



## Respond

*Engaged Customer Panel  
Lessons Learned Report*

Communication Strategy to Purchase  
Fault Current Limiting Services

**24 June 2016**

Addendum to Respond ECP Report  
(October 2015)



**RESPOND**

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## VERSION HISTORY

| Version | Date         | Author     | Status                | Comments |
|---------|--------------|------------|-----------------------|----------|
| v1.0    | 22 June 2016 | T Kennelly | 1 <sup>st</sup> issue |          |
|         |              |            |                       |          |

## APPROVAL

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## GLOSSARY

| Abbreviation | Term                                  |
|--------------|---------------------------------------|
| AC           | Alternating current                   |
| CEP          | Customer engagement plan              |
| DNO          | Distribution network operator         |
| DPS          | Data privacy statement                |
| ECP          | Engaged customer panel                |
| FCL service  | Fault Current Limiting service        |
| GB           | Great Britain                         |
| I&C          | Industrial and commercial             |
| ICQS         | Interviewer quality control scheme    |
| LCN Fund     | Low Carbon Networks Fund              |
| MRS          | Market Research Society               |
| NTC          | National Terms of Connection          |
| Ofgem        | Office of Gas and Electricity Markets |
| Q&A          | Question and answer                   |
| SME          | Small and medium enterprise           |

# FOREWORD

This report is submitted as part of Electricity North West's Respond project, which is funded by Ofgem's LCN Fund second tier funding mechanism. Electricity North West received formal notification of selection for funding on 24 November 2014. The project will run for 46 months, between January 2015 and October 2018.

The project seeks to demonstrate the viability and effectiveness of a range of mitigation techniques to overcome the fault level challenges faced by distribution network operators (DNOs).

The results of the analysis outlined in this report are derived from a research methodology submitted as part of the Respond customer engagement plan (CEP). The CEP sets out the approach and activities that will be undertaken throughout the Respond project. The project's data privacy statement (DPS) describes how personal data will be managed. These documents, which were designed by Electricity North West and its market research project partner, Impact Research, are published on the key documents page of the [Respond website](#). These were submitted to Ofgem for approval on 17 June 2015 and confirmation of DPS approval was received on 12 August 2015. The CEP was not subject to approval because the project does not involve engagement with 'relevant' customers.

This report and the analysis therein is one of a series of project dissemination documents and serves as an addendum to the principal Respond ECP report, published in October 2015. This documents the lessons learned from the initial phase of customer engagement with an engaged customer panel (ECP), convened to evaluate communications materials and a customer survey designed to test the market and price point for a new commercial concept, namely the Fault Current Limiting (FCL) service. The interim findings from the customer survey were published on the key documents page of the Respond website in February 2016. A more detailed customer survey report will be published in May 2017.

This document specifically references the learning from the second phase of strategic qualitative market research, conducted with a reconvened ECP. This phase of customer engagement was conducted to evaluate the proposed communication strategy along with the content, structure and suitability of a suite of supporting communications materials, developed to take the new FCL service to market.

Electricity North West recommends this report to all LCN Fund stakeholders. It is published on the Respond website along with related dissemination material.

## 1 EXECUTIVE SUMMARY

### 1.1 Background

Respond will deliver three innovative techniques to manage fault current safely. One of these techniques is a commercial solution, the FCL service. This allows industrial and commercial (I&C) demand and generation customers to operate their equipment in a manner that offers fault level mitigation to the DNO and provides financial benefits in return, as part of a managed service agreement.

The project background is fully documented in the Respond submission document, which was formally selected for funding under Ofgem's LCN Fund second tier funding mechanism in November 2014.

The initial phase of customer engagement in Respond involved consultation with an ECP convened to influence the development of a customer survey and supporting communication materials. This survey was subsequently conducted with I&C customers across GB, to test

whether a viable market exists for this new commercial solution to address the fault level problem.

This report summarises the strategic research activities, qualitative research findings and lessons learned from engagement with a reconvened ECP, dedicated to developing communication materials to support the purchase of FCL services from Electricity North West customers.

A discussion guide and a suite of communication materials were utilised to facilitate group discussion, all of which are referenced in the appendices to this report and are available on the Respond website.

## **1.2 Summary of key findings**

This section summarises the key findings of the ECP, which are documented in greater detail in Section 4.

### **1.2.1 Risk is likely to be one of the primary barriers for potential FCL trial participants**

The ECP considered that risk to equipment, processes and general security of supply were likely to present the greatest barriers to uptake of a managed FCL agreement. The panel confirmed the materials evaluated as part of this process were effective and only minor modifications were required to enhance the content, most notably around perceived omissions in reference to customer risk and resilience issues.

### **1.2.2 The key drivers in participation of a FCL service managed agreement will be financial**

Assessment of reward versus risk will be the primary driver in a customer's decision to enter a fault current response contract. The ECP understood the factors affecting the pricing structure and endorsed the proposed strategy for explaining the incentive mechanism. This involves the presentation of communication materials tailored to specific sites, which reflect the organisation's actual contribution to fault current.

### **1.2.3 Prospective FCL service participants have expectations of an enhanced service**

The ECP perceived that I&C customers taking part in the trial are likely to expect a significantly enhanced service from Electricity North West as a general requirement under the terms of a managed FCL service agreement, and specifically when the technique to constrain their equipment is activated.

### **1.2.4 I&C customers are confused by the range of commercial arrangements available to them and the differences between those arrangements**

Many I&C customers are confused about the various commercial opportunities available from providing balancing services to electricity transmission and distribution companies. Customers need sufficient information to allow them to distinguish the FCL service from other commercial arrangements, including managed and constrained connections, in order to consider potential conflicts that might act as barriers to providing a fault level response. This information should also enable customers to consider possible synergies that might maximise financial benefit through the provision of multiple commercial services.

