

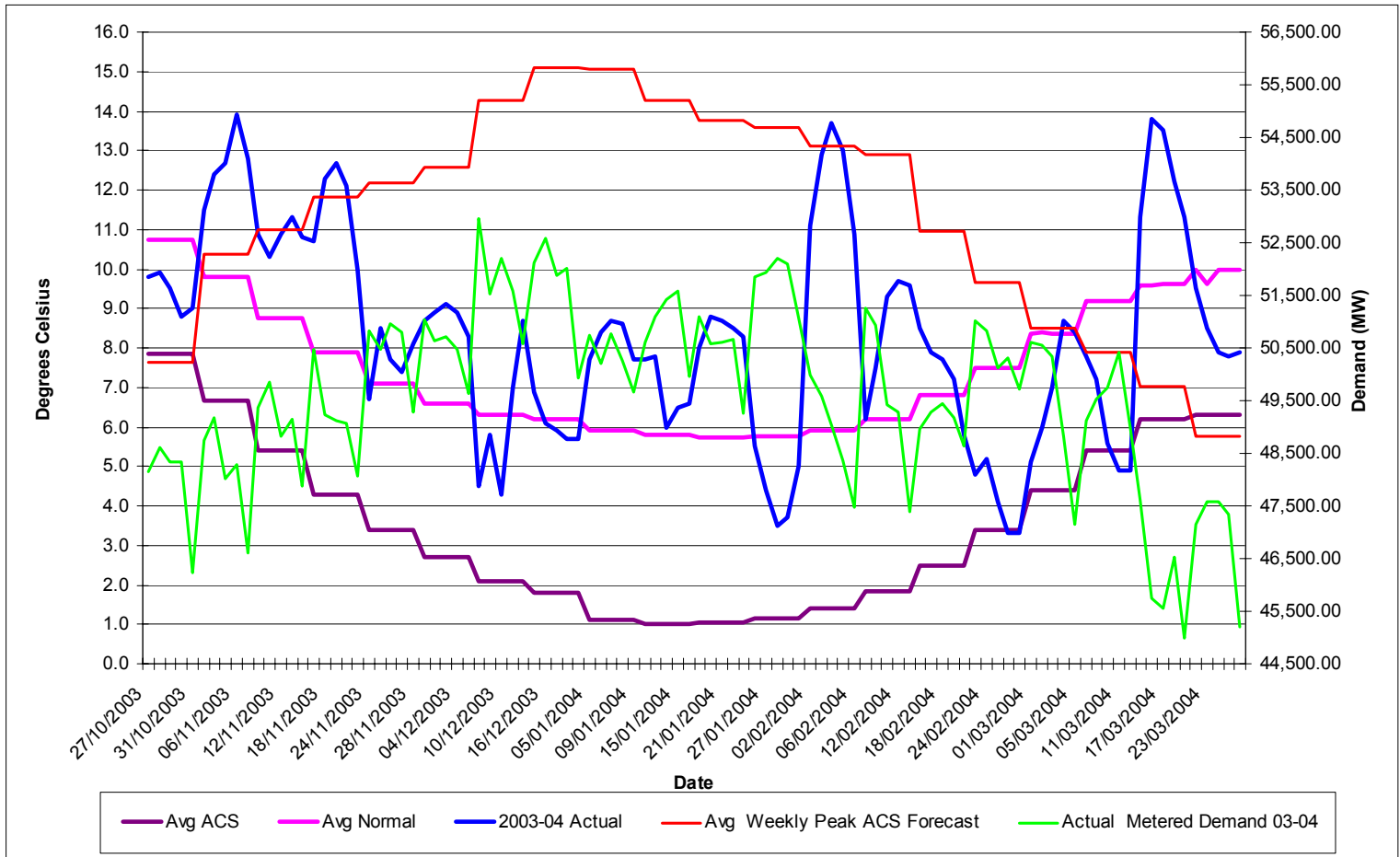
Review of Winter 2003/04 Demands

Phil Sheppard

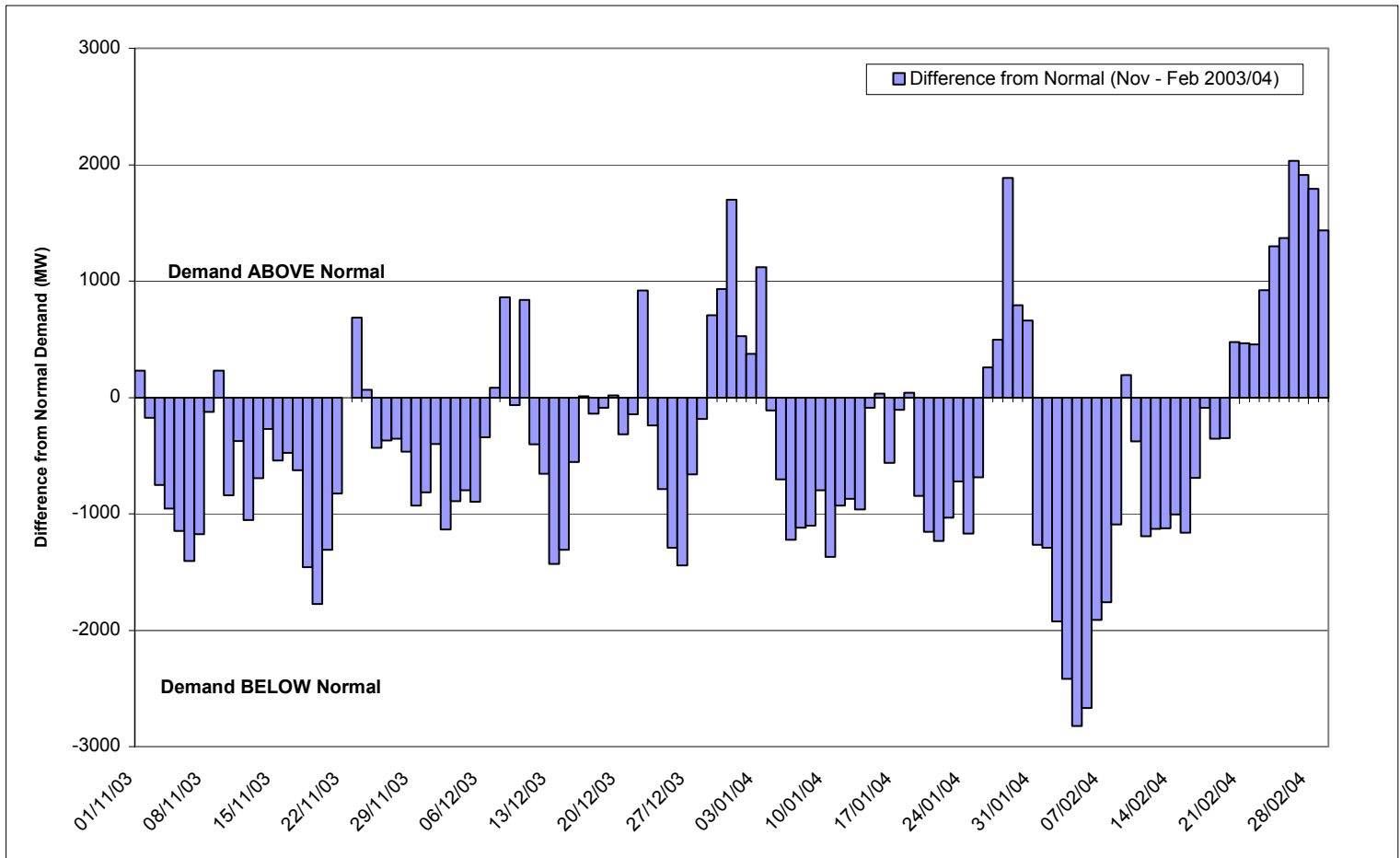
Background - Generation

- 3GW of plant returned from mothballs for winter peaks
- Plant margin rose from 16.5% (SYS Update July) to 21.6% (SYS Jan Update)
- Around 3GW of imports over darkness peaks

