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Respond
Project Progress Report

Version 1.0
18 December 2015

RESPOND

VERSION HISTORY

Version	Date	Author	Status	Comments
V1.0	18 December 2015	P Marshall	Final	

CONTENTS

GLOSSARY OF TERMS

Adaptive Protection	The use of adjustable protection settings that can be changed in real time
Association of Decentralised Energy (ADE)	Leading industry advocate of an integrated approach to delivering energy services using combined heat and power and district heating. Previously known as the Combined Heat and Power Association (CHPA)
Breaking Capacity	Maximum fault current that the circuit breaker can interrupt
Capital Expenditure	Expense to acquire or upgrade network assets
CEP	Customer engagement plan
Circuit Breaker	Protection device that interrupts the flow of current in an electric circuit in the event of a fault
Combined Heat and Power (CHP)	Simultaneous generation of usable heat and power (usually electricity) in a single process
Demand Side Response (DSR)	Actions undertaken by distribution network operators to influence customers to change their electricity use, in terms of quantity and/or time of use
Distributed Generation (DG)	Generation connected directly into the distribution network, as opposed to the transmission network. This generation typically supplies local demand
Distribution Network Operator (DNO)	The owner and/or operator of an electricity distribution system and associated assets
Distribution Use of System (DUoS) Charges	Use of system charges for demand and generation customers which are connected to and utilising the distribution network
Fault Level Assessment Tool (FLAT)	Intelligent software which assesses near real time fault current peaks on the network and decides to enable or disable the mitigation technologies
Fault Current	Actual current which flows during a fault
Fault Current Limiting Protection	Adaptive protection equipment installed on a customer's electrical machine to facilitate the Fault Current Limiting service
Fault Current Limiting service (FCL service)	A distributed generation and/ or industrial and commercial customer provided response to reduce overall fault current on the distribution network
Fault Current Mitigation Technology	Device that responds to the flow of fault current in an electricity network and ensures that the fault current remains within network switchgear and network ratings
Fault Level	Prospective maximum current which will flow during a fault
Fault Level Headroom	Capacity to increase the fault level without exceeding the fault level limit
FlexDGrid	Second Tier LCN Fund fault level mitigation project run by Western Power Distribution
Innovation Funding Incentive (IFI)	Ofgem incentive mechanism to encourage DNO innovation
I_S-limiter	A fault current mitigation technology

Long Term Development Statement (LTDS)	Statement published annually by DNOs to make network information available to the public domain. This enables anyone interested in connecting generation or load to the network to identify opportunities or constraints on the network
Making Capacity	Maximum fault current that the circuit breaker can close onto
Near Real Time	A measure of the frequency of the calculation by the Fault Level Assessment Tool. For FLARE this will be every five minutes
Primary substation	A point on the network where the voltage changes from 33kV to 11kV or 6.6kV
Protection relays	Device that analyses power system voltages and currents to detect faults and sends signals to circuit breakers to open
Sequence tripping	A form of Adaptive Protection
Substation	A point on the network where voltage transformation occurs
Switchgear	Device for opening and closing electrical circuits (including circuit breakers)
Transformer	Device that changes the voltage of an alternating current, without changing the frequency
Withstand Capability	The number of seconds switchgear can tolerate fault current

1 EXECUTIVE SUMMARY

1.1 The Respond Project

This is the second six-monthly Project Progress Report (PPR) for the Respond Project. This Project was approved under the name Fault Level Active Response (FLARE). This report covers the period from June 2015 to the end of November 2015.

Respond is seeking to demonstrate that a network's fault level can be estimated in near real time, and in responding to that estimation, a series of innovative technical and commercial techniques can be initiated to reduce the fault level without the need for expensive and time-consuming asset replacement. As this approach could maximise the use of existing assets and minimise the need for capital investment, Respond has the potential to realise significant cost savings to customers and improve the connection of generation to the network. There are four key elements to Respond:

- **Fault Level Assessment Tool:** This intelligent software will be deployed alongside the network management system (NMS) and use data from it to predict the network's fault level in near real time. When it estimates the fault level increasing beyond a set threshold it will initiate one of three mitigation techniques:
- **Adaptive Protection:** This technique re-sequences the operation of circuit breakers (CBs) and is retro-fitted into existing substation equipment
- **Fault Current Limiting (FCL) service:** This will identify customers who operate equipment that contributes to fault current (eg large motors and generators) and are willing to help develop and ultimately enter into a managed commercial service backed by new technical interfaces with their equipment
- **I_S-limiters:** These devices are widely used across the world to limit fault current, but are not used on GB DNO networks due to compliance issues with GB regulations. Two devices will be installed, along with a further five installations of monitoring-only equipment.

1.2 Progress to date

The key Project highlights during the reporting period are outlined below.

Partner contracts

The majority of contracts with Respond Partners have been agreed and formally signed; the remaining contracts are awaiting final sign-off. The completion of these contracts has not delayed the Respond Project delivery plan.

Technical

The Project is on track and all SDRC have been delivered as planned. The last six months has focused on agreeing technical conceptual design of all of the stages of the Project and we are now starting to move into the construction delivery phase.

The Adaptive Protection designs have been agreed and equipment ordered with installation early next year. The I_S-limiter and IS sensing site designs have been approved and are now in production with ABB with delivery to site early next year.

We have successfully engaged with United Utilities on the FCL service and are currently jointly surveying a number of sites with the aim of identifying two suitable sites in the New Year.

A number of workshops have taken place with Schneider on the Respond requirements of the Fault Level Assessment Tool (FLAT) and the developments are taking place with delivery at the end of the first quarter next year.

Customer engagement

Engaged customer workshops delivered

An engaged customer panel (ECP) was convened to review and refine the FCL service communication materials and test the customer survey instrument. Conclusions from the ECP have been incorporated into Respond communication materials and will influence consultation with customers, ensuring the Respond premise is described effectively and clearly for customers participating in the customer survey and subsequent FCL service trial.

Pilot survey undertaken

Following a pilot of the survey undertaken by the ECP, a second pilot of the amended customer survey was conducted among a previously unengaged group of I&C customers. Final enhancements were made to the survey before the main customer survey phase of the trial.

Survey customers identified

To assess the commercial appetite for the FCL solution, a robust customer survey will be conducted to establish if customers find the technique appealing and if so, at what price point. 251 customers have so far been recruited to take part in the customer survey.

Commencement of customer survey

The customer survey activity has commenced and to date 26 surveys have been completed.

