

Operational Forum 11 June 2003

Operational Performance

Richard Price

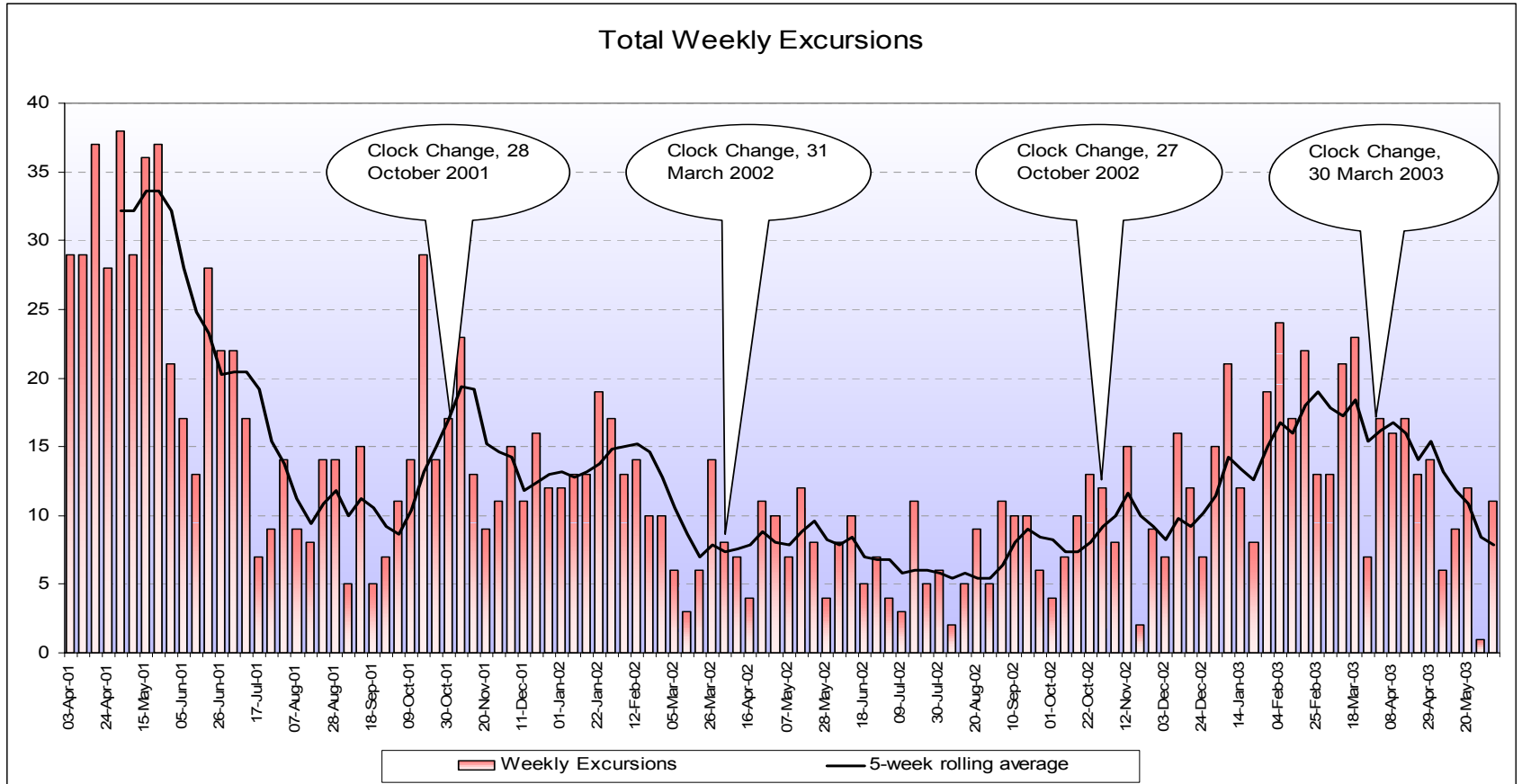
Items to cover

- Frequency performance
- Low Frequency - 26 May
- Generation performance
- Transmission performance

Frequency Performance

- No reportable statutory frequency deviations since NETA go-live ($> \pm 0.5\text{Hz}$ for $> 1\text{min}$)
- General frequency performance is as good or better than pre-NETA Pool performance ($\sim 15\text{-}20$ excursions per week 2000/1)
- Typically around 15 excursions outside operational limits per week ($> \pm 0.2\text{Hz}$) over past 3 months (2 per day)
- The above reflects generally very good self-despatch performance by you!