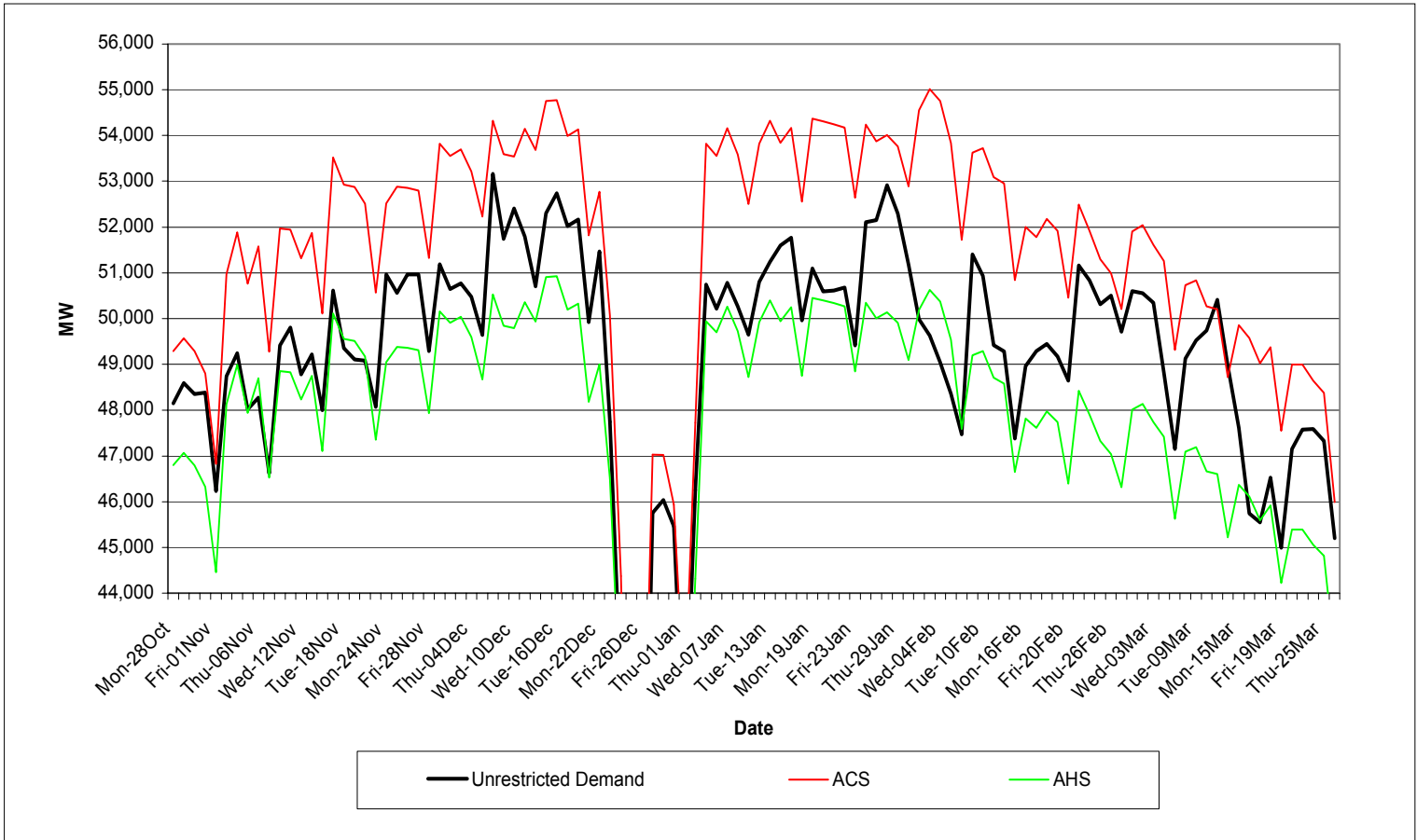
Winter Demands Temperature Profile



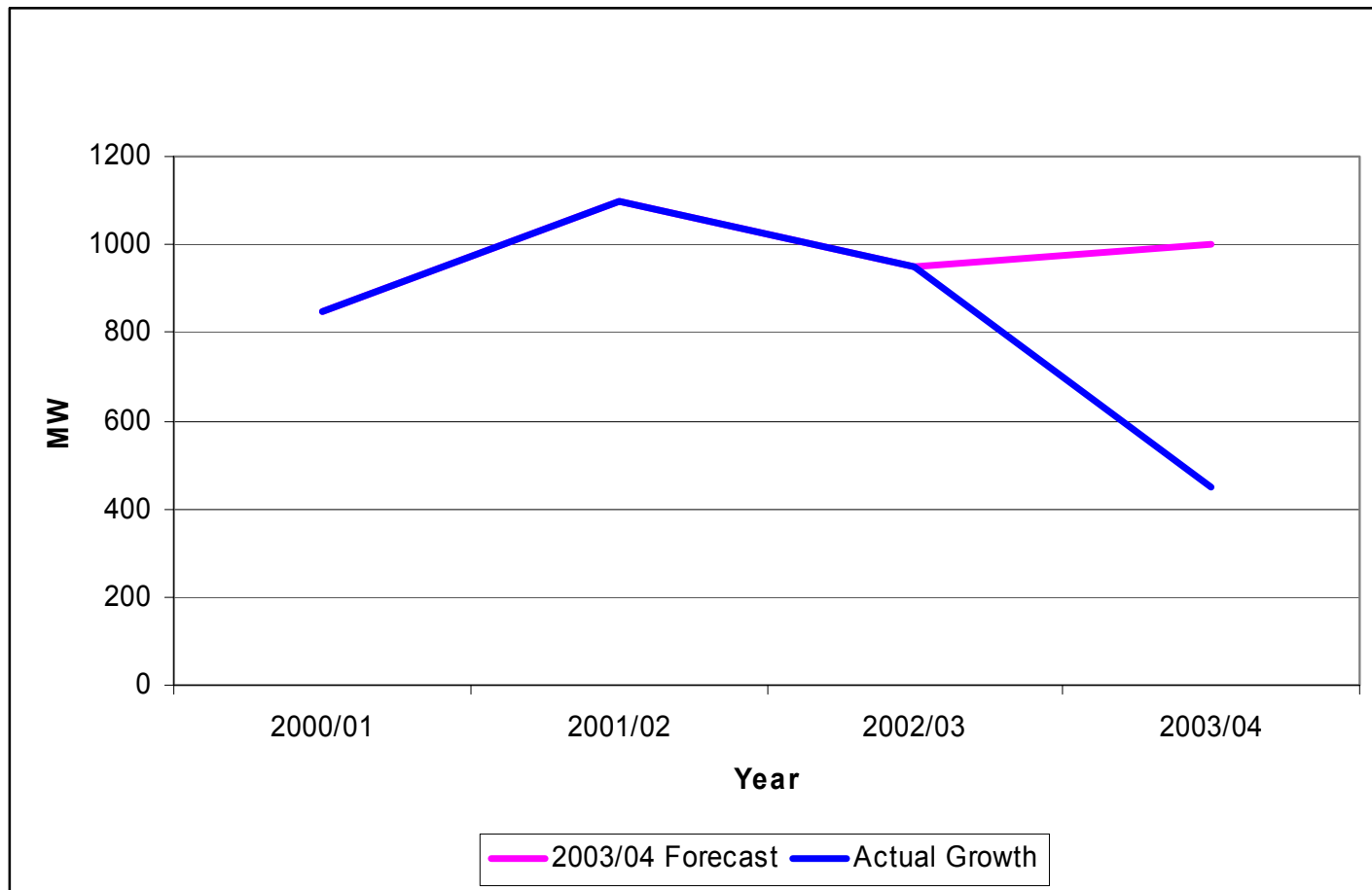
Peak Demand Variance from Normal



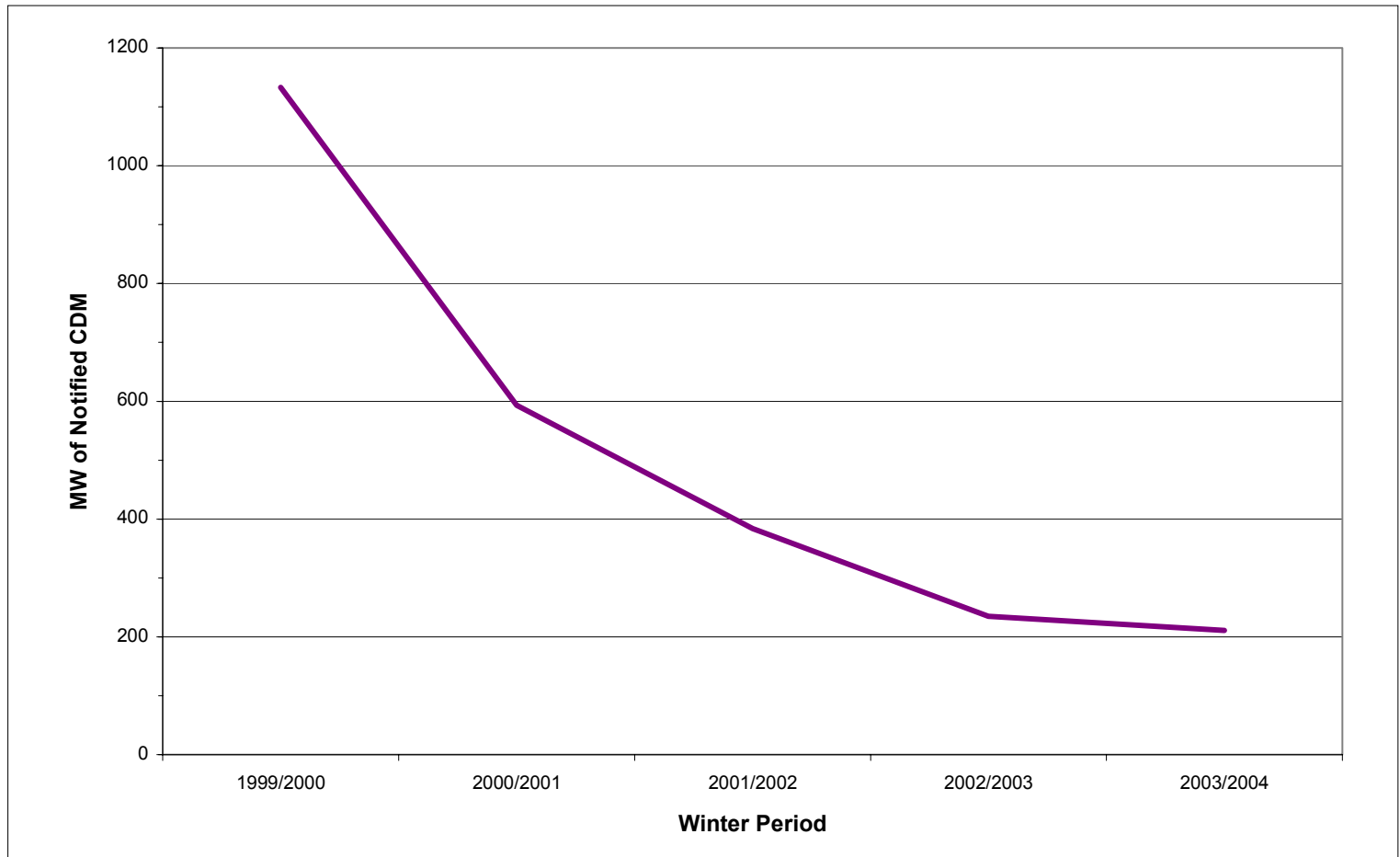
Winter Peak Demand Profile



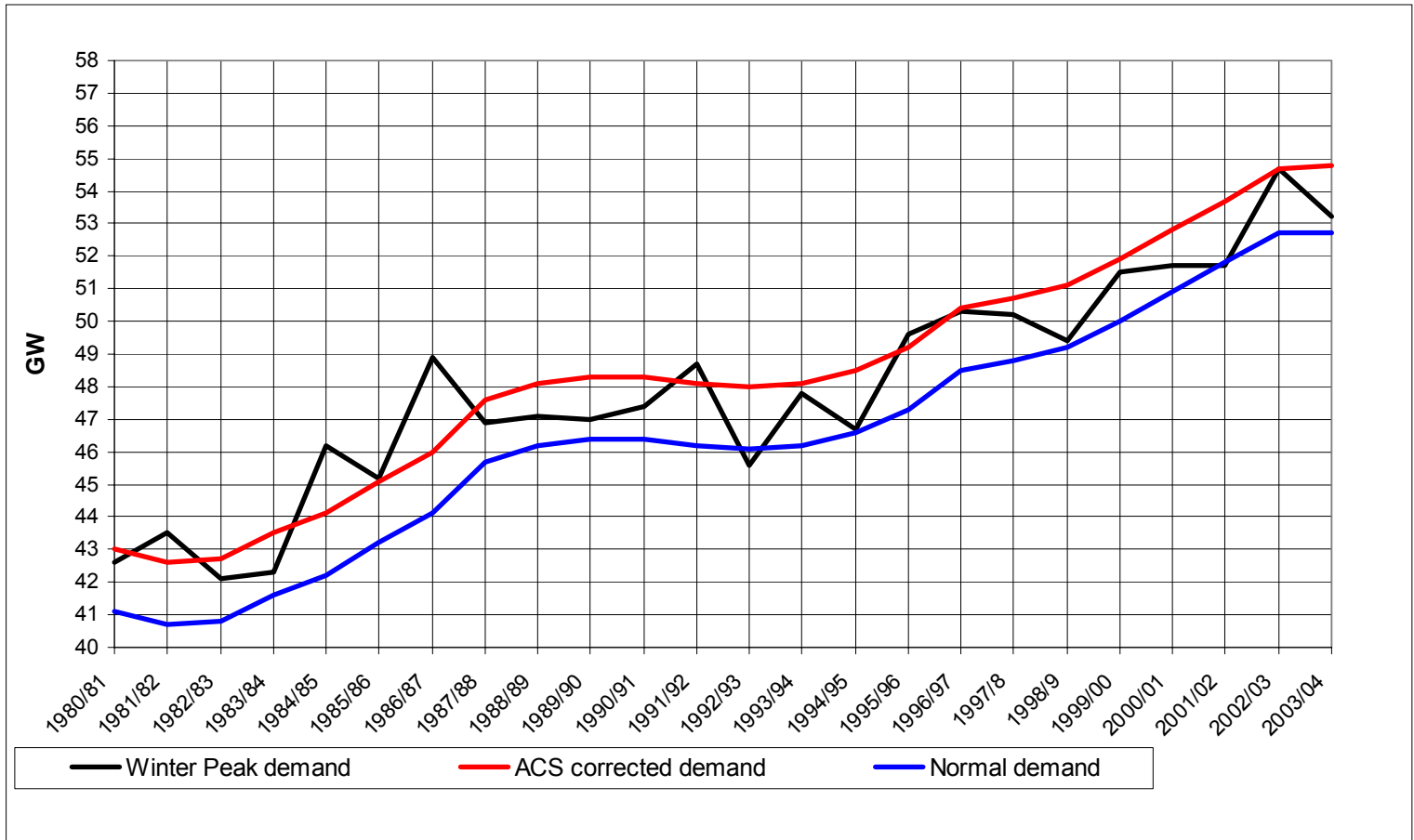
