

# Scheduling & Dispatch

## Stakeholder Engagement

Industry Workshop

07 February 2024

This presentation provides an update on the Scheduling & Dispatch Programme.


*Achievable - Valuable - “Simple”*



# Scheduling & Dispatch: Industry Workshop (February 2024)

## Agenda for today's workshop

Time	Topic
13:00	Introduction, Opening Remarks
13:15	Programme Status Update
13:30	Delivery Update
14:00	<u>Functional Review</u> - Summary of Modifications activity - Consultation on SEM 13_011 changes
14:30	Meeting Adjourns



### Since We Last Met

- Preparing MODS changes for SDP\_001 NPDR
- Preparations for SDP\_004 Rebalancing/Redispatching consultation
- Continued engagement with technology vendors on detailed design for MMS, EMS, EDIL, and other system changes
- Continuing to develop MP and Business Readiness questions
- Developing Training Plan
- Conducting bilateral meeting with stakeholders
- Progressing integrated delivery plan (with key milestones)

# Scheduling & Dispatch Programme- Industry Outreach

## Why Are We Here?



### Inform

We are here to provide information about the ongoing work with the SDP initiatives and the impact on the market participant community. We will provide a view of the programme's drivers, functional details, structure, timelines, and stakeholder engagement.



### Discuss

We will discuss the functional changes and how this impacts you and your portfolio. We will discuss the formal arrangement changes, and stakeholder management. We are happy to field all questions – and we may not be able to answer all of them today.



### Listen

We are here to listen. What are your thoughts on the SDP, the functional details and the impacts to your business? What questions do you need answers to? What clarity do you need?



### Ask

We will ask for your participation throughout – we are better together.

# Scheduling & Dispatch Programme - Industry Workshop

## Setting Expectations



### Meeting Rules

1. **Engage:** actively listen and ask questions. This session is for you.
2. **Show Courtesy:** allow everyone the time and space to participate in the discussion. Don't talk over another speaker.
3. **Scope Discipline:** maintain focus on SDP.



# Scheduling & Dispatch Programme Overview

## Key Principles

For this complex programme...

1. Be **pragmatic** about solution pathways.
2. Solve the **immediate and urgent** problems at hand.
3. Don't allow perfect to be the enemy of **good**.
4. **Communicate** early and often - to all **stakeholders**.
5. Maintain **support of industry**.
6. **Actively manage** multidisciplinary delivery team.

Achievable - Valuable -  
"Simple"

## SDP Objective & Drivers

To enhance and improve the technology and capability of scheduling and dispatch in Ireland and Northern Ireland. This is driven by market participant needs, the EU Clean Energy Package mandates, and in support of the broader goals of renewables and System Non Synchronous Penetration (SNSP) penetration targets.

- Clean Energy Package requirements - NPDR treatment
- Ireland and Northern Ireland Government renewables targets for the 80%/80% total renewable energy and 95+% system non-synchronous penetration (SNSP) on an instantaneous basis.
- Market Participant requests for certainty on treatment of renewable assets, batteries - revenue certainty.
- Market Participant requests for improvement in re-balancing and re-dispatching (prevailing weather).

## Scope of SDP

One component of the broader SOEF programme.

1. **SDP\_001**: Operation of non-priority dispatch of renewables (NPDR)
2. **SDP\_002**: Energy Storage Power Station (ESPS) integration
3. **SDP\_003**: Fast Frequency Response (FFR)
4. **SDP\_004**: Wind/solar dispatchability improvements
5. **SDP\_005**: Reserve services scheduling and dispatch
6. **SDP\_006**: Synchronous condenser scheduling and dispatch

### Delivery Groupings

#### Group 1

- SDP\_001
- SDP\_002
- SDP\_004

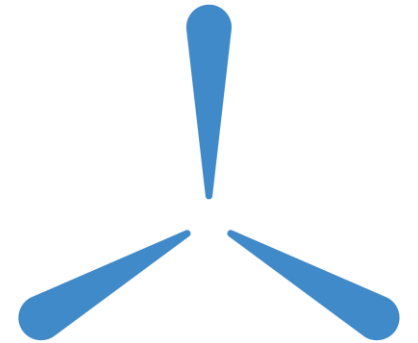
#### Group 2

- SDP\_003
- SDP\_005
- SDP\_006

## SDP Timeline



# Programme Status Update



# SDP: Status Update (February 2024 Industry Workshop)

- As planned, no issues    ↑ Improving
- Minor - moderate concern    ↔ Steady
- Significant issue / concern    ↓ Worsening

