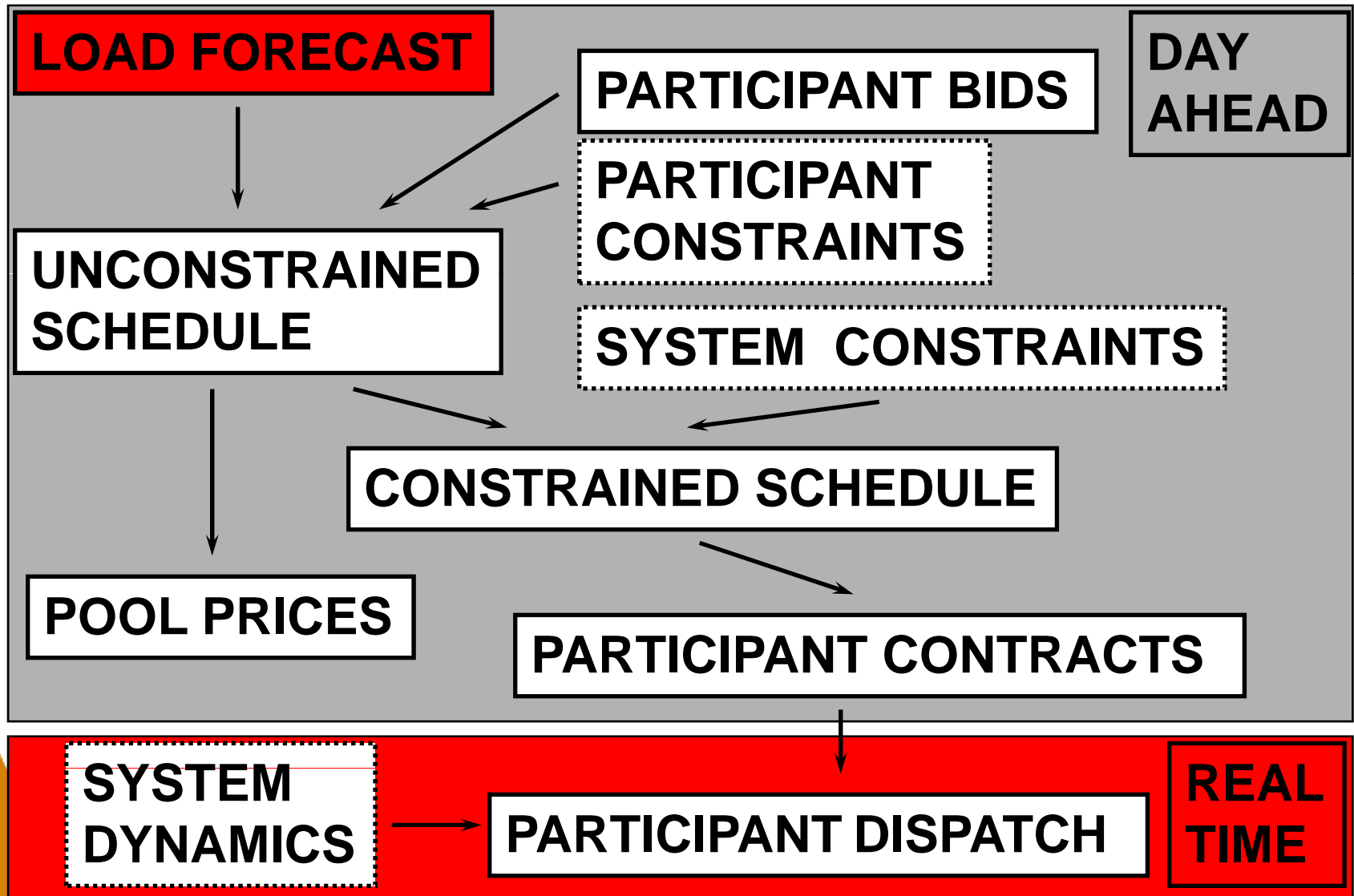




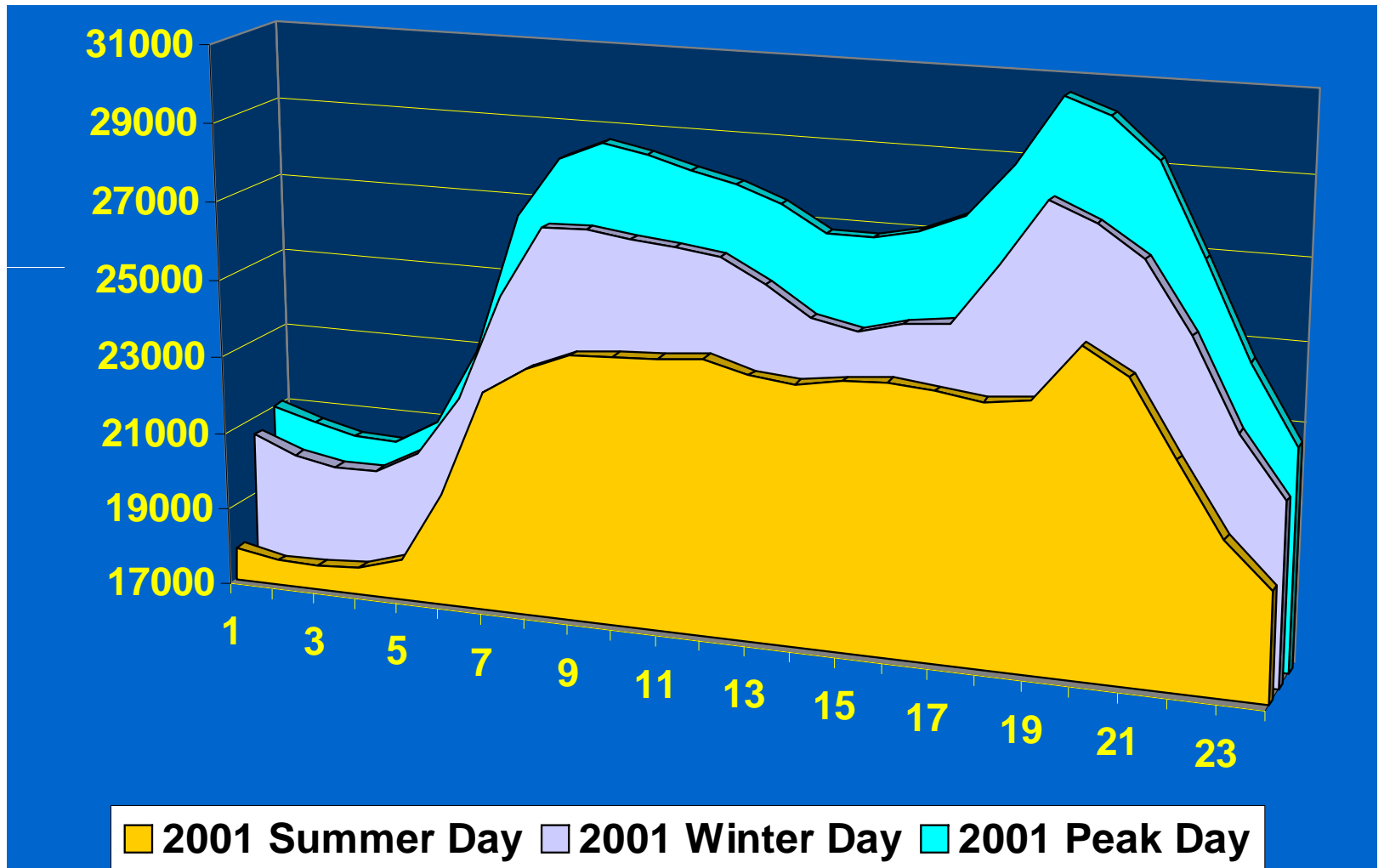
Eskom Power Pool Operations Procedures and Guidelines

