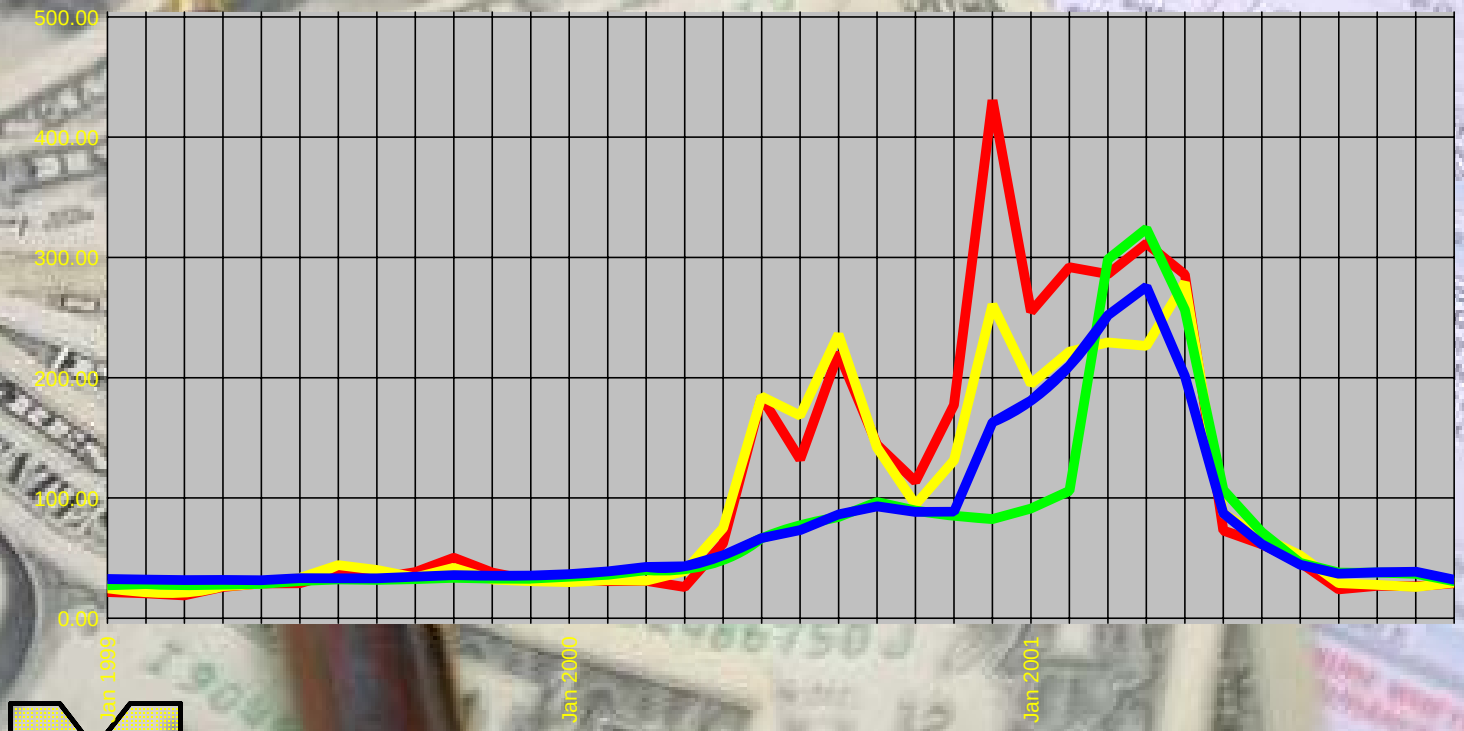
- The ISO Division of Market Analysis has been extremely ineffective
- Almost all discoveries of abuse have come from third party sources – McCullough Research, the Senate Select Committe, and FERC

ISO Admission

2) The "formula" used by staff to determine how much capacity was withheld each day.
The ISO imposed transmission limitations for the purpose of maintaining system reliability; we did not withhold capacity. The capacity subject to the transmission limitations was used in Real Time for actual power flow.
During the time period specified in the request, December 1, 2000 through January 31, 2001, the transmission limitations imposed by the ISO were equal to the Available Transmission Capacity of COI, which was determined as the Operating Transfer Capability of the line less Existing Contract Rights less Firm Transmission Rights of approximately 33 MW.