All Successful Delivery Reward Criteria (SDRC) due in the reporting period have been achieved, and those due in the next period are on track

The ten SDRC due in the reporting period were successfully delivered. The most significant of these are shown in Table 1.1 below, and all are discussed in Section 5.

The Respond Project website went live at the end of July 2015.

Table 1.1: Most significant SDRC delivered in this reporting period

SDRC (evidence)	Planned date	Completion date
Send customer engagement plan and data privacy statement to Ofgem by June 2015	June 2015	June 2015
Issue Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	June 2015	June 2015
Deliver engaged customer panel workshop by September 2015	September 2015	September 2015
Lessons learned from testing customer survey materials incorporated into survey and all survey materials published on the Respond website by October 2015	October 2015	October 2015
Actively participate at four annual LCNI conferences from 2015 to 2018	November 2015	November 2015

Project expenditure as at the end of November 2015 was £748,000 compared to a cost baseline of £2,384,000. The Project completion costs remain on budget, less contingency expenditure.

Following the first report the Project budget and actual costs have been restated to exclude Partner contributions as Project expenditure. The original budget of £5,544 million including £519,460 of Partner contributions is now stated as £5.024 million.

1.3 Risks

Risks identified in the Respond Project bid are regularly reviewed by the delivery team with two new risks indentified. The first new risk is a potential delay to the FLAT delivery due to a dependency on the delivery of the new Electricity North West network management system. The second new risk is that there may be a low return of surveys from the participants in the customer surveys.

Risks are monitored on a continuous basis, including the potential risks that were documented in the Full Submission. The status of these is described in Appendix A.

The completion of Partner's contracts was prioritised alongside confirming installation planning.

1.4 Learning and dissemination

A detailed description of the Project's learning outcomes can be found in Section 6. At this stage in the Project there are five learning outcomes to report:

- Lesson 1: Importance of Project start-up meeting involving all Partners
- Lesson 2: Extensive range of communication materials to inform differing customers
- Lesson 3: Customer understanding of Respond
- Lesson 4: Using an ECP to test customer survey
- Lesson 5: Innovation in container design which was out of scope and caused a distraction to the Project.

The Respond Project team has been utilising a range of tools to disseminate and share knowledge about the Project with stakeholders. These include webinars, one of which was held in September 2015, advertorials and industry newsletters as well as providing regular updates on the Project website and via social media.

The team also attends relevant industry events to present Project developments; In particular, members of the Respond team attended and presented the Respond Project twice at the LCNI conference in Liverpool last month.

2 PROJECT MANAGER'S REPORT

2.1 General

During this reporting period the Electricity North West Project manager has changed. A successful handover was conducted, with the previous Project manager remaining available to the Project.

The key Project management activities undertaken during the reporting period are summarised below:

- **Management of Project resources:** The internal resources required for the delivery of Respond have been identified and placed. A number of these resources bring experience of our other second tier projects (C_2C, CLASS and Smart Street) and still maintain an input to those projects that are still active
- **Project monitoring and control:** Processes for the monitoring and control of the delivery of the Respond Project are well established. These processes build on those developed during our earlier LCN Fund projects such that this Project progresses in a controlled manner and that the outputs are of the highest quality

- **Regular engagement with Project Partners:** The Electricity North West Respond Project team has engaged and continues to hold regular meetings with the Project Partners. A Project delivery "start-up meeting" was held in May 2015, the first Project Steering Group (with all Project Partners) was held in September 2015 and the second Project Steering Group was held in December 2015
- **Engagement with Ofgem Project team:** Regular communication with the Ofgem Project team has continued through the change of Electricity North West Project manager.

2.2 Technology, trials and research workstreams

The key activities undertaken by the technology, trials and research workstreams during the reporting period are summarised below:

- Meetings held with technical Partners to discuss the design and installation plan in detail
- A comprehensive list of suitable primary substations was selected for all aspects of the trial using a set criteria and an on-site survey of the sites. The selection was adjusted due to issues found eg operational restriction, site access. The site selection policy has been documented and is being reviewed by PB Power and will be published on our website
- The Adaptive Protection designs at the five 11kV/6.6kV sites have been approved and equipment has been ordered to be delivered to site. Installation surveys and enabling work has started at the sites
- The Adaptive Protection designs at the two 33kV sites has been completed and is being reviewed to ensure it is easily translated to other DNOs
- The I_S-limiter and IS sensing design have been agreed and approved between Electricity North West and ABB and they are now in production. Enabling works are ongoing at the sites
- The FCL service is underway with site surveys taking place at United Utilities proposed sites to assess their suitability and establish the technical and operational protocols at each site. No additional FCL service participants have been identified at this point but it is expected that additional participants will be part of the Respond Project during its duration
- Engagement with Schneider on the development and Respond requirements of the FLAT has continued.

In the next reporting period, the technology, trials and research workstreams will undertake the following activities:

- Install the Outram fault monitors
- Install the Adaptive Protection
- Install the I_S-limiters and IS sensing units
- Install the asset health monitoring equipment
- Progress towards purchasing a Fault Current Limiting service from at least one demand customer and one generation customer.
- Convene an ECP to review/approve materials for customers purchasing FCL services
- Implement and test the FLAT on Electricity North West's network management system
- Brief and train Electricity North West operational teams, including planning engineers, on fault level mitigation management protocols
- Produce fault level validation report
- Develop and publish monitoring and analysis procedures for trials on Respond website
- Publicise commencement of live trials on Respond website.

2.3 Customer engagement workstream

The key activities undertaken by the customer engagement workstream during the reporting period are summarised below:

Engaged customer workshops delivered

An ECP was convened to review and test FCL service communication materials and a customer survey instrument. The panel comprised of eight I&C demand or generation customers employed in relevant job roles at organisations potentially eligible to provide an FCL service.

Initially, a 90-minute focus group introduced the Respond concept and obtained feedback on a range of communication materials. The panellists subsequently tested the online quantitative customer survey at their home or place of work. Finally, a 90-minute group discussion elicited feedback on the survey instrument and the revisions made to the communication materials.

The analysis of this ECP addressed three key questions:

- Which materials are most effective in engaging customers about Respond?
- Which key components of the FCL service need to be communicated to customers?
- How can learning from the ECP be utilised effectively to design and implement a customer survey to test the Respond hypothesis?

The ECP communications materials and lessons learned have been published on the key documents page of Respond website.

