SONI

Delivering a cleaner energy future

Dispatch Down Draft Action Plan

RNI Seminar | 4th September 2025

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- Our role as System Operator
- Dispatch Down Project Overview
- A focus on Long Duration Energy Storage
- Conclusions

Our role as System Operator – important parameters

1. **Role in legislation and licence means balancing a wide range of competing factors and priorities**
   - Operating the system safely and securely is top priority
   - Development of network in efficient, coordinate, economic manner
   - Operating within wider legislative, regulatory and policy framework
   - Cost to the consumer is also important
   - Existing "developer-led approach" – limited decision-making role for SONI e.g. interconnection

2. **NI still world-leading in renewables integration – 75% SNSP**

3. **Operating with existing rules (Balancing Market Principles Statement) - the prioritisation of the Scheduling and Dispatch:**
   - Ensuring operational security;
   - Maximising priority dispatch generation; and
   - Efficient operation of the SEM.

4. **Role as System Operator means finding balanced solutions**

Dispatch Down - Project background

1. SONI recognised increasing levels of dispatch down from Summer/Autumn 2023
2. Engaged with RNI to understand industry concerns
3. Stood up internal Dispatch Down Project team – early 2024
4. Several workshops with industry, government and regulators
5. Publish draft Dispatch Down Action Plan – Dec 2024
6. Hosted industry workshop – Jan 2025
7. SONI are current progressing short-term actions, and we are developing projects to progress longer term recommendations.

Dispatch Down - Project background

1. To fully understand contributing factors for dispatch down levels in Nothern Ireland
2. To explain System Operator parameters and spheres of influence
3. To explore all possible System Operator short-term mitigations options – a “no stone unturned” approach to identify every possible MW
4. Plans already in place with SONI’s Operational Policy Roadmap – what can be accelerated safely and securely
5. To outline wider range of long-term solutions that require multi-partner collaboration

Operational Policy Change Process

EirGrid and SONI's joint **Operational Policy Review Committee (OPRC)** governs the process of operational policy changes. The OPRC comprises members with extensive experience and expert knowledge of system operations. The members consider the proposed changes, review all related materials/reports, and approve or reject the proposed changes following an operational trial period and assessment of same. Operational policy in EirGrid and SONI is monitored, reviewed, and updated according to a **five-stage continuous cycle process**, described below.

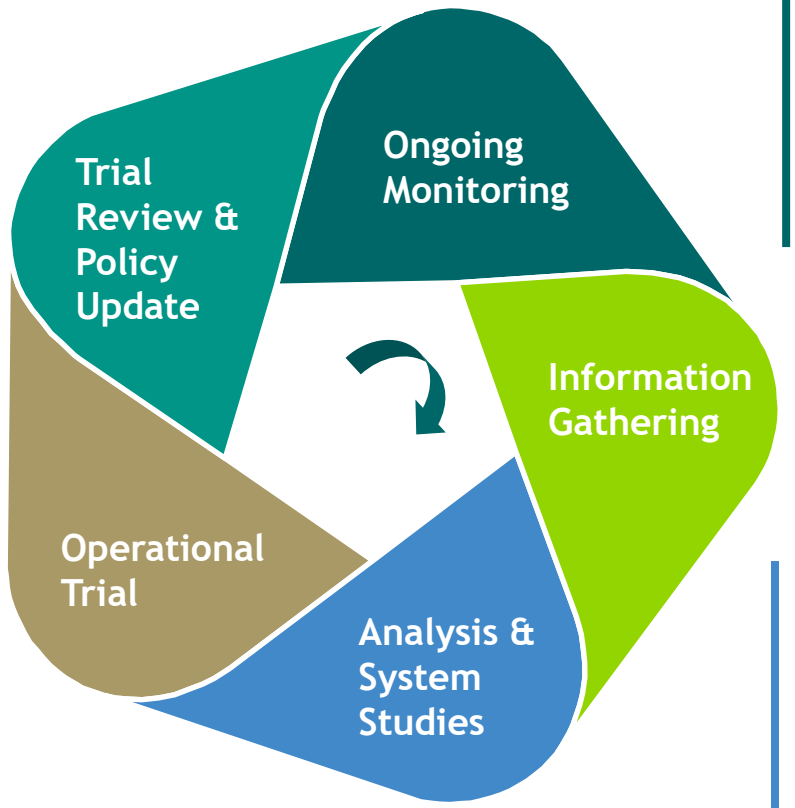
05 Trial Review & Policy Update

If the trial period of operation passes without adverse impacts, subject matter experts will study the results of the trial parameters and criteria. An in-depth examination of the trial period is carried out and reported on to the OPRC. The conditions and events during the trial are examined to determine if any trial related issues arose. The OPRC reviews the outcome and report and decides whether to either:

1. Cease the trial noting adverse impacts.
2. Continue the trial if there is insufficient evidence. Gather more relevant data points and information to support decisions.
3. Approve the proposed operational policy change as the enduring operational policy.

04 Operational Trial

If the OPRC grant approval, an operational policy trial is commenced with strict operational criteria and parameters to be monitored, including hours of operation. The trial may be suspended at any time by operations staff if adverse impacts arise during the trial.



01 Ongoing Monitoring

In the Ongoing Monitoring phase, EirGrid and SONI monitor the system parameters and analyse events and disturbances to assess system performance and generator compliance relative to operational policy parameters and metrics.

02 Information Gathering

During the Information Gathering stage the current status of the policy and parameters are assessed, and consultation is held with operations specialists on the drivers, requirements and need for changes.

03 Analysis & System Studies

At the Analysis & System Studies stage subject matter experts and operations policy specialists study the system under an extensive and detailed range of conditions. They study the impact of the proposed policy change and make recommendations on the conditions of the operational trial. The OPRC approve or reject the proposed trial, based on the studies and in-depth discussions.

EirGrid SONI

System Level Overarching Dependencies and Risks

The Operational Policy Roadmap is an **ambitious vision for how policy should evolve through the decade to support the decarbonisation targets**. The All-Island power system currently requires a balanced portfolio of new capacity to address the heightened risk of Loss of Load Expectation (LOLE) in Ireland and ensure continued security of supply. The medium- and long-term milestones and targets are tentative and will be dependent on an extensive series of studies, reviews, monitoring processes and rollout of innovative technologies that determine the future operational policy and constraints. Successful implementation of actions and enablers outlined in this roadmap is reliant on regulatory decisions and funding.

Performance of System Users

The ability to run operational trials and to change policy will be dependent **on the evolving performance of system users** (in particular, Demand Facilities and Distributed Energy Resources). The development and application of new user performance requirements will be key to the TSOs being able to deliver the operational policy changes outlined in this document.

Network and System Services Development

Timely delivery and commissioning of system services providers, new flexible generation, major infrastructure projects (e.g., second North-South Interconnector) and other transmission reinforcements are required to assist with future challenges and meet the decarbonisation targets.

Security of Supply

Operational trials will be **dependent on system operational conditions and the need to ensure continued security of supply to customers in Ireland and Northern Ireland**. Conditions on the grid may influence the ability to effectively conduct trials as planned.

Operational Capability

Operational capability must be continuously uplifted to align with the **new challenges and requirements** introduced by the increased complexity of system operations. For example, enhanced operational forecasting, observability, monitoring and control capabilities will be required.

Operational Studies

Analysis will be the key factor to determining the precise constraint values and policy direction. The capability to perform advanced analysis (e.g. EMT simulations for IBR dominated networks) must be further developed and increased automation will be necessary to carry out relevant analyses more frequently to inform the system constraints. The **availability of these capabilities remains critical to the delivery of the roadmap**. To ensure high accuracy of the simulation studies, an important aspect is the capability to adequately model the performance of new and emergent technologies. Codes and standards must be updated to reflect the requirement for provision of representative models.

Dispatch Down - Progress on short-term recommendations

Negative Reserve Trial – a move from conventional plant to Wind units

- Wind Farm Control Change Document developed collaboratively with industry; industry support has been invaluable
- Initial pre-trial testing supported by four developers with assets in Northern Ireland
- Targeting negative reserve trial, subject to system conditions, quarter 4 2025

Northern Ireland Minimum units ON rule – Trial a move from three to two sets minimum units on under certain network conditions

- A comprehensive suite of dynamic frequency and voltage studies are completed
- Approval to trial two set operational approved through Operational Policy Review Committee process
- Two set Trial commenced in August 2025 (at least 4 months) – subject to operational security

Existing North-South tie-line evaluating transfer north to south

- Operational Security Standards (OSS) to be updated by end of 2025
- Next Steps evaluation of several probabilistic operational approaches proposed as part of the OSS review.