## **1.3 Objectives of the ECP meeting**

The overall objective of the reconvened ECP was to evaluate a suite of communication materials aimed at potential trial participants to ensure that they were suitable, understood and effective.

This phase of customer consultation was designed to support the general communication strategy for purchasing FCL services and underpin new commercial templates. The primary objective of this research was to ensure that: the commercial concept was described in a clear and engaging manner; the materials met the requirements of a technical audience; and the content was also accessible and could be understood by less technical, more commercially-focused individuals, thereby encompassing the needs of a range of decision makers from organisations interested in the provision of FCL services.

## **1.4 Conclusions and next steps**

Research activities conducted with a reconvened ECP were successful and the constructive feedback obtained has been incorporated into final customer engagement materials, ensuring that the Respond premise and, specifically, the commercial fault level response, is described effectively and clearly to potential trial customers.

The panel overwhelmingly endorsed the suite of written and visual communication materials, which were considered appropriate for dissemination to a diverse audience from a range of industrial sectors.

ECP feedback was also used to guide refinements to the commercial templates, ensuring that both commercial contracts and supporting engagement materials are suitable to take the FCL service to market.

These materials will subsequently form the basis of a communications strategy when the concept is transferred to business as usual, pending a successful trial of the technical and commercial elements of the FCL service.

## **2 BACKGROUND AND OBJECTIVES**

### **2.1 Business objectives**

As GB moves towards a low carbon future, demand for electricity is expected to increase significantly with an inevitable increase in fault levels on the distribution network. Respond is an innovative solution to managing 'fault current', the instantaneous surge of electrical energy which occurs under fault conditions.

Respond will deliver a Fault Level Assessment Tool which calculates potential fault current in near real time. This platform enables one of three innovative fault level mitigation techniques to be adaptively controlled, to manage fault current safely. Two of the mitigation techniques being trialled are technical in nature and one is a new commercial concept, namely the FCL service.

The FCL service has the potential to allow existing and new connection customers operating large alternating current (AC) generators or motors to benefit financially from providing the DNO with a fault level response when fault level is high and a network fault occurs. This is achieved by the remote activation of new technology which will temporarily constrain customers' equipment, thereby restricting their contribution to the flow of fault current.

A key hypothesis of Respond is that the method enables a market for the provision of an FCL service. To assess the commercial appetite and viability of this solution, a robust customer survey was conducted in the latter part of 2015. Provisional findings from interim analysis of the survey indicates that certain I&C sectors find the technique appealing, suggesting that a market does exist, primarily among non-manufacturing customers. These findings are summarised in the interim customer service report, published on the [Respond website](#).

Detailed analysis of the survey results, which considers the optimal pricing structure to provide a route to market, will be documented in a more comprehensive customer survey report due to be published in May 2017.

## 2.2 Research background

The commercial FCL service is the only Respond method requiring customer validation and is therefore the only fault level mitigation technique subject to customer research during the project.

The initial phase of customer engagement involved consultation with an ECP convened to influence the development of a customer survey instrument and supporting communication materials. This phase of consultation was fundamental in developing the mechanism for establishing the existence of a viable market for the FCL service and the price at which customers are willing to engage in this type of commercial arrangement.

This report documents the second phase of strategic qualitative research, undertaken with a reconvened ECP, previously educated about Respond and the FCL service. This phase of research was designed jointly by Electricity North West and its market research project partner, Impact Research. The primary objective of the reconvened ECP was to evaluate the proposed strategy for engaging with customers identified as willing and/or able to provide the FCL service and appraise a suite of communication materials designed for this purpose. This research provides a mechanism for purchasing FCL services from suitable customers by supporting newly developed commercial templates.

This phase of ECP research was structured to evaluate and refine a customer communication strategy aimed at introducing the concept to organisations interested in participating in a 12-month trial. However, these materials will be incorporated into Electricity North West's business as usual strategy, when taking this service to market, pending the successful trial of the method. Learning will be shared with the DNO community to inform the most effective route to market for these new commercial arrangements.

## 2.3 Customer engagement objectives

The original ECP was reconvened to evaluate proposed communication materials which frame preliminary commercial negotiations. The materials comprised a suite of documents and a presentation template. These materials and the discussion guide utilised to facilitate the group discussion are referenced in the appendices (Section 8) and are available to download on the [Respond website](#).

The ECP was tasked with addressing five key questions:

- Which materials are most effective in engaging potential trial customers about the FCL service?
- Are key components of the FCL service captured and adequately explained?
- Are the materials appropriately pitched for the intended I&C audience and do they provide sufficient information for a technical audience?
- Are the materials accessible and understood by less technical, more commercially-focused individuals?
- How can learning from the ECP be utilised to inform an appropriate communication strategy and enhance written and visual materials designed to introduce the concept to the target market, support the commercial templates and provide a framework for future contract negotiations?

This report disseminates the key findings from the ECP meeting convened for this purpose in April 2016. It also sets out the learning derived from this phase of engagement, which is expected to be influential in the subsequent phase of direct customer engagement with organisations contemplating participation in a managed agreement to trial the FCL service.



## **2.4 Customer engagement methodology**

Strategic qualitative research was undertaken with a reconvened ECP comprised of seven members, previously educated about Respond and the FCL service. This panel was tasked with evaluating and providing feedback on a framework communication strategy and a range of associated materials. This approach was expected to enable customer-driven refinements to the materials, culminating in a mechanism able to effectively introduce the concept to a range of customers from organisations willing and able to provide a fault level response.

The reconvened ECP was presented with a suite of draft communication materials, developed from those previously used to support the customer survey. These materials had been refined following feedback from both the original ECP and a pilot survey population before the full survey was administered in late 2015.

The original phase of consultation with the ECP (pre-survey) had ensured both the survey instrument and supporting educational materials were appropriate and effective in conveying the complicated concept to differing types of previously unengaged customers.