Pilot survey undertaken

An initial pilot of the survey was conducted by the ECP, which resulted in some modifications to the survey instrument. A second pilot of the amended customer survey was then conducted in October 2015 among a previously unengaged group of seven I&C customers. This ensured that the survey instrument was easily understood by the customer, would provide accurate and robust data for analysis purposes and would be efficiently administered by the interviewer. Final enhancements were made to the survey instrument before the main customer survey phase of the trial.

Survey customers identified

Participants for the customer survey have been recruited from two different data sources:

Electricity North West customer data – Electricity North West provided Impact Research with a list of customers meeting the target criteria, derived from its distributed generation and MPAN databases. These customers have been recruited by telephone.

ENER-G and ADE – Project Partners, ENER-G and ADE have worked in collaboration with the Respond team to introduce the Project to its respective members/customers using appropriate communication channels, designed to invite voluntary interest in becoming involved in Respond.

The following activities were undertaken to encourage interest in becoming involved the survey and the trials:

- An article was placed in the monthly ADE newsletter and sent to all members
- A direct email was sent to all ENER-G and ADE members/customers.

Commencement of customer survey

To assess the commercial appetite for the FCL service, a robust customer survey is being conducted to establish if customers find the technique appealing and if so, at what price point. 251 customers have so far been recruited to take part in the customer survey.

The customer survey activity has commenced and to date 26 surveys have been completed.

In the next reporting period, the customer workstream will undertake the following activities:

- Complete the customer survey. Analyse customer survey results, draft findings report and publish report on Project website
- Develop customer engagement materials for customers purchasing FCL services.

2.4 Learning and dissemination workstream

- The interim Respond website was upgraded in July 2015 to a structure and style in line with our previous LCN Fund projects. The Project's learning will be uploaded throughout its delivery to this website. The first Respond advertorial was published in Engineering and Technology magazine in July 2015.
- Respond was publicised internally via a company-wide communications bulletin "Connect" in September 2015
- The first Project webinar was held in September 2015 to which a wide range of stakeholders were invited. The webinar was well attended and the feedback was overwhelmingly positive
- The second Respond industry newsletter was circulated in November 2015 to approximately 700 industry stakeholders details of whom are held in an internal database, developed as a result of interest/engagement in our previous LCN Fund projects
- Respond was the subject of two presentations to the recent LCNI conference in Liverpool.

Social media forums exploited: To ensure that the key messages from Respond are disseminated as widely as possible, the Project team is using a range of social media outlets to communicate Respond-related information; specifically:

 http://www.facebook.com/ElectricityNorthWest

 https://twitter.com/ElectricityNW

 http://www.linkedin.com/company/Electricity-North-West

 http://www.youtube.com/ElectricityNorthWest

In the next reporting period, the learning & dissemination workstream will undertake the following activities:

- Publish second advertorial
- Publish monitoring and analysis procedures for trials on Respond website
- Publicise commencement of live trials on Respond website
- Publish newsletter
- Hold first knowledge sharing event
- Internal comms update
- Submit third six-monthly report to Ofgem.

3 CONSISTENCY WITH FULL SUBMISSION

At the end of this reporting period, it can be confirmed that the Respond Project is being undertaken in accordance with the Full Submission.

4 RISK MANAGEMENT

The Project risks identified in the FLARE bid document have been migrated into the Respond delivery risk register, reviewed and are still valid.

There has been a delay against plan in the signature of a number of Partner contracts. This delay has not impacted on the delivery of equipment and the start date of a number of trials.

In mitigation, a number of activities normally commenced post-contract signature were started pre-contract signature. These included site design works, identifying modifications to reduce construction time and the reservation of production slots. At this time this mitigation has brought the commencement of trials back to plan.

Since the last report there have been two new risks indentified.

There is a risk that the Fault Level Assessment Tool delivery could be affected by the major project replacing Electricity North West's network management system. The Respond team and the network management delivery team have been coordinating delivery plans. Through this coordination we have been able to identify the Respond network and associated attributes which will be prioritised within the data cleanse and network build programme in the NMS to meet the Respond delivery timescales.

The second new risk is that there could be a low level of return of surveys from the participants in the customer surveys. To date 251 participants have volunteered to complete the survey but the survey has been launched with a low level of returns so far. The Respond team will work with our Project Partners, Impact Research, Ener-G and the Association of Decentralised Energy (ADE) to ensure the surveys are completed; and we will aim to identify more new participants or consider increasing the incentive for existing participants.

Risks will be monitored on a continuous basis, including the potential risks that were documented in the Full Submission.

Project risks are described in detail in Appendix A.

5 SUCCESSFUL DELIVERY REWARD CRITERIA (SDRC)

Ten SDRC were successfully delivered in this reporting period. These are shown in Table 5.1 below.

Table 5.1: Respond Project SDRC delivered in the reporting period

SDRC (evidence)	Planned date	Completion date
Send customer engagement plan and data privacy statement to Ofgem by June 2015	June 2015	June 2015
Deliver live Respond website and social media forums by July 2015	July 2015	June 2015
Issue Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	June 2015	June 2015

SDRC (evidence)	Planned date	Completion date
Publish advertorials by July 2015, April 2016, July 2016, July 2017 and October 2018	July 2015	July 2015
Deliver engaged customer panel workshop by September 2015	September 2015	September 2015
Publicise Respond within Electricity North West in monthly team brief pack and/ or Volt (intranet) and/ or Newswire (quarterly employee magazine) by September 2015	September 2015	September 2015
Webinar held by September 2015	September 2015	September 2015
Lessons learned from testing customer survey materials incorporated into survey and all survey materials published on the Respond website by October 2015	October 2015	October 2015
Publish second newsletter by November 2015	November 2015	November 2015
Actively participate at four annual LCNI conferences from 2015 to 2018	November 2015	November 2015

The SDRC due in the next reporting period are shown below.

Table 5.2: Respond SDRC due in the next reporting period

SDRC (Evidence)	Planned date	Status
Brief and train Electricity North West operational teams, including planning engineers, on fault level mitigation management protocols	April 2016	On schedule
Publish second advertorial	April 2016	On schedule
Publish monitoring and analysis procedures for trials on Respond website	May 2016	On schedule
Publicise commencement of live trials on Respond website	May 2016	On schedule
Publish third newsletter	May 2016	On schedule
First knowledge sharing event	May 2016	On schedule

The current status of the evidence for all Respond SDRC is shown in Appendix B. Progress against the SDRC and the Project plan will continue to be monitored, and if the current forecast for SDRC delivery changes, future Project Progress Reports will be updated accordingly.