Year on Year Demand Growth



Notified Customer Demand Management Winter Peaks



ACS History Since 1980/81

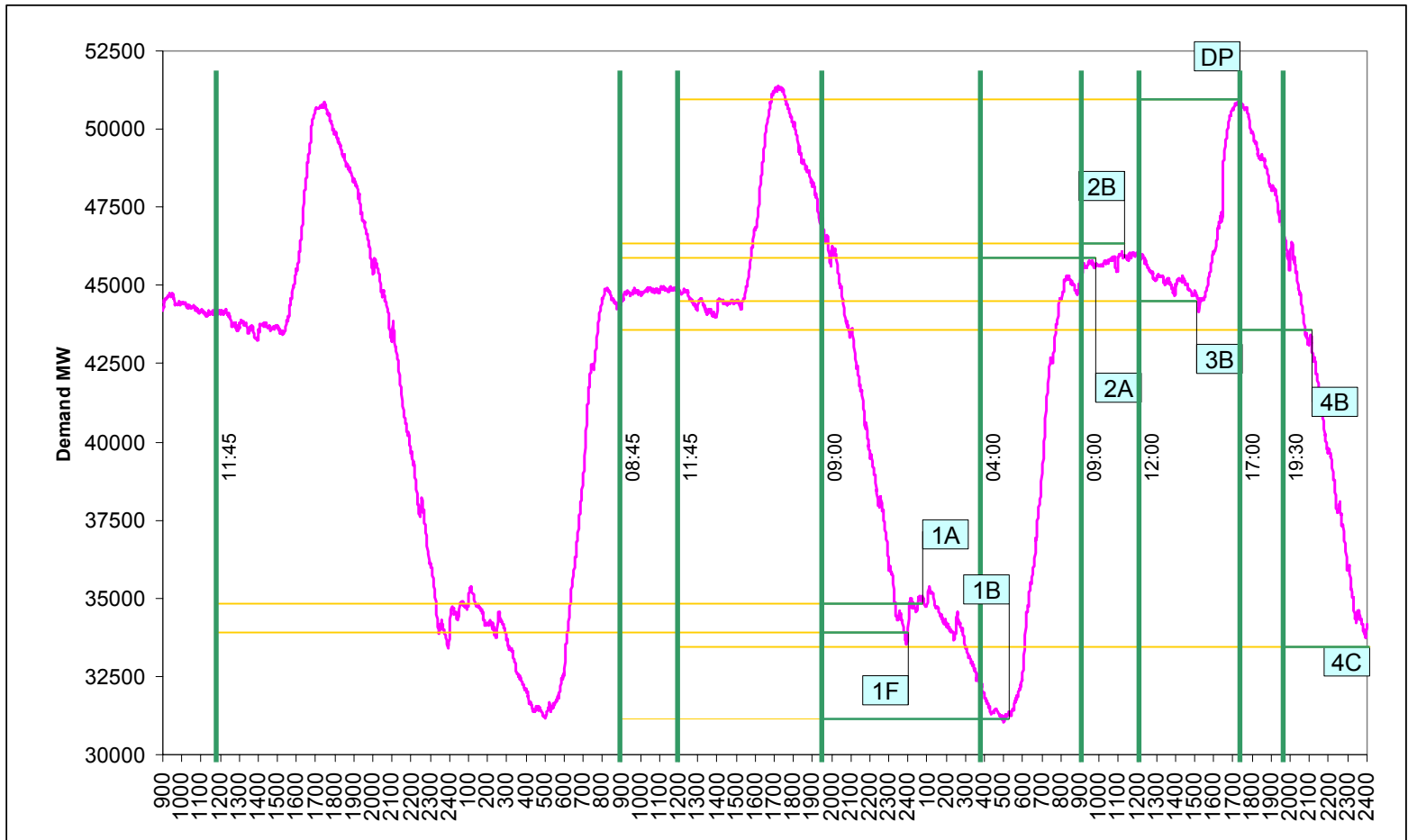


Short Term Demand Forecast Error

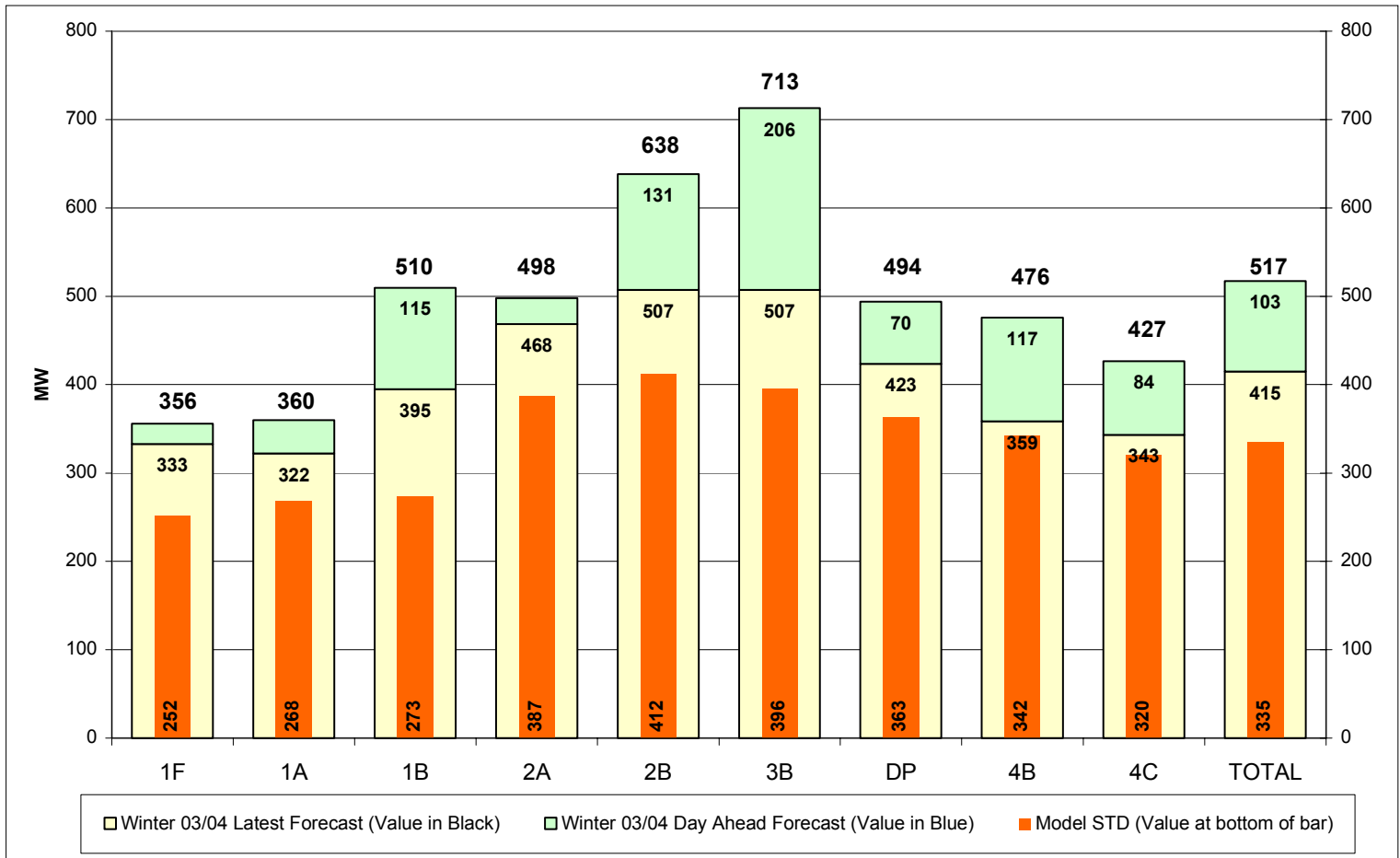
- Timing of Demand Forecasts
- Cardinal Point Forecasts
- Cardinal Point Error
- Profile Fitting
- Energy Error
- Notes
 - Unrestricted Forecasts
 - Half Hour Integrated Demand
 - Covering the six weeks either side of the holiday period (inclusive)