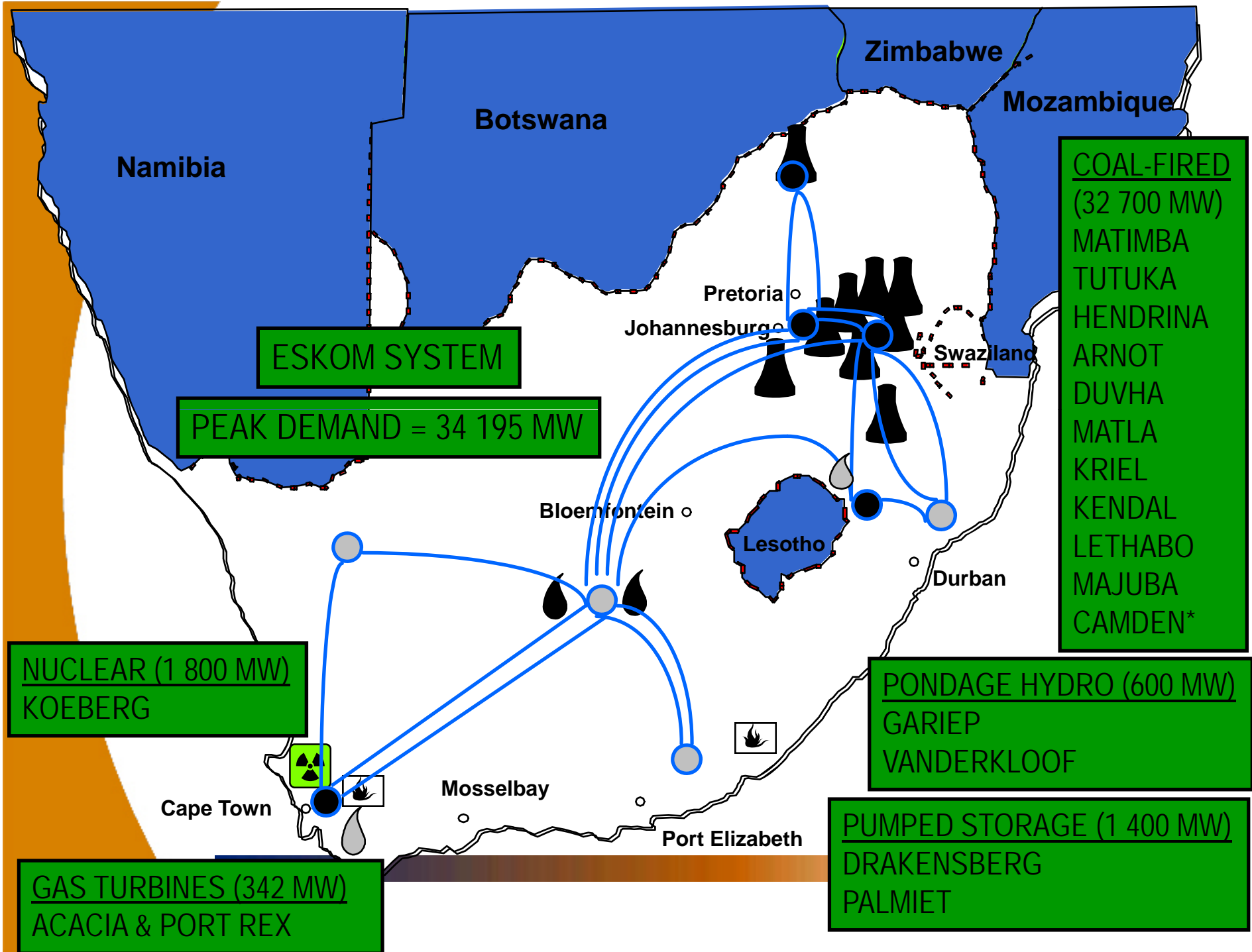
Michael Barry
Eskom Transmission

Day-ahead Market Process



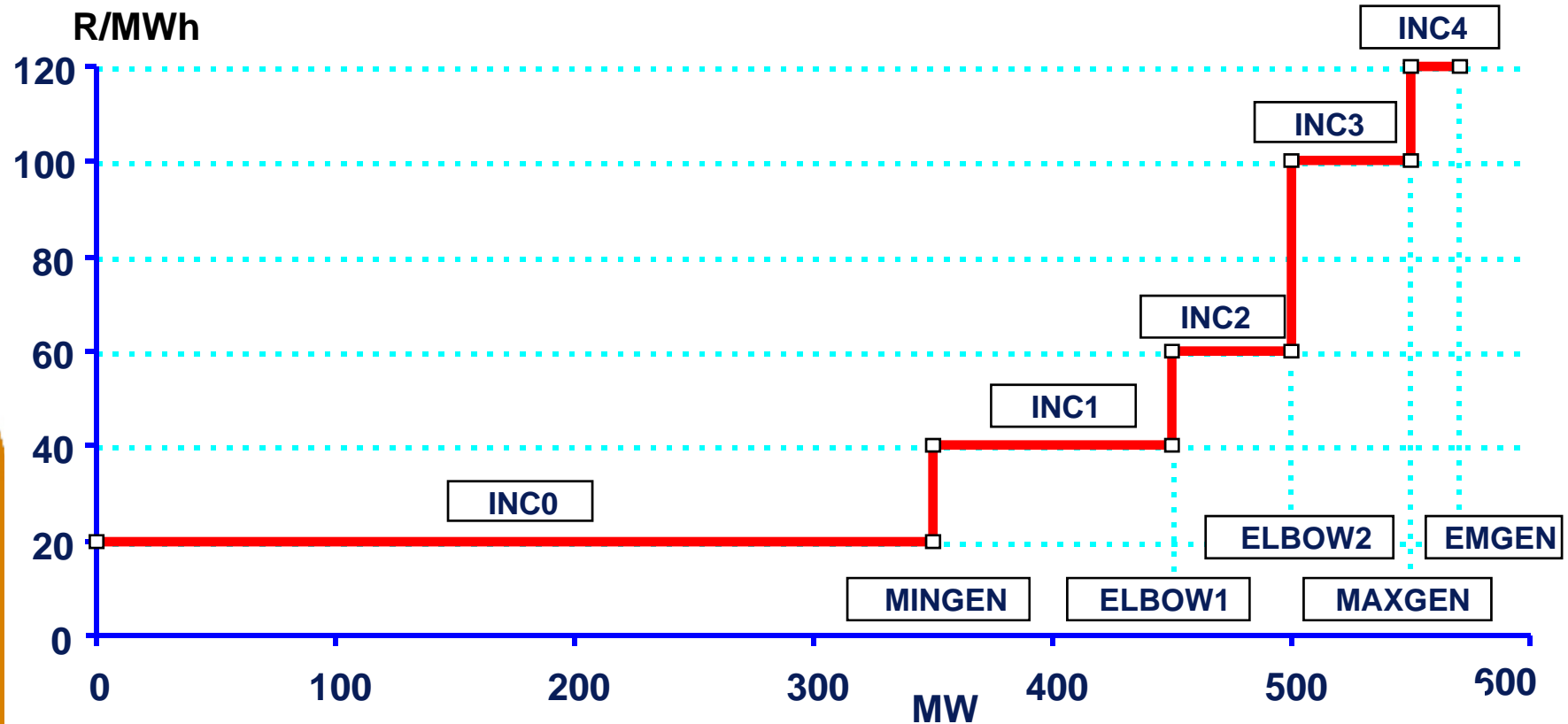
System Load Forecast



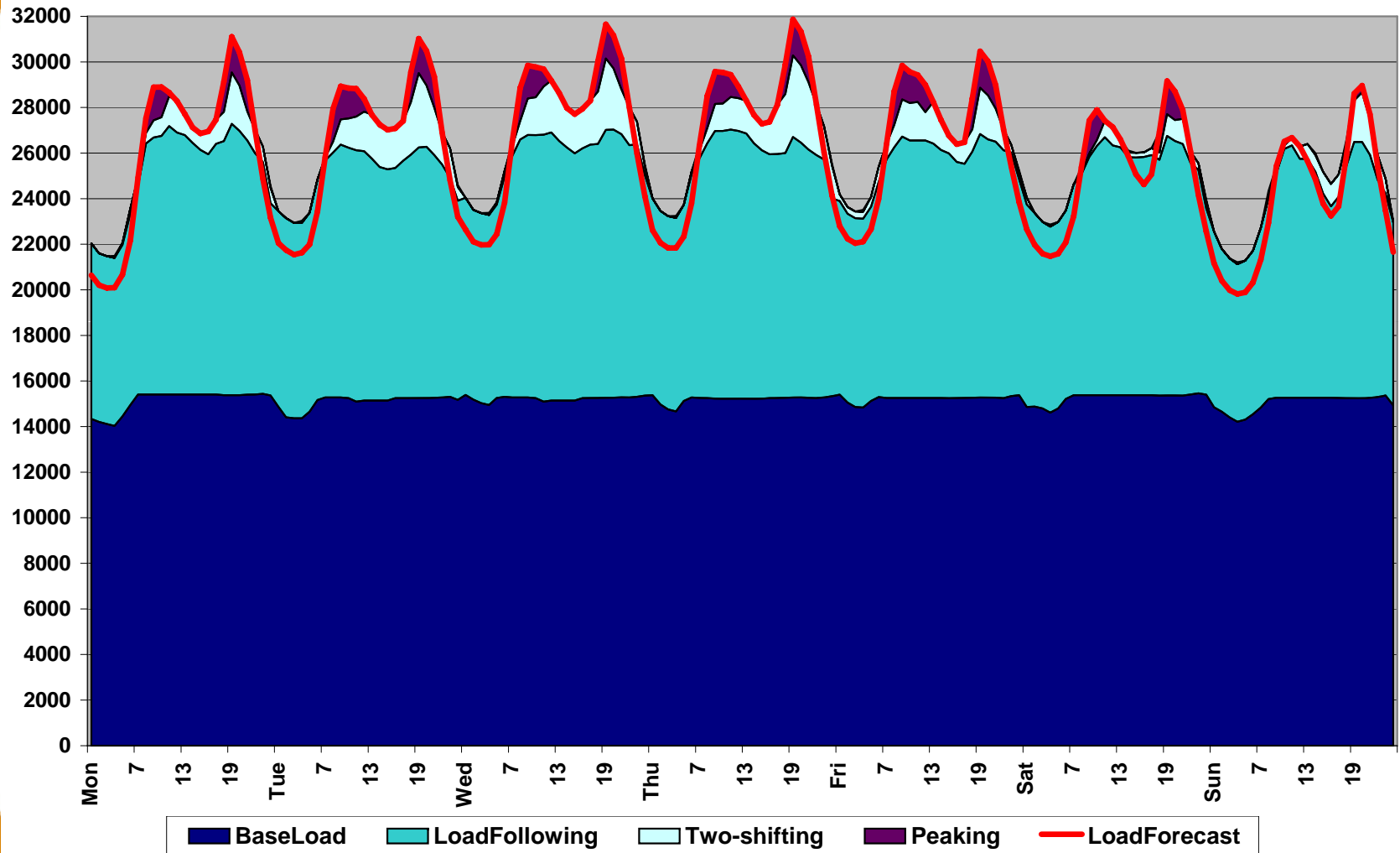


Generator Offer

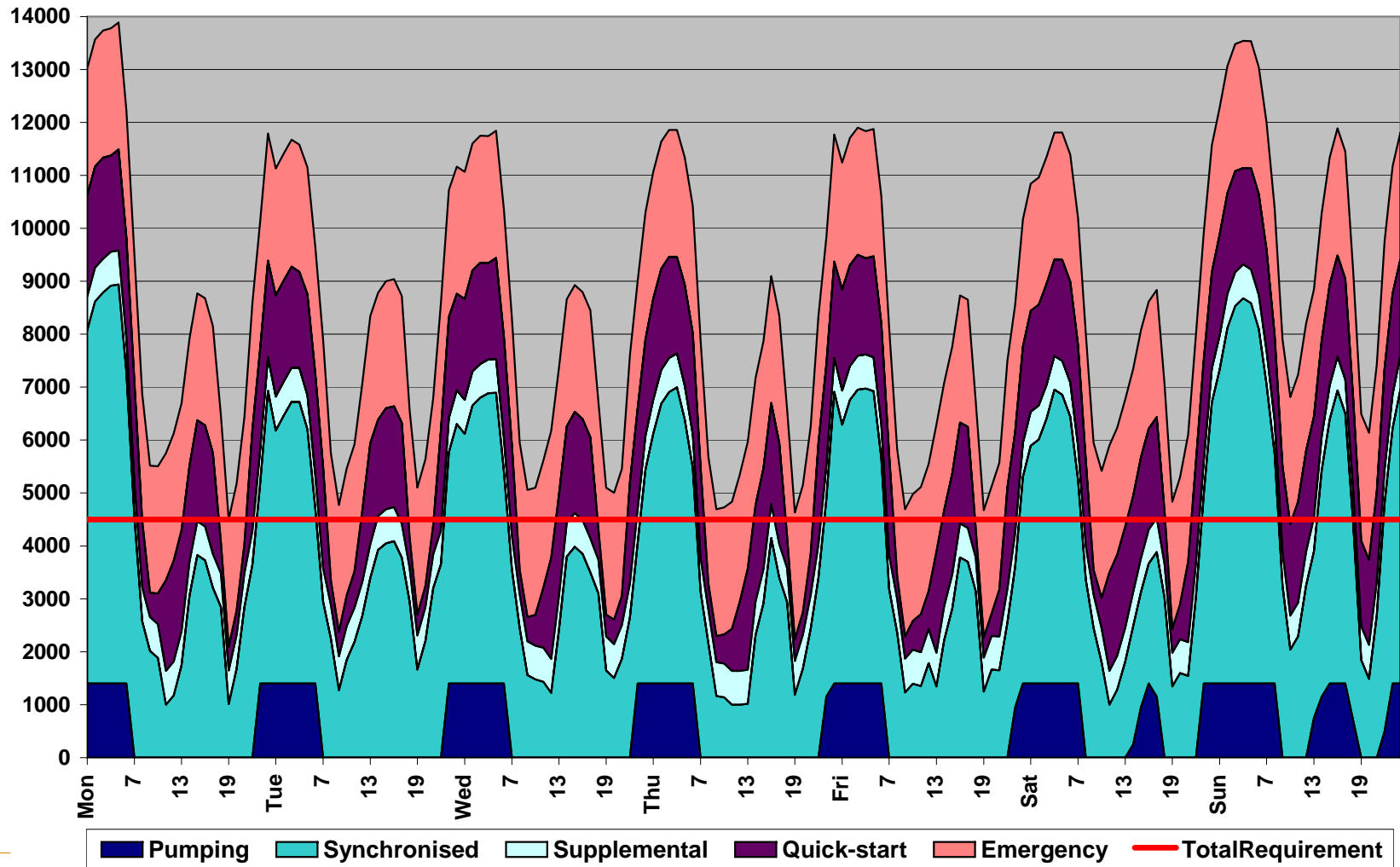
- Self-commitment / decommitment or based on price (each hour)
- Price curve (for a day)
- Availability, flexibility and technical parameters



Energy Schedule



Reserve Schedule



Balancing Mechanism Summary

- Principles
 - Participants incentivised to be in balance day-ahead
 - Participants not penalised to an extent leading to inefficiencies
- Activities
 - Establish the merit-order of
 - Balancing Energy Providers – to balance supply and demand in real-time, due to
 - Imbalance Energy Sources – Participants not fulfilling their physical contractual position
 - Capture System Operator dispatch instructions
 - Clear market - determine deviations from contract position
 - Determine and publish Balancing Prices

Ex-post Activities

- Metered Values
 - Availability, Energy, Regulation, Governing
- System Operator dispatch instructions
- Generator Events and Performance Indicators
- Ancillary Services Provided and Performance
- Settlements (daily)
- Billing (monthly)

