AN ASSESSMENT OF THIRD PARTY DELIVERY OF A LOW CARBON INNOVATION PROJECT

SDRC 9.2 & 9.3
OCTOBER 2015
<table>
<thead>
<tr>
<th>DOCUMENT ID</th>
<th>DOCUMENT TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summary report</strong></td>
<td>An 18 page report summarising the outputs of the My Electric Avenue Project.</td>
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<tr>
<td><strong>High level summary report</strong></td>
<td>A four page, high level summary of the My Electric Avenue Project outputs.</td>
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<tr>
<td>SDRC 9.1.1</td>
<td>A report outlining key areas of learning and associated recommendations arising from the experience of a third party leading a Tier 2 bid.</td>
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<tr>
<td>SDRC 9.1.1</td>
<td>The Management &amp; Delivery Document created as part of the Novel Commercial Arrangement, published in support of SDRC 9.2.1.</td>
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<tr>
<td>SDRC 9.1.1</td>
<td>This Principal Contract Template download remains available for reference purposes only, having been superseded by SDRC 9.2.3, an updated contract template incorporating the learning identified throughout Project Delivery.</td>
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<tr>
<td>SDRC 9.1.1</td>
<td>The Partner / Supplier Task Order Template (PDF), created as part of the Novel Commercial Arrangement, published in support of SDRC 9.2.1 period.</td>
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<tr>
<td>SDRC 9.2 &amp; 9.3</td>
<td>An SDRC report combining the planned relating to the contractual arrangements implemented to enable management of the Project by EA Technology on behalf of SEPD, and an assessment of how effective those arrangements were.</td>
</tr>
<tr>
<td>SDRC 9.2.3</td>
<td>The updated ‘Principal Contract Template’ incorporating the learning from the Project following use of the initially developed commercial agreement.</td>
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<tr>
<td>SDRC 9.4</td>
<td>Independent Project Reviews undertaken by Ricardo at Months 6 &amp; 12, and the Project Team’s responses.</td>
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<tr>
<td>SDRC 9.4</td>
<td>Independent Project Reviews undertaken by Ricardo at Months 18 &amp; 24, and the Project Team’s responses.</td>
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<tr>
<td>SDRC 9.4</td>
<td>Independent Project Reviews undertaken by Ricardo at Months 30 &amp; 36, and the Project Team’s responses.</td>
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</tbody>
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**SDRC 9.5**

- **Volume 1**: Confirmation of successfully achieving the SDRC target to recruit 3 Cluster Groups to Participate in the My Electric Avenue Project. In reality, 4 clusters were recruited by this point.
- **Volume 2**: Confirmation of successfully achieving the SDRC target to recruit 5 Cluster Groups to Participate in the My Electric Avenue Project.
- **Volume 3**: Confirmation of successful recruitment of participants for all Technical Trial Clusters.
- **Volume 4**: Confirmation that all funding required for the establishment of Project Technical Clusters had been allocated.
- **Volume 5**: Confirmation of successful recruitment of the necessary number of participants to the Project Social Trials.

**SDRC 9.6**

- A report assessing the public acceptance to Demand Side Response of EVs using the Esprit Type Technology.

**SDRC 9.7**

- An assessment of Esprit integration; Voltage Variance: The impact of EVs; Impact of Esprit on heat pumps; Impact of Esprit on cable thermal ratings.

**SDRC 9.8**

- **Volume 1**: An assessment of how much headroom this sort of technical solution would yield, considering different network topologies and load types.
- **Volume 2**: This report sets out the My Electric Avenue project’s learning on the use of Powerline Carrier (PLC) communication for Low Voltage (LV) network.
- **Volume 3**: Work Activity 1 - Evaluation of the Initial Trial. Report for University of Manchester Deliverables 1.1, 1.2 and 1.3. Low Voltage Networks. Report for University of Manchester Deliverables 2.1, 2.2 and 2.3. Work Activity 2 - Model Validation and Data Analysis. Report for University of Manchester Deliverables 3.1, 3.2, 3.3 and 3.4.

**Technology White Paper**

- This White Paper sets out EA Technology’s vision for Esprit, based on the key findings from My Electric Avenue.

**Project Progress Reports**

- The suite of Project Progress Reports, published at six monthly intervals through the duration of the My Electric Avenue Project.