Weekly Frequency Excursions



Frequency extremes since last Forum

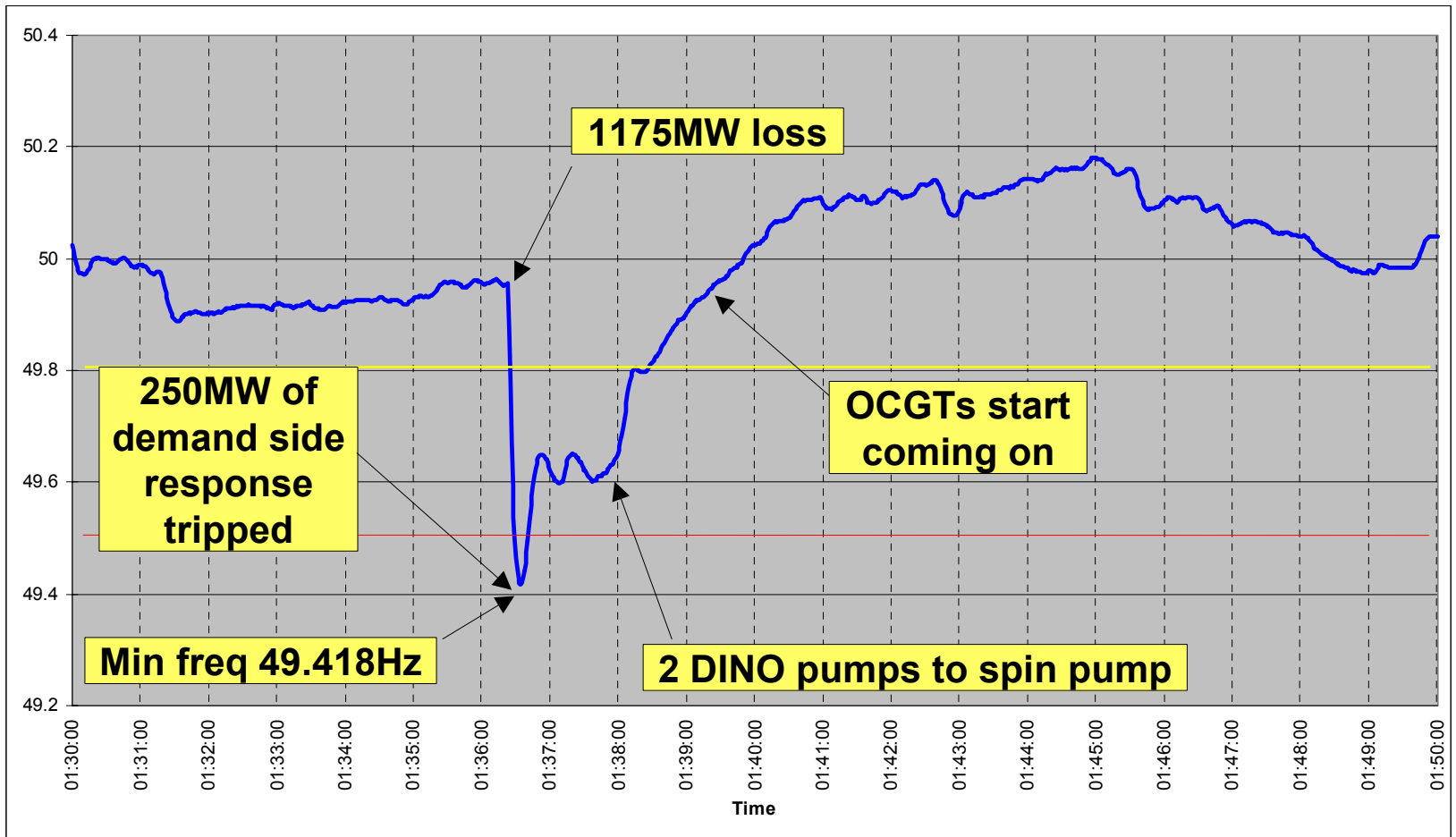
Number of Excursions	Average Excursion Length (s)	Minimum frequency (Hz)	Maximum frequency (Hz)
167	54.0	49.42	50.325