6 LEARNING OUTCOMES

A number of lessons were learnt and learning outcomes achieved during the reporting period. The key learning outcomes are summarised below:

Lesson 1: Importance of Project start-up meeting involving all Partners

- **Background:** In May 2015 a Respond Project Partner event involving Electricity North West, Partners and suppliers was held. A Project overview was given by Electricity North West which was followed by open discussions across all stakeholders.
- **Lessons learned:** Early interaction between all stakeholders is essential in order to give clear understanding to all parties of each stakeholder's roles and accountabilities. This is particularly critical in ensuring that early SDRC are understood and subsequently delivered.

Lesson 2: Range of communication materials required to address varying needs of customers

- **Background:** A number of communication materials were drafted in advance of engagement to the representative group of customers forming the ECP. These materials were then reviewed by the ECP. The majority of participants were technically minded, from mechanical or electrical engineering backgrounds, with responsibility for managing, maintaining or financing large AC electrical equipment within their respective organisations.
- The mechanical engineering contingent generally grasped the FCL service concept, but felt that the information provided was too complex and commented that it was likely to have been written by an electrical engineer. The implication of this observation was the risk of overestimating what other I&C customers, from non-electrical engineering roles, might typically understand. Encouragingly, as the conversation evolved, general understanding of the FCL service increased in this group.
- Conversely, the electrical engineers in the group felt the information presented was insufficient and asked more specific questions regarding how the FCL technology would work when the constraint on equipment was activated and the mechanics of how their equipment might be constrained remotely.
- Observing the natural flow of conversation between ECP participants and the terminology they used to interpret the Respond concept aided the refinement and development of the final communication materials.
- **Lessons learned:** There was a need for a range of communication materials, offering a breadth of technical complexity and level of detail to address the varying needs of customers and their differing business challenges. This would allow the dissemination of important components of Respond to key stakeholders within their respective organisations.

Lesson 3: Customer understanding of Respond

- **Background:** The engaged customer panel identified that there was some confusion between Respond and other commercial load shedding or demand side response (DSR) contracts, and propositions such as Short Term Operating Reserve (STOR). To address this, a new document was produced that clearly defined load shedding, DSR and STOR. It was also emphasised across all communication materials that Respond is an entirely new commercial proposition.
- **Lessons learned:** To maximise customer engagement, care should be taken to outline the objectives of the Respond customer survey in communication materials and to differentiate it from other commercial propositions or contracts.

Lesson 4: Using an ECP to pilot a customer survey

- **Background:** The ECP provided crucial, but mixed, feedback about the survey content, general understanding, appropriateness and clarity of some questions. Question language and placement in the survey was optimised to encourage completion. Superfluous questions were removed.
- The ECP also provided crucial feedback about technical difficulties in accessing, navigating and being unable to complete the pilot survey. The survey was re-programmed in a more universally compatible Hyper Text Markup Language (HTML-5),

which allows participants to pause the survey and re-enter at the point of exit, at a later date/time.

- **Lessons learned:** Piloting the quantitative survey instrument with the ECP provided valuable learning and is recommended for future innovation projects where applicable. It is advisable for this method to be employed in parallel with piloting the survey via the intended means of data collection eg administering the survey online.

Lesson 5: Innovation in container design

- **Background:** Attempts at container design innovation were made which may have had a marginal cost saving but due to their untested nature have introduced Project delivery risk. This issue distracted time and effort into areas not relevant to Respond.
- **Lessons learned:** Expectations by suppliers on innovation activity need to be made clear at early meetings. The innovation activity proposed must be in scope if there is any uncertainty in its implementation or design which may put Project delivery at risk.

7 BUSINESS CASE UPDATE

The Project team are not aware of any developments that have taken place since the issue of the Respond (FLARE) Project Direction that affects the business case for the Project.

8 PROGRESS AGAINST BUDGET

The Project Budget as defined in the Project Direction is shown in Appendix C.

Actual spend to date compared to Project Budget is summarised in Table 8.1 below. The report includes expenditure up to and including 30 November 2015.

It will be noted that the Project is currently performing favourably relative to budget, this reflects the slower than planned start-up resulting in a number of significant payment milestones being delayed towards go live.

Project expenditure as at the end of November 2015 was £748,000 compared to a cost baseline of £2,384,000.

We currently forecast the Project will be delivered at the budgeted value less contingencies.

Table 8.1: Summary of Project expenditure

£'000s Excluding Partner Funding Ofgem Cost Category	Spend to date			Total Project		
	Actual	Plan	Variance	Forecast	Plan	Variance
Labour	302	524	222	1,316	1,305	(11)
Equipment	72	860	788	1,134	1,058	(76)
Contractors	108	327	219	1,067	1,140	72
IT	219	564	345	573	573	0
IPR Costs	0	0	0	0	0	0
Travel & Expenses	0	0	0	0	0	0
Payments to Users	0	18	18	61	61	0
Contingency	0	19	19	0	484	484
Decommissioning	0	0	0	54	54	0
Other	47	73	26	355	349	(6)
Total	**748**	**2,384**	**1,637**	**4,561**	**5,024**	**463**

Detailed expenditure is shown at Appendix D at Project activity level.

Note: Respond is budgeted at £5,544 million including £519,460 of Partner contributions. For reporting these Partner contributions have been removed from both the relevant budget and actual financial statements, resulting in the restated Project budget of £5.024 million.

9 BANK ACCOUNT

The Respond Project bank statement is shown in Appendix E. The statement contains all receipts and payments associated with the Project up to the end of November 2015.

10 INTELLECTUAL PROPERTY RIGHTS

Electricity North West is following the default IPR arrangements. No IPR have been generated or registered during the reporting period.

The IPR implications of forthcoming Project deliverables are currently being considered, and will be reported in the next Project Progress Report.

11 ACCURACY ASSURANCE STATEMENT

This document has been reviewed by a number of key business stakeholders. The Project team and select members of the Respond Project steering group, including the lead member of the bid development team, have reviewed the report to ensure its accuracy.

The financial information has been produced by the Respond Project manager and the Project's finance representative who review all financial postings to the Project each month in order to ensure postings are correctly allocated to the appropriate Project activity. The financial information has also been peer reviewed by the Electricity North West head of business performance.

Issue of the document has been approved by the Innovation Delivery Manager.