Refreshed: 02 Feb 2024

This update is provided to the SDP industry workshop on 07 Feb 2024



SDP

Summary Status

Overall Status		Overall programme status is red - at risk due to timeliness of funding decision. Good pace of detailed design and stakeholder engagement. Strong support for SDP across stakeholder community.
Schedule		SDP team working with IT vendors on detailed design. As funding not yet approved it has not been possible to define the schedule.
Resourcing		TSO/MO programme teams are fully staffed and engaged to continue work at pace. However, without funding, resourcing will be revisited.
Finances		Awaiting RA decision on SDP Phases 3-5 funding.

## Key Messages



### MP Sentiment is Amber (worsening)

- MPs actively engaged and driving forward solutions
- Strong support for SDP
- Serious concern over SDP timelines expressed



### Key Activities For Immediate Action

- Funding approval
- NPDR modification presentation
- Consultation on SEM 13\_011 changes
- Tranche 2 design and engagement
- Published SDP timelines



### Positive Developments (Since Last Report)

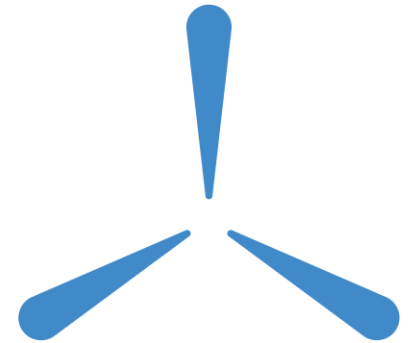
- Workshops for NPDR changes to MODS Committee
- Continuing Detailed Design at pace (T1), Detailed Requirements (T2)
- Strong stakeholder engagement and alignment on f(x) approach



