

NGT's Role In Securing Reserve

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Structure

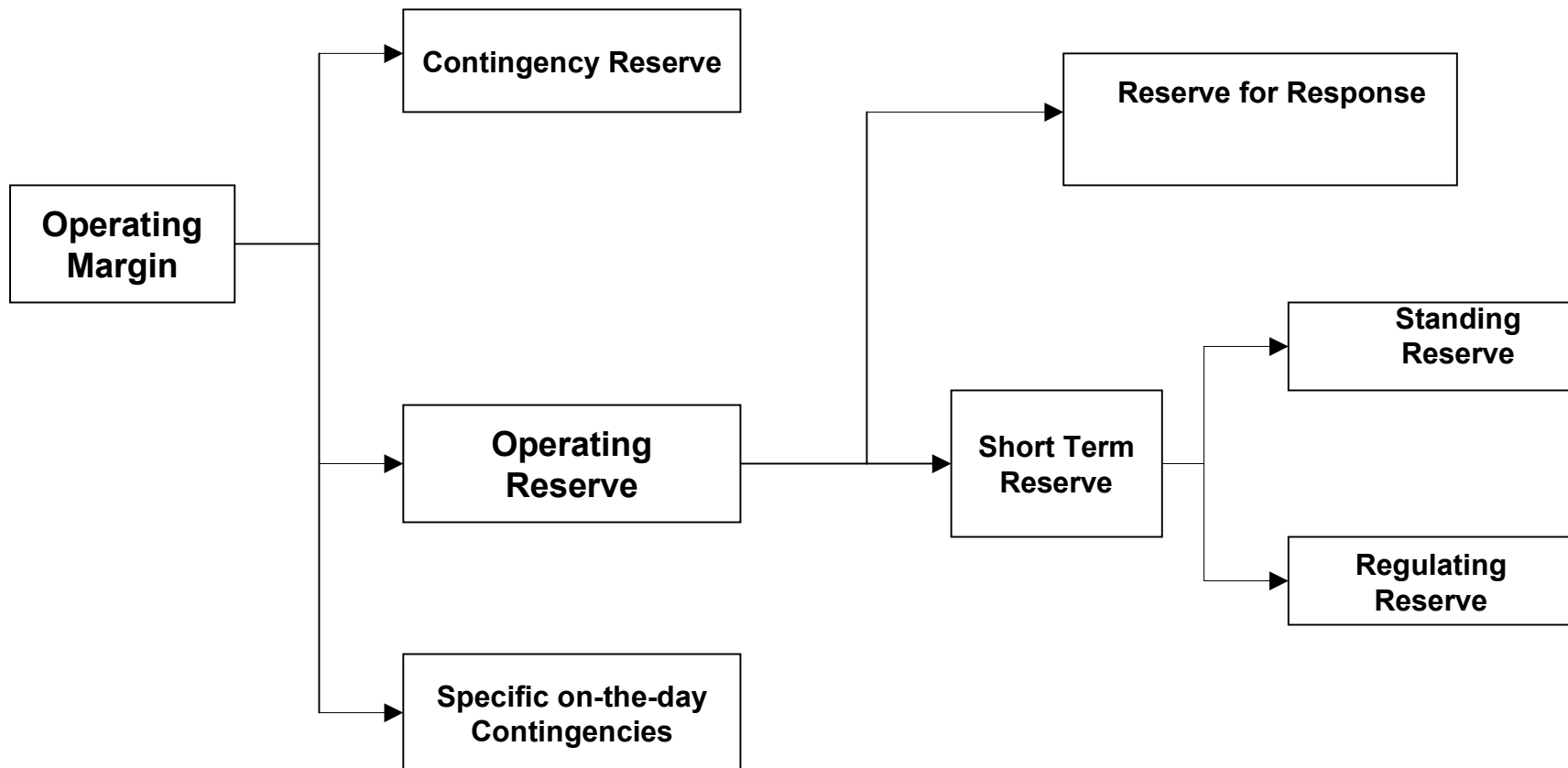
- Reserve Requirements
- Historic Role in Securing Reserve
- New Approach
- Where are we now?

