

DEMAND ESTIMATION TECHNICAL FORUM
and
DEMAND ESTIMATION SUB COMMITTEE
Minutes
Monday 05 June 2006
London

Attendees

Dennis Rachwal	(Chair)	(DR)	Joint Office
Lorna Dupont	(Secretary)	(LD)	Joint Office
Alan Willingale*		(AW)	Statoil
Dean Johnson		(DJ)	xoserve
Edward Rains	(member)	(ER)	Elf Business Energy
Helen Williamson*		(HW)	RWE npower
Jonathan Aitken	(alternate)	(JA)	RWE npower
Julien Bourdeau		(JB)	EDF Trading
Lorraine Goodall *		(LG)	Scotia Gas
Mark Buckthorpe*		(MB)	Statoil
Mark Jones	(alternate)	(MJ)	Scottish & Southern Energy
Michael Potter	(member)	(MP)	E.ON UK
Neil Lawrence		(NL)	Centrica
Peter Osbaldstone		(PO)	National Grid NTS
Sallyann Blackett (Transporter Agent)		(SAB)	xoserve
Sandra Spence		(SS)	Scottish Power
Steve Coles		(SC)	E.ON UK
Steve Taylor	(member)	(ST)	BGT
Tim Davis		(TD)	Joint Office

* *Attended for the Demand Estimation Technical Forum only*

DEMAND ESTIMATION TECHNICAL FORUM**1. Introduction**

1.1 DR gave an introduction.

1.2 DR asked those present to confirm that they had registered for access to xoserve's extranet facility (xoserve.com, UK Link Documentation) and were able to view/download documents. Two persons confirmed that they had done this. DR reiterated that data and information was now available through this medium and encouraged registration via the IS Service Centre.

2. Progress on Non-Daily Metered (NDM) profiling and capacity estimation algorithms for 2006/07

DJ (xoserve) gave an overview of Demand Estimation, its associated timetable, and presented the current completed analysis (including the modelling basis, small NDM analysis, and large NDM analysis). A copy of the presentation was available on xoserve's extranet. Queries and views were invited on Transporter recommendations during or following on from the presentation.

2.1 Timetable

It was confirmed that the NDM proposals will be published by 30 June, and that User representations should be made by 15 July. Consultation will then take place, including at the next DESC meeting (25 July 2006), and the final proposals will be published by 15 August 2006.

2.2 Modelling

The modelling basis (as previously agreed with DESC) remains broadly unchanged from Spring 2005, and smoothed models will be produced using three years of data.

2.3 Small NDM Analysis

New installations of data recorders on small NDM sites were taking place, boosting sample size.

A description of the proposed datasets was given, together with dataset identification and impacts, and modelling impacts in terms of Indicative Load Factors (ILFs). The statistical tools and mechanisms used to identify the recommended way forward were also presented, including Root Mean Squared Error (RMSE) and R^2 Multiple Correlation Coefficients .

Band 1: DJ stated that there was a market sector identification issue for a substantial fraction of meter points, and that separate treatment of domestic/non-domestic was not currently feasible. In any event, geographic differentiation was more statistically significant than end-user classification. It was also noted that including non-domestic data would have adverse effects on Weekend Scaling Factor (SF) values and would therefore potentially result in reduced model accuracy in allocating demand.

Band 2: Comparisons of different analyses of Band 2 using the current breadth (73.2 – 293 MWh pa) and a split (73.2 – 145 MWh pa, and 145 – 293 MWh pa) were made. LDZs had been aggregated (by similar geographical location) to allow sufficiently large samples for analysis. DJ stated that no real issues were apparent for this band without a split; no significant variations/impacts across LDZs/years/ILFs had been established and that this was supported by RMSE analysis of model accuracy.

Bands 3 and Band 4: Analyses of Band 3 (293 – 732 MWh pa), and Band 4 using the current breadth (732 – 2,196 MWh pa) as well as a split (732 – 1,465 MWh pa, and 1,465 – 2,196 MWh pa) were made. There was no issue with Band 3. ILF variations for Band 4 were quite small and inconsistent across LDZ groups both within and between years. RMSE analysis showed

degradation in model accuracy if the band was split thus splitting the bandwidth would not result in an improvement in profile.