APPENDIX A: STATUS OF RISKS FROM THE FULL SUBMISSION

Project Phase /Workstream	Description *(Delivery Risk Category)*	Probability Score	Impact Score	Mitigating Action/ *Contingency* Action	Revised Probability	Revised Impact Score
Mobilisation	There is a risk that Project Partners are not able to mobilise their resources in time because of other commitments leading to a delay in achieving potential milestones which could have a Project, reputational, and financial repercussion. *(**Other**)*	2	4	• Suitable partnership agreements that ensure collaborative working, value for customers' money and achievement of learning objectives in a timely manner have been identified for all Partners. • A Project initiation document will be issued to the Project Partners to ensure that all parties are ready. *Contingency: Electricity North West will seek new Partners should existing Partners fail to mobilise.*	1	4
Technology	There is a risk that installation of the new Fault Level Assessment Tool or configuration of the network management system will overrun leading to delayed start of live trials. ***(Installation)***	3	5	• Robust T&Cs for the Fault Level Assessment Tool provision will be agreed to ensure Partner focus on achieving the FLARE Project timescales. • Resources and mobilisation plan will be defined to achieve the Project milestones and will be developed in conjunction with our selected software Partner. *Contingency: Regular progress meetings/reports to track progress against the plan. Electricity North West will commit additional operational resource should any delays occur to the installation, testing and commissioning programme.*	2	5
Technology	There is a risk that the new Fault Level Assessment Tool will not perform as expected during testing and commissioning, leading to delayed start of live trials. *(**Installation**)*	3	4	• Guidance on the use of a fault level monitor to validate the Tool's calculations has been sought from WPD using their learning from FlexDGrid. • Validation of the Fault Level Assessment Tool will occur prior to live trials and periodically, and at different points on the trial networks during the live trial period. *Contingency: n/a*	2	4
Technology	There is a risk that the six month lead time for delivery of I_S-limiters may lead to a delay in the installation of this technology. *(**Procurement**)*	4	3	• Project plan specifies that a purchase order will be raised to procure I_S-limiters at the beginning of March 2015. ABB will expedite the order. *Contingency: Flexibility is built into the installation programme so that installation of this technology can occur in spring 2016.*	2	1
Technology	There is a risk that retrofit of Adaptive Protection (for distribution system and electrical machines) may be more complex than anticipated leading to a delay in the installation programme. *(**Installation**)*	3	3	• The installation programme will be considered alongside known operational and maintenance activity peaks to allow for extra resource to be secured and deployed. • Electricity North West has scoped Respond with the input from a generator manufacturer and a customer with motors. • Protection requirements for generators are explored in ENER-G's test cell. The	2	2

Project Phase /Workstream	Description *(Delivery Risk Category)*	Probability Score	Impact Score	Mitigating Action/ *Contingency* Action	Revised Probability	Revised Impact Score
				Project cost includes for external contractor retrofit of the Adaptive Protection for electrical machines. *Contingency: Alternative substations may be selected to ensure Respond trials are not delayed. Learning from every installation/ attempted installation will be published through knowledge dissemination activities.*		
Technology	There is a risk that appropriately skilled resource may not be available to perform the retrofit installation of technologies leading to a delay in the installation programme. ***(Installation)***	3	4	• Guidance on the specific skills requirements has been sought and FLARE's installation programme will be designed in consideration of known operational and maintenance activity peaks. *Contingency: Contractors may be brought in to cover business as usual activities to allow internal resource to cover installation requirements of this Project.*	2	4
Technology	There is a risk that Respond technologies do not perform as anticipated leading to trial circuits exceeding their fault level limits. ***(Other)***	3	5	• Forerunner projects explored techniques with academic and technical colleagues. • Fault level mitigation techniques will be installed at substations with no fault level constraints. Standard protection capability will not be exceeded. *Contingency: n/a*	2	5
Customer	There is a risk that our data protection strategy will be complicated by accessing customer survey participants from outside our area leading to legal and reputational issues. ***(Recruitment)***	3	5	• The CHPA/ ENER-G has members/ customers across the UK and will promote involvement in the survey. • Impact Research will work with the CHPA/ ENER-G to design and undertake the customer survey work and ensure complete compliance with data privacy requirements. • Impact Research and Electricity North West will undertake a pilot communication trial, with a range of stakeholders to ensure that we are able to effectively communicate and engage with our stakeholders. *Contingency: n/a*	2	5
Customer	There is a risk that customers with relevant demand or generation equipment do not engage in the customer survey leading to a lack of robust data for Hypothesis 5. ***(Recruitment)***	3	4	• Impact Research has experience of this issue in a Second Tier project delivery environment. The survey contact list will be designed to identify key decision makers within organisations. • Incentive payments are being offered for participation. *Contingency: More customers will be approached and incentivised to participate.*	2	4

Trials & Analysis	There is a risk that the selected networks do not experience a fault during the period of the trials leading to the techniques and devices being untested. ***(Other)***	3	5	• We will use up-to-date fault statistics in the Site Selection phase to ensure that networks with higher than average faults are selected for FLARE demonstration. *Contingency: In the absence of any faults, PB Power will test, via simulation, operation of the Fault Current Assessment Tool and three mitigation techniques.*	1	2
Trials & Analysis	There is a risk that a FCL service participant decides they no longer wish to participate in the trial. ***(Recruitment)***	2	3	• The Respond team will work with the customer to understand why customer perception has changed and to capture learning from the trial. *Contingency: n/a*	2	2
Technology	There is a risk that the Respond Project is delayed due to the replacements of Electricity North West's network management system taking priority. ***(Installation)***	2	4	• We will work closely with the network management team to ensure our goals are aligned and the Respond network and attributes are prioritised for data cleanse, network build and attribute population • *Contingency: Build the Respond network and attributes on an islanded server with an ICCP link to the NMS system for live data and topology changes*	2	4
Customer	There is a risk that the customer survey participants will not complete the minimum number of surveys required for the Project ***(Recruitment)***	2	2	• The Respond team will work with our Project Partners, Impact Research, Ener-G and the Association of Decentralised Energy (ADE) to ensure the surveys are completed and aim to identify more participants. We have identified 251 who have shown an interest to participate • *Contingency: Increase the financial incentive to existing participants and recruit more new participants*	2	2

As the Project progresses, the Project team will gain a better view of the likelihood of these risks and will also identify more evidence-based ones.