Following completion of the GB-wide customer survey and analysis of the results, the project team further enhanced the communication materials in response to specific feedback from participants. These refinements were made to clarify or address unmet information requirements of organisations that had indicated they might be interested in participating in the trial of the FCL service. The original ECP was reconvened in April 2016 to evaluate the suite of refined materials to ensure the content, and the manner in which information was presented, was suitable for prospective trial participants.

The panel was also shown a presentation, designed to support a tailored 'pitch' which is intended to introduce the FCL service to potential trial participants. In practice it is anticipated that this will enable Electricity North West's commercial manager, supported by a senior project engineer, to thoroughly explain the concept and the incentives that might be available to individual customers, based on their equipment's contribution to fault current. This pitch, framework presentation and accompanying materials will facilitate the first phase of direct customer engagement with I&C customers when the FCL service is introduced to the marketplace.

ECP evaluation of this communication strategy was therefore critical to ensure that the approach is effective and will facilitate a seamless transition to more detailed commercial and technical negotiations. It is anticipated that this strategy will culminate in the agreement of up to five managed FCL service contracts with customers, enabling a robust trial of the technical and commercial elements of the technique for a 12-month period.

## **2.5 Administration of the ECP meeting**

The ECP was first convened in September 2015, to help develop and then pilot an online, quantitative customer survey instrument, in addition to testing the educational materials designed to support it. The panel was reconvened on 20 April 2016 to evaluate materials that will underpin the communication strategy for taking the FCL service to market.

Impact Research was responsible for reconvening members of the original ECP; they were also responsible for moderation of the focus group meeting. All research was carried out according to the standards of the Market Research Society Code of Conduct.

The reconvened ECP, comprised of seven of the original eight panellists, represented a range of industry sectors. The panellists were recruited from organisations operating large equipment, which contributes significantly to fault current and thus theoretically meet the criteria for provision of an FCL service agreement. They were also selected from sites in close proximity to the ECP meeting venue in Greater Manchester. Members all held relevant senior technical and/or commercial roles and were therefore able to provide considered feedback to inform the development of FCL service materials. Full details of the panel's

membership are documented in Section 4.3 of the ECP report, which is published on the Respond website.

Prior to taking part, the ECP was informed that the session would be recorded. Panellists signed a consent form sanctioning the use of audio/visual sound bites recorded during the meeting for future project dissemination activities.

The focus group meeting lasted approximately 90 minutes and was facilitated by an accredited Interviewer Quality Control Scheme (IQCS) qualitative moderator who, after recapping the main elements of Respond, presented semi-structured questions linked to a pre-defined list of discussion topics.

Because of the ECP's previous engagement and the lengthy and complex nature of the written materials being tested, the group consented to read some of the literature before the meeting. This enabled panellists to concentrate on discussing the material's content and allowed sufficient time for the group's evaluation of a narrated presentation, thereby capitalising on the full 90 minutes available.

Panellists were offered a cash incentive of £100 for attending the meeting and were required to sign a claim form to document receipt of the payment. Members had the option of donating the payment to a registered charity, but none elected to do so.

ECP feedback was incorporated into the final customer communication materials to ensure that the FCL service method is described effectively and clearly for customers considering participation in the trial.

## **3 ANALYSES AND RESULTS**

### **3.1 Proposed communication materials**

Learning from the initial (pre-survey) phase of ECP engagement in Respond identified that a range of communication materials are required to meet the differing requirements of a diverse audience.

The various materials developed to support the GB-wide customer survey had initially been evaluated by an ECP and further tested during a subsequent pilot. After some enhancement, these materials were found to be extremely successful in explaining the FCL service concept and satisfied the varying needs of individuals requiring different levels of technical complexity. The content also reflected the contrasting technical and commercial focus of decision makers across a range of market sectors with a variety of business challenges.

Consequently, the suite of materials developed to support the commercial templates built heavily on the existing suite of educational materials used in the customer survey.

After developing these materials further, the original ECP was reconvened to evaluate their content, applicability and the manner in which they were presented. The panel was also tasked with evaluating the proposed communication strategy, designed to support the commercial template, which is intended to initially introduce the new commercial arrangement to prospective customers.

The communication materials evaluated are outlined below:

#### **3.1.1 FCL service concept document**

This concise document was developed from the original concept board that had been used to explain the main elements of the FCL service in the customer survey (Appendix 8.2). Its format was a glossy single-page leaflet.

The revised concept encouraged customers to contemplate how innovation such as the FCL service can maximise the opportunities provided by new technologies, techniques and novel commercial models, to meet the future needs of customers in a low carbon future:

*“It makes sense. We are shifting in the way that we’re using energy and we are demanding more of it. At the same time we’re producing low carbon technologies.”* Technical Service Manager, Healthcare Sector

The panel felt this was extremely useful as a succinct summary document, suitable for presenting to board members and colleagues who do not need the level of detail provided in the questions and answers (Q&A) documents:

*“This is suitable for a non-engineer and if it is sent to the right person it will be read.”* Engineering Manager, Manufacturing Sector

### **3.1.2 Respond project Q&A document**

The four-page project Q&A document (Appendix 8.3) was designed as a ‘high level’ introduction to the project to explain why various fault level mitigation techniques are being explored by Electricity North West.

The document also contained information to educate the reader about the identity and role of the DNO and its position within the energy sector. This was included because previous innovation projects have consistently demonstrated that most customers struggle to differentiate the unique responsibilities of DNOs, suppliers and electricity transmission companies.

However, large I&C customers (the target market for the FCL service) tend to have a closer relationship with the DNO than domestic and small to medium enterprise (SME) customers and are thus better placed to understand the structure of the electricity industry. The ECP were prompted to consider the value of providing this information in this context.