### Challenges (Since Last Report)

- Funding uncertainty persists
- SDP Timeline publication

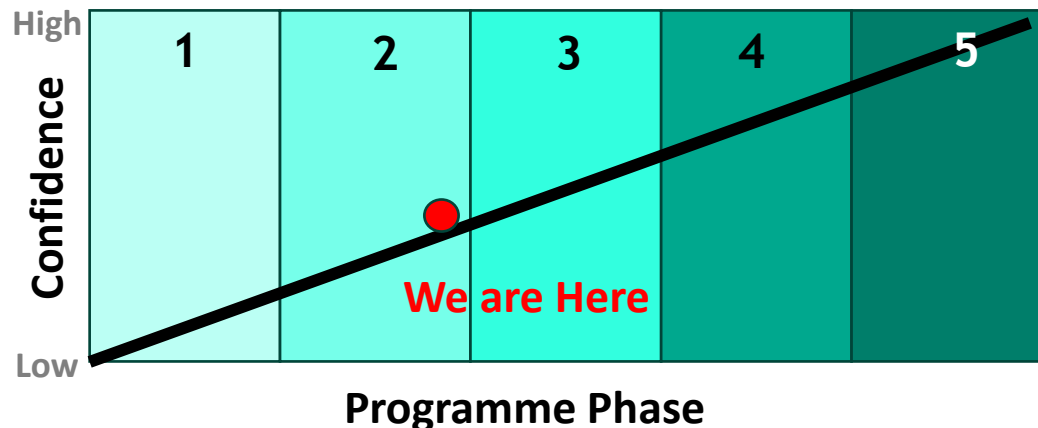
# SDP Delivery Update





# Scheduling and Dispatch: Timelines

SOEF Milestone ID	Milestone	Milestone Date
SOEF 1.1 SDP.M01	Requirements Definition Complete for Scheduling and Dispatch Programme Tranche 1 Initiatives	Jul - Sep 2023
SOEF 1.1 SDP.M02	Publication of key milestones for testing and go-live, including revised ISEM Technical Specification of Scheduling and Dispatch Programme Tranche 1 Initiatives	TBC
SOEF 1.1 SDP.M03	System Design Complete for Scheduling and Dispatch Programme Tranche 1 Initiatives	Jan - Mar 2024
SOEF 1.1 SDP.M04	System Build Commenced for Scheduling and Dispatch Programme Tranche 1 Initiatives	TBC
SOEF 1.1 SDP.M05	TSC, CMS & GC Mods Review Complete for Scheduling and Dispatch Programme Tranche 1 Initiatives by the relevant review group (Mods Committee, Grid Code Review Panel, Capacity Market Workshops respectively)	Jan - Mar 2024
SOEF 1.1 SDP.M06	Publication of milestones for Scheduling and Dispatch Programme Tranche 2 Initiatives	TBC
SOEF 1.1 SDP.M07	Regulatory Authority approval for TCS, CMC & GC Mods for Scheduling and Dispatch Programme Tranche 1 Initiatives	Apr - Jun 2024
SOEF 1.1 SDP.M08	Implementation and Go Live for Scheduling and Dispatch Programme Tranche 1 Initiatives	TBC



We currently have an overall **low – medium** level of confidence on the timelines. More detailed timelines cannot be provided until the following are all completed:

- Funding from the CRU and UR for Phases 3-5 is required
- We are engaging with industry in parallel on the changes, code modifications, etc and these need to be finalised as soon as possible to finalise the design
- We are engaging with our IT Vendors on the detailed design and delivery schedules and are awaiting final timelines

# SDP Delivery Update

We have been asked by industry to provide more detail on the delivery timelines for the implementation of the Tranche 1 activities.

## Headline

We are not yet in a position to provide a detail timeline for implementation of SDP, nor a start date for Phase 3 (Execution).

## Current Status

- TSOs are currently undertaking a replanning exercise for SDP delivery.
- Progress continues on Phase 2 design work.
- Awaiting funding decision to begin Phase 3.

## Key Factors Influencing Timeline Confirmation

TSOs previously advised that provision of the implementation timeline was dependent on three items:

1. Successful progression of detailed design of initiatives with system vendors
2. Approval of the required modifications to the Trading & Settlement Code and Grid Codes
3. Regulatory approval for SDP Phase 3 funding



Design With  
System  
Vendors



Approval of  
Modifications



Regulatory  
Approval for  
Funding

# SDP Delivery Update

We have been asked by industry to provide more detail on the delivery timelines for the implementation of the Tranche 1 activities.



## Design With System Vendors

- We estimate that implementation and testing of Tranche 1 initiatives will take a minimum of 15 months
- Detailed timeline can only be provided once we receive full approval from the RAs and have finalised the detailed design of the initiatives with our system vendors
- We are competing with other System Operators for the software development roadmap of technology vendors.



## Approval of Modifications

- Modification for ESPS (SDP\_002) *recommended for approval* by committee Dec 2023
- Modifications for NPDR (SDP\_001) are in workshops with industry (17, 24 January 2024)
- Changes to Annex SEM 13-011 are expected to be in consultation soon (Coordinating with RAs on material to support consultation)



## Regulatory Approval for Funding

### Phase 2

- Funding submission sent *April 2023*
- CRU: approved in full *June 2023*
- UR: 96% approved *January 2024*

### Phase 3

- TSOs provided indicative funding (€26M - €33M) sent with P2 request in *April 2023*. *\*Noted* P3 costs would be fully known near the end of P2
- TSOs provided best known implementation costs of €36.6M (*November 2023*)
- RAs advise informing market participants of the magnitude of scope and costs, and consequently requires robust analysis of the submission to instill confidence and to ensure that any impact on consumer bills is robustly verified. (*December 2023*)
- RAs advise cost of programme is significant and requires more time to consider. (*December 2023*)

# SDP System Delivery - Phase 3 Funding Dependency

Tranche 1 Implementation estimated to take a minimum of 15 months. However, Phase 3 funding is not in place with approval outstanding from RAs.