Date	Time	Deviation	Comment
26/05/03	01:36	49.418	Simultaneous loss of both Sizewell B units - 1175MW. Frequency outside statutory limits for 12 seconds and operational limits for 2 minutes.
22/04/03	20:01	50.325	The Eastenders TV pick-up was later than predicted and there was also some overgeneration. The frequency was held high to avoid risk of low frequency if generation was ramping down when the pickup started, and frequency was outside operational limits for 4 minutes.

Frequency deviation 26 May

- At 01:36 on Mon 26 May, both Sizewell B units tripped simultaneously - total loss 1175MW
- The frequency fell to a low of 49.42Hz (drop of 0.55Hz) 11 seconds later
- Frequency was outside statutory limits (49.5Hz) for 12 sec and operational limits (49.8Hz) for 2 min. First time below 49.5Hz since February 1996.
- Statutory frequency deviations are only reportable if the excursion lasts for more than 1 minute.
- Containment and recovery was achieved using a combination of automatic and manual actions including generator response, LF GT starts, demand side response, Scottish LF response, and manual instruction of pumped storage and OCGTs.

Frequency graph



OCGT / response performance

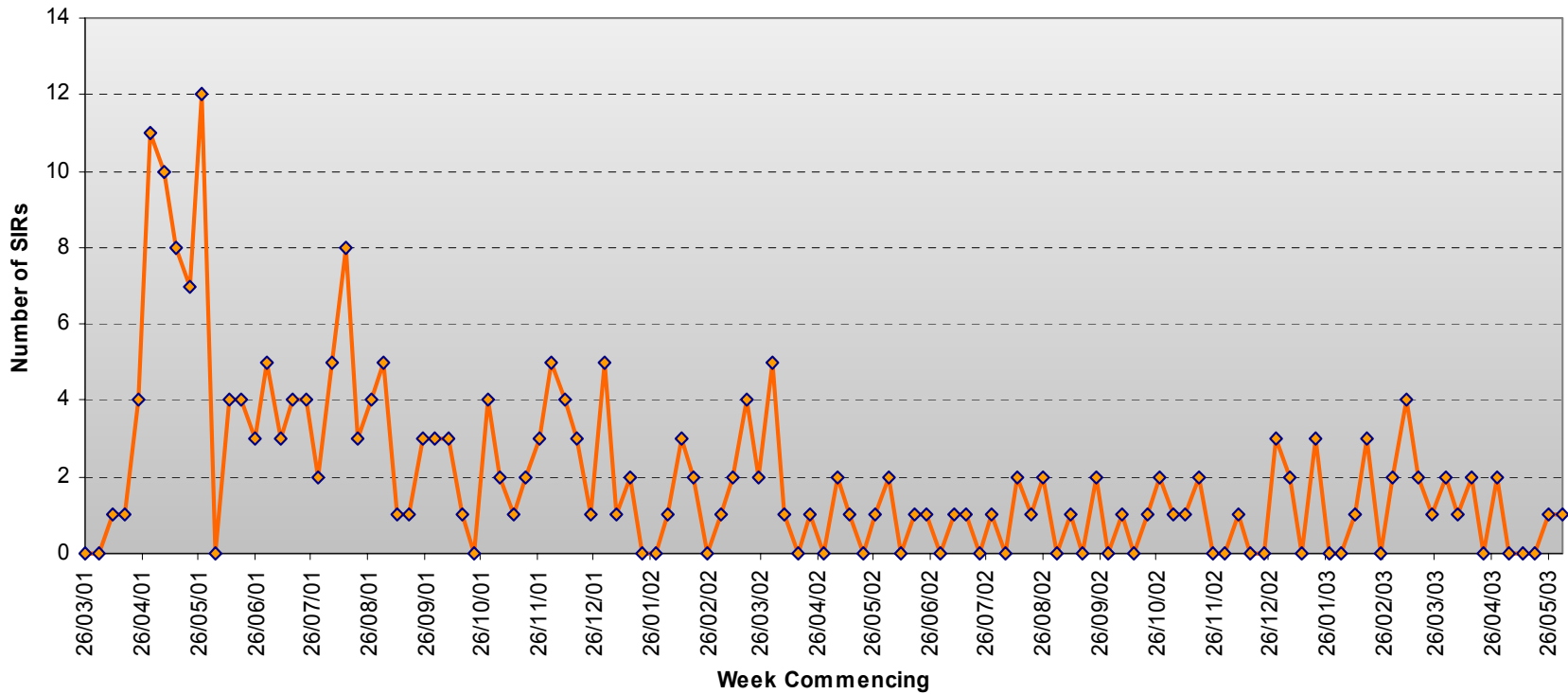
- 19 OCGTs started on LF relays - around 570MW
- 12 OCGTs set to LF relay start did not start - around 300MW (35% non-delivery)
- ~50MW of embedded generation reported it had tripped on ROCOF
- 20 BMUs selected to provide freq resp.
 - 17 delivered initial primary resp but 4 failed to maintain it for 30 sec
 - 14 delivered secondary, 2 partially delivered, 4 failed to deliver