Email from Beth Ann Burns to Christian Schreiber, November 19, 2002.

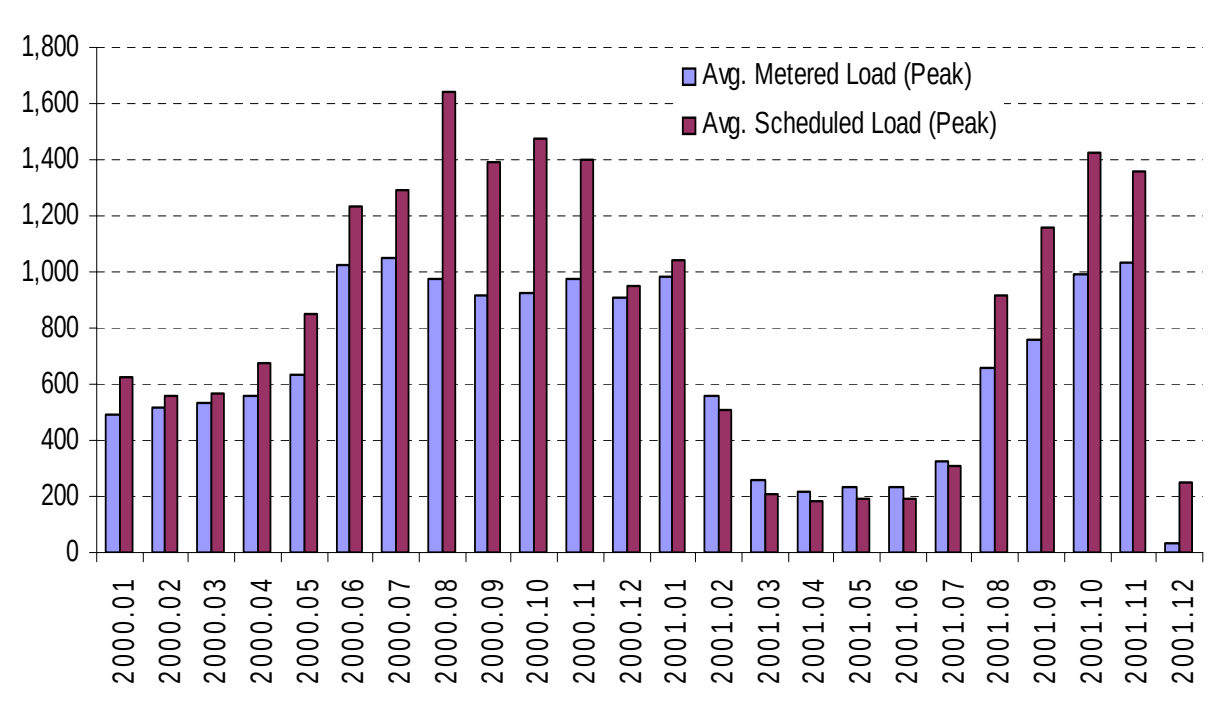
Long Run and Short Run Prices



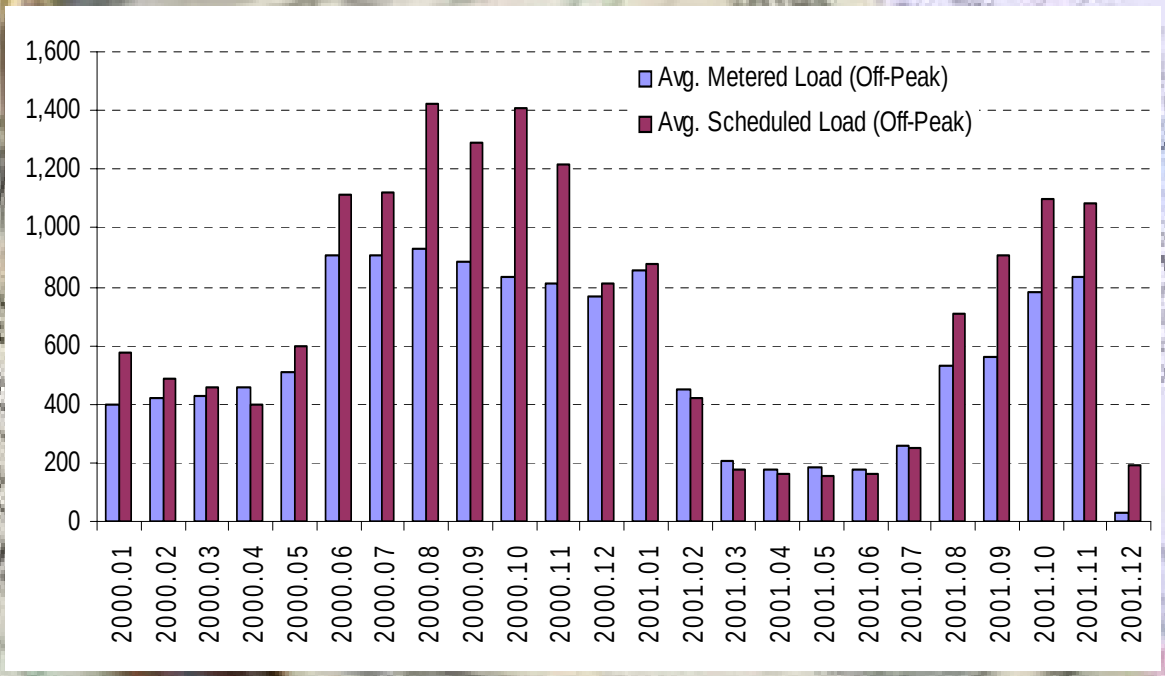
How Relevant is Yoder/Hall to our future?

- Very, very relevant
- We have little reason to believe that Fat Boys or Death Stars ended in December 2000