Demand Forecast Error

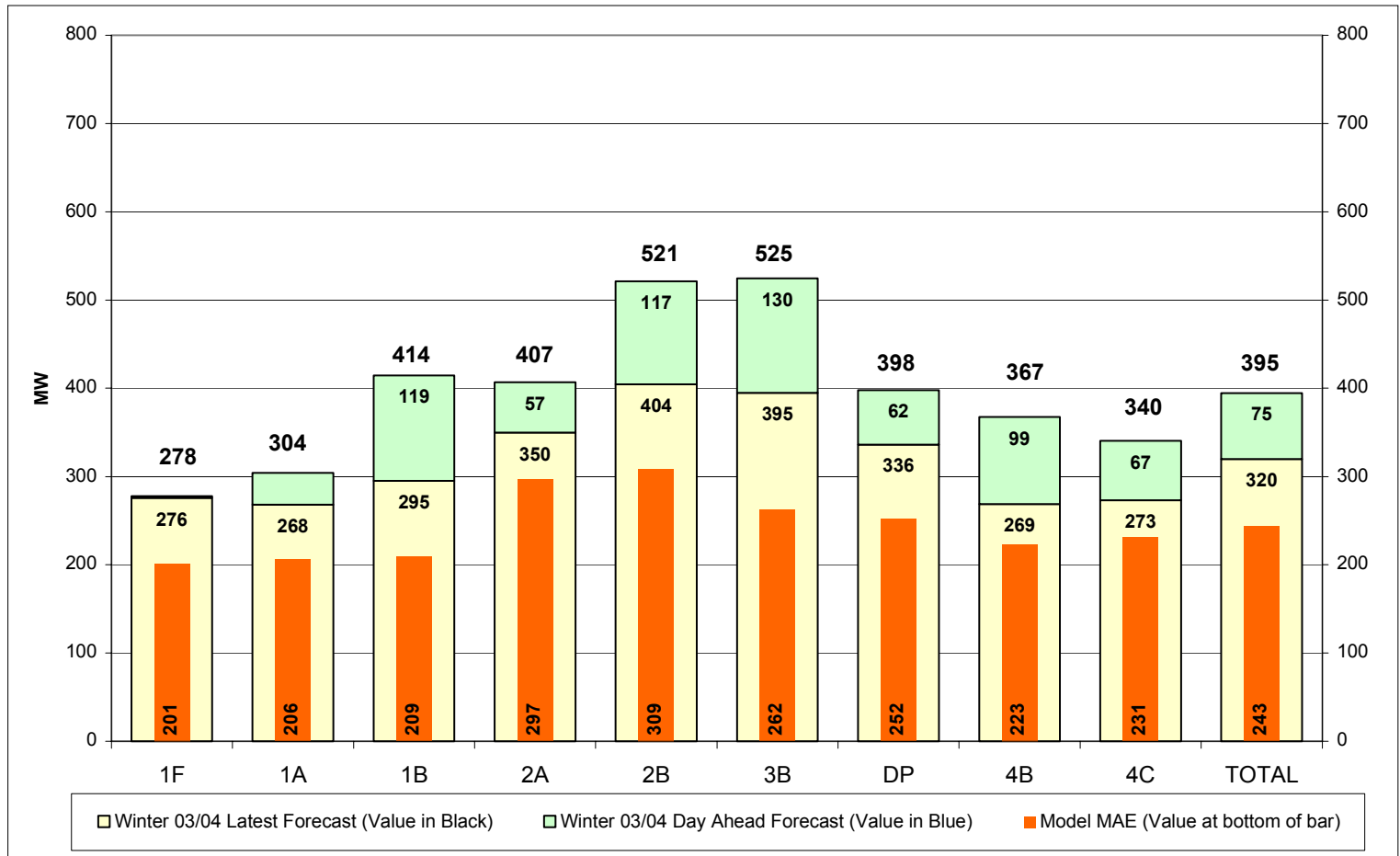
Cardinal Points Forecasting



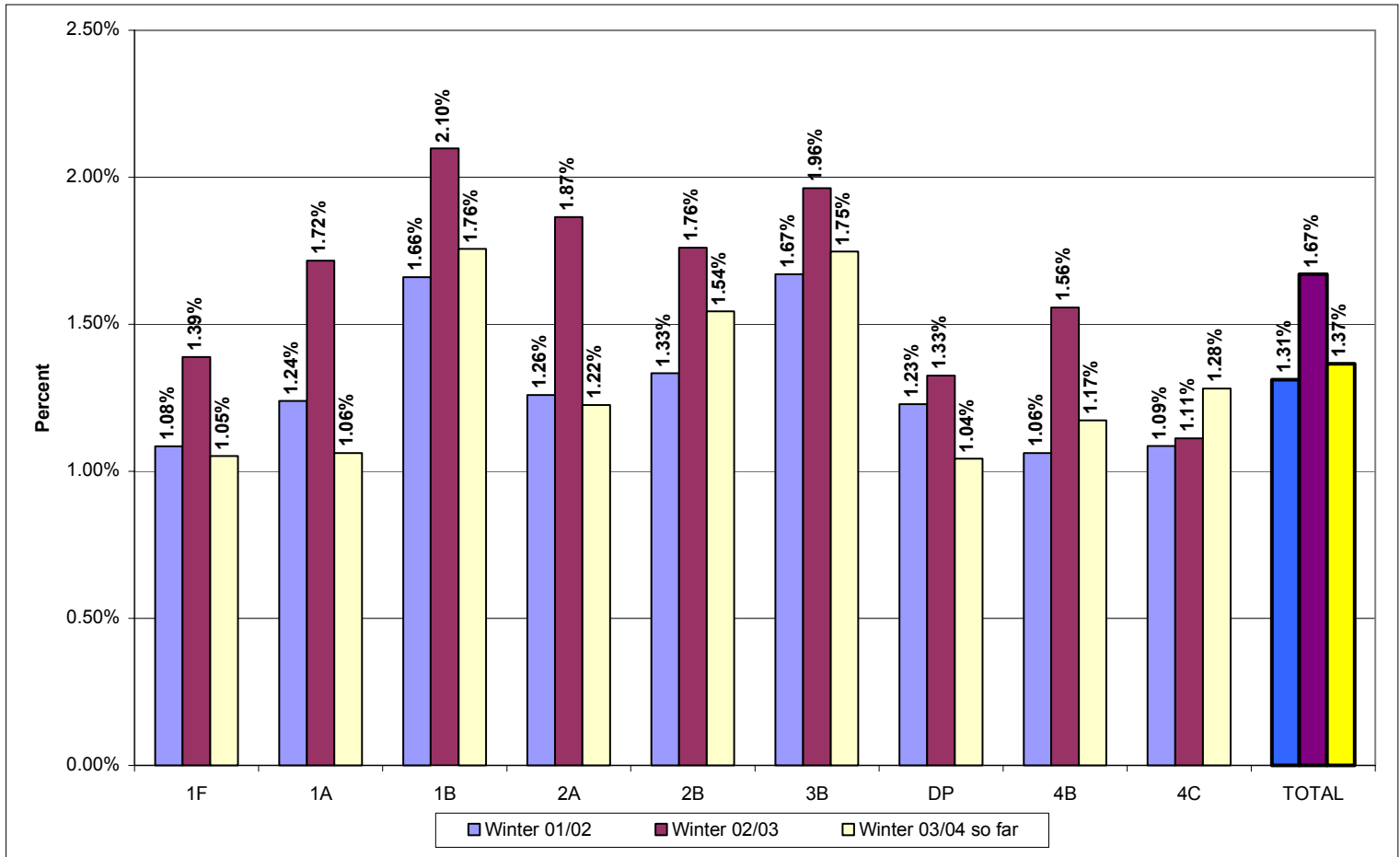
Model / Day Ahead / Latest Forecast Error Standard Deviation



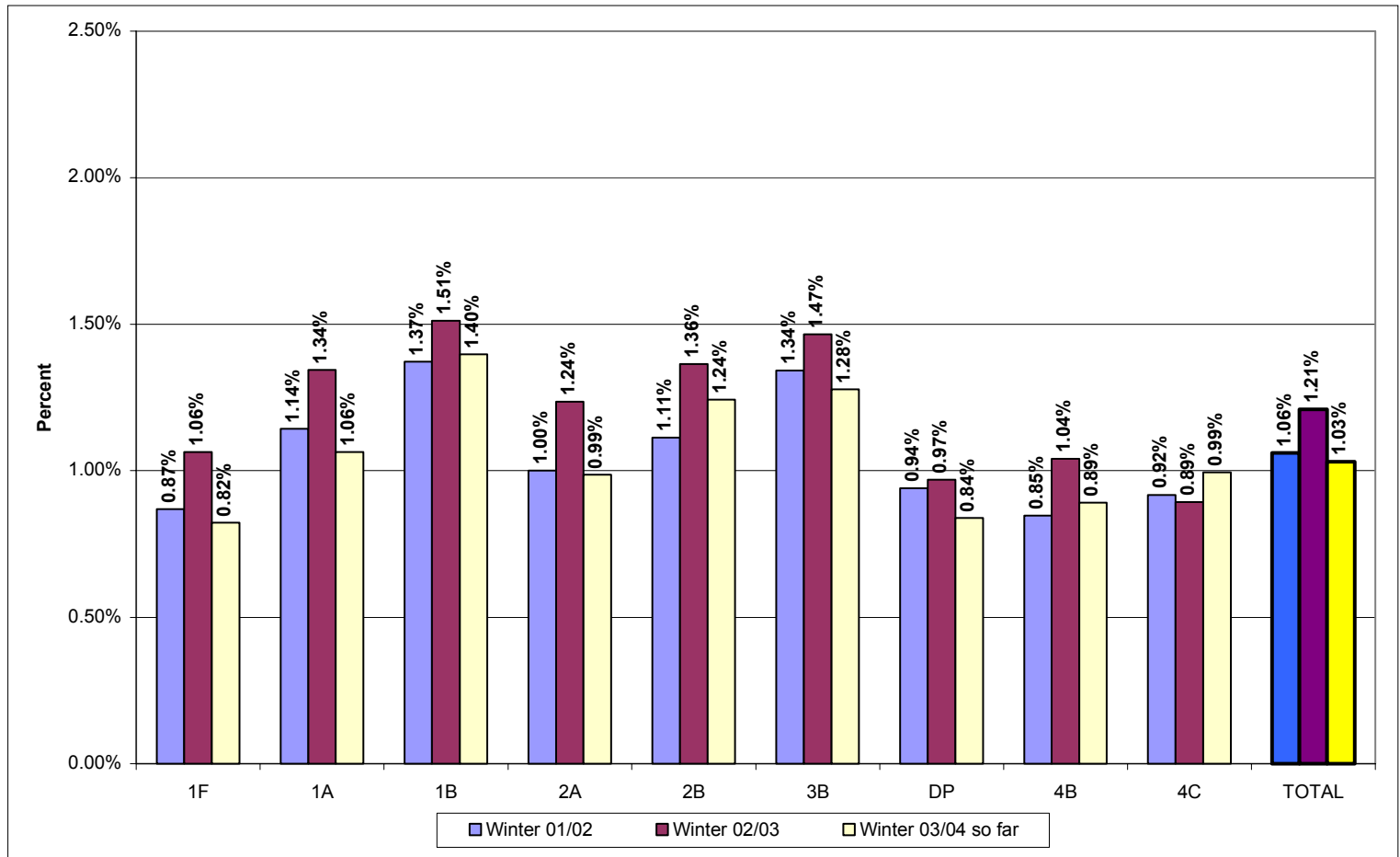
Model / Day Ahead / Latest Forecast Error Mean Absolute Error



