

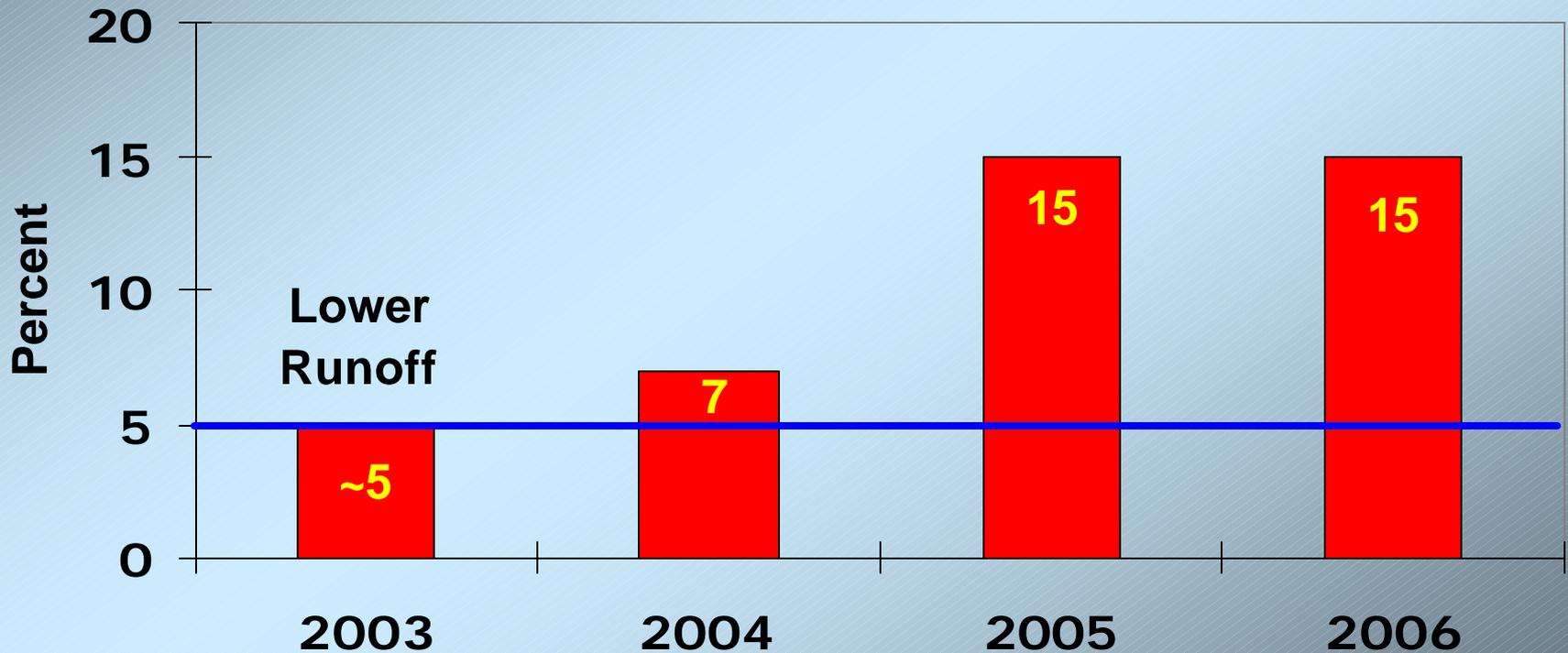
Preliminary Reliability Assessment

Winter Seasons 2003-06

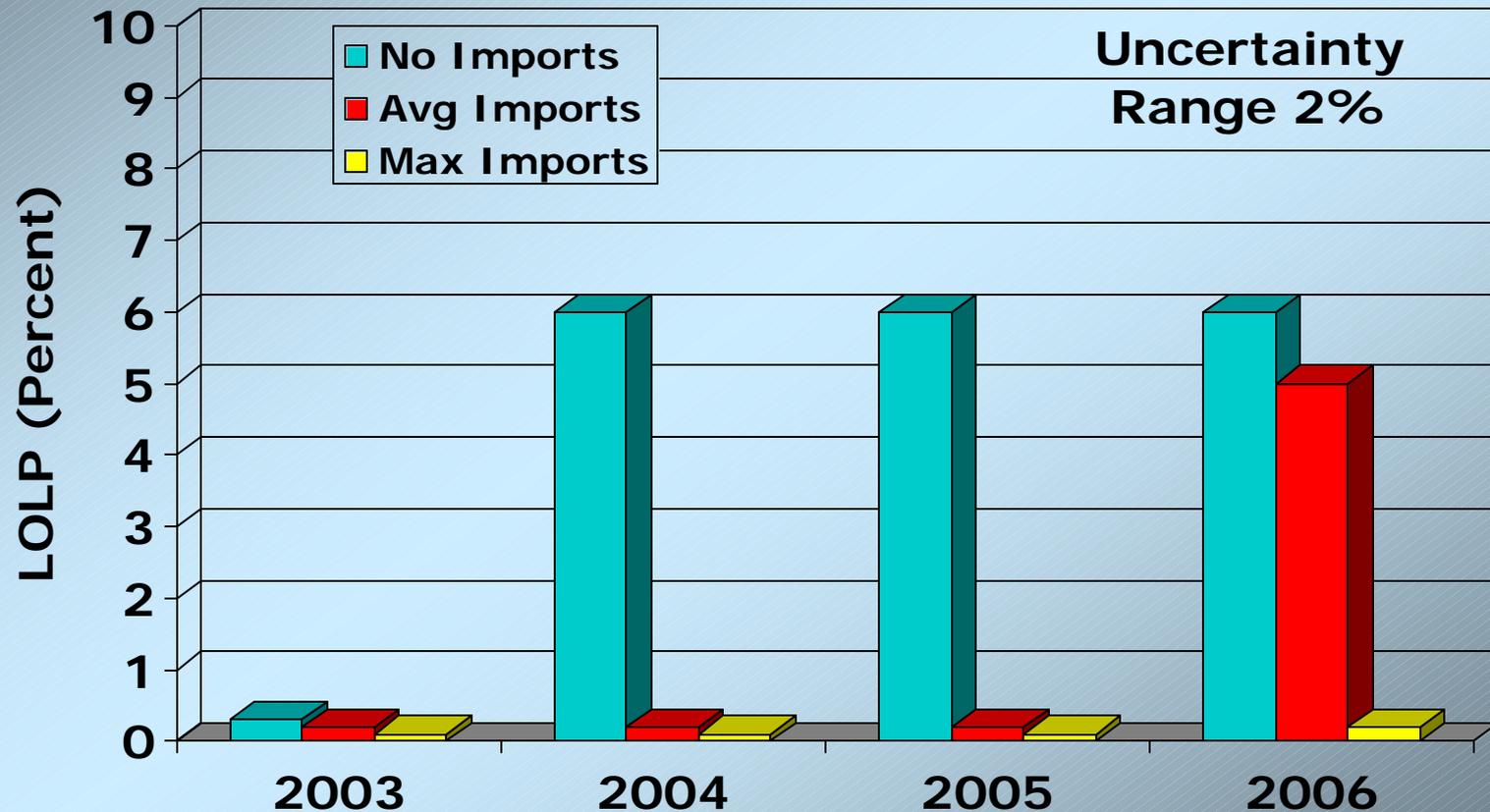
Northwest Power Planning Council

January 14, 2003

Loss of Load Probability (December 23, 2002 Estimate)



Loss of Load Probability (January 14, 2003 Estimate)