The Winter Annual Ratio (WAR) Band analyses were then discussed. In Band 4 (293 – 2,196 MWh pa) the low coefficients for EA and SE LDZs were highlighted; it was confirmed that validity criteria of the associated data had been rechecked and no ‘error’ reason could be identified for higher than expected consumptions. Therefore no further data was rejected from the analysis.

The following recommendations were made by xoserve on behalf of the Transporters:

Consumption Band	Proposed Approach
Band 1 0 – 73.2 MWh pa	Banding to remain unchanged from Spring 2005 (and previous years). Consumption Band Analysis by LDZ (no aggregation recommended) Use Domestic sites only (no I&C sites).
Band 2 73.2 – 293 MWh pa	Maintain current approach. Band width to remain unchanged Analysis by LDZ (no aggregation recommended) No split at 145 MWh pa.
Band 3 293 – 732 MWh pa Band 4 732 – 2,196 MWh pa	Maintain current approach. Band width to remain unchanged. Consumption & WAR Band analysis by LDZ No split at 1,465 MWh pa.

2.4 Large NDM Analysis

A description of the proposed data sets was given.

The sample data aggregations were similar to that of 2005, the exception being Band 8 where the aggregation was 4 instead of 3 LDZs because of the number of terminations. The upper WAR Band of Consumption Band 5 had been critically examined due to the relatively low sample number, but geographic distinction was recommended rather than aggregation. There was a short discussion on sample sites and groupings, and Indicative Load Factors. SAB advised that Load Factors increased going up through the load bands; larger consumers were less temperature sensitive but any potential inaccuracies were reconciled out. As these were generally a flat profile, any impacts were likely to be felt in the ‘shoulder months’ and some attendees indicated they recognised these were the most difficult months to model.

DJ demonstrated graphically that, for example, WAR Band 1 of Consumption Band 7 was insensitive to weather, and suggested that other factors may influence demand. This was even more apparent for WAR Band 1 of Consumption Band 8. There were however no short-term alternatives. *(Matters arising from models for Consumption Bands 7 and 8 were also discussed later – see 5.2)*

2.5 Model Smoothing

DJ gave an overview of the methodology and benefits of smoothing and discussed the provisional results for both small and large NDMs, both of which were comparable to the previous year. SC enquired whether the recent end user shut downs due to the high price of gas would be taken into account for next year's figures. SAB confirmed that this would only happen if the shut down(s) of sampled sites failed validity criteria, e.g. had occurred for a number of consecutive days, or if demand reduction was detected as demand spikes. Model smoothing would help regarding effects that may be present for last winter. More details would be available in the actual NDM Profile Proposals.

2.6 Recommendations

In conclusion, the ongoing analysis showed no significant differences to the previous year's analysis. Splits in bandwidths degraded model/profiling accuracy and provided no significant benefit to ILFs.

There were no clear objections to the following Transporter recommendations for 2006/7:

- Retain Small NDM EUC Breakdowns at same points as in previous years
- Model EUC Band 1 (0 – 73.2 MWh pa) using a 'Domestic only' dataset
- Model Large NDM EUC Bands using similar levels of aggregation to those of previous years.
- Model smoothing analysis should proceed using 3 years' data.

DEMAND ESTIMATION SUB COMMITTEE

1. Introduction

DR gave an introduction.

2. Confirmation of Membership and Apologies for Absence

2.1 Membership and alternates

DR confirmed the membership status of those present.

2.2 Apologies

Apologies were received from Mo Rezvani (Scottish and Southern Electric) and Julie Round (RWE npower).

3. Review of Minutes and Actions from the Previous Meeting

3.1 Minutes

The minutes from 23 January 2006 were accepted.

3.2 Actions

Outstanding actions were reviewed (see Action Log for updates).