**Project Close-Down Report**

- The Close-Down Report for the My Electric Avenue Project.
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXECUTIVE SUMMARY</td>
<td>8</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>10</td>
</tr>
<tr>
<td>1.0 DEFINITIONS</td>
<td>12</td>
</tr>
<tr>
<td>2.0 APPROACH</td>
<td>14</td>
</tr>
<tr>
<td>3.0 PROCESSES FOR COLLABORATIVE WORKING (SDRC 9.3.1)</td>
<td>16</td>
</tr>
<tr>
<td>3.1 GENERAL PRINCIPLES</td>
<td>17</td>
</tr>
<tr>
<td>3.2 WORKING WITH A DNO</td>
<td>18</td>
</tr>
<tr>
<td>4.0 SDRC 9.3.2</td>
<td>29</td>
</tr>
<tr>
<td>4.1 DOMESTIC INSTALLATION CONSIDERATIONS</td>
<td>30</td>
</tr>
<tr>
<td>4.2 LV NETWORK CONSIDERATIONS</td>
<td>30</td>
</tr>
<tr>
<td>4.3 RECOMMENDED PROCESS</td>
<td>30</td>
</tr>
<tr>
<td>5.0 ESTABLISHMENT OF PROJECT PARTNERS AND SUPPLIERS</td>
<td>32</td>
</tr>
<tr>
<td>5.1 OVERVIEW</td>
<td>32</td>
</tr>
<tr>
<td>5.2 BUDGETED MEA SSEN PROGRAMME MANAGEMENT LABOUR</td>
<td>33</td>
</tr>
<tr>
<td>5.3 EXPENDED MEA SSEN PROGRAMME MANAGEMENT LABOUR</td>
<td>33</td>
</tr>
<tr>
<td>5.4 MONTHLY VIEW WITH VARIANCES HIGHLIGHTED AND EXPLORED</td>
<td>33</td>
</tr>
<tr>
<td>5.5 REASONS BEHIND VARIANCES</td>
<td>37</td>
</tr>
<tr>
<td>5.6 OTHER INNOVATION PROJECT’S (NTVV) BUDGETED PROGRAMME MANAGEMENT LABOUR</td>
<td>38</td>
</tr>
<tr>
<td>5.7 NTVV’S EXPENDED LABOUR</td>
<td>38</td>
</tr>
<tr>
<td>5.8 COMPARISON BETWEEN MEA AND NTVV</td>
<td>40</td>
</tr>
<tr>
<td>5.9 ASSESSMENT OF LEVEL OF SSEN EFFORT REQUIRED FOR MEA PROGRAMME MANAGEMENT</td>
<td>41</td>
</tr>
</tbody>
</table>
6.0 CHANGES TO THE ORIGINAL CONTRACTUAL STRUCTURE (SDRC 9.2.2) 42

6.1 COMMERCIAL STRUCTURE – WHAT WORKED 42
6.2 COMMERCIAL STRUCTURE – WHAT DIDN’T WORK 44
6.3 OTHER OBSERVATIONS 50
6.4 LCN FUND GOVERNANCE 53
6.5 THE NOVEL COMMERCIAL ARRANGEMENT 59
6.6 SUBCONTRACT ARRANGEMENTS 62
6.7 REVIEW OF THE CONTRACTUAL ARRANGEMENT 64

7.0 KEY LEARNINGS AND RECOMMENDATIONS 66

7.1 SDRC 9.2.2 REVIEW OF THE CONTRACT PUT IN PLACE BETWEEN SSEN AND EA TECHNOLOGY 66
7.2 SDRC 9.3.1 PROCESSES ESTABLISHED AND UTILISED THROUGHOUT THE PROJECT 67

APPENDIX 1: PROJECT DELIVERABLE STRUCTURE 69
APPENDIX 2: COMPARISON OF RECRUITMENT RISKS BETWEEN PRE-BID SUBMISSION AND PROJECT DIRECTION 70
APPENDIX 3: MONTHLY REPORTING UPDATE 72
APPENDIX 4: CONTINGENCY REQUEST FORM 73
APPENDIX 5: INVOICING DETAIL TEMPLATE 74

TABLE OF FIGURES

FIGURE 1: PROJECT DOCUMENTATION 11
FIGURE 2: SDRC SUMMARY – 9.2 & 9.3 15
FIGURE 3: PROPOSED CHANGE REQUEST PROCESS 28
FIGURE 4: OVERALL PROCESS FOR CHARGING POINT ILLUSTRATION 31
FIGURE 5: ANALYSIS OF FORECAST HOURS OF SSEN PROGRAMME MANAGEMENT AGAINST ACTUAL HOURS EXPENDED ON MEA 34
FIGURE 6: CUMULATIVE FORECAST VERSUS ACTUAL EXPENDITURE 35
FIGURE 7: ANALYSIS OF FORECAST HOURS OF SSEN PROGRAMME MANAGEMENT AGAINST ACTUAL HOURS EXPENDED ON NTUU 39
FIGURE 8: COMPULSORY CONTRIBUTION & SUCCESSFUL DELIVERY REWARD PROCESS 51
FIGURE 9: PROJECT FUNDING AVAILABILITY 54
FIGURE 10: RECAP OF THE I’EV (MY ELECTRIC AVENUE) COMMERCIAL STRUCTURE 60
FIGURE 11: PROJECT PARTICIPANTS 61
EXECUTIVE SUMMARY

MY ELECTRIC AVENUE (MEA), FROM THE FIRST INCEPTION OF THE IDEA, WAS ALWAYS LIKELY TO BE AN AMBITIOUS PROJECT WITH CHALLENGING GOALS AND MAJOR FINANCIAL CONTRIBUTIONS REQUIRED. IT IS THE NATURE OF SUCH LARGE AND COMPLEX PROJECTS THAT CONTRACTUAL PENALTIES WILL BE NECESSARY TO MAINTAIN CONTROL AND ENSURE CUSTOMER VALUE IS ACHIEVED. FOR LONG PERIODS THROUGH THE MEA PROJECT THE PENALTIES FOR FAILURE TO ACHIEVE GOALS HAVE BEEN LARGE, AND SUCH PENALTIES CREATE PRESSURES BETWEEN THE CONTRACTUAL PARTIES. IT IS TO THE CREDIT OF ALL THE PARTIES INVOLVED, THAT DESPITE THESE POTENTIAL LARGE PENALTIES, RELATIONSHIPS HAVE REMAINED EXCELLENT AND WE WOULD UNHESITATINGLY TAKE ON A NEW CHALLENGE AND WORK TOGETHER AGAIN.

