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Network Licensees must publish the required Project Progress information on the Smarter Networks Portal by 31st July 2014 and each year thereafter. The Network Licensee(s) must publish Project Progress information for each NIA Project that has developed new learning in the preceding relevant year.

## NIA Project Close Down Report Document

### Date of Submission

Jun 2022

### Project Reference

NIA\_WPD\_046

## Project Progress

### Project Title

IntraFlex

### Project Reference

NIA\_WPD\_046

### Funding Licensee(s)

WPD - Western Power Distribution (East Midlands) Plc

### Project Start Date

October 2019

### Project Duration

2 years and 2 months

### Nominated Project Contact(s)

Matt Watson

## Scope

The trial will be broken into five work packages based around two trials. These trials will consist of a test of NODES' ShortFlex service for DNO flexibility, followed by a more comprehensive trial with automated rebalancing of imbalance positions through the integration with the GB intraday market.

The work packages are:

- WP1 Project Management and reporting
- WP2 Detailed Stakeholder Engagement & Market Design
- WP3 NODES System & Process build
- WP4 WPD System & Process build
- WP5 Trial

WP2 will include an extensive engagement piece with potential stakeholders to refine the proposed market design and validate assumptions and value flows.

WP3 will focus on the development of the NODES platform and it's deployment within WPD. The development work will be carried out at NODES expense.

WP4 includes the design of new Payment Mechanics, the build of a link between the NODES platform and dispatch processes, a review of procurement law and analysis on the ability to target future audits with existing data.

WP5 will trial the platform. This will be broken into two sub-trials, with the initial phase looking to test the short term flexibility markets and the second phase testing the full intraday rebalancing link.

## Objectives

The objective of the project is to develop learning on

- The operability of short term flexibility markets
- The value of increased information at the day ahead stage to suppliers
- The value of an integrated link for rebalancing in the intra-day market

## Success Criteria

- Development of a UK Market design for short term flexibility market that reflects imbalance costs
- WPD access to ShortFlex products that have the potential to benefit the distribution network
- Procurement of ShortFlex via the NODES platform
- Demonstration of ShortFlex products that limit supplier exposure to imbalance costs
- Delivery of the project on time and on budget

## Performance Compared to the Original Project Aims, Objectives and Success Criteria

### Performance Against Objectives

The operability of short-term flexibility markets

Complete: This has been tested through both the Phase 1 and Phase 2 trials with participant engagement and feedback being very positive, details of this are within section 9.4. of the Intraflex Closedown Report will is available on our website<sup>1</sup>.

The value of increased information at the day ahead stage to suppliers

Complete: Stakeholder feedback across both Phase 1 and Phase 2 clearly indicated that this could be a valuable service for suppliers. However, there was no take up of this service within either Phase 1 or Phase 2 trials. This is probably due to the disconnect between the party needing action (the Flexibility Service Provider (FSP)) and the beneficiary (the Balancing Responsible Party (BRP)) and the market size.

The value of an integrated link for rebalancing in the intra-day market

Complete: During the ongoing review of the potential to develop this service, the feedback from the current participants and stakeholders, has very clearly informed the project team that this auto rebalancing service is of no interest at current market volumes. The costs and risk of such a system far outweigh any benefit.

### Performance Against Success Criteria

Development of a UK Market design for short term flexibility market that reflects imbalance costs

Completed: The development has been completed as part of work package 2 and was validated via the trials.

WPD access to ShortFlex products that have the potential to benefit the distribution network

Completed: WPD access to ShortFlex products has been validated as part of the Phase 1 and Phase 2 trials with network benefits and learnings identified within this closedown report and dissemination events.

Procurement of ShortFlex via the NODES platform

Completed: Shortflex has been procured as part of the Phase 1 trials and the Phase 2 trials.

Demonstration of ShortFlex products that limit supplier exposure to imbalance costs

Completed: The provision of a BRP information service was relaunched and validated via the phase 2 trials.