The panel had been recruited specifically because of their technical and commercial expertise, and all held senior managerial roles within their respective organisations, which meant that they were familiar with Electricity North West and recognised its relationship with their individual businesses.

Panel members were of the opinion that, for the same reason, the decision makers of organisations in the target market were also likely to recognise the DNO’s name and have a good understanding of the service it provides. Nevertheless, they agreed there was value in retaining information contextualising the DNO’s role, to ensure the materials were suitable for customers who might not be as familiar.

### **3.1.3 FCL service Q&A document**

Learning from the customer survey conducted in the latter part of 2015 was incorporated into the FCL service Q&A, which asserted that *‘this type of agreement might be more suitable for customers in the non-manufacturing sector, who are able to cope with the constraint of equipment without any impact’*. The ECP hypothesised that owners/operators of shopping and leisure complexes may form part of the non-manufacturing segment interested in such commercial arrangements.

The ECP considered the FCL service Q&A to be particularly effective (Appendix 8.4). They felt it was pitched appropriately, sufficiently comprehensive, and valuable in disseminating a large volume of multifaceted information about the FCL service.

The only area of concern raised was sufficiency of information around risk, resilience and general security of supply. The panel believed these key issues lacked content and warranted greater prominence because they predicted risk is likely to be the primary concern

for potential trial customers. They collectively agreed that perceived risk, in all its forms, would present the greatest barrier in the transition from an expression of interest to signing a managed agreement and therefore, more transparency was required (refer to Section 5.1):

*“It does make perfect sense so far. But the one thing that I still think hasn’t been introduced yet is the risk element. It hasn’t been mentioned whatsoever. We are too far into that without considering it.”* Technical Service Manager, Healthcare Sector

*“Maybe it should make reference to maintenance arrangements and what happens after the trial finishes, what happens to the equipment?”* Facilities Manager, Data Management

With the exception of risk, the ECP agreed that the document’s content was suitable and relevant. While it was acknowledged to be lengthy, and the panel recognised this presented a challenge in maintaining the reader’s interest, they felt it would be inappropriate to condense the materials given the technical complexity of the subject matter.

### **3.1.4 Commercial presentation**

The proposed commercial presentation (Appendix 8.5) was designed as the basis of a tailored pitch introducing the FCL service to potential trial participants. This pitch would enable Electricity North West’s commercial manager, supported by a senior project engineer, to explain the incentives available to individual customers, based on their equipment’s unique contribution to fault current. This presentation will represent the first phase of direct customer engagement with potential trial participants and is expected to lead to more detailed commercial negotiations with suitable organisations.

The presentation included a voice-over narration to demonstrate the proposed content to the ECP, but panellists were advised that in a real commercial setting it would be delivered face-to-face, by commercial and technical experts. This approach to the delivery would enable the DNO to answer the majority of questions from prospective trial participants.

Before being shown the presentation, the panel had an unprompted debate about the merits of the DNO’s representatives opening prospective meetings with a direct question such as:

*“Do you have any large motors that you could be without for up to ten minutes at a time?”*  
Plant Manager, Waste Management Sector

In response, the moderator clarified that direct customer engagement concerning participation in the FCL service trial would be targeted at pre-screened organisations (both existing and new connection customers, operating large AC motors and generators) and qualified individuals with decision-making responsibility.

The draft presentation lasted approximately 30 minutes. Because of its length and complexity, it was shown to the ECP in two stages, providing an opportunity for informed discussion about the initial content midway through the delivery.

The first half was designed to introduce Electricity North West, covering the challenges facing DNOs in a low carbon future and how Respond and, more specifically, the FCL service, will manage the fault level problem.

However, on the basis that the ECP was very well informed and because of time restrictions, a version of the presentation was shown which omitted background information about the DNO and challenges arising from the decarbonisation agenda (refer to Section 6.1). However, this information should be included in tailored presentations to prospective customers, when the service is taken to market.

The first half of the presentation also incorporated a water analogy which the ECP had found effective in the first (pre-survey) phase of customer engagement, in explaining fault current, by comparing the electricity distribution network to the water network.

The reconvened panel reiterated that this analogy was likely to be the most effective and simple way to explain fault current to customers, particularly those from a non-technical or non-engineering background:

*“It is a technical subject, however, a non-technical person will probably understand the water analogy. The simple diagrams with the pump are effective.”* Facilities Manager, Data Management

The second part of the presentation explained how the FCL service will operate to constrain customers' equipment, how an organisation's fault level contribution will be calculated, and how this might influence the financial benefits available from providing a fault level response.

Two scenarios involving hypothetical customers were used to illustrate the fault level contribution from a specific type of generator. By comparing the location of these two hypothetical customers, it was possible to demonstrate how their equipment's embedded position on the network and the effect of impedance, might reduce fault level contribution and consequently, the payment available.

To help illustrate the effect of impedance on fault current, a second water analogy was incorporated into this part of the presentation. Again, the ECP confirmed the use of analogies was extremely effective in the context of this complex concept. The second analogy was also easily understood and successful in demonstrating impedance to a non-technical audience.

The presentation then introduced the fault history of the hypothetical customers to provide an indication of how many times each year a fault level response might be required. The ECP was informed that this element of the presentation would be tailored to individual organisations. The panel found the approach appropriate and helpful in conveying the extent to which the customer's equipment was likely to be constrained each year.