APPENDIX B: SUMMARY OF PROJECT SDRC

SDRC (evidence)	Due date	Status
Publicise Respond within Electricity North West in monthly team brief pack and/ or Volt (intranet) and/ or Newswire (quarterly employee magazine) by January 2015	Jan-15	Delivered
Publish first newsletter by May 2015	May-15	Delivered
Send customer engagement plan and data privacy statement to Ofgem by June 2015	Jun-15	Delivered
Issue first Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	Jun-15	Delivered
Deliver live Respond website and social media forums by July 2015	Jul-15	Delivered
Publish first advertorial by July 2015	Jul-15	Delivered
Deliver engaged customer panel workshop by September 2015	Sep-15	Delivered
Second publicise Respond within Electricity North West in monthly team brief pack and/ or Volt (intranet) and/ or Newswire (quarterly employee magazine) by September 2015	Sep-15	Delivered
First webinar held by September 2015	Sep-15	Delivered
Deliver lessons learned from testing customer survey materials incorporated into survey and all survey materials published on the Respond website by October 2015	Oct-15	Delivered
Publish second newsletter by November 2015	Nov-15	Delivered
Actively participate at 2015 annual LCNI conference	Nov-15	Delivered
Issue second Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	Dec-15	On track
Brief and train Electricity North West operational teams, including planning engineers, on fault level mitigation management protocols by April 2016	Apr-16	On track
Publish second advertorial by April 2016	Apr-16	On track
Publish monitoring and analysis procedures for trials on Respond website by May 2016	May-16	On track
Publicise commencement of live trials on Respond website by May 2016	May-16	On track
Publish on Respond website a summary of each fault event three months after each event, with the expectation that a minimum of 18 faults will be reported on	May-16	On track

SDRC (evidence)	Due date	Status
Purchase a Fault Current Limiting service from at least one Electricity North West demand customer and one Electricity North West generation customer	May-16	On track
Publish third newsletter by May 2016	May-16	On track
Hold first knowledge sharing event by May 2016	May-16	On track
Third publicise Respond within Electricity North West in monthly team brief pack and/ or Volt (intranet) and/ or Newswire (quarterly employee magazine) by June 2016	Jun-16	On track
Issue third Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	Jun-16	On track
Publish third advertorial by July 2016	Jul-16	On track
Publish equipment specifications and installation reports for the Adaptive Protection and the I_S-limiter by September 2016	Sep-16	On track
Publish NMS interface and configuration specifications and commissioning reports by September 2016	Sep-16	On track
Second webinar held by September 2016	Sep-16	On track
Publish report on validation of the Fault Level Assessment Tool by November 2016	Nov-16	On track
Publish fourth newsletter by November 2016	Nov-16	On track
Actively participate at 2016 annual LCNI conference	Nov-16	On track
Issue fourth Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	Dec-16	On track
Publish customer survey report and information for customer evaluation of FCL service provision on Respond website by May 2017	May-17	On track
Publish fifth newsletter by May 2017	May-17	On track
Hold second knowledge sharing event by May 2017	May-17	On track
Issue fifth Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	Jun-17	On track
Fourth publicise Respond within Electricity North West in monthly team brief pack and/ or Volt (intranet) and/ or Newswire (quarterly employee magazine) by July 2017	Jul-17	On track
Publish fourth advertorial by July 2017	Jul-17	On track
Hold third webinar by September 2017	Sep-17	On track

SDRC (evidence)	Due date	Status
Publish sixth newsletter by November 2017	Nov-17	On track
Actively participate at 2017 annual LCNI conference	Nov-17	On track
Issue sixth Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	Dec-17	On track
Publish equipment specifications and installation reports for the FCL service by April 2018	Apr-18	On track
Publish contract templates for FCL service with new and existing customers and commercial arrangements learning by May 2018	May-18	On track
Publish seventh and final newsletter by May 2018	May-18	On track
Publish updated fault level management, planning, design, protection settings and operation and maintenance policies by June 2018	Jun-18	On track
Issue seventh Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	Jun-18	On track
Publish on Respond website the cost benefit analysis study report and the buy order of Respond/ FlexDGrid/ traditional reinforcement fault level mitigation solutions by July 2018	Jul-18	On track
Publish on Respond website the carbon impact assessment report by July 2018	Jul-18	On track
Publish asset health study on Respond website by July 2018	Jul-18	On track
Submit a DCUSA change proposal for amending application approach to Fault Level Cost Apportionment Factor in Common Connection Charging Methodology by August 2018	Aug-18	On track
Publish peer reviewed safety cases on the Respond Project website by September 2018	Sep-18	On track
Hold third knowledge sharing event September 2018	Sep-18	On track
Hold fourth webinar	Oct -18	On track
Fifth publicise Respond within Electricity North West in monthly team brief pack and/ or Volt (intranet) and/ or Newswire (quarterly employee magazine	Oct-18	On track
Publish fifth advertorial by October 2018	Oct-18	On track
Issue Respond Project closedown report to Ofgem and publish on Respond website by October 2018	Oct-18	On track
Publish Electricity North West's approach to managing fault level reinforcement on Respond website by October 2018	Oct-18	On track

SDRC (evidence)	Due date	Status
Actively participate at 2018 annual LCNI conference	Nov-18	On track
Issue eighth Project Progress Report in accordance with Ofgem's June and December production cycle and publish on Respond website	Dec-18	On track

APPENDIX C: PROJECT DIRECTION BUDGET

£000's Excluding Partner Funding Ofgem Cost Category	
Labour	**1,305**
Project Management - Labour	866
Install/Commissioning - Labour	396
General Labour - Labour	43
Equipment	**1,058**
Materials - Equipment	4
General Equipment - Equipment	22
Monitoring Equipment - Equipment	163
IS Limiter - Equipment	685
Adaptive Protection - Equipment	184
Contractors	**1,140**
Project Management - Contractor	20
Install/Commissioning - Contractor	554
Research - Contractor	295
Customer Survey - Contractor	59
Customer Engagement - Contractor	169
Dissemination - Contractor	43
IT	**573**
IT Hardware - IT	0
IT Software - IT	564
IT Licences - IT	9
IPR Costs	**0**
IPR Costs	0
Travel & Expenses	**0**
Travel & Expenses	0
Payments to Users	**61**
Payments to Users	36
Fault Current Limiting Service	0
Customer Payments	26
Contingency	**484**
Contingency	484
Decommissioning	**54**
Decommissioning	54
Other	**349**
Rent - Other	60
Telecoms - Other	0
Dissemination - Other	289
Customer Survey - Other	0
Conference Reg. Fees - Other	0
Other	0
Total	**5,024**