The learning points presented in this report should not be taken as a criticism of any of the parties involved, but rather as an attempt to ensure that future projects can avoid some unnecessary extra problems. With this in mind, the main learning points are below.

What worked well?
— Clarity of the project scope and clearly defined milestones allowed all partners to know precisely what was required from the project, and by when.
— Working relationships between Project Partners were excellent with a willingness to change plans in order to meet the changed scope following issue of the Project Direction.
— Partnership working between Scottish and Southern Electricity Networks (SSEN)* and EA Technology to overcome obstacles was excellent, such as ensuring availability of funds in the early months of the project.
— Provision of Project Contingency provided the Project with the ability to respond to realised risks and changing situations whilst ‘ring-fencing’ funds for return to customers if unspent at the end of the project.
— The Independent Project Review provided a neutral perspective of all elements of the project ranging from technical and commercial delivery through to Governance processes.
— Using Business-As-Usual processes as far as is reasonably possible can accelerate the deployment of the project, but be aware of the risk of trying to ‘force innovation’ into a pre-existing course of action where new methodologies may be required.

What didn’t work well?
— Changing the scope of the Project through the introduction of additional clauses in the Project Direction resulted in project elements increasing in cost and complexity.
— Lack of clearly defined areas of liability between SSEN and EA Technology in the contract.
— Fixed, restrictive budgets reduced the flexibility to shift budgets around and this severely limited the Project’s capability to deliver the revised scope by the most efficient means, where savings from some areas could have been used to reinforce progress in other areas.
— The indirect relationship between the Project Lead and Ofgem introduced both delays in responding to queries (in either direction), and the potential for miscommunication.

What should be done differently in the future?
1. Where changes to the submitted project are required as a condition of the project award, time must be allowed to fully identify their impact to costs and anticipated timeline. If these changes affect the planned expenditure, the project budget must be increased, or decreased accordingly.
2. Financial monitoring and stage-gated restrictions should be commensurate with the complexity of the project. Multiple layers of financial reporting may require a disproportionate level of effort in comparison with the size of the project without providing good value for the customer.
3. Where restrictions on funding or project continuation stage-gates are introduced, the criteria by which the requirement will be deemed to have been met should be clearly defined and unambiguous, and risks needed to meet them should be considered for all parties.

4. Where referred to in contracts, include relevant clauses from LCN Fund Governance documents rather than cross-referencing them.
5. Where a project is awarded on a fixed price basis it is recommended that one level of capping funds is utilised, selecting the most appropriate for the size and type of project. For instance either by Ofgem categories (over the whole project), by project tasks per year, or agreed amount based on tasks completed at stage-gates.
6. If the intention at the outset of project development is for partnership working between the DNO and a third party, the agreements should include a defined allocation of any future liabilities. A reasonable starting position for this should be the split agreed for the compulsory contribution.
7. Risk mitigation measures should be implemented to protect the overall project, not just the interests of individual stakeholders.
8. Additional project clauses, introduced by Ofgem, should be discussed with the Project Team prior to their implementation to avoid ‘unintended consequences’ adversely affecting the Project.
9. The Project Lead nominated as the DNO’s ‘Project Representative’ should be authorised to speak on their behalf to Ofgem in relation to the Project.
10. Ofgem should review the current attitude regarding cost savings within the portfolio of projects with a view to allowing project managers the authority to manage fixed price projects. In addition, Ofgem should consider that effective project management requires a holistic view of the entire project that cannot consider expenditure types in isolated silos.

*Scottish and Southern Electric Power Distribution (SSEPD) now operates under the trading name, Scottish and Southern Electricity Networks (SSEN), as of 6th September 2016.
INTRODUCTION

OVERVIEW OF ‘MY ELECTRIC AVENUE’
My Electric Avenue is an innovative project trialling a solution to the potential impact that the recharging of electric vehicles (EVs) may have on the local electricity network. The project is funded by Ofgem’s Low Carbon Networks (LCN) Fund.

In line with the Project’s original and contracted title, Innovation Squared: Electric Vehicles (‘iEV), the Project is delivering learning in two strands of innovation:

1. COMMERCIAL INNOVATION
   A BLUEPRINT FOR COMMERCIAL CONTRACTS AND MANAGEMENT OF PROJECTS DELIVERED BY A THIRD PARTY ON BEHALF OF A DISTRIBUTION NETWORK OPERATOR (DNO).

2. TECHNICAL INNOVATION
   TRIALLING A TECHNOLOGY (ESPRIT) TO MITIGATE THE IMPACT OF ELECTRIC VEHICLE (EV) CHARGING ON THE LOCAL ELECTRICITY NETWORK.

Aligned with these two delivery areas, the aims of the Project are split into two key categories, commercial and technical.

The commercial aims of the Project are to:

1. Demonstrate delivery of a LCN Fund project by a non-DNO on behalf of a DNO.
2. Develop a novel commercial arrangement within which other SMEs could emulate the working practices of the Project.
3. Enable all procurement related to the Project activity to be managed by a non-DNO.
4. Evaluate the extent to which third party delivery accelerates deployment of LCN Fund projects.