*“I think this is very useful, especially if you're trying to engage people in the wider business. I just want to know about my area. I'm not bothered about the other side of Lancashire, what's going on up there. I want to know exactly what's happening at my site and the potential for faults to occur now that would affect my supply today.”* Sustainability Manager, Public Administration and Defence Sector

They also considered it was helpful and important to demonstrate how financial benefits will be calculated, relative to the estimated number of occasions equipment might be called upon to provide a fault level response:

*“We're talking about the actual fault level contribution, that's what this is calculated on .If one site is contributing to the problem, a response would be needed and the number of times this occurs will drive the payment. The price point would have to reflect the risk profile of the customer.”* Technical Service Manager, Healthcare Sector

Despite having been advised that the presentation was a draft framework, the ECP voiced concerns that some of its content was too generic. Their concerns were alleviated after providing reassurance that the presentation will be specifically tailored to prospective customers and will provide accurate data, specific to the customer's site, eg fault history; thus enabling them to make informed decisions about the risks and benefits to their organisation. The ECP was comfortable with this approach and generally felt that, as an initial overview of the new commercial concept, the presentation was comprehensive and encompassed everything that a potential trial participant would expect to know at the outset of contract negotiations. The panel approved of the presentation forming the basis of a general communication strategy. While they felt it was aimed primarily at a technical audience, they considered the proposed verbal content, images and analogies worked well to support the technical references, making it accessible to those from a non-technical background.

### 3.1.5 FCL service video

Before the initial phase of ECP engagement (pre-survey), a short narrated video was produced to help the panel understand the FCL service within the context of Respond (Appendix 8.6). This simply and succinctly demonstrated why fault level mitigation techniques were needed and when the response would be activated to constrain a customer's equipment. The video was received positively during the first phase of focus group meetings and was subsequently incorporated into the customer survey, after an equally positive evaluation by the pilot survey population.

Because of time constraints and the ECP's previous involvement in refining the FCL service video (which involved multiple viewings), it was not shown to them again in full. Nevertheless, the narrated presentation (Section 4.1.4) included a section which recapped the video's main messages to ensure the viewer had fully understood the concept.

The reconvened panel confirmed that the video is able to successfully disseminate technical information in a clear, simple and visual manner to a diverse audience, previously uneducated about the concept. Consequently, the ECP agreed that the video should form an integral part of the general communication strategy and that it is appropriate to incorporate it into a tailored presentation for prospective trial participants.

No further enhancement was required to the content, imagery or method of delivery as the video was considered sufficiently clear, informative and engaging.

### 3.1.6 FCL service commercial templates

Model commercial contracts, based on a variation to the National Terms of Connection (NTC) have been produced for existing and new connection customers, which are designed to be transferable to other GB DNOs (refer to Section 7). Because of the lengthy and complex nature of these templates, they were not shared with the ECP. The rationale for this decision was based on: the large volume of supporting material that the ECP was required to read before and evaluate during the meeting; the finite time available during the meeting; and the limited scope for ECP feedback to materially influence changes to the legal framework of the templates.

## 3.2 Overall effectiveness of the materials

The ECP concluded that there was an appropriate range of communication materials to satisfy the needs of decision makers in the target market and stimulate interest in the service.

*"The materials explain everything. Certainly enough for you to be interested enough to speak to somebody directly, I think."* Site Service Manager, Data Management

The panel's feedback suggests materials are suitable for individuals with differing technical and commercial awareness, representing a variety of I&C sectors. The resources were found to be effective in explaining the Respond project generally and the FCL service specifically. The pitch and the language used in all of the materials were considered appropriate, clear and easy to understand.

With the exception of risk, the panel concluded that the materials addressed the elements of the project that are likely to represent the key concerns and areas of interest for prospective trial participants, during the introductory stages of engagement. These included:

- An overview of the problem and why DNOs need to find more efficient ways of using existing assets to meet customers demand and generation requirements
- The fault conditions under which the FCL service would be activated; how the constraint on equipment would be applied; for how long; and potential wider impact on the overall supply to the site

- The arrangements for removing the constraint/the mechanism for restarting equipment
- An indication of how many times a year the constraint on equipment might be applied and how fault history will be utilised to calculate this estimate
- An indication of how financial benefits will be calculated based on the demand/generation capacity of the motor/generator; the organisation's connection point on the network; and the term of the contract
- Indicative arrangements for installing and testing the remote control enabling equipment
- Ongoing consultation during the trial period.

### **3.3 Distribution of customer communication materials**

The ECP were asked if they felt it was more appropriate to send the written documents to prospective trial participants before or after delivery of the face-to-face presentation and the panel overwhelmingly agreed that they should be issued before. They felt this would prompt prospective trial participants to fully contemplate the impact of the FCL service on their processes, identify concerns and prepare questions about issues that could not be sufficiently addressed in the documents. This approach also ensures that prospective trial customers have the opportunity to review materials and ensure face-to-face meetings are attended by appropriate personnel with differing financial and technical perspectives in their organisation:

*"I think it gives you enough information to know who you need to be at that meeting"*. Head of Operations, Education Sector

### **3.4 Required modifications to communication materials**

Minor revisions were made to both the FCL service Q&A document and the presentation to reflect ECP feedback about risk, after recognising that this is likely to be prospective participants' primary consideration and central to evaluating potential benefits. However, because of the complexities of this subject, and contrary to the recommendation of the ECP, enhancements to information about risk were minimal, with content maintained as a relatively high level overview. However, the revised content is transparent in acknowledging that this type of managed agreement might present an unacceptable risk to certain customers. It also clarifies that potential trial participants will be responsible for assessing the unique risk to their own organisation. The revised literature explains that any concerns around risk will be addressed with prospective participants on an individual basis during detailed contract negotiations and that individual responsibilities will be defined in the terms of the managed agreement when customers elect to provide a fault level response.

ECP feedback was valuable in optimising the accessibility, content and comprehension of all the presented materials to ensure that they are sufficient to support the commercial template and the proposed framework for the purchase of fault level response contracts.

## **4 KEY FINDINGS**

The key findings of the ECP are presented via a number of key insights, followed by any action taken as a result of the consultation.