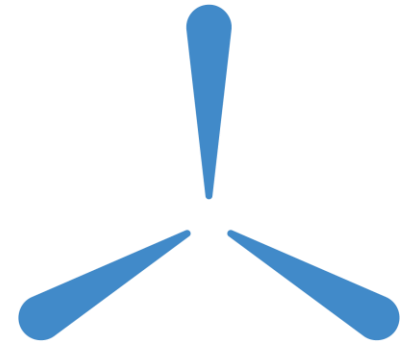
Without funding, Implementation cannot start. This delay comes at a critical point of the programme and will cause significant knock-on impacts to both Tranche 1 and Tranche 2 should it not be resolved in the coming weeks. This is due to:

1. Standing down of resources (internal & contractor) and having to remobilise at future point with potential new team
2. Losing ramped up development capacity that had been secured with system vendors for SDP and having to re-negotiate contracts
3. Competition from other SOEF programmes which are due for Go-Live in 2025/2026 and beyond

## Phase 3 Funding Timelines

- If funding approval is not forthcoming by the end of February 2024, the programme will face major risks due to other programmed market changes associated with EU reintegration which are planned for 2026.
- if funding is not approved by the end of February 2024, Tranche 2 delivery will be at major risk.
- If funding is not received by the end of March 2024, then Tranche 1 will also be at major delivery risk.

# Functional Update



# SDP: Modifications Update

Topic	Change	Status	Activity	Industry Interaction
ESPS	<ul style="list-style-type: none"> <li>SEM Trading &amp; Settlement Code</li> <li>EirGrid Grid Code</li> <li>SONI Grid Code</li> </ul>	<ul style="list-style-type: none"> <li>✓ T&amp;SC Changes voted for approval at mods committee, with RAs for approval.</li> <li>✓ Grid code changes ready for submission to Grid Code Review Panels.</li> </ul>	<ul style="list-style-type: none"> <li>Submitted and approved T&amp;SC changes at Dec 23 Modifications Committee meeting.</li> <li>Grid Code changes will be submitted as part of broader set of GC changes in coming months.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Participation at workshops</li> <li>✓ Feedback on improving / refining the changes</li> </ul>
NPDR	<ul style="list-style-type: none"> <li>SEM Trading &amp; Settlement Code</li> <li>EirGrid Grid Code</li> <li>SONI Grid Code</li> </ul>	<ul style="list-style-type: none"> <li>✓ T&amp;SC changes ready for submission to Modifications Committee.</li> <li>✓ Grid code changes ready for submission to Grid Code Review Panels.</li> </ul>	<ul style="list-style-type: none"> <li>Workshops held to review and refine proposed changes conducted on:               <ul style="list-style-type: none"> <li>Wednesday 17th at 2pm</li> <li>Wednesday 24th at 2pm</li> </ul> </li> <li>Presenting T&amp;SC changes at 08 Feb 23 Modifications Committee meeting.</li> <li>Grid Code changes will be submitted in coming months.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Participation at workshops</li> <li>✓ Feedback on improving / refining the changes</li> </ul>
Rebalancing & Redispatching	SEM 13_011 (Annex to SEM 13_010)	<ul style="list-style-type: none"> <li>In design.</li> </ul>	<ul style="list-style-type: none"> <li>Workshops will be scheduled and follow the same process as ESPS, NPDR if requested.</li> </ul>	<ul style="list-style-type: none"> <li>Feedback on improving / refining the changes</li> </ul>

# Queries to SDP

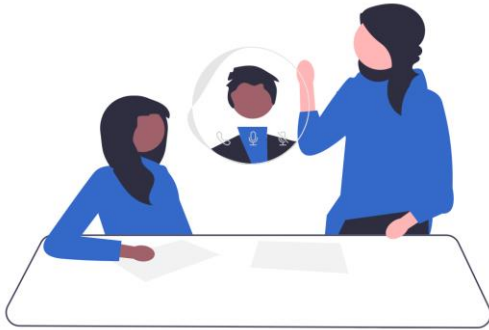
A number of queries have come in since our last Industry Workshop. If you haven't heard back from the Programme yet, we are working on developing a response and will respond to you soon.

## Topics include

1. Details and recommendation on NPDR changes
2. List of Market Participant inputs (required, optional, not-required) for NPDR units
3. Hybrid connections and shared MEC - does this affect SDP?

# Stakeholder Engagement: Industry Workshop

## Ongoing Stakeholder Engagement



### Stakeholder Engagement

Stakeholder Engagement will continue. We will host more industry-wide workshops and focused sessions for different groups (technical, programme management).