Reserve Requirements

- NGT's Reserve Requirement is based on a 1 in 365 security standard
- Main components are Contingency Reserve and Operating Reserve
- Contingency Reserve Requirement decays as gate closure approaches
- Operating Reserve Requirement at ~4hr ahead, Final Planning Stage
- Operating Reserve Requirement made up from Short-term Reserve and Reserve for Response

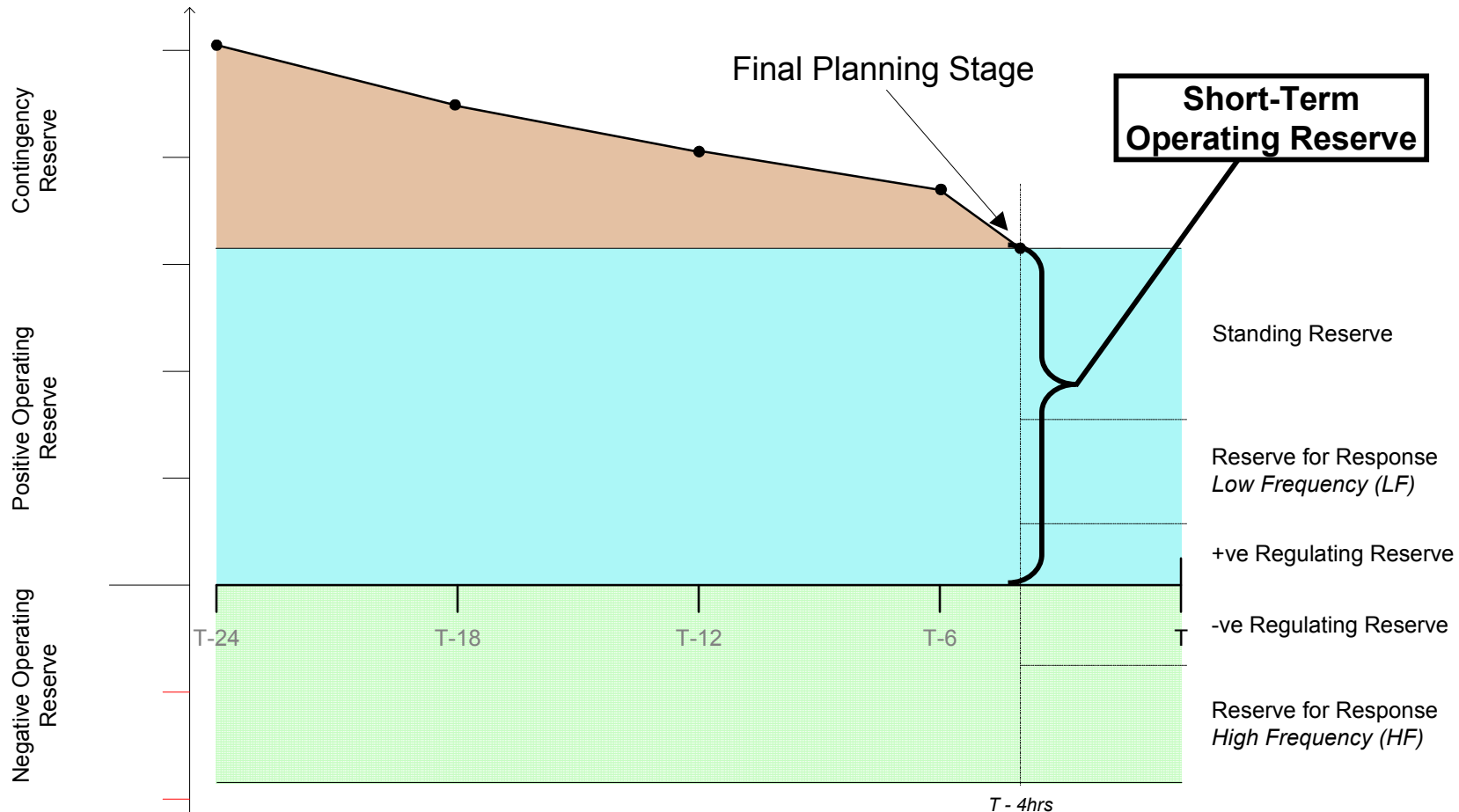
Reserve

Diagrammatic breakdown of Reserves



Reserve

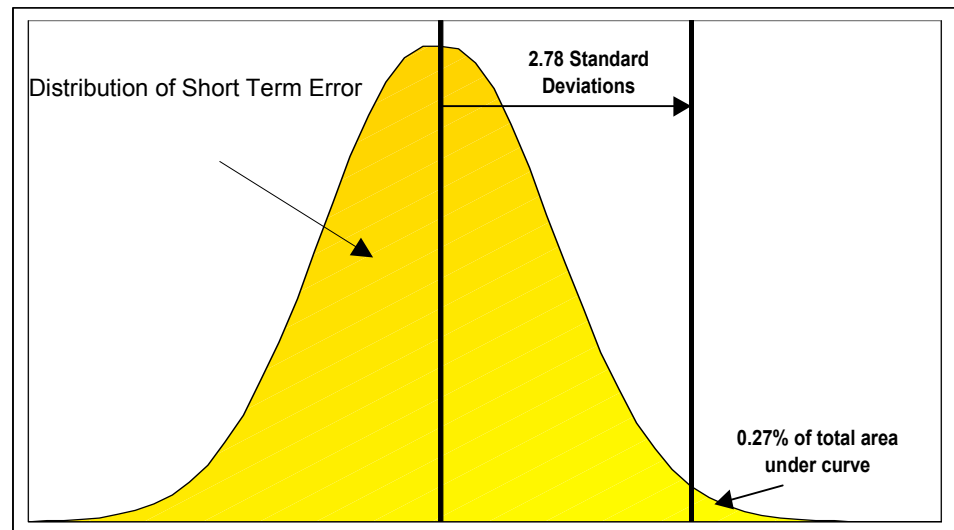
Chronological Breakdown of Reserves



Reserve

Setting Requirement Levels

- The two key requirements that make up Operating Margin are therefore:
 - Contingency Reserve
 - Operating Reserve (including Short Term Reserve)
- These two elements are normally subject to Quarterly Assessment
- Assessment based around a 1 in 365 criteria or a 99.7% likelihood of meeting demand in full
- Main drivers are:
 - Plant Loss
 - Plant Gain
 - Plant shortfalling
 - Demand Forecast



Reserve Requirement

Summary

- NGT's Operating Margin Requirement runs from 24hrs ahead to Real Time
- Contingency Reserve
 - Decays from 24hrs ahead to 4hrs ahead (Final Planning Stage)
 - Set against 1 in 365 expectation
- Operating Reserve:
 - Required from the Final Planning Stage - 4hrs ahead of Real Time
 - Made up from Short Term Reserve and Reserve for Response
 - Short Term Reserve set on 1 in 365 criteria from 4hrs ahead to real-time.