## Required Modifications to the Planned Approach During the Course of the Project

There were a few internal changes within the project. These were logged within WPD's Change Management process. The most significant change related to the value of developing an integrated link for rebalancing the imbalance created by DSO service procurement within the intra-day market. The feedback from current participants and stakeholders very clearly informed the project team that this auto rebalancing service was of no interest at current market volumes. This was therefore de-scoped from the project. There were no changes to the project timescales.

## Lessons Learnt for Future Projects

The project has generated considerable learning and we provide some highlights here but the full list is within the full Project Closedown Report2:

- There was widespread acknowledgement of the potential problem this project was looking to resolve, i.e. imbalance costs being imposed on suppliers by the actions of DNOs, however there was limited evidence provided of the potential scale.
- There is real participant interest in the availability of short-term DSO markets and there is a very clear desire to understand the potential value of the service.
- The development of the market design highlighted that for demand turn down services, the problem is one of revenue maximisation rather than avoiding penalties in most scenarios.
- An alternative solution to reduce the imbalance created by DNO flexibility calls could be to treat them as system actions and resolve them through the Applicable Balancing Service Volume Data (ABSVD) process. A review has highlighted that there are potential benefits for either solution, but that doing things through ABSVD is a relatively simple option.
- The ABSVD findings and report have been fed into the relevant workstream of the industry body for electricity distribution networks, the Electricity Networks Association's (ENA's) the Open Networks project to facilitate the transition to DSO and it looks like the changes to ABSVD will be progressing alongside the definition of relevant balancing services for the Capacity Market.
- Converting a platform designed for market wide transactions to a platform based on locality of transactions requires detailed design of user documentation.
- BRP's do not currently see DNO imbalance as having a material impact on business costs and do not currently support other entities automatically rebalancing their positions.
- BRPs do see benefit in an information system that helps them act on imbalance created but Flexibility Service Providers have so far not expressed that they see the benefit to signing up for the information service.
- DSO volume requirements (bids) were being accepted at a lower volume than expected when taking into account known system sizes. This may be being influenced by there being no penalty for over delivery.
- FSPs are interested in discussing baseline clarification post-delivery. This needs to be thought through especially the need for the "Burden of proof" that would be needed to enable this.
- Metering requirements as specified in the existing Flexible Power standards appears to maintain a low technical barrier to entry.
- FSPs typically appointed one person internally to manage the trial, so when they were on holiday, absent or too busy there was a direct impact on the trial response levels.
- Stakeholders were very positive in relation to moving closer to real-time. This was particularly true for aggregators of flexibility provided by electric vehicle charging points who highlighted the need for a market where they can commit to selling flexibility closer to real time, such as at a day ahead stage.
- Moving to a 7-day market increased the opportunity for FSP involvement and simplified the bidding process as volumes were posted 7 days ahead of requirement.
- The Phase 2 trial design was developed to forward signal bid increments and timings but with an element of jeopardy to discourage market gaming. This was supported as the right thing to do by all stakeholders engaged with.

Note: The following sections are only required for those projects which have been completed since 1st April 2013, or since the previous Project Progress information was reported.

## The Outcomes of the Project

The following outputs of the project can be found on our website at : <https://www.westernpower.co.uk/innovation/projects/intraflex>

- Initial Market Design
- Final Market Design
- Technical Overview
- Phase 1 Learning Slides
- Phase 2 Trial Summary
- Phase 2 Tests Webinar
- Final Dissemination Event Slides
- Cornwall Insight Report on the Impact of DSO services on the market

## **Data Access**

Anonymised data will be available to share in accordance with WPD's data sharing policy  
[www.westernpower.co.uk/Innovation/Contact-us-and-more/Project-Data.aspx](http://www.westernpower.co.uk/Innovation/Contact-us-and-more/Project-Data.aspx).

## **Foreground IPR**

The first version of The UK Market Design has been developed and published which will be revised following the completion of both phases of trials. This can be downloaded from here <https://www.westernpower.co.uk/downloads-view-reciteme/111475>

## **Planned Implementation**

There were some very encouraging signs from Intraflex about what a future market might look like and we are now looking at what blueprints might be required for the various services that will feature in a liquid market and this could form a new NIA project ahead of a wider trial.

## **Other Comments**

N/A

## **Standards Documents**

N/A