Enron On-Peak Overschedules



Enron Off-Peak Overschedules



First Emergency Fat Boys

Figure 6. Overscheduling of Load by Enron and other Schedule Co-ordinator on May 21-23

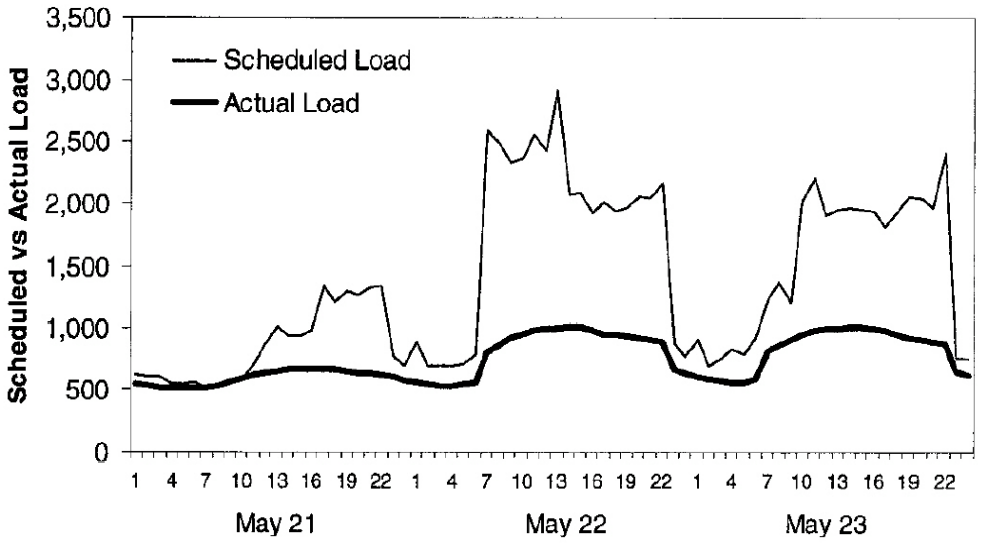


Table 2. Total Congestion Revenues from Counterflows Created by Import/Export Schedules (Matched by MW Amount) by SC

