

Task 3 – connectivity and communication requirements

*This work package needs a workshop as shown on the workplan
(pre-reading slide 3)*

Communications, measurement & validation

- The goal is to have common “interoperable” systems that can be used by all parties in the flexibility service market
- The FlexForum goal is to define the practical things we need to transact flexibility
 - That we can use now
 - That can be built on for the future
- Like the product definitions we have done, we need communication, measurement and validation definitions to be common
- The communications is “who, when, what, where and prove it”

Common terminology and definitions

- **Pre-Procurement** (Flexibility User)
 - Even with a future of “*dynamic flexibility*” we still need flexibility services to “*register their interest*” and flexibility users to “*define a potential need*”
 - This means common definitions of things like locations – GXP, Substation, Feeder, ICP?
- **Procurement** (Flexibility User)
 - The selected “*standard mechanism*” to communicate, measure and validate
- **Pre-operation** (Flexibility Provider)
 - Pre-setting the common services (Programs, locations, amounts) in preparation for the “signal”
- **Operation** (Flexibility Provider)
 - Actioning, measurement, validation

What is best practice?

- Right now
 - Interoperable nationally
- Going forward
 - ‘fully’ automated
 - Scalable
 - Secure
 - Reliable
 - Interoperable internationally
 - Certified
- This allows a comms journey that’s backwards compatible

Roadmap

- Manual
 - email, text, phone call to activate predefined flexibility services
e.g. Transpower on 9 Aug 2021
- Integration to in-house systems
 - Simple commands generated by inhouse systems
e.g. EDB demand management system activating a ripple system to send a DRED signal (0,1,2,3)*
- Interoperable (international) open standards
 - Certified, Secure, Interoperable, scalable
 - EECA/EEA DR open Standards project

Grid Emergency Notice

To: GEN NZ Participants
Sent: 17-aug-2021 16:23
Ref: 4038210476

From: The System Operator
Telephone: 0800 488 500
Email: NMDData@transpower.co.nz

Revision of:

Cause: Insufficient Generation offers North Island
Region or GXP affected: North Island
Starting: 17-aug-2021 17:00
Ending: 17-aug-2021 19:30

Transpower as System Operator advises there are insufficient generation and reserve offers and transmission capacity to meet demand and provide for N-1 security for a contingent event. Please refer also to Customer Advice Notice No: 4038247818 regarding unavailability of HVDC Pole 2. The level of instantaneous reserves being scheduled may or will be reduced.

Consequences on the power system:
Risk of insufficient energy offers in the North Island to meet demand plus instantaneous reserve requirements.

Participants are Requested to:
Increase Energy Offers
Increase Instantaneous Reserve Offers
Decrease demand

At:
North Island
North Island
North Island

- Sample attributes (subset)
 - Flexibility Event identifier
 - Start time, duration, ramp-up, ramp down
 - Type of instruction (based on Event type) - Load up/down (direct/relative), Simple DRED's type (0,1,2,3), Price at specific time intervals – (Retailer providing flexibility services)
 - Location - GXP, substation, feeder, ICP, geographic location (all preset as part of “pre-procurement”)
 - Target resources - Flexibility service provider (or groups of), individual
 - Response
 - Reporting (measurement & validation)

*DRED – Demand Response Enabled Device