

# RTO West Benefits Analysis

Facts Regarding One Control Area in  
Partnership with Self-Provision of  
some Ancillary Services

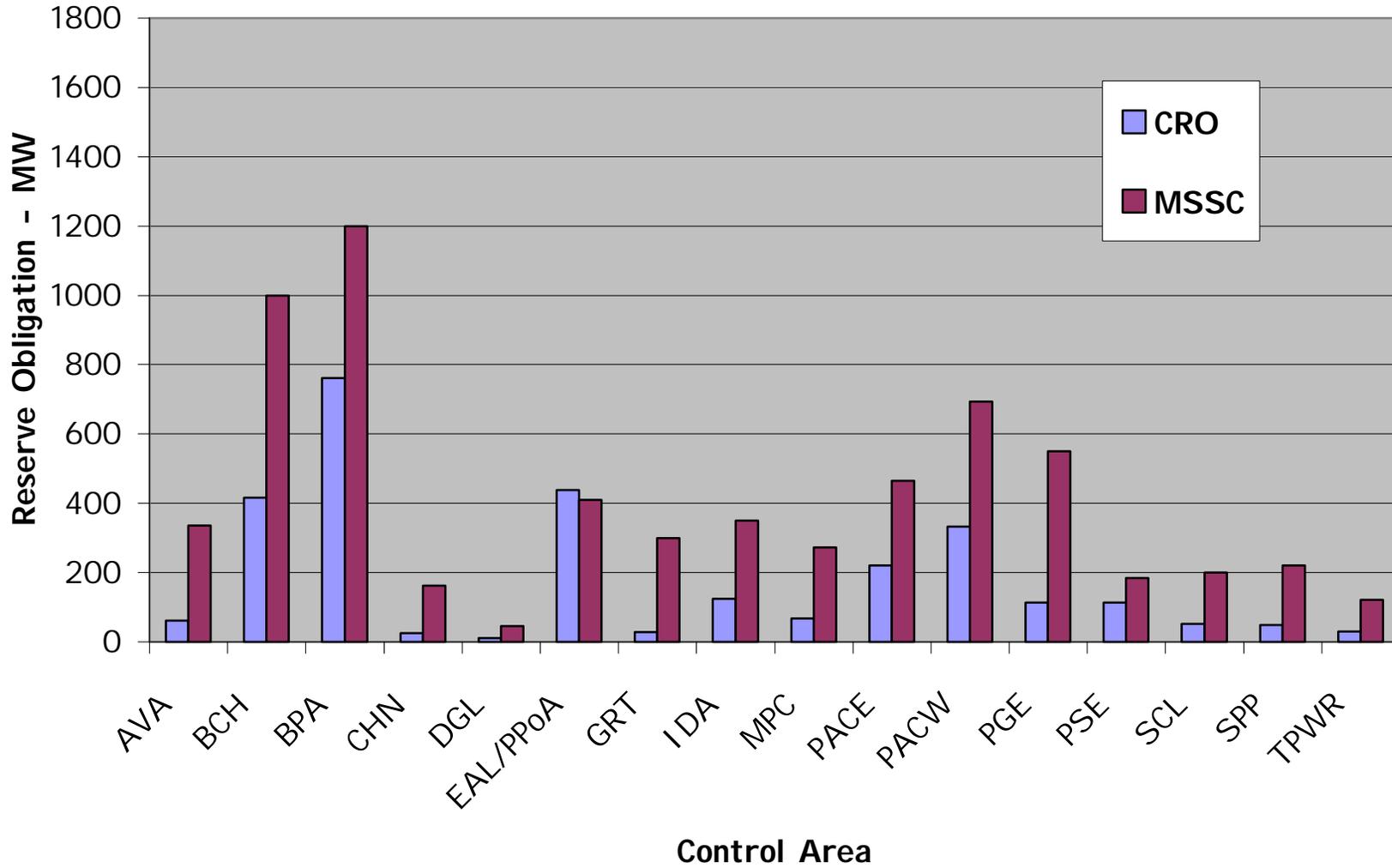
# WHAT ARE SOME RTO OPPORTUNITIES?