Note: Value restated to £5,024,000

APPENDIX D: DETAILED PROJECT EXPENDITURE

£'000s Excluding Partner Funding Ofgem Cost Category	Spend to date			Total Project			Comments
	Actual	Plan	Variance	Forecast	Plan	Variance	
Labour	**302**	**524**	**222**	**1,316**	**1,305**	**(11)**	
Project Management - Labour	245	227	(18)	877	866	(11)	
Install/Commissioning - Labour	43	276	232	396	396	1	
General Labour - Labour	13	21	7	43	43	(0)	
Equipment	**72**	**860**	**788**	**1,134**	**1,058**	**(76)**	
Materials - Equipment	0	0	0	4	4	0	
General Equipment - Equipment	0	0	0	22	22	0	
Monitoring Equipment - Equipment	0	61	61	163	163	0	
IS Limiter - Equipment	72	665	592	761	685	(76)	Part of equipment cost budgetted as contractor
Adaptive Protection - Equipment	0	135	135	184	184	(0)	
Contractors	**108**	**327**	**219**	**1,067**	**1,140**	**72**	
Project Management - Contractor	0	20	20	20	20	0	
Install/Commissioning - Contractor	10	210	200	478	554	76	
Research - Contractor	0	2	2	295	295	0	
Customer Survey - Contractor	2	4	2	63	59	(4)	
Customer Engagement - Contractor	96	91	(5)	169	169	0	
Dissemination - Contractor	0	0	0	43	43	0	
IT	**219**	**564**	**345**	**573**	**573**	**0**	
IT Hardware - IT	0	0	0	0	0	0	
IT Software - IT	219	564	345	564	564	0	
IT Licences - IT	0	0	0	9	9	0	
IPR Costs	**0**	**0**	**0**	**0**	**0**	**0**	
IPR Costs	0	0	0	0	0	0	
Travel & Expenses	**0**	**0**	**0**	**0**	**0**	**0**	
Travel & Expenses	0	0	0	0	0	0	
Payments to Users	**0**	**18**	**18**	**61**	**61**	**0**	
Payments to Users	0	1	1	36	36	0	
Fault Current Limiting Service	0	0	0	0	0	0	
Customer Payments	0	17	17	26	26	0	
Contingency	**0**	**19**	**19**	**0**	**484**	**484**	
Contingency	0	19	19	0	484	484	
Decommissioning	**0**	**0**	**0**	**54**	**54**	**0**	
Decommissioning	0	0	0	54	54	0	
Other	**47**	**73**	**26**	**355**	**349**	**(5)**	
Rent - Other	20	11	(9)	69	60	(8)	
Telecoms - Other	0	0	0	0	0	0	
Dissemination - Other	27	62	35	286	289	3	
Customer Survey - Other	0	0	(0)	0	0	(0)	
Conference Reg. Fees - Other	0	0	0	0	0	0	
Other	0	0	0	0	0	0	
Total	**593**	**2,384**	**1,637**	**4,560**	**5,024**	**464**	

APPENDIX E: PROJECT BANK ACCOUNT

The bank statement below details all transactions relevant to the Project. This includes all receipts and payments associated with the Project up to the November 2015 month end reporting period.

Lloyds Bank
Statements and Balances

Yesterday's Statement

C082421

[redacted]
ELECTRICITY NWL NO.14 LCNF (FLARE) (GBP)

Date	Type	Narrative	Value Date	Payments	Receipts	Balance
01JUN15		Opening Ledger Balance				1,227,760.39 Cr
08JUN15	CR	FROM A/C [redacted] TFR			80,917.39	1,308,677.78 Cr
19JUN15	BGC	UK PN OPERATIONS LCNF BGC			5,916.23	1,314,594.01 Cr
19JUN15	BGC	UK PN OPERATIONS LCNF BGC			28,759.39	1,343,353.40 Cr
19JUN15	BGC	UK PN OPERATIONS LCNF BGC			44,845.19	1,388,198.59 Cr
24JUN15	F/FLOW	F/FLOW WESTERN POW RE: ENWL NO.14 FLA RE TFR			79,924.28	1,468,122.87 Cr
26JUN15	BGC	NORTHERN ELECTRIC LCNF BGC			19,955.62	1,488,078.49 Cr
26JUN15	BGC	NORTHERN ELECTRIC LCNF BGC			28,646.82	1,516,725.31 Cr
26JUN15	CR	FROM A/C [redacted] TFR			80,917.39	1,597,642.70 Cr
29JUN15	BGC	R B S-SP MANWEB BGC			18,796.27	1,616,438.97 Cr
29JUN15	BGC	R B S-SP DISTRIBUT BGC			25,117.00	1,641,555.97 Cr
30JUN15	F/FLOW	F/FLOW SOUTHERN EL TFR			19,537.31	1,661,093.28 Cr
30JUN15	F/FLOW	F/FLOW SCOTTISH HY TFR			9,487.73	1,670,581.01 Cr
24JUL15	BGC	UK PN OPERATIONS LCNF BGC			5,916.23	1,676,497.24 Cr
24JUL15	BGC	UK PN OPERATIONS LCNF BGC			28,759.39	1,705,256.63 Cr
24JUL15	BGC	UK PN OPERATIONS LCNF BGC			44,845.19	1,750,101.82 Cr
24JUL15	F/FLOW	F/FLOW WESTERN POW RE: ENWL NO.14 FLA RE TFR			79,924.28	1,830,026.10 Cr
27JUL15	F/FLOW	F/FLOW SCOTTISH HY TFR			9,487.73	1,839,513.83 Cr
27JUL15	F/FLOW	F/FLOW SOUTHERN EL TFR			19,537.31	1,859,051.14 Cr
28JUL15	BGC	R B S-SP MANWEB BGC			18,796.27	1,877,847.41 Cr
28JUL15	BGC	NORTHERN ELECTRIC LCNF BGC			19,955.62	1,897,803.03 Cr
28JUL15	BGC	R B S-SP DISTRIBUT BGC			25,117.00	1,922,920.03 Cr
28JUL15	BGC	NORTHERN ELECTRIC LCNF BGC			28,646.82	1,951,566.85 Cr
28JUL15	CR	FROM A/C [redacted] TFR			80,917.39	2,032,484.24 Cr
11AUG15	DR	TO A/C [redacted] TFR		16,285.36		2,016,198.88 Cr
12AUG15	DR	TO A/C [redacted] TFR		37,701.26		1,978,497.62 Cr
13AUG15	DR	TO A/C [redacted] TFR		55,598.80		1,922,898.82 Cr
14AUG15	DR	TO A/C [redacted] TFR		52,997.11		1,869,901.71 Cr
21AUG15	BGC	UK PN OPERATIONS LCNF BGC			5,916.23	1,875,817.94 Cr
21AUG15	BGC	UK PN OPERATIONS LCNF BGC			28,759.39	1,904,577.33 Cr
21AUG15	BGC	UK PN OPERATIONS LCNF BGC			44,845.19	1,949,422.52 Cr
24AUG15	F/FLOW	F/FLOW WESTERN POW RE: ENWL NO.14 FLA RE TFR			79,924.28	2,029,346.80 Cr
28AUG15	BGC	R B S-SP MANWEB BGC			18,796.27	2,048,143.07 Cr
28AUG15	BGC	NORTHERN ELECTRIC LCNF BGC			19,955.62	2,068,098.69 Cr
28AUG15	BGC	R B S-SP DISTRIBUT BGC			25,117.00	2,093,215.69 Cr
28AUG15	BGC	NORTHERN ELECTRIC LCNF BGC			28,646.82	2,121,862.51 Cr
28AUG15	CR	FROM A/C [redacted] TFR			80,917.39	2,202,779.90 Cr
28AUG15	F/FLOW	F/FLOW SOUTHERN EL TFR			19,537.31	2,222,317.21 Cr
28AUG15	F/FLOW	F/FLOW SCOTTISH HY TFR			9,487.73	2,231,804.94 Cr
22SEP15	BGC	UK PN OPERATIONS LCNF BGC			5,916.23	2,237,721.17 Cr
22SEP15	BGC	UK PN OPERATIONS LCNF BGC			28,759.39	2,266,480.56 Cr
22SEP15	BGC	UK PN OPERATIONS LCNF BGC			44,845.19	2,311,325.75 Cr
24SEP15	F/FLOW	F/FLOW WESTERN POW RE: ENWL NO.14 FLA RE TFR			79,924.28	2,391,250.03 Cr
28SEP15	BGC	NORTHERN ELECTRIC LCNF BGC			19,955.62	2,411,205.65 Cr