This report focuses on the commercial learning from the Project. However, it is helpful to also note the Project’s technical aims, as the commercial arrangements inevitably impact upon these.

The technical aims of the Project are:

1. To learn customer driving and EV charging habits.
2. To trial equipment to mitigate the impact of EV charging.
3. To explore the network benefits of such technology.

PROJECT OUTPUTS
The My Electric Avenue project has generated a wide range of documentation to meet the Project deliverables and learning requirements. The hierarchy of these deliverables is shown below, with higher documents, produced later in the Project, referencing those produced earlier.

This report is highlighted in the document structure below and demonstrates the two distinct areas of commercial and technical learning within the Project.

FIGURE 1: PROJECT DOCUMENTATION

<table>
<thead>
<tr>
<th>DOCUMENT ID</th>
<th>DOCUMENT TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDRC 9.1.1</td>
<td>Key learning from the bid submission</td>
</tr>
<tr>
<td>SDRC 9.2 &amp; 9.3</td>
<td>An assessment of third party delivery of a low carbon innovation project</td>
</tr>
<tr>
<td>SDRC 9.4</td>
<td>— Updated Principal Contract Template</td>
</tr>
<tr>
<td>Volume 1</td>
<td>Year 1 — An independent evaluation of the My Electric Avenue Project</td>
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<tr>
<td>Volume 2</td>
<td>Year 2 — An independent evaluation of the My Electric Avenue Project</td>
</tr>
<tr>
<td>Volume 3</td>
<td>Year 3 — An independent evaluation of the My Electric Avenue Project</td>
</tr>
<tr>
<td>SDRC 9.6</td>
<td>— Socio-economic analysis of reaction to the Technology</td>
</tr>
<tr>
<td>SDRC 9.7</td>
<td>— An assessment of Esprit integration</td>
</tr>
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<td>— Voltage Variance: The impact of EVs</td>
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</tr>
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<td></td>
<td>— Impact of Esprit on cable thermal ratings</td>
</tr>
<tr>
<td>SDRC 9.8</td>
<td>— Technology Assessment</td>
</tr>
<tr>
<td></td>
<td>— An assessment of how much headroom an Esprit type solution would yield</td>
</tr>
<tr>
<td>Volume 2</td>
<td>— PLC Assessment</td>
</tr>
<tr>
<td></td>
<td>— Evaluation of Power Line Carrier communications for direct control of electric vehicle charging</td>
</tr>
<tr>
<td>Volume 3</td>
<td>— Modelling &amp; Analysis</td>
</tr>
<tr>
<td>Volume 4</td>
<td>— Deterministic Impact Studies</td>
</tr>
<tr>
<td>Technology White Paper</td>
<td>— Esprit White Paper</td>
</tr>
<tr>
<td>Project Progress Reports</td>
<td>Project Progress Reports for the My Electric Avenue Project</td>
</tr>
<tr>
<td>Project Close-Down Report</td>
<td>Close-Down Report for the My Electric Avenue Project</td>
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</tbody>
</table>

The above table is also included in Appendix I.
1.0 DEFINITIONS

OVERVIEW OF THIS REPORT

My Electric Avenue is the first LCN Fund project to be led by a non-DNO. The new commercial framework developed as a result of this pioneering collaborative approach will be available as a blueprint for other organisations to use going forward.

EA Technology is the Project Lead, managing and delivering the Project on behalf of Southern Electric Power Distribution (SSEN), the main funding DNO.

The aim of this report is to draw out the learning from the commercial innovation, on how a third party (i.e. a non-DNO) can deliver innovative projects, through specifically:

— Detailing the processes established and utilised as part of the My Electric Avenue (MEA) project.
— Evaluating the collaboration between SSEN and Northern Powergrid through a 3rd Party Interface.
— Providing a framework through which SSEN’s internal policies and procedures can be recommended for updates.
— Reviewing the contractual arrangements in place between SSEN and EA Technology for delivery of the My Electric Avenue project.
— Providing an updated contract template, incorporating any necessary learning following the contractual review.
— Assessing the level of effort expended by the DNO in relation to the Project management activities of the Project, in comparison with previous innovation projects.

ADMID
After Diversity Maximum Demand.

BAU
Business As Usual.

Bid Submission
Ofgem terminology: The final ‘Full Submission Pro-forma’ provided to Ofgem to request funding for the Project.

Change Request
Ofgem terminology: A ‘Change Request to the Project Direction’ is submitted in the event a material change in circumstances affects the Project. If approved, this results in an update to the Project Direction and Bid Submission as required.

Cluster
A cluster of My Electric Avenue trial participants connected to the same low voltage feeder (either an underground cable or overhead line).

Compulsory Contribution
Ofgem terminology: The proportion of the Project funds required to be provided by the Funding DNO. This is calculated as 10% of the total requested funds for the Project, excluding ‘In-Kind Contribution’.

Customers
The end consumer for the energy network, in the context of this report, Participants and Customers can be inter-changed and refer to those individuals who leased a vehicle and are participating in the Project.

Disallowed Expenditure
Ofgem terminology: Any part of the approved funding that Ofgem determines to have not been spent in accordance with the Project Direction of LCN Fund Governance Document.

DNO
Distribution Network Operator.

EV
Electric Vehicle.

Esprit
The technology being trialled within the Project.