Dispatch Down - Long-term solutions being assessed

LCIS – Low Carbon Inertia Services –

- Phase 1; 4000 MVAs procurement in Northern Ireland, expected delivery end 2026 / start 2027
- "Low Carbon Inertia Services (LCIS) Procurement – Phase 2" consultation window open until **5th September 2025**

NI demand erosion remains a concern; opportunities for clean demand growth including:

- Data centres and clean tech industry
- Electrification of heat and transport
- Household batteries
- Smart Meters

Lower Min Gen review nearing completion

Market Recommendations

- SEM-GB market coupling
- LDES – Long Duration Energy Storage
- Battery scheduling to manage network constraints – linked to virtual line concept

Draft Dispatch Down Action Plan - Summary

- **Strand 1:** Assess short-term measures to bring clarity on Go / No-Go decisions; this will dimension how long it will be before levels of dispatch down can be minimised should current levels of market import persist.
- **Strand 2:** Market Mechanisms which support investment into power system flexibilities or network services that can manage curtailment and constraint levels.
- **Strand 3:** Enhancing and ensuring delivery of network assets including dynamic line rating, overhead lines and new technologies such as LCIS.
- **Strand 4:** Further measures that developers can do such as minimising their min-gen or removal of grid code derogations that reduce system flexibility.

Long-term recommendation

a focus on

Long Duration Energy Storage

SONI's work on LDES is to be preceded and informed by completion of the Flexibility Needs Assessment required by EU Regulation.

SONI's approach to LDES is summarised by the following two workstreams: A and B.

A Non-fossil Flexibility Needs Assessment (FNA) [1]

1. Obligation placed on Northern Ireland to complete the FNA by July 2026; every 2 years there after.
2. Assessment methodology approved by ACER on 25th July 2025 including the required work for SONI.
3. Flexibility Needs for the next 5-10 years to address surplus renewables, ramping and short-term forecast errors.
4. The FNA will inform an indicative national objective for non-fossil flexibility for Northern Ireland.
5. If required, non-fossil flexibility support scheme(s) may be established.

B Indicative view of required additional work for LDES following completion of the FNA

1. Required use-case for LDES
2. LDES volume requirements (MW and MWh)
3. LDES locational analysis
4. Economic analysis of LDES
5. LDES procurement mechanism design

The EU Regulation Flexibility Assessment methodology is a technology-neutral approach. Further studies will be required to specifically determine the needs-case and application of LDES in Northern Ireland.

1. EU Reg: 2019/943 Article 19e-h

SONI is continuing stakeholder engagement in preparation for delivery of the FNA

Overview of FNA progress updates from SONI activities:

1. Funding request in progress for SONI to deliver against its obligations under the FNA regulation and methodology.
2. Monthly meetings with UR regarding the FNA.
3. Continued engagement with DfE and NIE Networks to remain aligned on required work in the FNA.
4. Quarterly meetings started in June with RenewableNI and Energy Storage Ireland stakeholders to discuss the FNA, LDES and Dispatch Down.
5. If required, non-fossil flexibility support scheme(s) may be established.

Going forward, SONI will continued to include a Northern Ireland specific update on the FNA and LDES to stakeholders in the Future Power Markets industry workshops.

1. EU Reg: 2019/943 Article 19e-h

Conclusion: transformational change options

- System Operator role – managing competing priorities within existing rules (Balancing Market Principles Statement)
- Committed to doing everything possible to mitigate existing dispatch down levels – implementation of Action Plan and Operational Policy Roadmap
- Imports have been positive for security of supply and consumer prices – balanced approach needed
- Dispatch Down Action Plan – Remains active and a focus for SONI
  - Short-term mitigations – no stone unturned, but operational security is priority
  - Long-term solutions – LCIS, LDES, Operational Policy Roadmap
- Key considerations
  - Demand growth – NI needs to ensure demand growth keeps pace with renewable generation
  - North South Interconnector needs to be constructed – single biggest constraint
  - Firm Access – SONI working with UR on policy reform
  - LDES – collaboration between industry/government/regulators to explore acceleration
  - Plan-led approach – move the demand/generation closer together
  - Whole society buy-in for network infrastructure builds