### **4.1 Risk will be a primary consideration for potential participants**

#### *Insight*

Assessment of reward versus risk is likely to be the primary driver in a customer's decision to enter a fault current response contract. The ECP reiterated that their primary concerns about the concept were linked to risk, most notable of which were: damage to equipment; detriment to processes; general security of supply; and in some instances, the safety of employees and

end customers such as clients and patients. The panel perceived that most organisations contemplating this type of arrangement were likely to have broadly similar concerns.

These issues were initially highlighted by the panel during first focus group meetings, prior to the customer survey. The reconvened panel maintained their assessment that a major barrier to uptake among organisations potentially able to provide the service, would be associated with concerns around risk and resilience.

While risk was briefly covered in the *'Are there any risks of getting involved?'* section of the FCL service Q&A document, the panellists believed this required some expansion, placing greater emphasis on all potential risks including personal liability, indemnity against defects and losses, validation of warranties etc.

The proposed introductory presentation did not specifically refer to risk because it is not possible for the DNO to be fully aware of the potential risks for an individual organisation from providing an FCL service, particularly before first engaging with customers. However, the project team anticipate that the opportunity for questions at the end of the presentation will allow customers to voice concerns and appropriate time will be allocated for this purpose in face-to-face meetings. It is expected that lengthy discussions will follow the initial presentation, culminating in a thorough understanding of how the installation and enablement of FCL service technologies will affect the customer's unique equipment and processes. This period of consultation will also identify the bespoke arrangements required to install and operate enabling technologies at each site. It will then be up to the customer to decide if the benefits available from providing a fault level response are sufficiently attractive to offset any potential risk and/or disruption to their organisation.

Panellists believed that potential trial participants would expect the issue of risk to be introduced early in the presentation and Electricity North West should acknowledge that there might be multiple risks that the organisation should consider. The panel also felt that the DNO had an obligation to highlight possible problems. As such, they suggested that there was a requirement for preliminary research about the organisation's operation to ensure that the most obvious potential customer risks, such a possible increase in the maintenance costs of equipment, approvals from any third party owner/operator of equipment, and the validity of exiting warranties are specifically referenced in the bespoke presentation.

However, after considered debate, the ECP accepted that the tailored presentation will represent only the first point of direct contact with potential trial participants and while it is likely to prompt organisations to consider possible risks, it would also allow them to weigh these up against the potential benefits to their business. They also accepted that any decision to trial the FCL service would ultimately rest with the customer, following detailed negotiations, and after all elements of the contract were agreed by both parties.

The ECP recognised that because of the diversity of the market sector that might be interested in this type of commercial agreement and the unique operating arrangements of individual organisations, it is impossible for communication materials to address the full range of questions and concerns that might arise. Therefore, this topic can only be referenced generically. They also acknowledged that these materials were not designed to placate risk-averse organisations, who were unlikely to consider this type of arrangement and are thus not the target audience.

### *Action*

Minor refinements were made to enhance the risk and resilience section of the FCL service Q&A document as a direct result of ECP consultation. However, as acknowledged by the panel, highlighting all potential risk was not possible and inappropriate because:

- Customers need to assess their unique risk
- There is likely to be little or no risk to some organisations in certain customer segments



- Incorporation of a lengthy section that highlights potential barriers to taking part could be perceived as alarmist and deter customers who might otherwise have shown an interest in providing a fault limiting response and benefitted from doing so.

As such refinements to the narrative were modest, as maintaining the reference to risk generically was deemed to be acceptable.

#### **4.2 The key drivers in participation of a FCL service managed agreement will be financial**

The initial phase of ECP meetings, followed by the subsequent survey, demonstrated that customer appetite for the FCL service was intrinsically linked to the financial rewards available. The reconvened ECP reiterated that financial considerations, when assessed against all elements of risk, would be the primary driver in transitioning organisations from an expression of interest in the concept to participation in the trial. The ECP understood the pricing mechanism and accepted that it was impossible to provide specific information about the payment structure in the suite of introductory written materials because of the complex nature of the calculation. They considered that the information contained in the various materials was sufficient to adequately explain that the payment would be site-specific, based on the organisation's particular equipment, its capacity and other factors influencing its contribution to fault current.

The ECP also felt that the manner in which the bespoke payment was calculated was explained effectively in the proposed presentation and the variable conditions affecting the payment were easily understood and logical.

##### *Action*

No modifications were required to the written communication materials; however, it remains the intention of the delivery team to tailor the proposed presentation, which forms the 'initial pitch' to interested organisations. This will be site specific and demonstrate, in a transparent manner, the factors influencing the payment, based on the customer's equipment's contribution to fault current. It will also encourage potential participants to provide constructive feedback on their expectations in terms of financial remuneration and the level of payment at which they feel participation in the trial is a viable proposition for their respective organisation.

#### **4.3 Prospective FCL participants have expectations of an enhanced service**

##### *Insight*

ECP feedback identified a general expectation among I&C customers of a significantly enhanced service from Electricity North West compared to that provided to its domestic and SME customers. This was perceived as a general expectation by the panel but was considered an absolute minimum requirement where customers enter into managed agreements to provide the DNO with services to mitigate network constraints, irrespective of the financial benefits to themselves:

*"Can I just ask, if you were trialling this for a year, would you get an enhanced status with Electricity North West in the event of a fault?"* Technical Service Manager, Healthcare Sector

The enhanced services that the ECP suggested should form part of the bilateral agreement including: improved communications mechanisms; personal support from account managers; and reduced response/restoration times in the event of supply interruptions. A direct communication platform was considered to be an explicit requirement for situations where the technique is activated and a trial participant might require technical advice before reclosing a circuit breaker to restart equipment.

### *Action*

The FCL service Q&A specifies that explicit arrangements will be agreed with participating organisation about the mechanism for identifying when a constraint has been applied and subsequently removed, thereby allowing the customer to safely reclose their equipment. As such, no amendments were made to communication materials to expand on the availability of technical support in the event of a 'fault level response' during the trial phase.