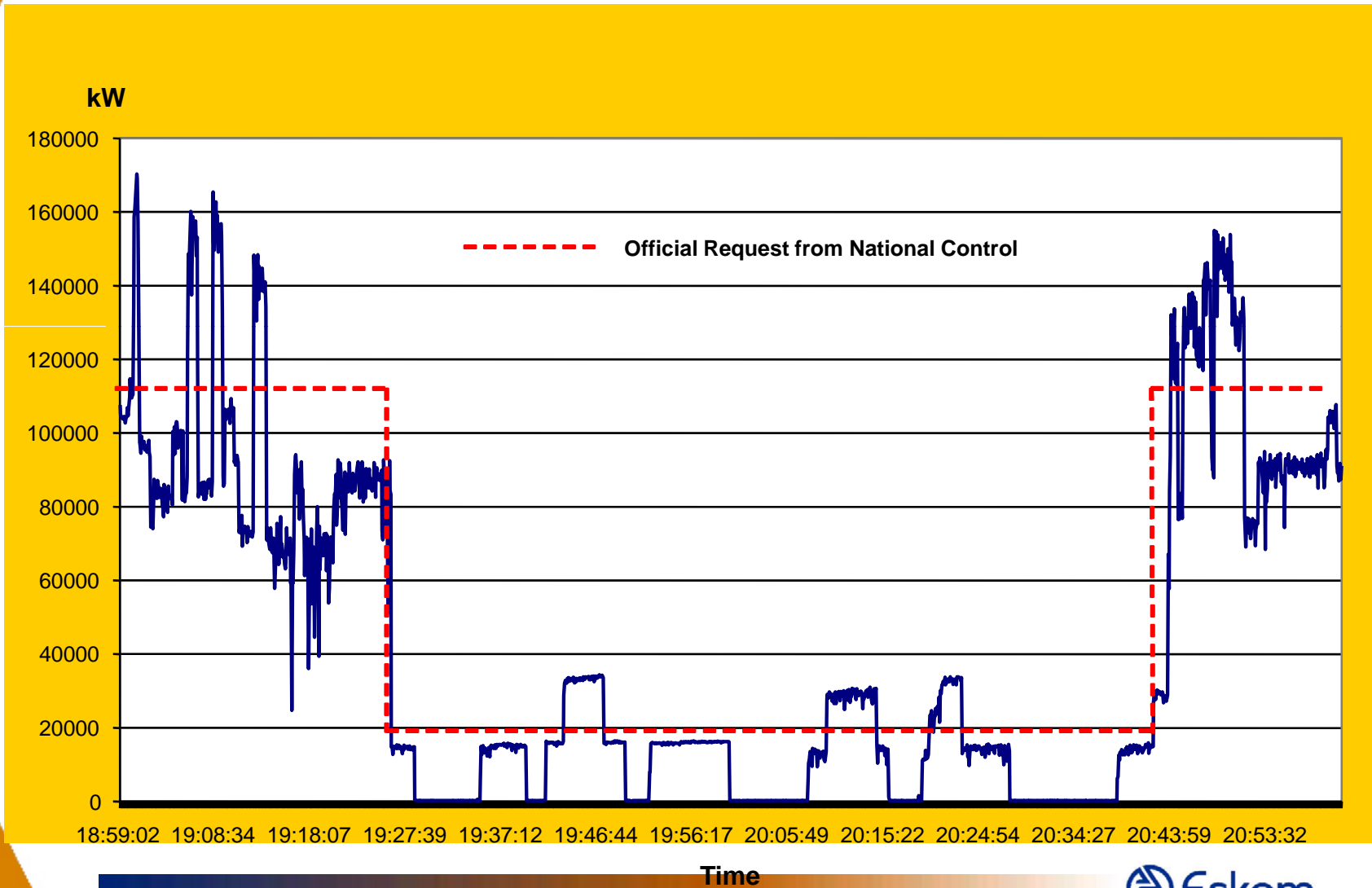
Ancillary Services

- Reserves
 - Regulation
 - Instantaneous
 - 10-minute
 - Supplemental
 - Emergency
- Regulation and Load Following
- Energy Imbalance Constrained Generation
- Black Start and Islanding
- Reactive Power and Voltage Control

DMP Participation Alternatives

Product	Description	Benefits
Day-ahead Scheduled Load Shifting	Optimal scheduling of supply and demand options.	<ul style="list-style-type: none">•“Flutter” daily load profile•Higher load factor for base-load generators•Reduced need for two-shifting
Instantaneous Reserve	Provide energy within 5 seconds following a frequency incident.	<ul style="list-style-type: none">•Generators run more efficient•Higher load factor for base-load generators
Supplemental Reserve	Provide energy within 1/2 to 6 hours following a deviation from the day-ahead schedule.	<ul style="list-style-type: none">•Relieves Eskom generators of cycling operation•Improves reliability of supply when no other generators are available
Emergency Reserve	Provide energy in emergencies.	<ul style="list-style-type: none">•Improves reliability of supply

DMP Response – Supplemental Reserve



DMP Response – Instantaneous Reserve