Funding DNO
Southern Electric Power Distribution (SSEN) is the Lead/Funding DNO for the Project. The responsibilities of the Lead/Funding DNO include: 1) Providing access to the two network areas in the UK operated by SSEN for undertaking trials, 2) Liaising between EA Technology and Ofgem, 3) Fulfilling the role of project treasurer, and 4) Providing project management support, particularly in ensuring the Project is delivered in accordance with the Project Direction and regulatory and legislative requirements.

i²EV
The project was submitted to Ofgem’s LCN Fund under the title ‘i²EV’ – later rebranded My Electric Avenue as its public face.

ICB
Intelligent Control Box – a component of the Esprit system.

In-kind Contribution
Additional funding provided to the Project (e.g. through reduced resource or equipment rates) by Project Partners.

Intelligent Control Box (ICB)
The Intelligent Control Box is a piece of technology installed alongside charging points at customers’ homes which works with the Monitor Controller installed at the local substation. Together they provide ‘Esprit’ an EV charging control system.

LCN Fund
Low Carbon Networks Fund (referred to by Ofgem as LCN Fund) – The funding mechanism available to DNOs in the 2010-15 Distribution Price Control period for innovation investment. It was used to fund c50% of this project.

LCT
Low Carbon Technology.

Lead DNO
Used interchangeably with ‘Funding DNO’.

LV
Low Voltage. Defined formally as <1kV, but referring in this instance to the 400V three phase/230V single phase networks that distribute electricity to homes and small businesses.

Management & Delivery Document
Defines the working relationship and distribution of responsibilities between SSEN, EA Technology, the Project Partners and the Project Suppliers.

Monitor Controller
The Monitor Controller is a piece of technology installed at the local substation which works with the Intelligent Control Boxes installed alongside charging points at customers’ homes. Together they provide ‘Esprit’ an EV charging control system.

NIC
Ofgem terminology: Network Innovation Competition – an annual opportunity for electricity network companies to compete for funding for the development and demonstration of new technologies, operating and commercial arrangements.

Ofgem
Regulates the electricity and gas markets in Great Britain.

Participants
The end consumer for the energy network, in the context of this report, Participants and Customers can be inter-changed and refer to those individuals who leased a vehicle and are participating in the Project.

PLC
Power-line Communication/Carrier.

PR
Public Relations.

Principal Contract
The contract in place between Ofgem and EA Technology for the My Electric Avenue (i²EV) project.

Project Direction
Ofgem terminology: The contract in place between Ofgem and SSEN for any LCNI Tier 2 project. For the purposes of this report, the Project Direction refers to the contract relating to the My Electric Avenue project.
2.0 APPROACH

The Project Direction is the Project’s contract with Ofgem and it details the outputs the Project must produce. These are called Successful Delivery Reward Criteria (SDRC) which are referenced throughout the report. There are three SDRCs which refer to commercial learning in the Project:

- SDRC 9.1 – Learning from third party delivery of a Tier 2 LCN Fund project – bid submission process.
- SDRC 9.2 – The blueprint of the contractual arrangements put in place with the DNO for a third party lead on a LCN Fund Tier 2 project.
- SDRC 9.3 – An assessment, based on direct experience, of how a third party can effectively manage delivery on innovation projects with a DNO and whether this allows DNOs to take on more innovation projects.

SDRC 9.1 was delivered and published on 28th February 2013, less than two months after the Project commenced. It is freely available on the My Electric Avenue project website, and provides important background to the development of the Project and the commercial framework.

This report addresses SDRCs 9.2 and 9.3 in the Project Direction and related learning outcomes based on direct experience within the trials. The report combines two SDRCs, 9.2 and 9.3 as the learning from each of these is interlinked.

Where applicable, this document will link to evidence provided throughout the Project in six monthly reports, including the views of our independent evaluator and other project stakeholders.
Section 6: Assessment by SSE of the level of effort expended on Project Management activities in comparison to previous innovation projects (SDRC 9.3.3).

Section 7: Review of the original contract (SDRC 9.2.2) under which the Project was delivered including recommendations for improvements (SDRC 9.2.3).

Section 8: Key learning points.

3.1 GENERAL PRINCIPALS

My Electric Avenue lies on the small but critical overlap between the power utilities sector and the automotive sector. Owing to this, it has been necessary to work with a broad range of partners, suppliers and stakeholders. In this section, we will describe how the Project went about this with its:

Partner/supplier selection: choosing who to work with, clearly defined roles and responsibilities.

Partner working: including communications, management and dissemination.

Broader stakeholder engagement: engagement with a wider audience, from customers to the automotive sector.

It is testament to the strength of the broader project team (c10 organisations), and nature of the working, that all parties have openly declared a desire to work together in the future, if circumstances allow.

3.1.1 PARTNER/SUPPLIER SELECTION

It was identified early in the Project that the varied requirements of the Project tasks required capabilities that did not fall within the ‘business-as-usual’ capabilities of either EA Technology or SSE. Consequently, companies specialising in the leasing of EVs and the provision and installation of EV charging points were identified. The My Electric Avenue project is being delivered by 13 companies, each providing key inputs and specialist knowledge.

3.1.2 PARTNER WORKING

Through their involvement in the bid submission process, the majority of partners and suppliers were fully aware of the scope of works and the specific restrictions introduced through the Project Direction. This contributed to the strong working relationship inherent within the Project team with all partners understanding how their efforts directly benefited the end deliverables.