- RTO West should be a good steward of Ancillary Service Resources
  - Minimize Operating Reserve Requirements
  - Relax Regulation Requirements
    - Variable Frequency Bias Setting
    - Relax Control using CPS1 ( $ACE * \Delta F$ ) Deadband
    - Relax Control using CPS2 ACE Deadband
  - Combine Control Area Reserve Obligations

# OPERATING RESERVE

- NW Systems Self Provide their fair share of Operating Reserves
- Allocation is determined by a Pro Rata Methodology
- Fundamental Reason for Self Providing in a Pool Arrangement:
  - 3665 MW of Capacity Saved

## NWPP Reserve Sharing Benefits

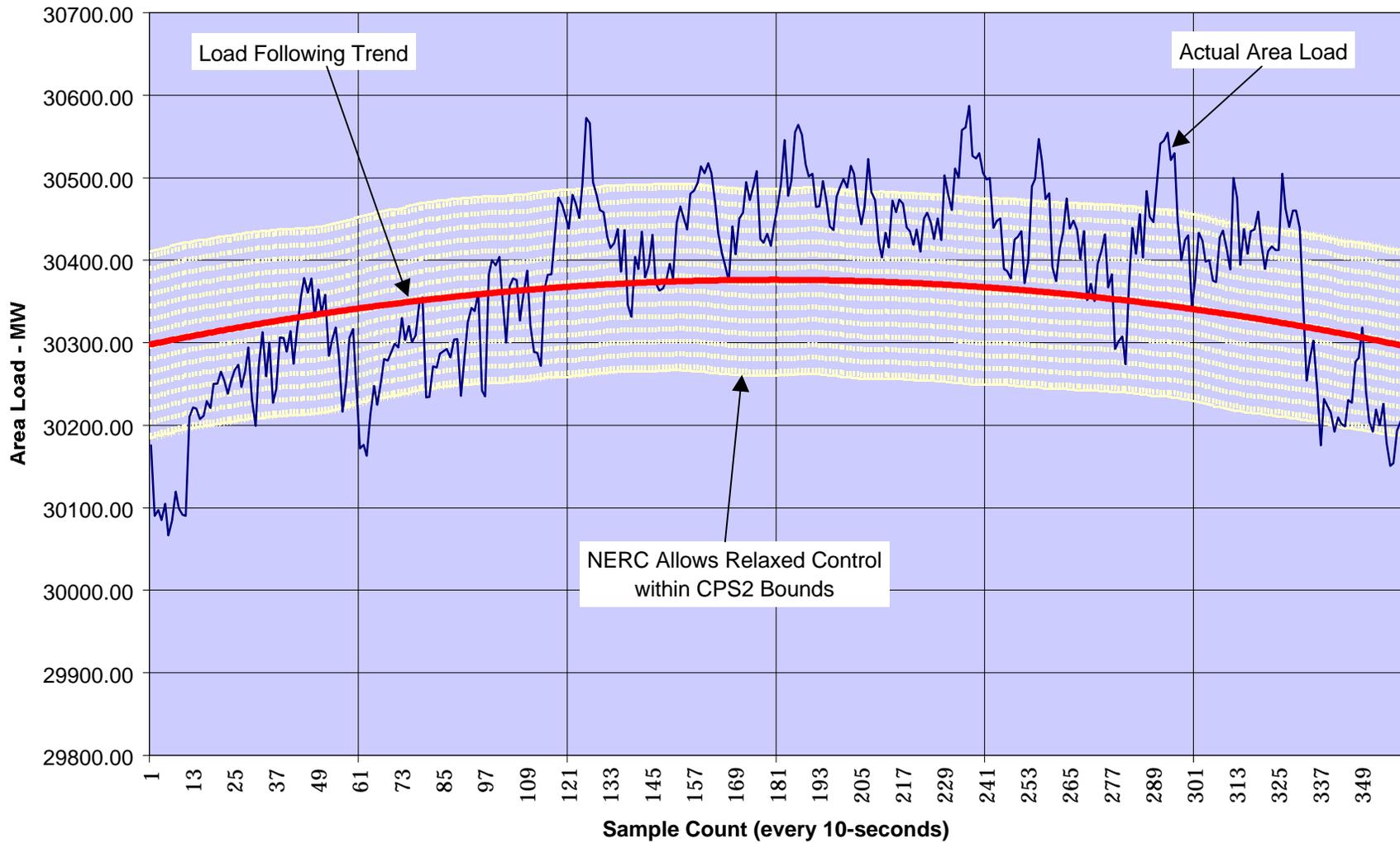


# REGULATING RESERVE

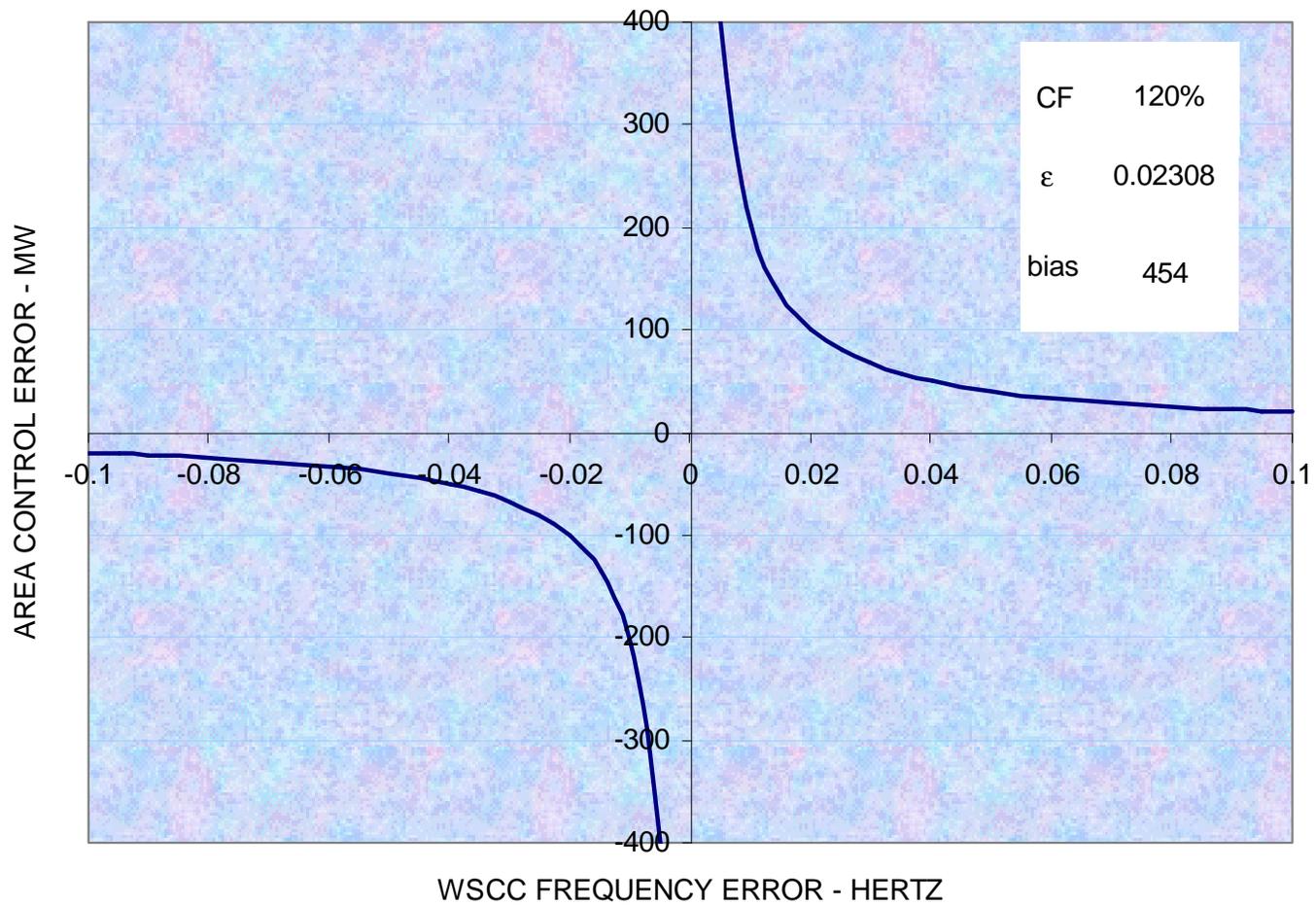
- No Savings by Pooling Load Following
- Ignore Potential Savings by Pooling Load Forecasting (just reforecast more often)
- Islands of Regulation for Short-Term Load Variation can benefit from Pro Rata Pooling
  - Too much capacity utilized to meet CPS
  - Too much capacity used when diversity ignored