 - Reserve for Response requirement provides Headroom for part-loaded plant to meet Frequency Response requirement

Historic Role in Securing Reserve

- Tools

- NGT has historically procured Firm Reserve and Response on an economic basis.
- Reserve to meet requirements secured/procured from available generation 'on the day'. For example:
 - Standing Reserve - BM and non-BM
 - Contracted Commercial Response contracts
 - Market Length
 - Free Headroom
 - PGBTs
 - Warming Contracts
 - Demand Turndown, etc.

Historic role in Securing Reserve

- Historically NGT's role in ensuring that there would be sufficient plant available to meet requirements involved:

Procurement

- Firm procurement based on economics
 - Standing Reserve
 - Commercial Frequency Response contracts
- On-the-day procurement if available

Information

- Published data, e.g. surpluses
 - System warnings when significant shortfall in Operating Margin
- NGT would only procure firm Reserve ex-ante on an economic basis

New Approach

- The new approach adjusts this historic behaviour
- NGT will now examine forecasts of plant availability from OC2 and elsewhere
- Should forecasts show a shortfall in available plant to meet Operating Reserve Requirement, then NGT may seek to secure additional contracted reserve
- If plant margin forecasts are low, NGT may seek to procure plant up to the level of its Operating Reserve Requirement. The market should provide capacity to meet demand and any additional contingency/surplus