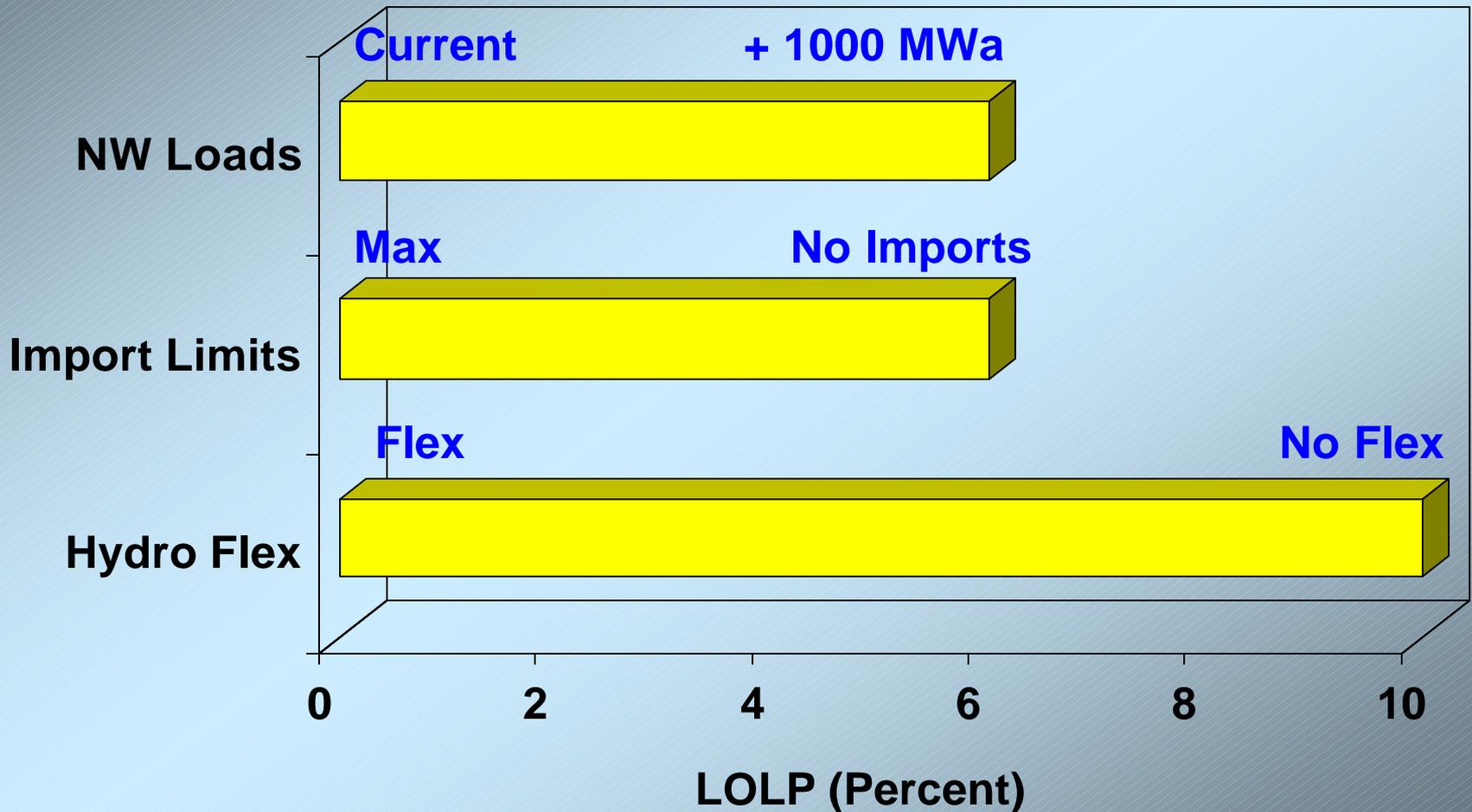
What's Changed

- **Winter 2003** – Incorporated a more current streamflow forecast (previous was too pessimistic for the winter months).
- **Winters 2003-2006** – An error in the hydro dispatch was corrected.