Provision of a fault level response will not result in enhanced services for organisations taking part in the trial, other than the financial incentive available and agreed as part of the managed agreement. Therefore, materials were not updated to reflect ECP comments, as this information could be negatively perceived by potential participants. The ECP was uniquely placed to predict the expectations of I&C customers and the project delivery team will act on this feedback by preparing suitable answers, in anticipation of potential questions about service enhancement. ECP feedback suggests that the most likely expectations will relate to the availability of direct communication channels and an expedited response to network faults that cause a total or partial loss of supply at the site. The delivery team will also fully address any questions concerning the bespoke support mechanisms that will be available to customers when enabling technologies constrain their generator or motor during a fault level response event. This dialogue will be clear, set realistic expectations and will be clarified in writing if required.

#### **4.4 I&C customers are confused by the range of commercial arrangements available to them and the differences between those arrangements**

The ECP was interested in the information contained in the FCL service Q&A document about the commercial service market and the various arrangements that might be available to large consumers and generators of electricity. Some panellists revealed they were confused about the various commercial opportunities that have been introduced to manage the security of supply across GB and confirmed that this section highlighted arrangements that they were previously unaware of. They believed that the information was valuable in raising the issue of potential conflicts which might prevent organisations from providing a fault level response. Equally, it revealed the possibility of synergies that might be lucrative to some customers. The panel felt that the section was effective in distinguishing the FCL service from other commercial arrangements including, but not limited to, demand side response and other managed connection agreements; electricity storage and the capacity market.

### *Action*

This section was considered valuable and the panel confirmed that it should be retained for customers who are less familiar with the commercial service market and associated mechanisms and terms.

## **5 LESSONS LEARNED FOR FUTURE INNOVATION PROJECTS**

This section of the report disseminates the learning outcomes from this piece of customer research. The learning is focused on describing how DNOs and their stakeholders can capitalise on this process by identifying and responding to challenges that may arise in future customer engagement activities of a similar nature.

The lessons learned are as follows:

### **5.1 Visibility of the DNO and its role remains confusing to the majority of customers**

Incorporating general information about the roles of the various organisations within the electricity industry in the Respond Q&A document is a direct learning from previous customer engagement. Electricity North West's previous innovation projects, involving direct customer

engagement, have consistently demonstrated that most customers (including those from I&C backgrounds) require some level of education about the role of the DNO before project information can be understood. This project was no exception and reinforced that improving visibility remains a key challenge for DNOs. It is therefore prudent to provide customers with appropriate, audience specific, educational information which explains the energy sector, specifically the responsibilities of the DNO, before introducing project information. Only then can customers contemplate the importance of innovation in meeting the future needs of electricity consumers.

## **5.2 An ECP is an effective forum for testing a range of complex communication materials with a breadth of technical complexity to satisfy varying stakeholder needs**

When developing a communication strategy about a technically complex commercial concept, it is important to test a range of materials, which incorporate different levels of technical content. Therefore it is necessary to engage a broad range of customers from appropriate but diverse market sectors, who have differing business perspectives. The effectiveness of communication materials should be measured by customers from both technical and commercial backgrounds with uniquely different focus and comprehension.

ECP feedback was valuable in optimising the accessibility, content and understanding of the proposed materials, reinforcing that it is advisable to produce, test and refine such materials with an appropriate cross-section of individuals. The ECP found value in having a range of tailored materials available, which could address the varying needs of different audiences in the target market.

The ECP was influential in guiding final enhancements to written materials, designed to provide potential trial participants with important project information and answer the questions most commonly raised by the panel and former survey respondents. In future projects, it is advisable to provide a succinct document, containing general information, which is accessible to all customers. Supplementary literature containing more complex, granular information (such as the FCL service Q&A document), should be made available for a technical audience.

This period of customer consultation was successful in ensuring the proposed communication strategy was effective in supporting the commercial template and is an efficient and credible vehicle for purchasing fault level response contracts.

## **5.3 Maximising the participation of engaged customers can be a cost-effective and efficient means of managing long-term research commitments**

Reconvening a previously educated ECP was extremely effective in evaluating the customer engagement materials. This iterative approach built on the education previously imparted to the panel, enabling them to easily contextualise the transition from an engagement strategy aimed at testing the appetite for a concept, to its introduction to the marketplace.

This approach was also the most cost efficient means of evaluating materials, as it did not involve the recruitment and education of new panel members. This is generally a costly and lengthy process that involves introducing project information in the context of the DNO's innovation strategy and the decarbonisation agenda. This can initially generate unhelpful debate about factors driving the need for change. Therefore, appropriate time must be allocated with a newly convened ECP to dispel negative perceptions about the requirement for innovation in the context of predicted demand forecasts and also to address concerns about a correlation between investment in innovation and increased electricity bills.

Reconvening an ECP may not be suitable for all customer research projects but was appropriate in this instance and aided the development of an appropriate suite of materials, designed to convey an extremely complex concept to a specific market.

## **5.4 Exercise caution with the volume of reading material participants are expected to consider before a focus group meeting**

Panellists were sent two documents which they were asked to read before the meeting. These were a one-page summary of the project (refer to Section 3.1.1) and a four-page project Q&A document (refer to Section 3.1.2). On arrival, the panellists were provided with an additional, six-page Q&A leaflet to read (refer to Section 4.1.3) containing more detailed information about the FCL service, the problem that it seeks to manage, how prospective customers can get involved and specifics about the technical and commercial arrangements.

The rationale for restricting the amount of directed reading prior to the meeting was to mitigate the risk of overwhelming the panel, potentially resulting in important information not being read thoroughly, or at all.