Report on Actions DE1013/1014: SAB confirmed that a consistent number of data recorders continued to be lost at meter replacement. The data stored within data recorders was collected twice a year, and therefore up to 6 months of data history could be lost depending on when a meter replacement was made. Some meters were being replaced with 'unloggable' meters, which exacerbated the problem as this means that a viable alternative site has to be found with a suitable 'loggable' meter to which a new data recorder can then be fitted. A period of time then has to pass for data to be recorded before it can be used within analysis. Like for like replacements would help to address part of this problem.

4. Draft Terms of Reference

Having specific DESC Terms of Reference (ToR) was felt to be helpful. As the group required more time to review the draft document, further discussion would take place at the next DESC meeting (25 July). DR advised that once the group was in agreement the ToR would then be recommended to the Uniform Network Code Committee for their consideration and approval.

Action DE1015: All to provide feedback to the Joint Office on draft Terms of Reference for DESC before July meeting.

5. Progress of Work Plan

5.1 Planned Consultation Process – Key dates

No comments were made. SAB confirmed xoserve's expectation that the information would be on their website shortly before 30 June.

5.2 Issues raised through the Demand Estimation Technical Forum with respect to NDM analyses leading to NDM proposals for 2005/06

There was a short discussion on moving the NDM threshold. SAB advised that any potential change to the threshold of DMs would require the raising of a UNC modification Proposal. SAB also highlighted there were some 19 NDMs in Band 9 even though these are above the DM threshold, and this meant that a profile still had to be produced. Moving the NDM threshold downwards could give rise to the same situation for Band 7/8 supply points. However it was felt that NDM modelling accuracy could improve if more large NDMs became DMs.

SAB highlighted that NDM Bands 5 – 9 were only 11 per cent of total throughput. Within this, Bands 5 and 6 were by far the biggest in terms of population, as detailed in the presentation. NL was keen to know how the 11 per cent throughput was split across the large NDM Bands including summer / winter effects.

SAB observed that if Bands 7 and 8 were made DM it would be a very small percentage of NDM throughput. NL commented that anything that could be done that might provide even a small improvement would be appreciated.

Action DE1016: xoserve to provide data on the percentage of NDM throughput that has been allocated to EUC Bands 7 and 8 to assist User consideration of potentially seeking to lower the DM threshold.

MJ enquired why 100% of the EUC Band 7 and 8 populations were not in the sample. It was explained that the obligation for daily data collection was only for doing this analysis, not for any other process and it was not felt that additional data sampling costs could be justified.

One attendee observed there was no reason why Shippers should not confirm smaller sites as DM. Sites that are currently NDMs but should actually be DMs have been discussed at the SPA Forum, and the group was advised to raise any concerns regarding this through their individual SPA representatives at that Forum.

5.3 Weather Stations

The group discussed the note that had been circulated advising of the Met Office's withdrawal, at short notice, of access to Central London wind speed data. The alternative data source for wind speed was now Heathrow, and the impact of using Heathrow wind speeds on CWV and allocation was expected to be negligible.

SAB and PO advised that it was now unlikely that the Central London Weather Station would be closed in the foreseeable future. The present arrangement is therefore expected to continue, with most readings from an unmanned Central London station (temperature, rainfall, humidity) supported by (transformed) wind speeds from Heathrow. While this situation may remain stable, it was felt that a contingency/review was needed.

PO stated that an approach had been made to National Grid regarding the provision of a site for the Central London Weather Station. PO also stated that National Grid had made high-level representations to the Met Office relating to the stability of the weather data sources. The London Weather Station was the only update received regarding long-term prospects. PO encouraged the group, as users of the data, to make their views known to the Met Office so that the Met Office can fully understand the implications and impact of any changes.

It was recognised that the impacts of weather information were wider than NDM algorithms. MP observed that Heathrow was more remote from EA and SE LDZs. SAB reported that some Networks may arrange discussions with the Met Office regarding the possibility of hosting weather stations to provide

consistency of data near to centres of demand. PO observed that the potential use of, for example, a National Grid site did not mean that the weather station would be National Grid's, but it might reduce the risk of change by the Met Office. JA observed that although there may be a long lease on a weather station, the Met Office could still give short notice if it considered the cost of maintenance too great. JA also commented that rooftop or other elevated locations of weather stations could affect the validity of the data.