Hydro Dispatch Correction

- In the December study, hydro energy was used too aggressively. (All available hydro energy, including “emergency” hydro, was used prior to importing from out-of-region).
- This resulted in excessive drafting of reservoirs in early winter and caused supply problems in late winter.
- The current analysis uses “emergency” hydro generation only as a last resort for northwest needs. (This is what was done for all previous studies except the December analysis).

2006 LOLP Sensitivity

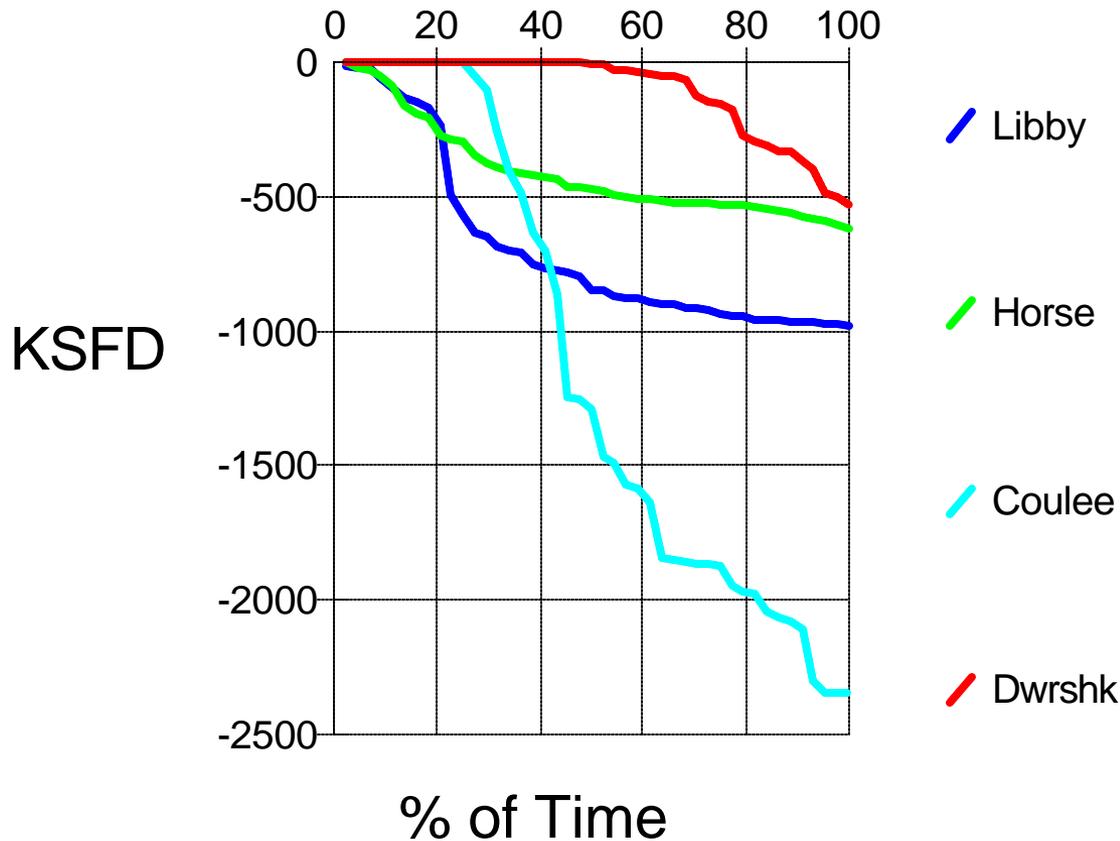


Firm L/R Balance vs. LOLP

Year	2003 2000 NRF Estimate	2003 Council Estimate	2006 Council Estimate
L/R Balance	- 2800	+ 4200	+ 3100
LOLP	24%	< 1 %	< 1 %

