Glossary

Term	Definition	Term	Definition
Non-Conforming GXP	Grid exit points (GXP) load patterns are assessed by the Electricity Authority. GXPs that do not follow a predictable daily demand pattern are determined as non-conforming GXP. Purchasers at non-conforming GXPs prepare their own forecasts of electricity usage at those GXPs for market scheduling purposes in the form of **nominated bids**.	**Conforming GXP**	A grid exit point that has been assessed by the Electricity Authority to have a predictable demand pattern is determined as a conforming GXP. The demand at a conforming GXP is forecast by the System Operator. A purchaser at a conforming GXP does not have to submit a nominated bid, but may elect to submit **difference bids** to signal that some load at the GXP may differ depending on the purchaser's real time expectations of price. A difference bid represents the purchaser's reasonable endeavours to predict an increase or decrease in its usual quantity of electricity demanded for a trading period at a relevant price at the GXP.
Medium Term Load Forecast (MTLF)	The forecast of demand prepared by the System Operator for use at conforming GXPs. The MTLF is computed automatically every 30 minutes shortly after the half-hour to guarantee that the most recent load averages have been updated. Overall, the forecast spans 15 days, including the current day, and the forecast for each area is supplied by a third party, or from the system operators' tool, this is made up of several components: historical load information, historical weather information, and weather forecast information. Real time staff can manually adjust the load forecast using overrides if the forecast is too far from the actual load. GL-SD-204 Load Forecast Methodology and Processes	**Scheduling, Pricing and Dispatch (SPD)**	A computer system used to calculate the schedules and prices for the New Zealand Electricity Market and the reserves market. It also calculates dispatch instructions for real time dispatch. SPD101.pdf
Simultaneous Feasibility Test (SFT)	Automatic constraints management system. SFT helps to ensure the security of the power system by security checking the Scheduling, Pricing and Dispatch (SPD) solution. It identifies potential overloading issues and resolves them by creating thermal constraints for use by SPD in its next iteration. Constraints are typically seen where there is an outage of a circuit or generator. Security constraints	Transpower	**Reserve Management Tool (RMT)**	Calculates the amount of reserve required to meet under-frequency criteria required for real time dispatch and advanced schedules. Reserve Management Concepts: introduction
Supervisory Control and Data Acquisition (SCADA)	The monitoring and remote control of equipment from a central location using computers.	**Revenue meters**	Metered load data.
Dispatchable Demand (DD) and Dispatch Notified Load (DNL)	Optional regimes that allow wholesale electricity purchasers to participate in the spot market in a similar way as generators and therefore respond more efficiently to wholesale market conditions. A participant who wishes to participate in DD or DNL must first apply to the System Operator for the load it wishes to be dispatched to become a 'dispatch-capable load station' (DCLS).	**Dispatch-Capable Load Station (DCLS)**	A device or group of devices, which consume load, that has been approved by the System Operator and is capable of being dispatched.
Forecast of Generation Potential (FOGP)	An intermittent generator, e.g., a wind generator, can offer its installed generation capacity to the spot market in up to five price bands like most other types of generators, but with an extra field in the offer form called 'forecast of generation potential' (FOGP) for the estimate of the electricity (specified in MW) it will generate during a trading period.	**Scarcity pricing**	In the event of genuine energy shortfall, appropriate pricing outcomes are preserved by adjusting the load requirement in the dispatch pricing schedule to an estimate of demand absent due to an instruction to shed load.
Pre-Solve Deviation (PSD)	An estimate of the expected change in load per island, over the next 5-minute interval.	**Initial MW**	A point-in-time value of actual generation output from SCADA. The offered ramp rates are applied to this value to identify the range within which a generator can be scheduled.