Project partners and suppliers provided regular reports on the status of progress towards project deliverables, not less than once per month during the period of their involvement in the Project. Some elements of the Project, particularly relating to the customer recruitment and deployment of equipment, necessitated calls on at least a weekly basis.

Similarly, EA Technology provided regular updates to SSE throughout the Project, varying in frequency dependent on the work undertaken at the time. At a minimum, scheduled monthly meetings/teleconferences (Project Assurance meetings) were held with frequent telephone conversations outside of these. In advance of each monthly meeting a monthly report outlining the details of work undertaken on the Project in the month, including financial overview, status of deliverables and overall progress and risks or issues that arose. A template of this monthly report is located in Appendix III.

Monthly meetings were held with all project partners and suppliers to ensure all stakeholders were aware of the Project status. This ensured that resources were available when required and tasks distributed across the Project team when required.

There were a number of crucial tasks, such as customer engagement, where weekly meetings were conducted between EA Technology and the relevant organisations.

RECOMMENDATIONS

Ensure that all partners have clear direction, roles and responsibilities. Acknowledge that not all partners will be engineering or consultancy based, with different working styles and areas of specialism. This can strengthen a project team and ensure a robust outcome, if managed appropriately. Regular dialogue with all project partners through specific and focused meetings ensures deliverables are met.

Broaden regular update meetings to all project partners/suppliers rather than just the core project team.
3.1.3 BROADER STAKEHOLDER ENGAGEMENT

My Electric Avenue has taken a strategic approach to broader stakeholder engagement within the automotive industry. It was recognised at the outset of the Project that the outputs encompass a broader audience than that of the traditional electricity network Tier 2 projects. The project team therefore made a concerted effort to both gain interest and understanding of the Project across the automotive sector.

The Office for Low Emission Vehicles (OLEV) was approached at bid development stage and provided a letter detailing its interest in the Project outcomes. This engagement has been sustained throughout the lifetime of the Project, with Ben Davison from OLEV attending the launch event and introducing the Project to the Cenex LCV2013 event at which it had a presence for dissemination purposes.

Through introductions brokered by Paul Clarke of Automotive Comms, the EV communications specialist support for the My Electric Avenue Project has engaged and presented to:
- Northern Automotive Alliance - an independent, not-for-profit company which supports micro-companies through to the local global vehicle manufacturers, offering a diverse service using its established networks.
- SMMT - the Society of Motor Manufacturers and Traders supports and promotes the interests of the UK automotive industry at home and abroad.
- BEAMA/BEVIP - the trade association which represents manufacturers of electrical infrastructure products and systems from transmission through distribution to the environmental systems and services in the built environment; BEVIP encompasses companies in the EV supply chain arena.
- LowCVP - is a public-private partnership that exists to accelerate a sustainable shift to lower carbon vehicles and fuels and creates opportunities for UK business.
- Cenex LCV - this is the main event in the low carbon vehicle sector, based out of the Millbrook test facility.
- 2013 - participated in an expert panel session relating to the impact of EVs on the distribution networks.
- 2014 - the Project presented on the trial participant demographics, and indicative usage of the vehicles.
- 2015 - presented emerging project results to a full capacity event in September.

RECOMMENDATIONS

The nature of this project requires conscious dialogue and interaction with a broader audience than the traditional utilities. Use of specific agencies and bodies to open communication links is a highly beneficial use of resources, enabling discussion and dissemination to companies and agencies that would be high difficult to reach otherwise. Repeated messaging, and extensive dialogue to these stakeholders is essential to gain trust and credibility.

3.2 WORKING WITH A DNO

Collaboration between SSN, Northern Powergrid and the Project Lead has been successful and adaptable; various styles of working have been developed in line with activities and challenges throughout the Project. This section outlines some of the specific working with a DNO in this capacity including:
- Project management General processes implemented throughout the Project, including status reporting and financial management.
- Project delivery Working with, and liaising between SSN and Northern Powergrid, satisfying DNO licence obligations, deploying and decommissioning equipment, and sharing risk.
- Customer recruitment Data Protection Strategy, Customer Engagement Plan, recruitment activities and network verification.
- Risk mitigation and management Responsibility and liability and issue resolution.
- Communications Linking the Automotive and Utility sectors.
- Contractual and management working practices Integrating the need for the DNO to manage their licence obligations with the need for the 3rd party supplier to deliver the Project.
- Liaison with Ofgem Reporting on delivery of the Project, providing updates as required and requesting changes to the Project Direction when necessary.

3.2.1 PROJECT MANAGEMENT

General

As detailed in 4.1.2, EA Technology provided regular updates to SSN throughout the Project, varying in frequency dependent on the work underway at the time. At a minimum, scheduled monthly meetings/teleconferences (Project Assurance meetings) were held with frequent telephone conversations outside of these.

In advance of each monthly meeting a monthly report outlining the details of work undertaken on the Project in the month, including financial overview, status of deliverables and overall progress and risks or issues that arose. A template of this monthly report is located in Appendix III.

EA Technology were sub-contracted to SSN with all project partners and suppliers contracted to EA Technology. In order to ensure payment for project delivery in reasonable timescales, (30 days) without requiring EA Technology to fund the Project on a rolling monthly basis, SSN placed EA Technology on 14-day payment terms. This allowed for EA Technology to raise one monthly invoice for costs incurred by all parties to the Project.