SAB asserted that the Central London Weather Station impacts were being managed. As a contingency, xoserve would be looking at the relationship between Heathrow and Central London Weather Centre data.

There was a suggestion from NL (supported by others) that perhaps two or three weather stations located in the same LDZ might be used to inform the CWV. SAB advised that it was not possible to have more than one CWV for an LDZ without affecting the IT system design and this was accepted.

NL commented that utilising an average of two or three weather stations might mitigate the risk of one weather station closing, and might be beneficial from a demand forecasting viewpoint. PO wondered whether losing one out of three was any less significant than switching to an alternative when one was lost; there did not seem to be any clear advantage.

Action DE1017: Transporters to explore, in outline, the high level implications of the suggestion to use multiple weather stations when assessing CWVs.

6. Revision of Work Plan

The Work Plan was briefly reviewed. No revisions were proposed.

7. AOB

NL expressed concern regarding the performance of 'day ahead' forecasting accuracy in respect of total nominations, and MP enquired about relatively large short term scaling factors in May 2006.

Action DE1018: xoserve to examine and report on data relating to short term scaling factors observed in May 2006.

SAB reminded DESC that the Demand Estimation application of NDM algorithms underpins the 'sharing out' of the Short Term Demand Forecast. The total demand was not forecast from the NDM algorithms. DR explained that and these 'Day Ahead' forecasts were not within the established remit of DESC.

An industry discussion on Short Term Demand Forecasting had been scheduled for the next meeting of the Transmission Operational Forum on 12 July.

8. Date of next meeting

The group was advised that there had been a change to the date of the next meeting. The meeting will now be held on Tuesday 25 July 2006 (instead of Monday 24 July 2006) at xoserve's offices in Solihull.

Programme

25 July 2006	Final consultation and response to any representations	xoserve offices, 51 Homer Road, Solihull
06 November 2006	Discussion on sample sizes Annual end of gas year performance evaluation (WCF/SF strand)	Elexon, 350 Euston Road, London
Dec/Jan 2006/07	Annual end of gas year performance evaluation (RV strand and NDM Sample strand) Discussion on approach to Spring 2007 modelling NDM Sample reporting	Solihull Area, venue tbc
June 2007	Consultation on EUC definitions and demand models NDM algorithm performance for April 2006 to March 2007	London, venue tbc

Action Log - UNC Demand Estimation Sub Committee 05 June 2006

Action Ref	Meeting Date(s)	Minute Ref	Action	Owner*	Status Update
DE 1003	19/9/05	5.5	On potential split of 732-2196 MWh band – report after Spring 2006 analysis whether or not there is a potential need to split this band.	xoserve (SAB)	Presentation made on 05 June 06 Closed
DE 1007	14/11/05	4	On demand estimation modelling approach – SSE to present concepts for an alternative and potential advantages.	SSE (MR) (MJ)	Due Jan 06 Deferred. MJ to follow up with MR and provide update for 25/07/06
DE 1013	23/01/06	4.2	xoserve to issue a background note to the DESC summarising the concern and impact arising from the removal and disposal of/failure to reattach data recorders.	xoserve (SAB)	Note from xoserve circulated.
DE 1014	23/01/06	4.2	DESC attendees to use the note to influence their organisations to remedy the concern relating to the unnecessary disposal of data recorders, when replacing meters.	ALL	Note from xoserve utilised. See also Minutes 2.2
DE 1015	05/06/06	4	Provide feedback to the Joint Office on draft Terms of Reference for DESC	ALL	25 July 06
DE 1016	05/06/06	5.2	Provide data on the percentage of NDM throughput that has been allocated to EUC bands 7 and 8 to assist User consideration of potentially seeking to lower the DM threshold.	xoserve (SAB)	25 July 06
DE 1017	05/06/06	5.3	Explore, in outline, the high level implications of the suggestion to use multiple weather stations when assessing CWVs.	Transporters	25 July 2006
DE 1018	05/06/06	7.0	Examine and report on data relating to short term scaling factors observed in May 2006.	xoserve (SAB)	25 July 2006

* Key to initials of action owner

SAB – Sallyann Blackett, MR- Mo Rezvani, MJ – Mark Jones