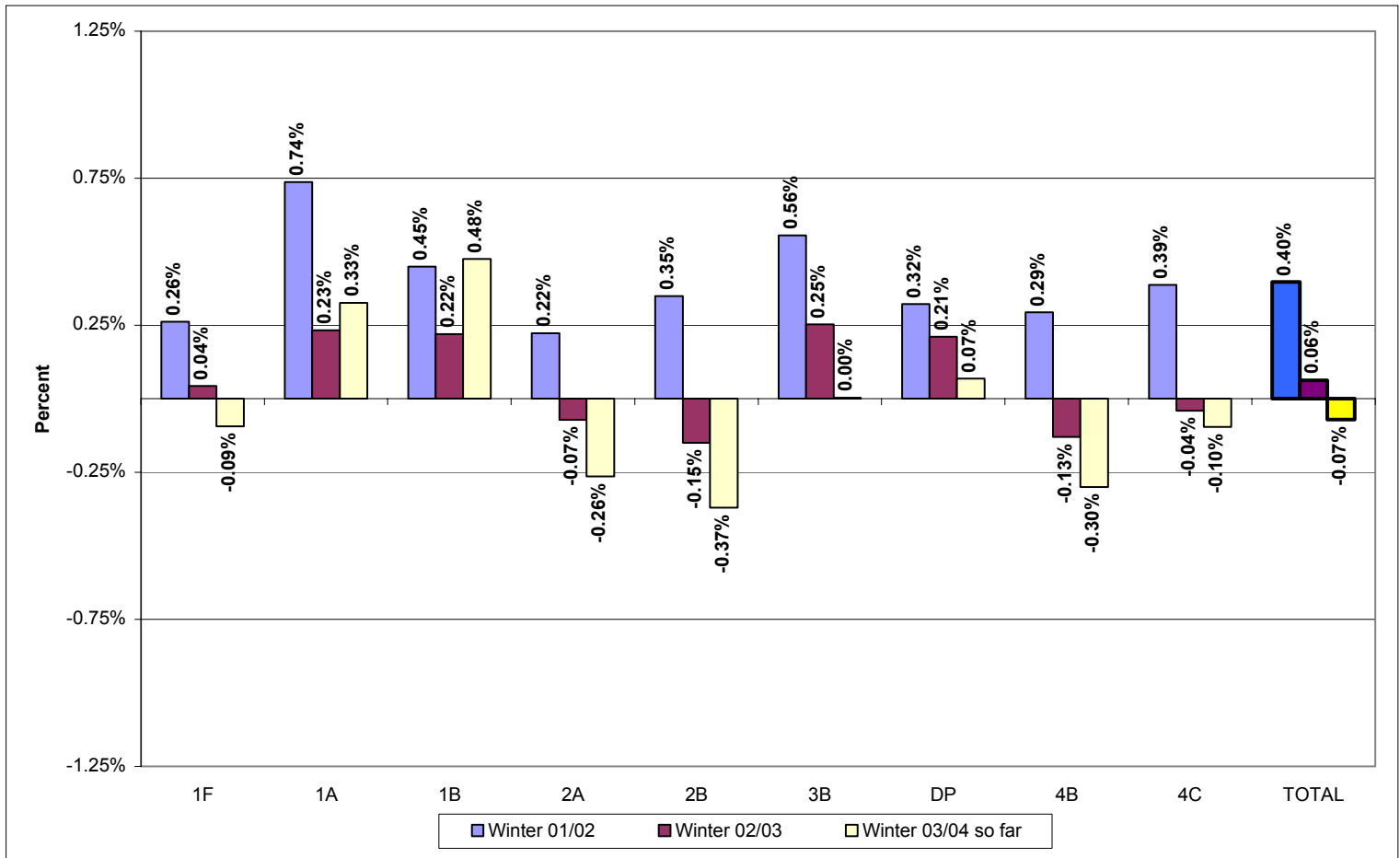
Cardinal Point - 'Day-Ahead' Standard Deviation



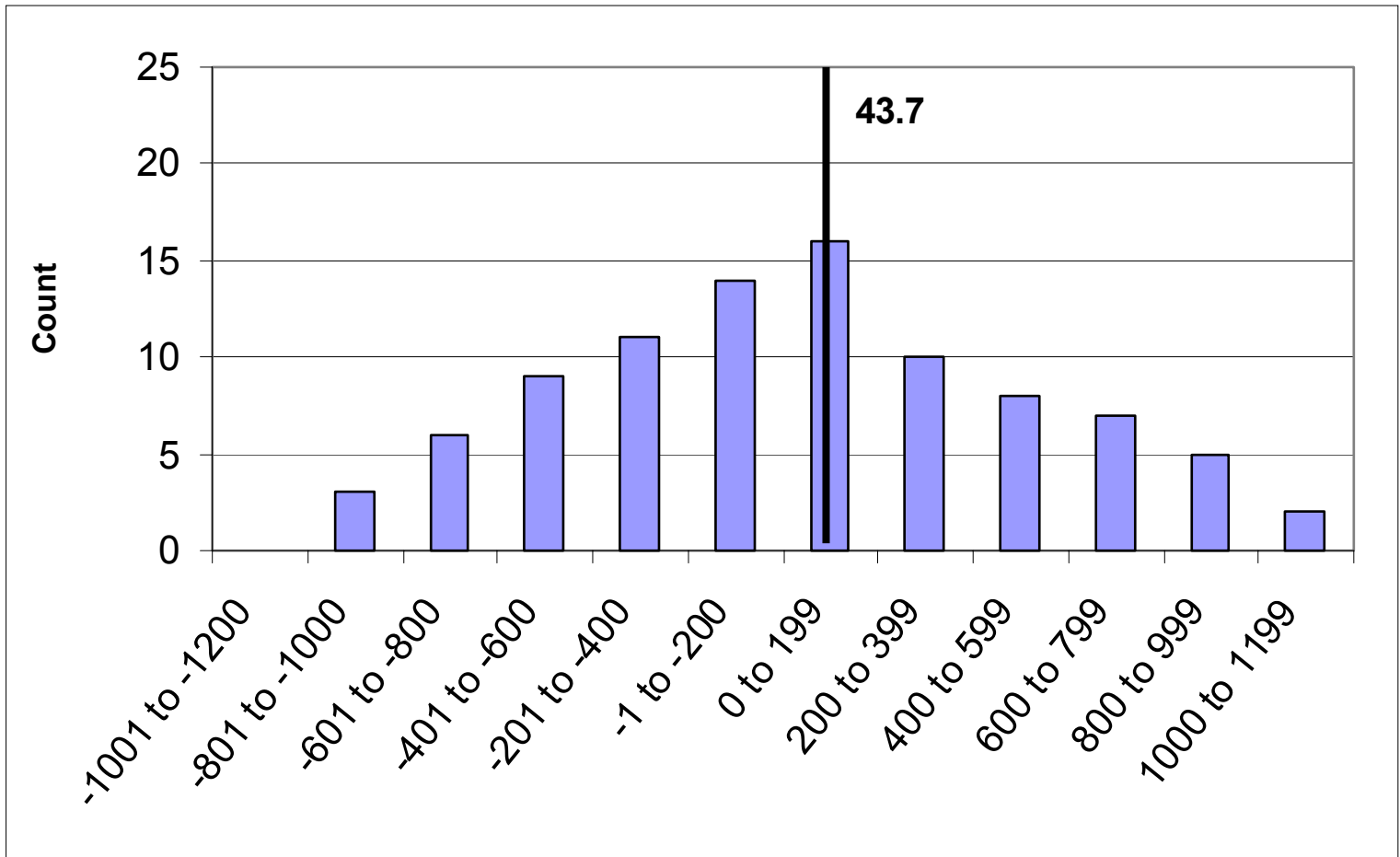
Cardinal Point - 'Day-Ahead' Mean Absolute Percentage Error