# RTO West Regulation Study

## Friday July 21, 2000 HE16

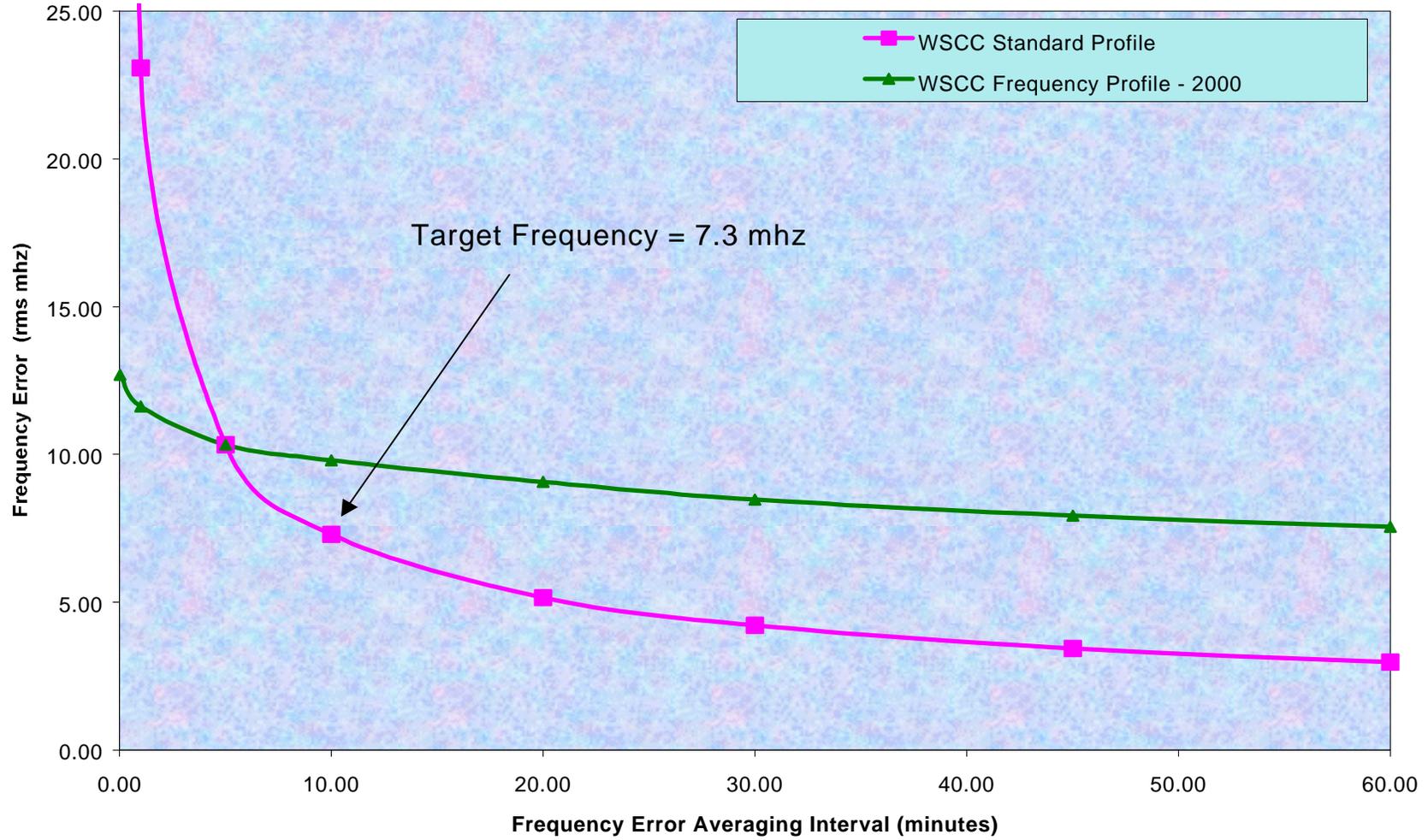


# ALLOWABLE OPERATING REGIONS FOR RTO WEST



# How Much Over Control is Happening?

WSCC Frequency Error Profile 2000



**RELAXED CONTROL REDUCES REGULATING CAPACITY TO MEET CPS**

Note: Based on 1999 average control area loads

CONTROL AREA	STATE	AVERAGE LOAD FOR 1999	REGULATING RESERVE REQUIREMENT		LEVEL OF COMPLIANCE CPS1	CAPACITY NEEDED FOR 120% COMPLIANCE	EXCESS CAPACITY USING RELAXED CONTROL
			2% of PEAK METHOD	SELF PROVIDE TRACKING METHOD			
AVA	WA	1306	44	15	188	10	6
IPC	ID	1368	46	28	195	17	11
MPC	MT	793	26	10	188	6	4
PACE	UT/WY	2909	97	79	177	54	25
PACW	OR	1785	60	87	178	59	28
PACW	WA	764	25	80	178	54	26
PGE	OR	1691	56	39	180	26	13
PSE	WA	1931	64	14	191	9	5
SPP	NV	847	28	10	179	7	3
BPA	OR/WA	4471	149	93	171	65	28
			total =	492		330	162

**RTO PRO RATA ALLOCATION OF REGULATION REQUIREMENT TO SELF PROVIDERS**

CONTROL AREA	AVERAGE LOAD FOR 1999	2% of PEAK METHOD	SELF PROVIDE RTO PRO RATA METHOD	LEVEL OF COMPLIANCE CPS1	CAPACITY NEEDED FOR 120% COMPLIANCE	EXCESS CAPACITY USING RELAXED CONTROL	TOTAL SAVINGS FOR MOST EFFICIENT RTO REGULATION
BPA + ALL	17865	596	199	180	133	66	\$ 24,934,798