SC_ID	Name	1998	1999	2000	2001	2002	Total
CRLP	Coral Power, LLC			$1,366,933	$1,279,190	$1,229,360	$3,875,484
EPMI	ENRON Power Marketing Inc		$84,148	$1,039,960	$1,673,440		$2,797,548
SETC	Sempra Energy Trading		$87,746	$1,190,556	$237,161	$133,960	$1,649,422
PWRX	British Columbia Power Exchange			$44,779	$329,732	$710,162	$1,084,673
WESC	Williams Energy Services		$856,597	$43,907	$15,047	$50,731	$966,283
CAL1	Cargill Alliant, LLC			$1,025	$14,289	$877,964	$893,278
APX1	Automated Power Exchange, Inc				$679,500	$2,662	$682,162
IPC1	Idaho Power Company			$617,116	$51,949		$669,065
PAC1	PacificCorp	$413,325	$20,558		$65,228	$25,757	$524,869
SCEM	Mirant			$54,436	$146,243	$295,658	$496,337
DETM	Duke Energy Trading	$64,018	$8,294	$95,340	$26,465	$21,535	$215,651
ANHM	City of Anaheim			$136,725	$13,832		$150,557
CALP	Calpine Energy Services				$4,376	$127,984	$132,360
APS1	Arizona Public Service Company		$90,895	$36,101			$126,996
MID1	Modesto Irrigation District		$34,398	$24,358	$20,847	$326	$79,929
MSCG	Morgan Stanley Capital Group				$36,614		$36,614
AEPS	American Electric Power Service					$19,481	$19,481
APX4	Automated Power Exchange				$6,675	$12,052	$18,727
AQPC	Aquila Power Corporation			$6,288			$6,288
PSE1	Puget Sound Energy			$1,815			$1,815
RVSD	City of Riverside		$1,501	$0			$1,501
	Grand Total	$477,343	$1,184,151	$4,659,341	$4,600,587	$3,507,633	$14,429,055

Note: Includes all import/export combinations by the same SC (matched by MW amount) that earned net congestion revenues from counterflows on interties and internal ISO paths. The ISO does not have sufficient information to determine if these schedules represent actual physical sources and sinks that mitigated congestion, or are the type of "circular" schedule with not physical source and sink, such as the Death Star scheme described in the Enron memos.

Apparent Powerex Death Stars

		Hour Ending																							
Routes	Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ISO: Import on SYLMAR_2_NOB, Export on LUGO_5_VICTVL; LADWP: Wheel from Lugo to NOB	9/5/2000											50	50	50	50	50	50	50	50	50	50		50		
	9/13/2000																							200	200
	9/17/2000	150										150	150	150	150	150	150	150	150	150	150	150	150	150	150
	10/3/2000	200	200	200	200	200	200																	200	200
	10/4/2000		200	200	200	200	200																		
	10/6/2000	200	200	200	200	200	200																	200	200
	10/7/2000	200	200	200	200	200	200																	200	200
	10/8/2000	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
	10/9/2000	200	200	200	200	200	200	200	200	200	200	200	200										100	200	200
	10/10/2000	200	200	200	200	200	200	200	200	200		100	100	100	100									200	200
	10/11/2000	200	200	200	200	200	200																100		200
	10/12/2000	200	200	200	200	200	200																	200	200
	10/20/2000	100	100	100	100	100	100																		100
	10/21/2000	100	100	100	100	100	100																		100
	10/27/2000							100	100	100	100	100													
	11/6/2000							100	100	100	100	100	100	100	100	100	100	100	100	100					
	11/7/2000	200	200	200	200	200	200																		
	11/9/2000		200	200	200																				
	11/11/2000		100	100	100	100	100																		
	11/12/2000				100	100																			
ISO: Import on PVERDE_5_DEVERS, Export on SYLMAR_2_NOB; LADWP: Wheel from NOB to Palo Verde	6/12/2001																		25	25	25	25	25		
	6/17/2001															25									
	6/20/2001								25	25	25	25	25								25				
	6/21/2001									25	25	25	25												

Updating the future

- We need to accept a derating of existing resources through the establishment of administered centralized schemes
- We need to recognize that baseload may be an inefficient choice given that regulations, rather than dispatch, will be the central part of profit

Adjusted Reserve Margins