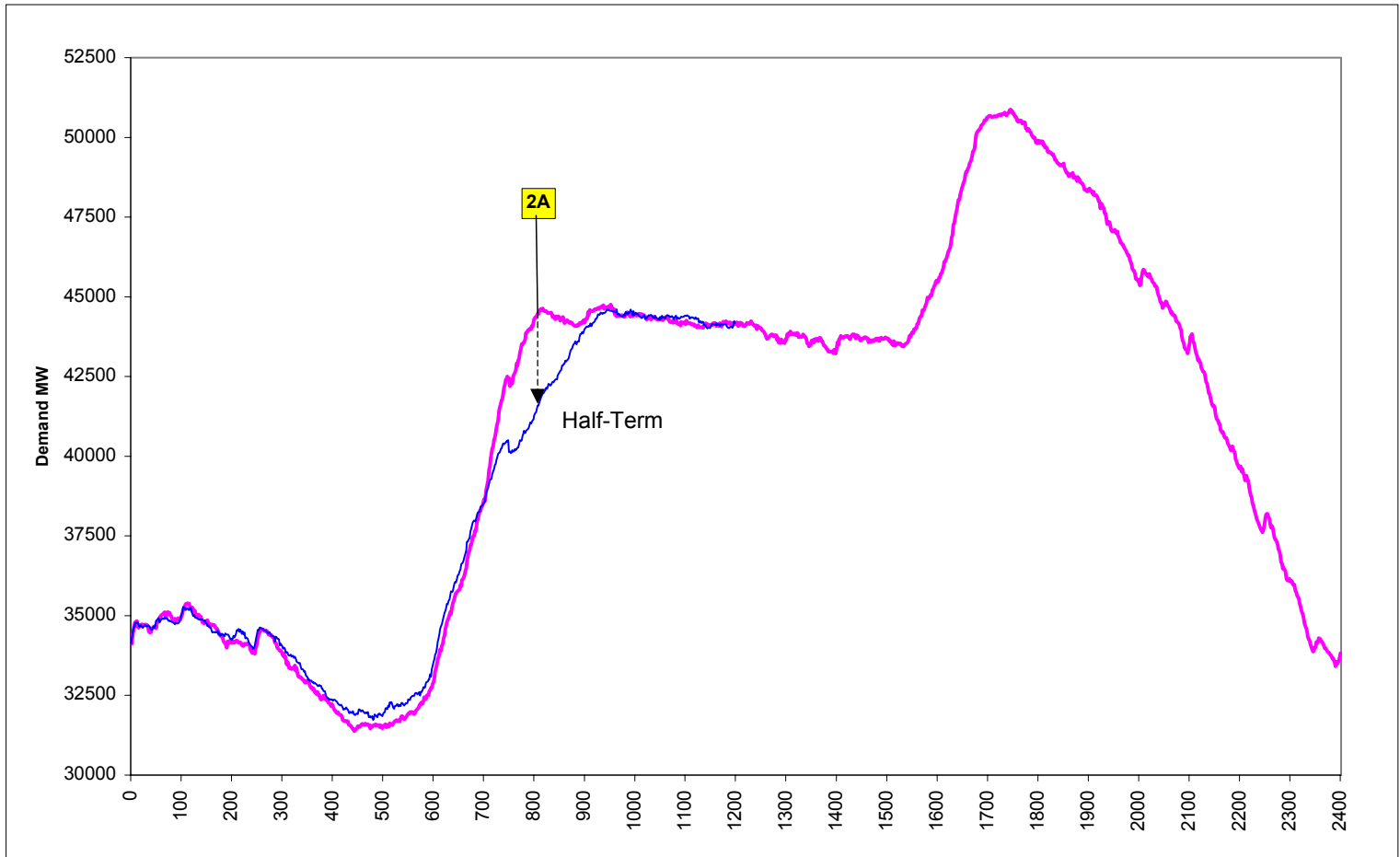
Cardinal Point - 'Day-Ahead' Bias



Cardinal Point - 'Day Ahead' Darkness Peak Error Distribution

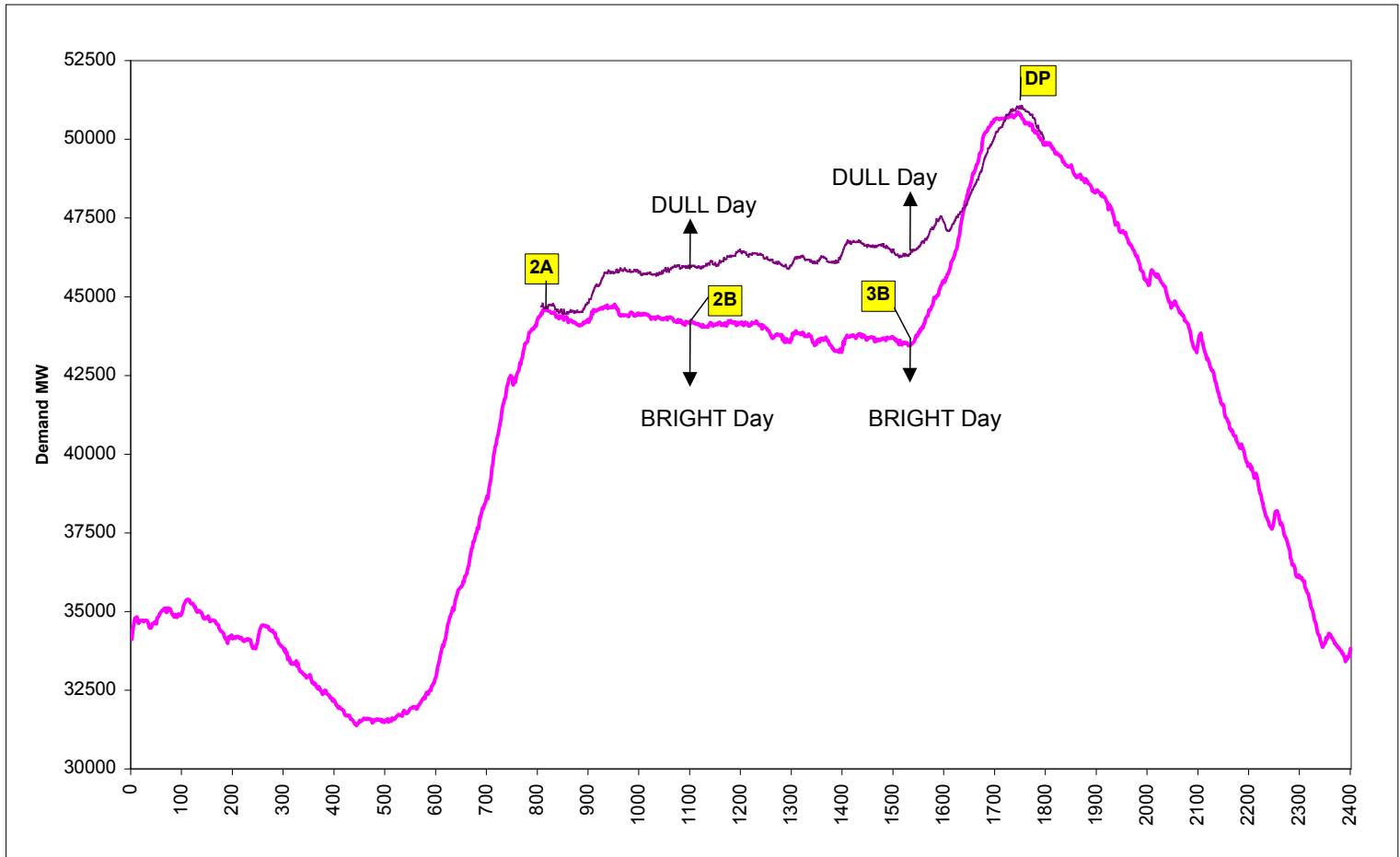


Profile Error Choice of Profile



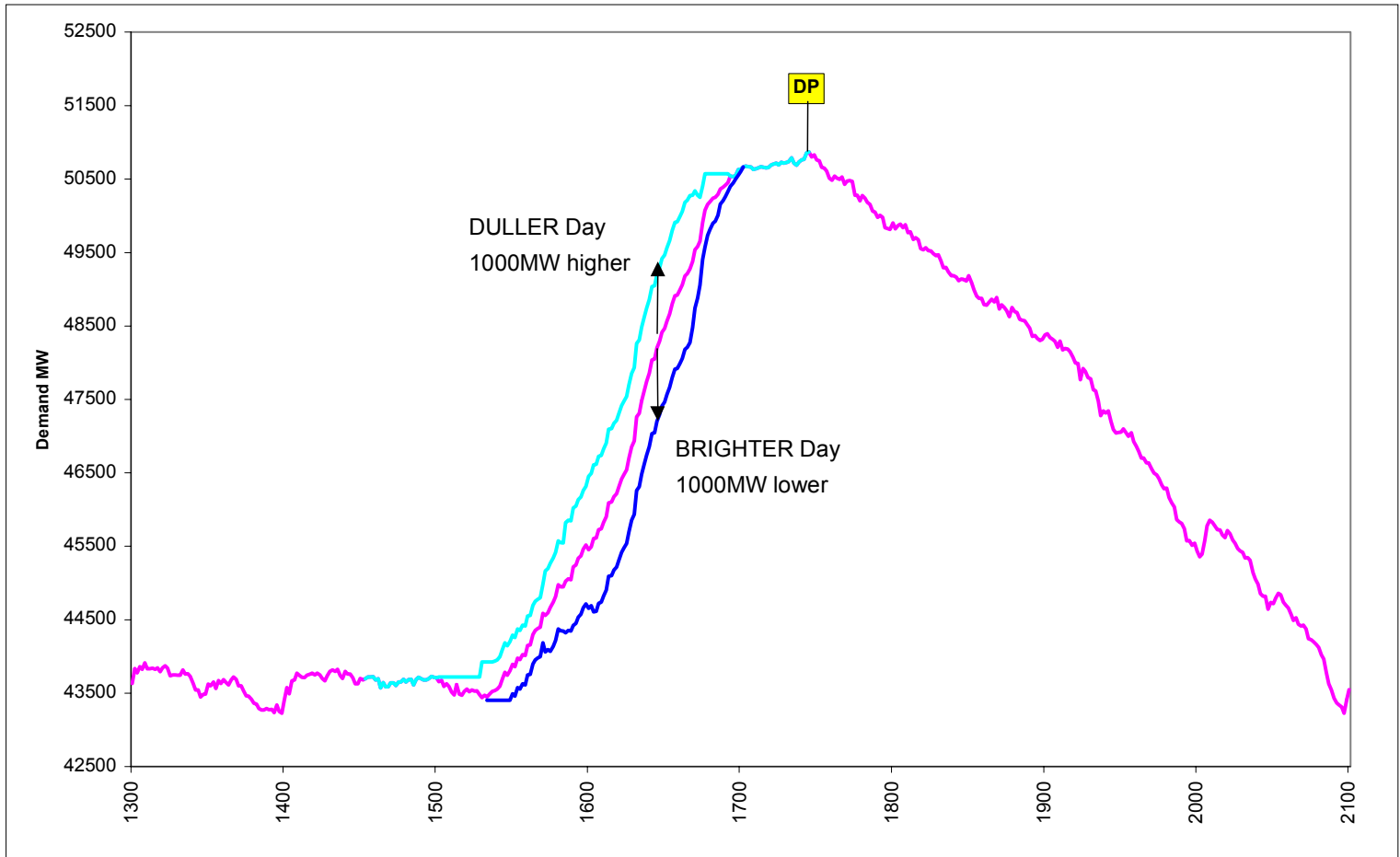
Profile Error

Choice of Profile / Illumination Error



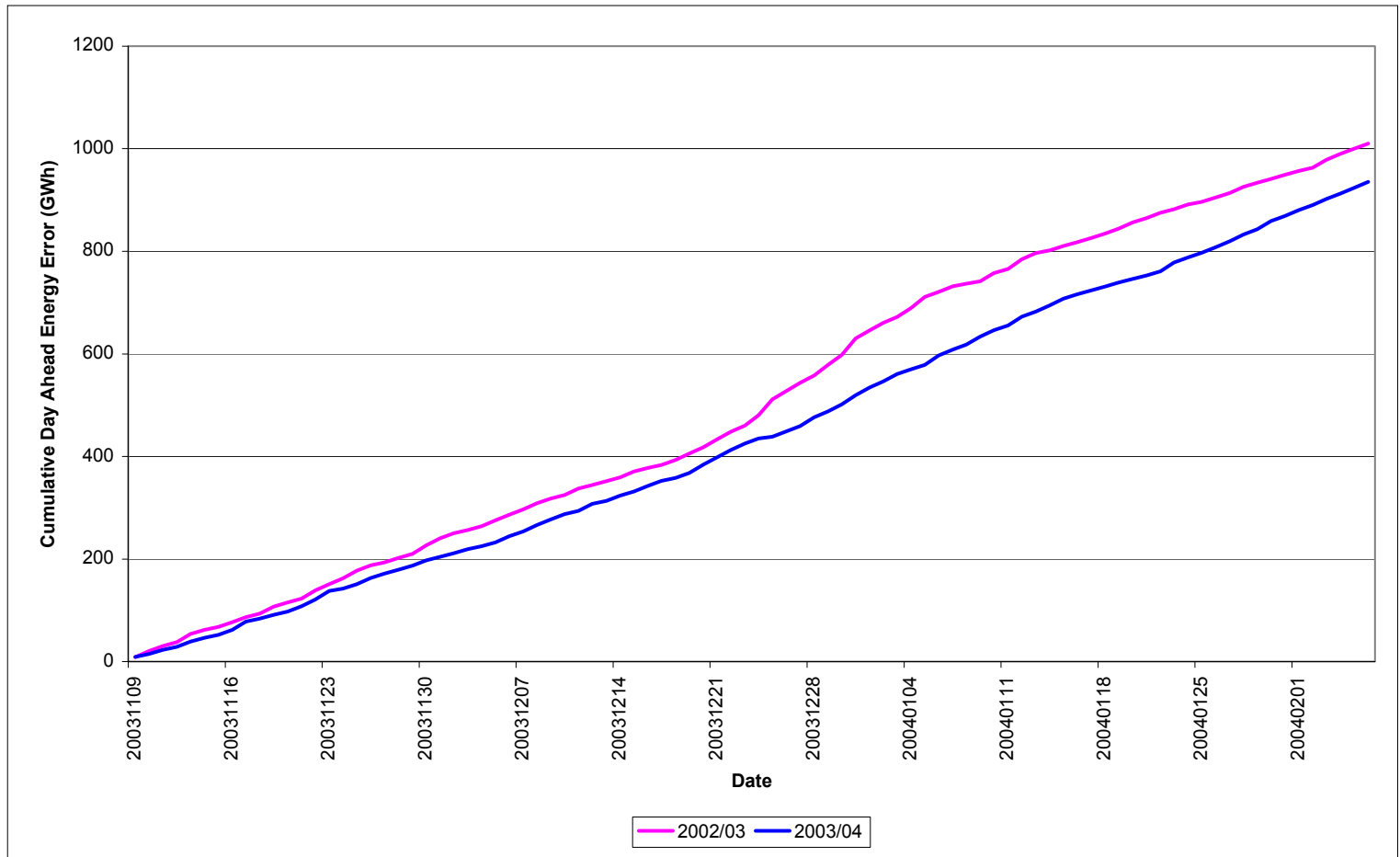
Profile Error

Choice of Profile / Illumination Error



Day Ahead Energy Error

Measure of Cardinal Point and Profile Error



Summary

- Mild Winter - 1 in 7 Warm
- Cold Spells outside windows for maximum demands
- Return of mothballed plant and interconnector imports secured demand over actual peaks
- Average demand growth below forecast
- Little growth over peak demands
 - Provisional view this is due in part to:
 - Increased un-notified customer demand management over DP
 - Increased embedded generation over high demand peak half hours
- Small reduction in Demand Forecast Error