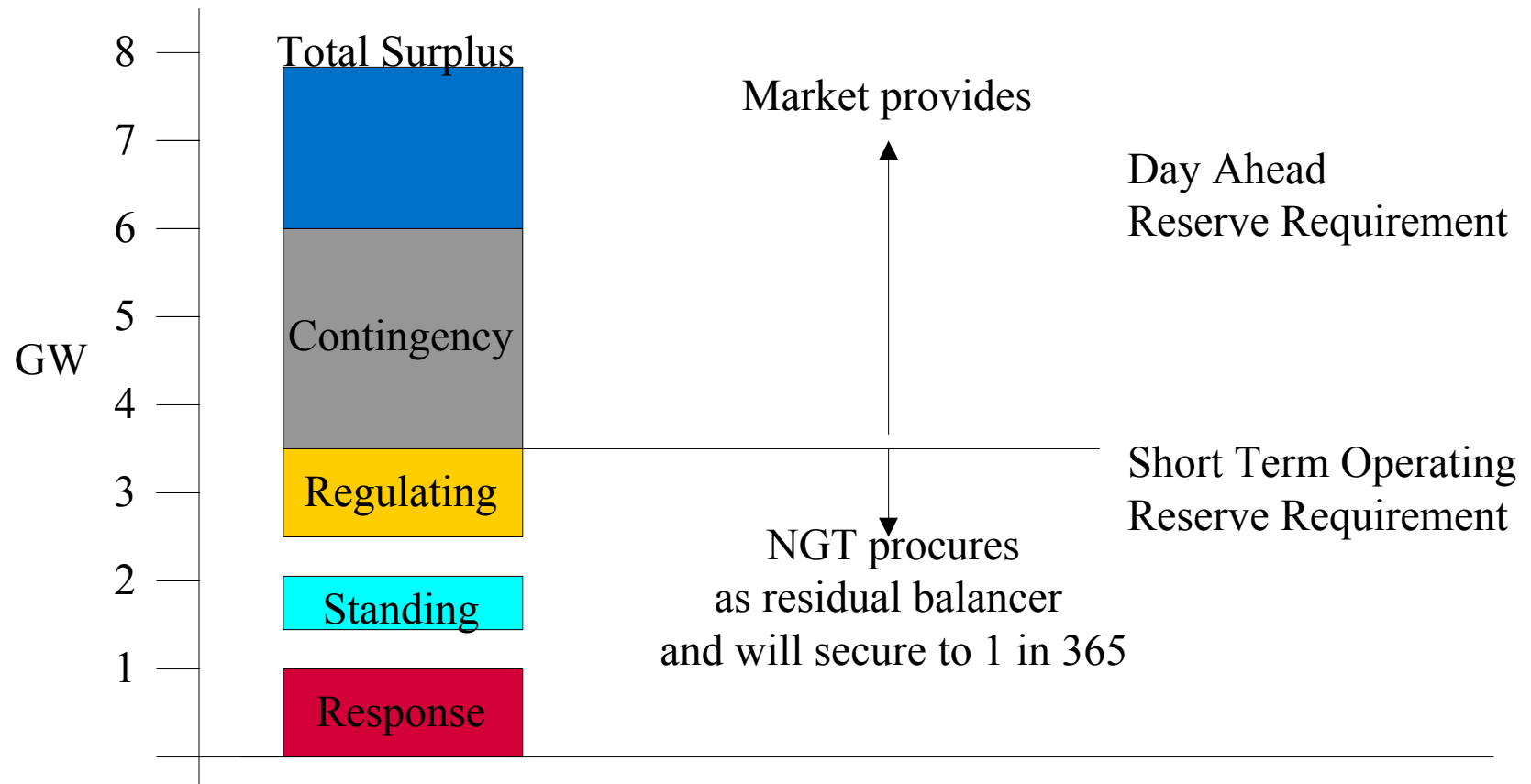
New Approach - Assessment

- What will NGT consider when assessing and forecasting the availability of plant?
- Forecast will consider what Reserve can be delivered from all sources of Reserve available, both on-the day and further ahead.
- On the day, sources of reserve are as now:
 - Standing Reserve
 - Market Length
 - Free Headroom
 - PGBTs, Warming Contracts, etc
- Factors influencing NGT's forecasts include:
 - Changes to OC2 declarations and generator outage patterns
 - Additional return of mothballed or unavailable plant

New Approach

- Should forecasts show a shortfall in available Reserve then consideration will be given to additional mechanisms for securing or procuring further Reserve
- NGT's requirement to procure additional reserve is capped at the level of the Operating Reserve Requirement. I.e. requirement does not extend to covering any forecast market shortfall against demand
- NGT's procurement of additional reserve before the day-ahead stage is also influenced by considerations of economics and efficiency. The economic trade off occurs between the cost of procuring reserve in advance and the certainty this provides versus the cost of procuring reserve close to real time.
- On-the-day NGT will continue to procure additional Reserve, if available, to meet the operating reserve requirement

New Approach - Market continues to provide majority of reserve



Where were we last year?

- Winter 2003/04
 - Standing Reserve and Commercial Response Contracts
 - Supplemental Standing Reserve (SSR) Tender round
 - Additional Reserve purchased economically and against forecast Plant margin shortfalls
 - 852 MW of additional Reserve procured
 - Availability of Reserve procured under SSR offset on-the-day procurement costs, but not sufficient to make all tenders economic.

Where are we now?

- NGT has already procured services economically against its Operating Reserve Requirement:
 - Standing Reserve
 - Contracted Commercial Response Services
- The above services leave ~1-1.5 GW of Operating Reserve to be secured from the sources discussed above

Where are we now?

- NGT is undertaking forecasts through to the end of March 2005
- Methodologies and process will continue to be refined
- As appropriate, these processes may result in additional ex-ante procurement of Reserve by NGT