April 15th 2003 Refill Probability

Project Duration Curve: Content vs FC,
OpYr 2003, Period Apr-1



Coulee: 25%

Libby: 0%

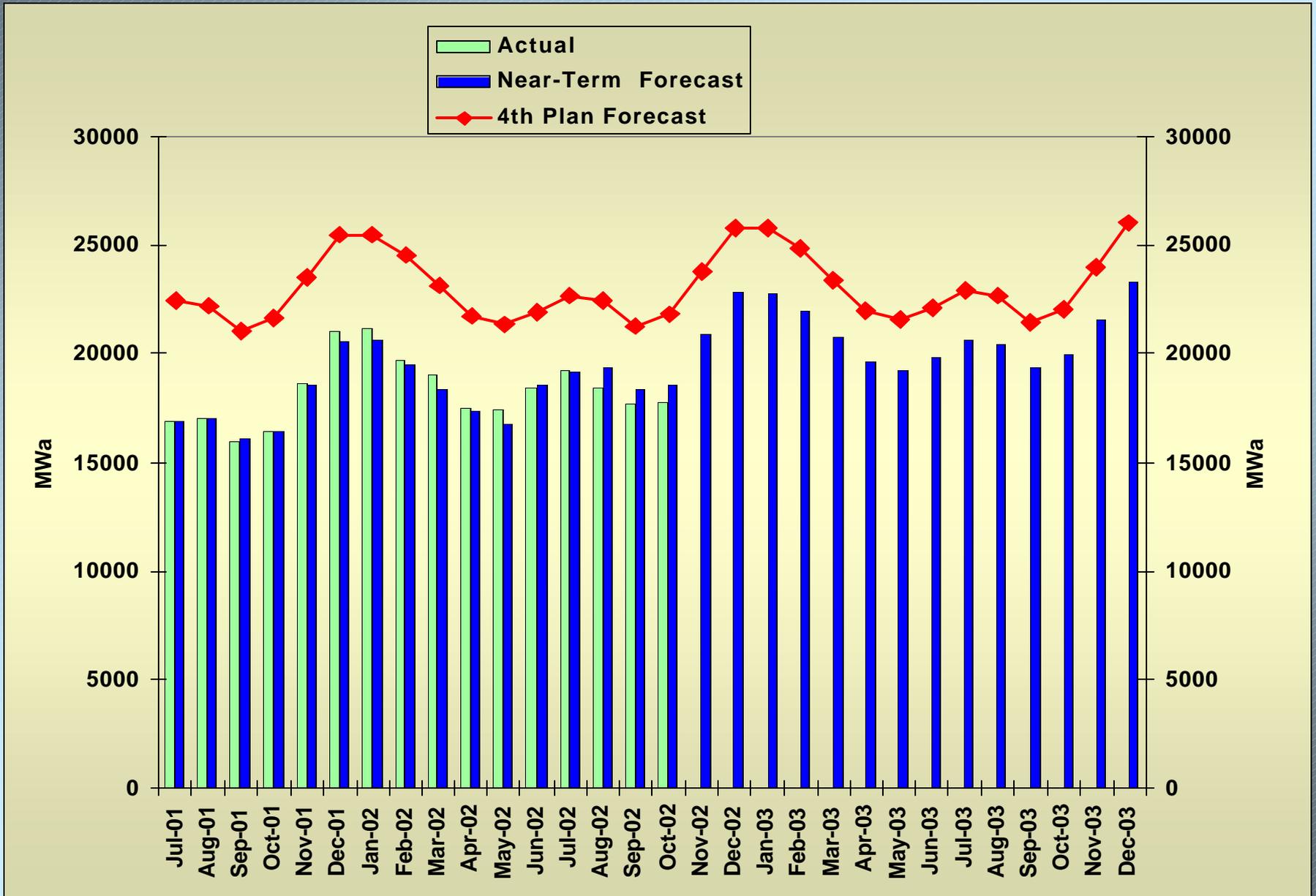
Horse: 0%

Dworshak: 50%

Avg Imports:

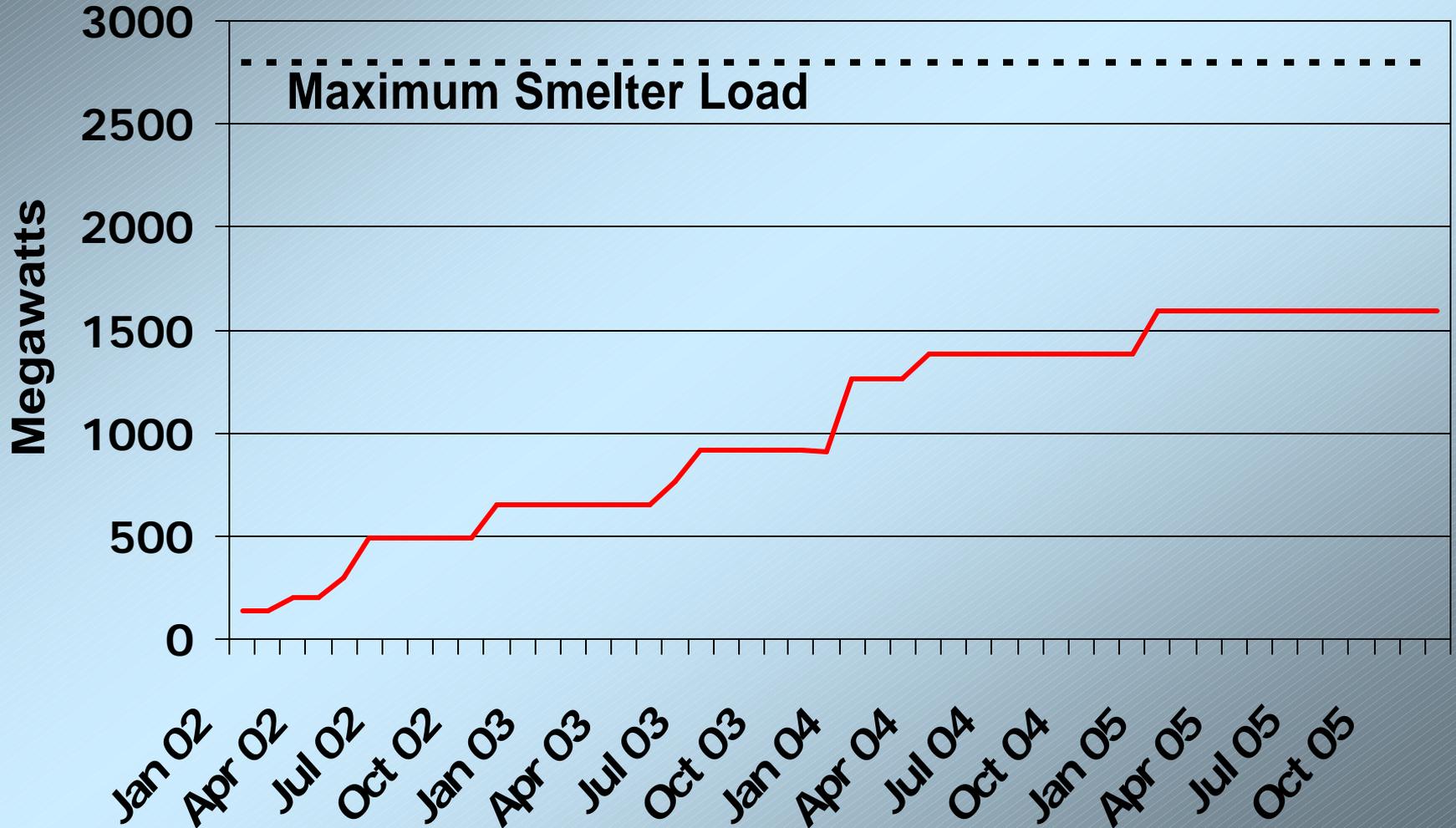
3,000 MW-mo

Regional Demand vs. Forecast



DSI Loads

Current Draft Forecast



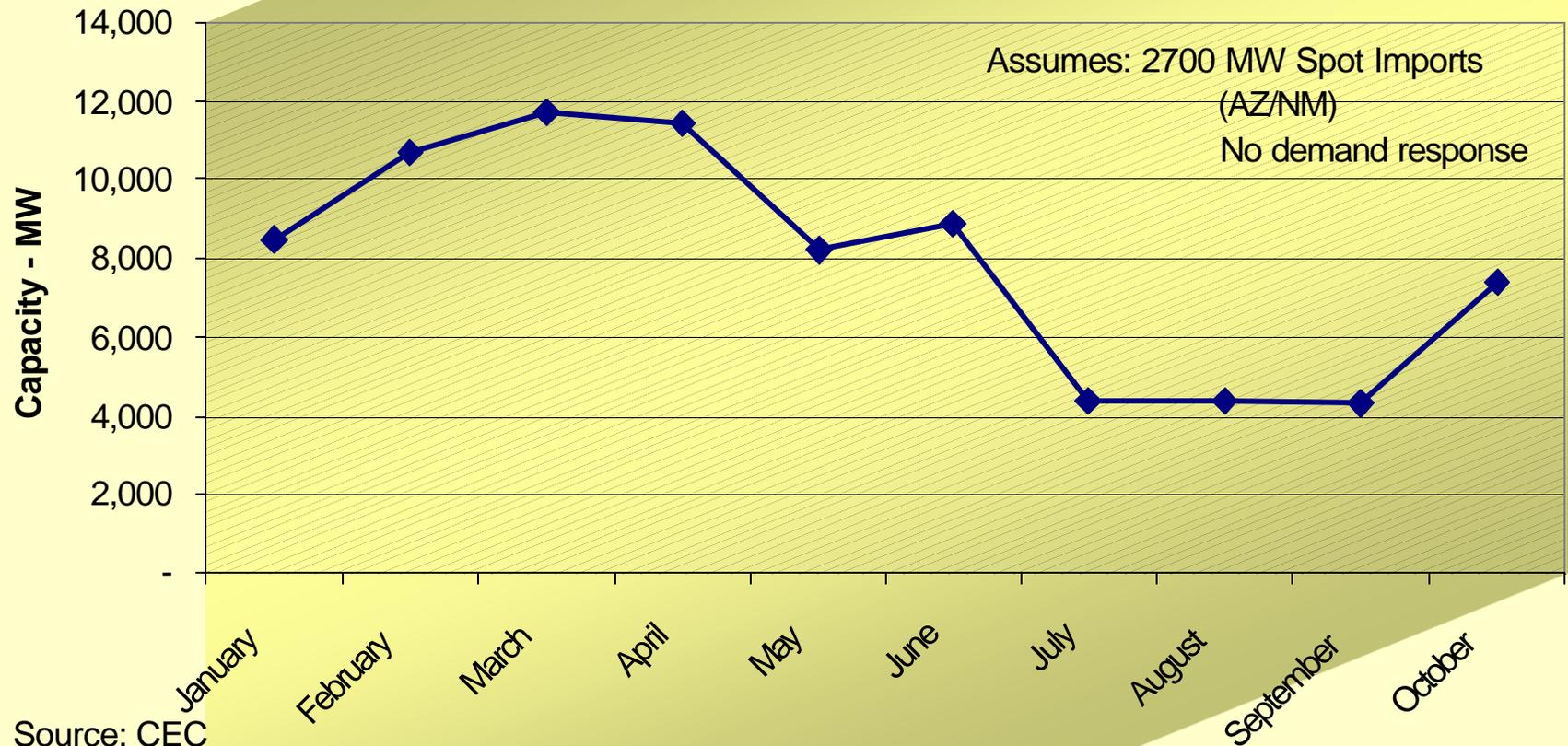
Aurora™ Estimates of Capacity Additions in the Northwest

2001 Base



California -- 2003

Estimated California Monthly Peak Surplus -- 2003



Source: CEC