Generation Performance

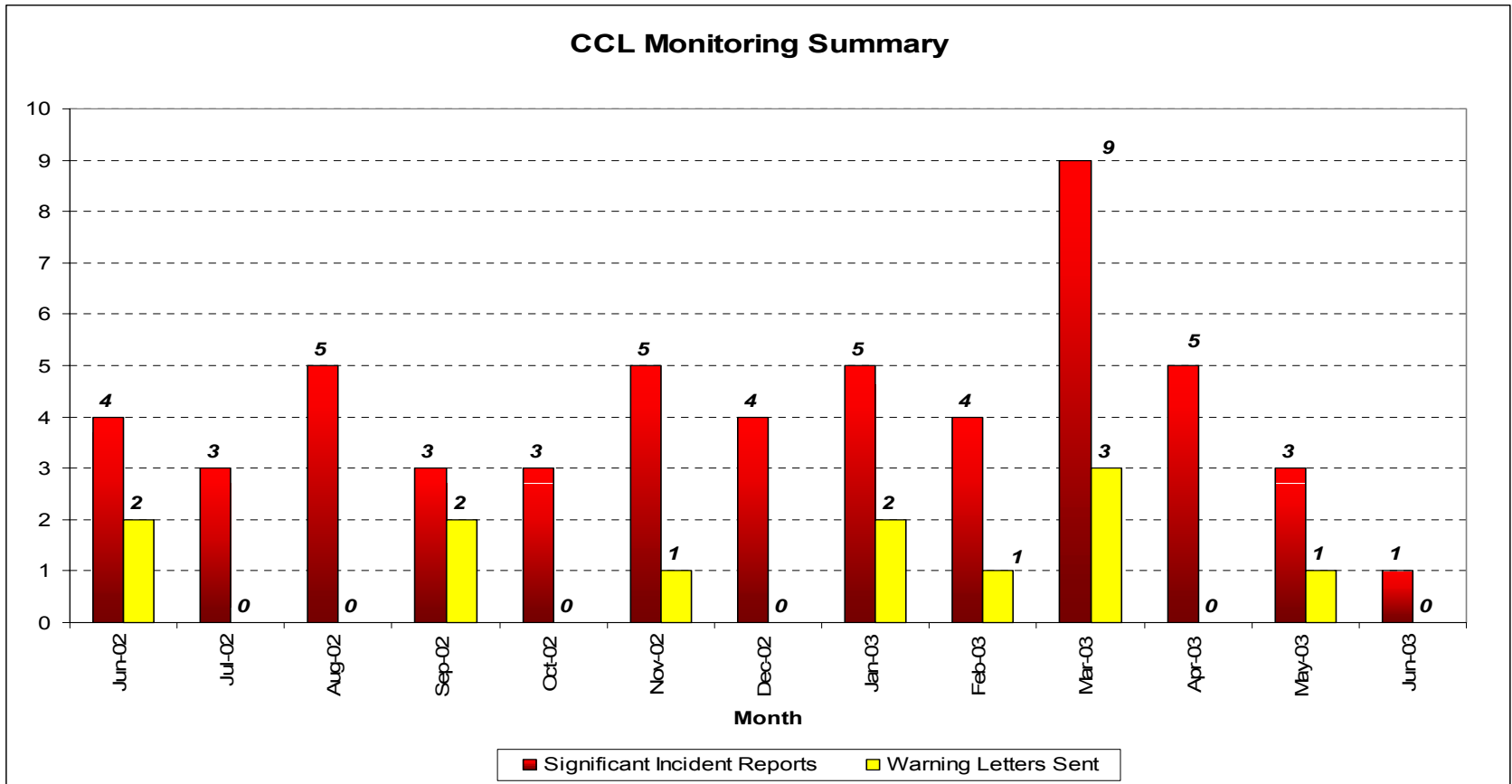
- Still generally good with low level of non-compliance, although there can be considerable variation from one month to the next
- Still problems with IT systems causing discrepancies between intended and notified positions
- Typically an SIR will relate to a station having different data / profiles to the latest information received by NG