Lloyds Bank
Statements and Balances

Yesterday's Statement

C082421

[redacted]

ELECTRICITY NWL NO.14 LCNF (FLARE) (GBP)

Date	Type	Narrative	Value Date	Payments	Receipts	Balance
28SEP15	BGC	NORTHERN ELECTRIC BGC LCNF			28,646.82	2,439,852.47 Cr
28SEP15	CR	FROM A/C [redacted] TFR			80,917.39	2,520,769.86 Cr
28SEP15	F/FLOW	F/FLOW SOUTHERN EL TFR			19,537.31	2,540,307.17 Cr
28SEP15	F/FLOW	F/FLOW SCOTTISH HY TFR			9,487.73	2,549,794.90 Cr
28SEP15	F/FLOW	F/FLOW SP MANWEB P TFR SCOTTISHPOWER			18,796.27	2,568,591.17 Cr
28SEP15	F/FLOW	F/FLOW SP MANWEB P TFR SCOTTISHPOWER			25,117.00	2,593,708.17 Cr
02OCT15	DR	TO A/C [redacted] TFR		103,239.92		2,490,468.25 Cr
23OCT15	BGC	UK PN OPERATIONS BGC LCNF			5,916.23	2,496,384.48 Cr
23OCT15	BGC	UK PN OPERATIONS BGC LCNF			28,759.39	2,525,143.87 Cr
23OCT15	BGC	UK PN OPERATIONS BGC LCNF			44,845.19	2,569,989.06 Cr
26OCT15	F/FLOW	F/FLOW WESTERN POW TFR RE: ENWL NO.14 FLA RE			79,924.28	2,649,913.34 Cr
28OCT15	BGC	R B S-SP MANWEB BGC			18,796.27	2,668,709.61 Cr
28OCT15	BGC	NORTHERN ELECTRIC BGC LCNF			19,955.62	2,688,665.23 Cr
28OCT15	BGC	R B S-SP DISTRIBUT BGC			25,117.00	2,713,782.23 Cr
28OCT15	BGC	NORTHERN ELECTRIC BGC LCNF			28,646.85	2,742,429.08 Cr
28OCT15	CR	FROM A/C [redacted] TFR			80,917.39	2,823,346.47 Cr
28OCT15	F/FLOW	F/FLOW SCOTTISH HY TFR			9,487.73	2,832,834.20 Cr
28OCT15	F/FLOW	F/FLOW SOUTHERN EL TFR			19,537.31	2,852,371.51 Cr
24NOV15	BGC	UK PN OPERATIONS BGC LCNF			5,916.23	2,858,287.74 Cr
24NOV15	BGC	UK PN OPERATIONS BGC LCNF			28,759.39	2,887,047.13 Cr
24NOV15	BGC	UK PN OPERATIONS BGC LCNF			44,845.19	2,931,892.32 Cr
24NOV15	F/FLOW	F/FLOW WESTERN POW TFR RE: ENWL NO.14 FLA RE			79,924.28	3,011,816.60 Cr
27NOV15	BGC	R B S-SP MANWEB BGC			18,796.27	3,030,612.87 Cr
27NOV15	BGC	NORTHERN ELECTRIC BGC LCNF			19,955.62	3,050,568.49 Cr
27NOV15	BGC	R B S-SP DISTRIBUT BGC			25,117.00	3,075,685.49 Cr
27NOV15	BGC	NORTHERN ELECTRIC BGC LCNF			28,646.82	3,104,332.31 Cr
27NOV15	CR	FROM A/C [redacted] TFR			80,917.39	3,185,249.70 Cr
27NOV15	F/FLOW	F/FLOW SCOTTISH HY TFR			9,487.73	3,194,737.43 Cr
27NOV15	F/FLOW	F/FLOW SOUTHERN EL TFR			19,537.31	3,214,274.74 Cr
30NOV15		Value of Credits (67)			2,252,336.80	
30NOV15		Value of Debits (5)		265,822.45		
30NOV15		Closing Ledger Balance				3,214,274.74 Cr
30NOV15		Closing Cleared Balance				3,214,274.74 Cr

*** End of Report ***