The FCL service Q&A was the most important and lengthy document evaluated by the ECP. This was presented to panellists on their arrival and adequate time was allocated for reading it. Although, adopting this approach ran the risk of participants having insufficient time to read the literature if they arrived late, it was thought that the panel were likely to be more inclined to read the document and pay greater attention to it in the focus group environment. It was also important that the IQCS moderator was able to question them about the content shortly after they had read the document, because of its complex and extensive nature. This was critical in gauging the members' reaction to the document generally and their assessment of the information it contained.

This approach resulted in a slight overrun of the meeting, but was successful in testing the effectiveness of the literature and its ability to comprehensively address key elements of a new concept.

Providing additional reading before and during an ECP meeting is an effective way of optimising the education process and the learning it generates. This phase of engagement involved only one meeting; however, the process has highlighted that where an ECP meets more than once and is required to digest a large amount of literature, there is likely to be value in asking the members to read materials between meetings to ensure the volume is manageable. Where additional reading or activity is required beyond simply attending a focus group meeting, the following measures might be considered:

- Enhance the incentive provided to panellists for participation
- Increase the number of meetings to accommodate the activity
- Arrange meetings over a longer time period.

It is advisable to limit the amount of reading expected of ECP members outside focus group meetings and caution must be exercised where there is an expectation that participants will be required to read relatively large volumes of supplementary information before, during and potentially after a meeting. If this is unavoidable, the above measures are likely to ensure that an ECP remains sufficiently engaged in the process.

## **6 CONCLUSIONS**

This report sets out the key findings from a strategic phase of market research conducted with a reconvened ECP comprised of I&C customers who were well-placed to provide constructive feedback on a new commercial concept being trialled as part of Respond. This panel validated the communication strategy designed to introduce the FCL service to potential trial participants; provided feedback on the key elements of the concept that needed to be communicated; and influenced refinements to the final suite of materials.

The panel concluded that these materials were effective in conveying the objectives of the trial, how a participating customer's equipment might be impacted and the potential benefits

of taking part. The presentation and overall suite of written documents were considered comprehensive although somewhat lengthy. However, the panel concluded that all the information disseminated was valid, relevant and should be retained. As such, it was inappropriate to condense the materials.

Following guidance from the ECP, it is likely that literature will be sent to prospective trial participants before delivery of a bespoke presentation; this will provide sufficient opportunity for the recipient to compile a list of questions or concerns which can be addressed by technical and commercial representatives from the project team during their subsequent presentation.

The panel concluded that the proposed presentation effectively explained the concept in a manner that was accessible to customers from a range of technical and commercial backgrounds. The suggested method of delivery by both a commercial manager and a technical expert was considered appropriate and provides a suitable framework to engage customers more thoroughly. The approach opens communications channels for more detailed technical discussions and contract negotiations with organisations demonstrating an aptitude to trial the FCL service.

ECP feedback was overwhelmingly positive and the panel endorsed the collective suite of communication materials as providing a suitable introductory platform to take the FCL service to market.

Only minor enhancements were suggested and the materials were refined to incorporate these insights. These documents will be available to potential trial participants, stakeholders and other interested parties. They will provide a vehicle for purchasing a fault level response service and underpin the new commercial templates. These materials will subsequently form the basis of a commercial communication strategy if the concept is transferred to business as usual, pending the successful trial of the technical and commercial elements of the FCL service.

The importance of obtaining customer feedback from a knowledgeable and relevant audience when developing informative materials should not be underestimated and an ECP is a creditable vehicle for facilitating this type of consultation.

## **7 NEXT STEPS**

A comprehensive customer survey report will be published in May 2017, which will document the learning from this phase of quantitative research.

During the next and final phase of customer engagement, the project team will seek to enter into managed agreements with up to five I&C demand and generation customers that have indicated a willingness and ability to trial the technical and commercial elements of the FCL service. Potential trial participants have been identified from the customer survey. The communication materials developed as part of this process will be pivotal in engaging these customers, prior to more detailed contract negotiations, to secure managed agreements for the trial of FCL service enabling technologies for an agreed period of approximately 12 months.

FCL service contracts are based on a variation to the National Terms of Connection (NTC) to ensure there is consistency with standard contracts and the templates are as simple as possible. The templates explain the parameters of the managed agreement in simple terms, with any variations being referenced to the NTC. These have also been designed to be fully transferable to other GB electricity DNOs.

Participating customers will be consulted throughout the trial period. The new commercial arrangements and learning from this period of consultation will be published initially in May 2018 and subsequently disseminated in Respond closedown activities in October 2018.

## 7.1 Dissemination of findings

In line with the vision of the LCN funding mechanism, all outputs and learning acquired from Respond customer engagement activities will be made available to other DNOs. All communication materials developed to date have been publicised on the Respond website. There will be on-going learning and dissemination as the project progresses via Respond learning events, stakeholder updates, trade magazines and in other appropriate forums.

Contract templates for new and existing customers; the learning derived from introducing the FCL service to the market place; and the new commercial arrangements will be published in May 2018. The project findings, lessons learned and implementation recommendations will be documented in a final report which will be submitted to Ofgem in October 2018.

As part of the recruitment process, ECP members were required to sign a consent form, the details of which are provided in the Respond data privacy statement. Panellists' explicit permission was sought and granted for the use of sound bites and video footage from the group discussion at industry learning events. The use of such recordings has been found to provide an engaging means of demonstrating the outcomes and intrinsic value of an ECP and will be utilised as part of the project's dissemination.

## **8 APPENDICES**

The following appendices can be found on the Respond website [key documents](#) page.

- 8.1 Respond ECP2 – discussion guide, 20 April 2016**
- 8.2 Respond ECP2 – concept, 20 April 2016**
- 8.3 Respond ECP2 – project Q&A, 20 April 2016**
- 8.4 Respond ECP2 – FCL service Q&A, 20 April 2016**
- 8.5 Respond – commercial presentation template, 20 April 2016**
- 8.6 The FCL service video referred to in this document is Video 2 on the project [video page](#).**