Generation Performance

Number of SIRs Requested per week since NETA go-live

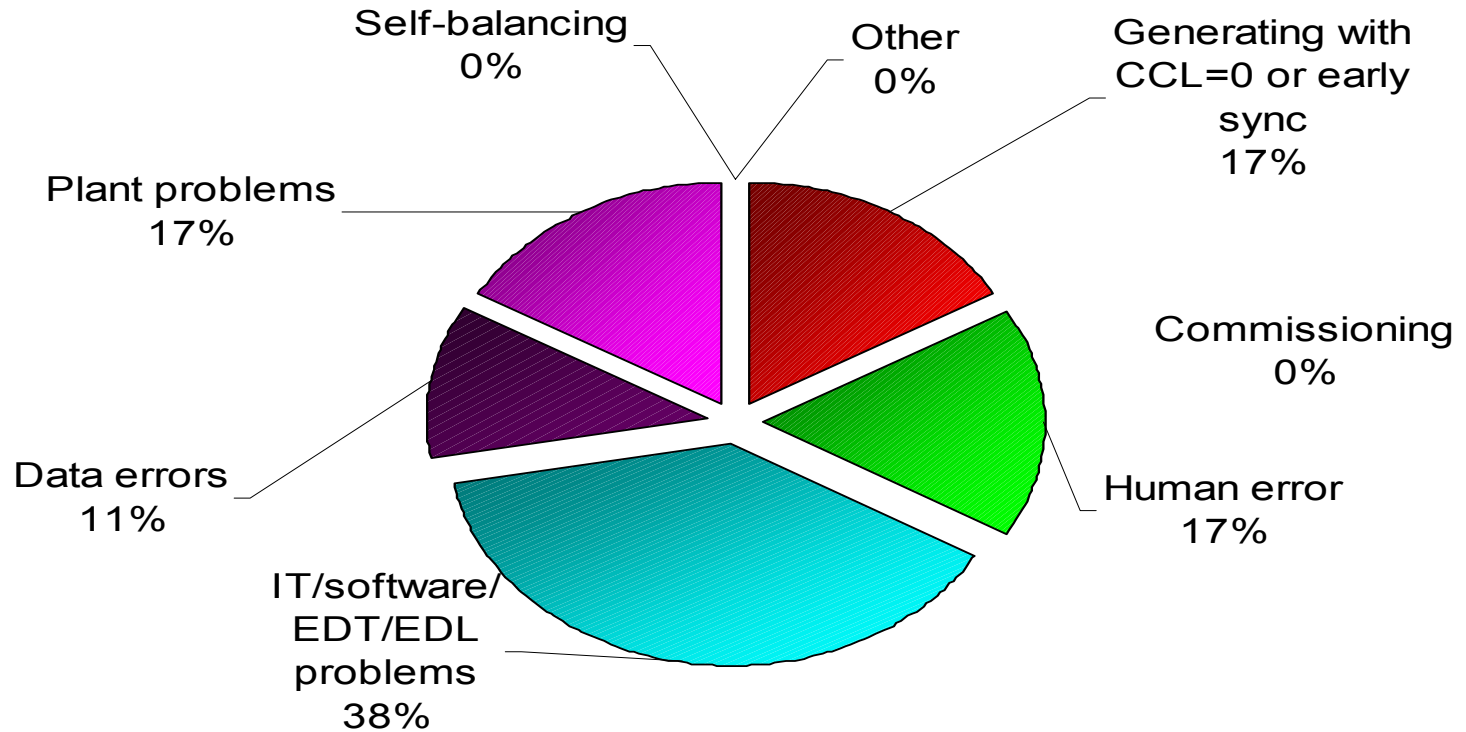


Monthly total SIRs

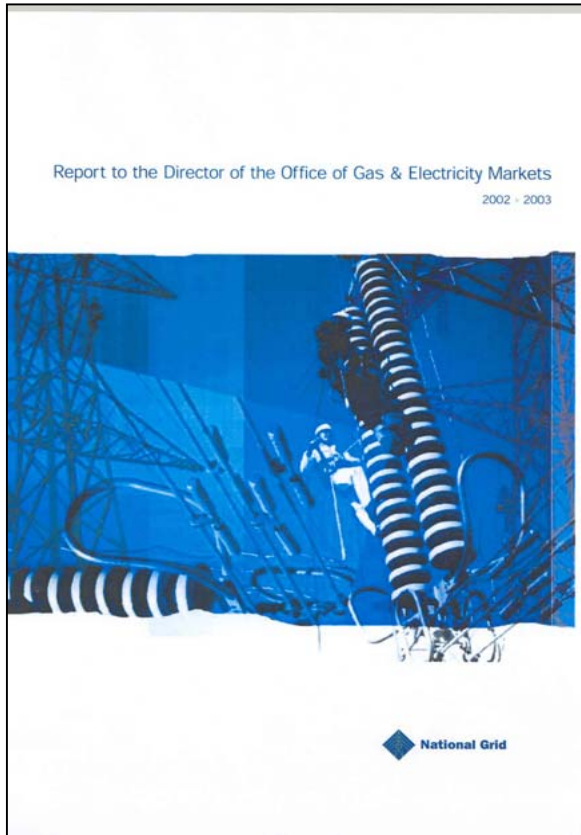


Recent SIR categories

Reasons for Deviation from Capped Committed Level (last 3 months March 2003 to date)

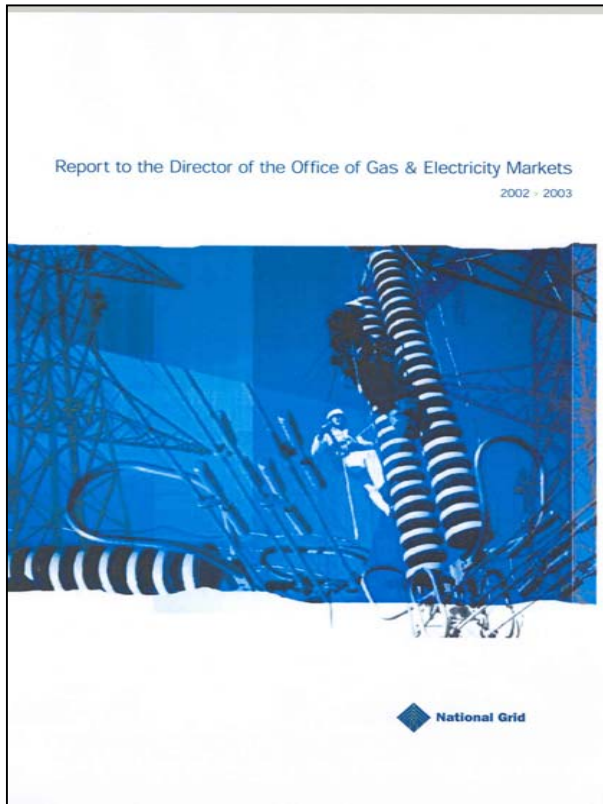


Transmission Performance



- Annual report to OFGEM for 2002/3 in accordance with special condition AA2 of Transmission Licence
- Transmission System Performance reported under 3 categories:
 - System Availability
 - System Security
 - Quality of Service
- Weblink:
http://www.nationalgrid.com/uk/indinfo/balancing/mn_faq.html