Engagement is bi-directional. We need to hear from you! You will hear from us.

### Bilateral Meetings

Ongoing bilateral meetings to discuss SDP details.

### Industry-Wide Engagement


- Monthly cadence for Industry workshops
- Standing placeholder at Market Operator User Group



# Stakeholder Engagement: Industry Workshop

## Contacting SDP

To raise an issue or query for the Scheduling & Dispatch Programme:


<b>Contact</b> 	<b>SDP Queries</b> <a href="mailto:SchedulingandDispatch@Eirgrid.com">SchedulingandDispatch@Eirgrid.com</a>
	<b>Operating Hours</b> 9:00am - 5:00pm IPT (Mon-Fri)
	<i>Queries received outside of operating hours will be addressed the next business day.</i>

Information to Provide
<ul style="list-style-type: none"><li>• Your Name</li><li>• Your email &amp; phone number</li><li>• Your organisation</li><li>• Topic of Issue/Query</li><li>• Description of the issue or query</li><li>• Any additional information to aid in understanding the issue or query</li></ul>

# Scheduling & Dispatch: Industry Workshop (February 2023)

## Future Workshop Schedule

Date	Day of Week	Time	Location
06 March 2024	Wednesday	1:00 p.m. - 4:00 p.m.	Belfast + Virtual Option
10 April 2024	Wednesday	1:00 p.m. - 4:00 p.m.	Dublin + Virtual Option
08 May 2024	Wednesday	1:00 p.m. - 4:00 p.m.	Dublin + Virtual Option



### Future Discussion Topics

- Detailed Delivery Plan (w/ key milestones)
- Market Participant Readiness Criteria and Results
- Business Readiness
- Programme Readiness
- Technical Details (test environment, qualifications)
- Transition Plan (Registration, Data Readiness)
- Go-Live Plan

# Stakeholder Engagement: Industry Workshop

## Next Steps

### Next Steps

Please provide feedback when you have reviewed and considered the information from today's discussion.

Follow-up from any "Listen" item discussed today.

Be on the lookout for the next Industry Workshop, to be scheduled at a monthly cadence.



# SDP: Glossary

Term	Definition
BA	Business Analyst
BM	Balancing Market
CC	Control Centre
CCT	Control Centre Tools (LSAT, RMT & VTT)
COD	Commercial Offer Data
CSB	Counterparty Settlement and Billing
DI	Dispatch Instruction
DRDQ	Dispatch Regime Dispatch Quotient
EG	EirGrid / SONI / SEMO
EMS	Energy Management System
ESPS	Energy Storage Power Station
FFR	Fast Frequency Response
GDX	Group Data Exchange
GSP	Generator Setpoint
HIS	Historical Information Server
HLR	High Level Requirements
IPO	Innovation and Planning Office
IPQBOA	Instruction Profile Quantity Bid Offer Acceptance
JAPR	Jurisdictional Active Power Ratio
MI-STL	MMS to CSB integration
MMS	Market Management System
MOL	Merit Order List
MPI	Market Participant Interface
NF	Non-Functional
NPDR	Non-Priority Dispatch of Renewables Unit
OMS	Outage Management System

Term	Definition
OUI	Operator User Interface
PD RES	Priority Dispatch. Renewable Energy Source
PIMB	Imbalance Price Calculation
PIO	People and Information Office (IT)
PN	Physical Notification
PS	Pumped Storage
QD	Dispatch Quantity
QM	Metered Quantity
RMT	Ramping Margin Tool
ROM	Rough Order of Magnitude
RSD	Reserve Scheduling Dispatch
RT	Real Time
RTQBOA	Real Time Quantity Bid Offer Acceptance
RTU	Remote Terminal Unit
S&D	Scheduling and Dispatch
SCADA	Supervisory Control and Data Acquisition
SDP	Scheduling and Dispatch Programme
SEMO	Single Electricity Market Operator
SME	Subject Matter Expert
TOD	Technical Offer Data
TSO CSB	Transmission System Operator Counterparty Settlements & Billing
UC	Use Case
WDT	Wind Dispatch Tool
WEF	Wind Energy Forecast
WPRED	Wind Predictor