Contingency requests were submitted by the Project management team to the Project Steering Group for approval using the template provided in Appendix IV. This form enabled the summarisation of the value and rationale behind the request, the supporting evidence and the impacts to the Project if the request were rejected. Unanimous consent was required by nominated representatives from both EA Technology and SSN for the request to be approved, preventing either company from accessing the contingency funds without full approval of the other party.

Financial management

Although EA Technology have previously been involved in a number of LCN Fund Tier 2 projects, it has always been as a subcontractor to the DNO rather than in a position of managing the Project. As such, the highly bureaucratic nature of financial reporting and forecasting for the Project required significant adaptations to its conventional processes. The project management and financial tracking processes utilised by EA Technology under BAU circumstances did not lend themselves to tracking the individual project tasks and the Ofgem Categories.

The extra layer of detail had not been required previously and the finance system was not capable of tracking time bookings or expenses in that fashion. Consequently, bespoke spreadsheets to enable tracking of this level of detail were created; although these are not provided, being tailor-made for EA Technology’s systems, a template of the invoicing detail issued to SSN on a monthly basis is located in Appendix V. SME’s undertaking a role of this nature in future projects should allow for a significant effort required early in the Project to establish project specific management tools of this type. Furthermore, early discussions with the DNO to agree how purchase orders will be established, what level of reporting will be necessary and a consistent approach are essential.

Reporting templates

A summary of templates and bespoke documents created to facilitate project management processes are outlined below with blank versions located in the appendices.
3.2.2 PROJECT DELIVERY

General

Both SSEN and Northern Powergrid have actively engaged in monthly teleconferences, and have liaised with other departments for site work when required. Information sharing has also been collaborative across the parties to enable analysis (e.g. by the University of Manchester).

Both SSEN and Northern Powergrid have advised and assisted throughout the Project based on their learning from previous LCN Fund projects. This has included provision of training by SEN’s Regulation team, enabling meetings with partners of other projects with comparable expertise and the use of PR teams.

Satisfying licence obligations and sharing risk

DNOs have a legal obligation to ensure their networks are able to provide electricity to customers within the licence area. For decisions which affect the DNO’s licence condition, it is appropriate that the DNO should have a deciding role in actions taken. Method statements and arrangements for substation access encouraged closer collaboration between the Project Lead and DNOs.

In projects such as My Electric Avenue, the DNO has a legal obligation to ensure their networks are able to provide electricity to customers within the licence area. For decisions which affect the DNO’s licence condition, it is appropriate that the DNO should have a deciding role in actions taken. Method statements and arrangements for substation access encouraged closer collaboration between the Project Lead and DNOs.

In order to enable the Project to proceed, it was necessary to begin deployment of the vehicles ‘at risk.’ SSEN were unwilling to utilise Project funds at this stage due to the potential of disallowed expenditure and as EA Technology could not subsidise the Project to that extent, SSEN provided the funds on a temporary basis. As happened, the successful deployment of vehicles to participants was when the required number of participants were recruited to participate in the Project.

All financial liabilities should be discussed at bid development and during contract negotiation, ensure that the final contract embodies earlier discussions.
Had this occurred, SSEN would have been impacted through customer satisfaction and an impact on the company’s reputation, whilst it would have placed EA Technology in significant financial difficulties given the size of the risk and the relatively modest level of Turnover (circa £20m p.a.) of EA Technology.

In these instances, the involvement of the stakeholders in responding to the risk should be commensurate to the proportion of risk they hold taking into account all potential impacts.

**Deployment of equipment on site**

Organisation of site work followed a standard approach with each company utilising their BAU processes for the booking of access to the substation and use of on-site personnel. The My Electric Avenue project team utilised standard e-mail notifications issued in advance of site visits to all staff expected to attend the work. This e-mail confirmed planned activities at the advance of site visits to all staff expected to attend the work. This e-mail confirmed planned activities at the location(s), companies and staff to be present including mobile phone numbers, roles and responsibilities and the named responsible person.

The project experienced some delays in sign off and approval of the method statement for the Lyndhurst Monitor Controller installation. Whilst it is essential to have the approval from those responsible for sanctioning the use of equipment or which the impact of the delay reduced data collection time by several months. The delay was then exacerbated by coincidental software upgrades required weeks after the document was approved.

SSEN and Northern Powergrid have both shared information and knowledge of their networks to assist in understanding technical challenges with regards to PLC communications, and also offering equipment to enable faster deployment of technology or resolution of challenges specific to a single site.

This collaboration has extended to support on-site when first installing equipment on the DNO’s network and joining EA Technology staff for inspections of equipment when equipment failures occurred.

**Information sharing**

Information sharing and dissemination is key and relies upon solid collaboration. Information continues to be regularly shared on a monthly basis during Assurance meetings. Although it is vital to keep stakeholders informed of progress, information requested to be provided for monthly assurance meetings has grown significantly. These requests are in addition to the original agreed documentation to be provided each month for review. Preparing additional reports, on top of the usual progress reports, demands more resource. The cumulative effect is a drain on project management resource mainly for the purposes of providing assurance.

It is understandable, however, that the DNO in a position of overall responsibility for a project would require a level of information commensurate with the activity underway on the Project. Consequently it is recommended that a level of project management effort by the Project Lead, greater than that envisaged at the outset, is allowed for in future projects.