Key statistics - (1)



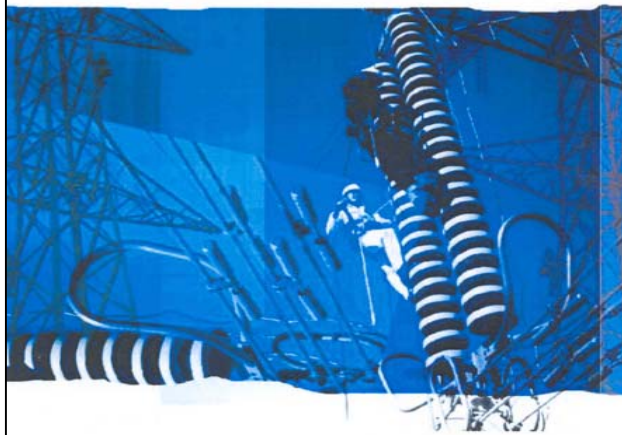
- Average annual system availability
 - 95.8% (95.4% in 2001/2)
- Winter peak system availability
 - 98.8% (98.3% in 2001/2)
- French interconnector annual availability - 91.69% (transformer replacement at Sellindge, RTE cable repairs)
- Scottish interconnector annual availability - 96.22%

Key statistics - (2)

- Estimated unsupplied energy

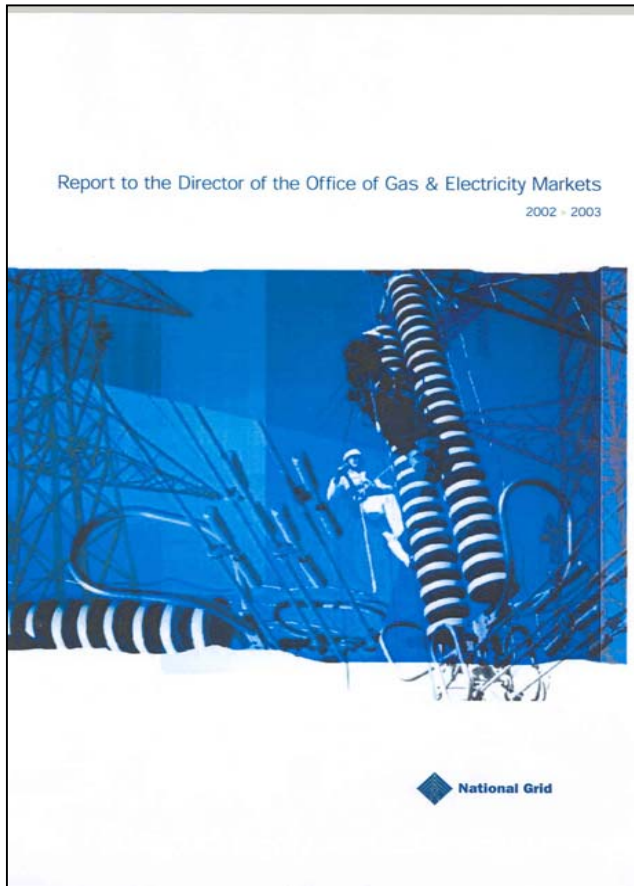
- **215MWh ~ 0.00007% of total energy supplied (301.8TWh)**
- **Down from 473MWh in previous year**
- **Average unsupplied energy per incident was 18MWh**
- **Average incident duration was 21 minutes**

Report to the Director of the Office of Gas & Electricity Markets
2002 - 2003



 National Grid

Key statistics - (3)



- 200 system trips during 2002/3 (50% due to adverse weather)
- 12 of these events were reported as Loss of Supply incidents
- 7 were classified as anomalous arising from lower security connections chosen by customers
- 5 of the 12 occurred as a result of lightning storms
- No reportable voltage or frequency excursions (>10% >15min ; >1% >1min resp)

- Any Questions?