Schedule Name	WDS Week-Ahead Dispatch Schedule	PRSL Price-responsive Schedule Long	PRSS Price-responsive Schedule Short	NRSL Non-response Schedule Long	NRSS Non-response Schedule Short	RTD Real Time Dispatch
Primary purpose of Schedule	For market participants to view constraints and outages a week out from real-time and for power system security checks a week in advance.	Less frequent schedule to show the potential price impacts of signalled demand response over a longer horizon. Will form the settlement price if RTD prices are unavailable and beyond the PRSS horizon.	More frequent schedule to show the potential price impacts of signalled demand response over a shorter horizon. Will form the settlement price if RTD prices are unavailable.	Less frequent schedule used to check system security and test outages for the next 36 hours. It is the indicative schedule if no demand response is actioned.	More frequent but shorter horizon security checking. Indicative schedule if no demand response actioned. Constraints built by SFT for the NRSS are used in the RTD schedule (with modification if necessary).	Forms basis of dispatch instructions for generation, ancillary services, and demand in real time as well as generating dispatch prices that will form the settlement price.
Schedule inputs – high level	Medium-term load forecast, outages from outage scheduler, constraints, energy and reserve offers*, nominated bids*, reactive profile for SFT. * Rolled over if none exist.	Energy and reserve offers, medium-term load forecast, nominated bids, difference bids, constraints, reactive profile for SFT, outages from outage scheduler.	Energy and reserve offers, medium-term load forecast, nominated bids, difference bids, constraints, reactive profile for SFT, outages from outage scheduler.	Energy and reserve offers, medium-term load forecast, nominated bids, constraints, reactive profile for SFT, outages from outage scheduler.	Energy and reserve offers, medium-term load forecast, nominated bids, constraints, reactive profile for SFT, outages from outage scheduler.	Energy and reserve offers, instantaneous revenue meter load and generation data, pre-solve deviation for the next five minutes, constraints.
Initial MW	N/A - as ramp rate is 9999MW/h	Uses unit sample (at start of trading period) for 1st interval, then previous cleared MW for subsequent intervals	Uses unit sample (at start of trading period) for 1st interval, then previous cleared MW for subsequent intervals	Uses unit sample (at start of trading period) for 1st interval, then previous cleared MW for subsequent intervals	Uses unit sample (at start of trading period) for 1st interval, then previous cleared MW for subsequent intervals	Uses current MW

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Offers								
Energy Offers – incl. ramp rates			Ramp rates are set to 9999MW/h for WDS	Energy offers are offered in up to 5 tranches. The energy offer includes up ramp rate (MW/h), down ramp rate (MW/h), MW Max, MW price ($/MWh), MW quantity.				
Reserve Offers			Rolled over offers are used where real offers do not exist	Reserve offers are offered in up to 3 tranches. There are 2 classes of reserves - Fast Instantaneous Reserve (FIR) and Sustained Instantaneous Reserve (SIR) (sometimes referred to as 6s and 60s reserves respectively). The 2 reserve offer types are Interruptible Load (IL) and generator reserves. Generator reserves comprises Tail Water Depressed Reserve (TWD), Partially Loaded Spinning Reserve (PLSR) and injectable reserves from energy storage systems. Reserve offer includes MW price, MW quantity, reserve class, PLSR %.				
Bids				Bids - see load. Nominated bids are offered in up to 10 tranches. Difference bids are offered in up to 10 tranches (5 positive, 5 negative)				
Load								
Conforming GXPs			Load Forecast	Load Forecast +/- cleared difference bids, adjusted for impact of modelled transmission outages		Load Forecast		Current GXP Load + GXP PSD, adjusted for impact of modelled transmission outages
Non-conforming GXPs			The sum of the nominated bid quantities or default value where no bid	Cleared nominated bids		The sum of the nominated bid quantities		Current GXP Load
Dispatch Capable Load Station (DCLS)	Dispatch Bid			Cleared DD bids				
	Non-Dispatch Bid	Non-Conforming GXPs	Sum of Dispatchable Demand (DD) bid quantities	Cleared Non-Dispatchable Bids		Sum of Dispatchable Demand (DD) bid quantities		Current GXP Load + GXP PSD
		Conforming GXPs	Zero	Zero		Zero		Current GXP Load + GXP PSD
Network Model				All schedules use the SPD network model with overrides and accepted market outages.				
Constraints				Security constraints (temporary and permanent) are applied to all SPD schedules. These are also referred to as branch (group) constraints and are published on WITS if they are ≥ 85% of their limit.				
Intermittent Generation Information			Uses the latest intermittent generation offers with ramp rates set to: Up ramp = 9999MW/h Down ramp = 9999MW/h	Uses the latest intermittent generation offers.	Uses the latest intermittent generation offers.	Uses the latest intermittent generation offers.	Uses the latest intermittent generation offers.	Uses the latest intermittent generation offers but offered trading period FOGP is replaced by current generation value from SCADA
Reserve Requirements Risk adjustment factors (RAFs) Risk Offsets			Rolled over reserve requirements are used	Uses reserve requirements from latest RMT solves	Uses reserve requirements from latest RMT solves	Uses reserve requirements from latest RMT solves	Uses reserve requirements from latest RMT solves	Uses reserve requirements from latest RMT solve.
Frequency of Schedule								
From			14:00 of next day	Now	Now	Now	Now	Now
To			Start of next day (00:00) + 6 days	Now + 71 trading periods	Now + 7 trading periods	Now + 71 trading periods	Now + 7 trading periods	Now + 5 mins
Produced			Every 24 hours (at 01:30)	Every 2 hours (even hours)	Every 30 mins	Every 2 hours (even hours)	Every 30 mins	Every 5 mins - runs 1 min before start of 5 min period or when triggered