The DNOs agreed to provide emergency support for customers over Christmas 2014 as all other offices shut down. As a result EA Technology and other project partners developed an adapted diagnostics procedure and associated information for DNO emergency call staff to use if required to ensure continued customer support although fortunately, this support was not required.

**3.2.3 Customer Recruitment**

**Data Protection**

LCN Fund projects are required to provide a Data Protection Strategy (DPS), which must be reviewed and approved by Ofgem prior to the Project commencing recruitment.

Development of the Project’s Customer Engagement Plan (CEP) and Data Protection Strategy (DPS) required strong collaboration between Northern Powergrid and SSEN. Both organisations provided templates of other LCN Fund CEP and DPS documents. They also needed to check that they were in line with their own commitments to customer service and data protection. The guidance provided by both DNOs in at this stage was exemplary, as it fostered positive working relationships and efficient progress against delivery.

**Recruitment activities**

Recruitment activities, test drive events and dissemination at the outset of the Project were heavily supported by Northern Powergrid and SSEN. EA Technology led on all aspects of recruitment for the technical and social trials, holding full responsibility for managing the relevant partners and outputs.

Recruitment and customer engagement are not, traditionally, activities for which a DNO has vast experience. In these activities both of the DNOs were happy to provide a ‘light’ touch approach; EA Technology was able to lead activities calling on support from the DNOs when required.

Both SSEN and Northern Powergrid were hugely supportive of recruitment activities. They played a pivotal role in supporting test drive events and in setting up contacts with potential ‘clusters’ and organisations. SSEN were extremely supportive in suggesting localised geographical areas and, for example, academic institutions, to approach as potential clusters.

A number of EV roadshows and test drives were undertaken across SSEN’s and Northern Powergrid’s licence areas. EA Technology collaborated with SSEN to set up an EV roadshow event at SSEN’s offices in Portsmouth, as well as an EV roadshow event in Blacknall town centre.

SSEN also provided a lot of support from a promotional perspective, raising awareness for the Project to assist recruitment efforts. SSEN PR resources and the Project’s communications expert worked hand in hand to raise awareness of the Project, encouraging website traffic and later conversion to ‘registrations of interest’.

**Network Verification**

Both DNOs provided local network information and LV network diagrams to allow the Project Lead to identify eligible participants. This activity was originally intended to be conducted by the DNOs, but neither DNO had the resource available to support the rapid turnaround of activities as demand levels grew to meet recruitment targets. As risk owner, EA Technology provided the additional resource to ensure recruitment progressed as required to meet the cluster establishment deadlines.

Similar projects would benefit from seconding resource/locating them in DNO offices for the period of recruitment as access to the LV network diagrams would have been significantly easier than utilising remote access from EA Technology offices. This approach was considered for the My Electric Avenue project although ultimately, it proved impractical due to the volume of checks required far exceeding the capability of one person, even if they were located within SSE offices.

However, in all cases, where a cluster was identified as being viable by EA Technology, it remained the responsibility of the respective DNO to approve the establishment of the cluster on their network. To enable an informed decision, EA Technology provided network simulations of the local network, determining the predicted load inclusive of EV charging.

In some instances a high level of detail was requested by SSEN to provide confidence the network would not be jeopardised, however it is understood that the DNOs are cautious given the risks posed by such increased load on particular networks. It is believed that had these checks been undertaken by the DNO, the confidence from a greater familiarity with the networks and assessments combined with the knowledge that it was DNO staff undertaking the work using the right DNO procedures would have enabled a decision to be made without the more onerous checks being required.
Where network verifications are required by DNO prior to equipment deployment, the initial analysis should be undertaken by the DNO as the effort required is likely to be less than if a third party is utilised.

### 3.2.4 RISK MITIGATION AND MANAGEMENT

#### Responsibility and liability

EA Technology took on two distinct, yet intrinsically linked roles within the Project, of technology deliverer, as well as Project Lead with overall responsibility for delivery and management of the Project. The learning here centres on the importance of ongoing and open communication between SSEN and EA Technology, and coming to mutual agreement and understanding of the relationship’s boundaries.

As a consequence of taking on the role of technology deliverer, during the Ofgem expert panel sessions EA Technology was treated as a supplier to SSEN, rather than a partner. This relationship dynamic was not envisioned at the bid development stage – the intention of all parties at the outset of bid development was that EA Technology and SSEN would be working in partnership. However, given the novel nature of the dual role and multi-dimensional relationship between the two parties, it is perhaps to be expected that these lines would be blurred when EA Technology had, in effect, its “technology delivery body” hat on.

It is natural to expect all technical questions to be passed through to the third party taking the role of technology provider (i.e. as a supplier). However the risk is that the same mentality can then be applied and extended, without conscious intention, to the other roles that same third party holds, for example management. This is more likely to occur where the third party has previous worked with the DNO in the role of supplier.

SMEs who combine the role of technology provider with another role on the Project (such as management) should anticipate and be prepared to manage the challenges this poses to their overall relationship with the DNO.

#### Issue resolution

DNOs typically have PR and press support which they can call on to manage the risk of negative PR. However, this support is not always readily available to SMEs. If this support is anticipated at the outset of the Project, responsibilities and capabilities to respond within reasonable timeframes should be discussed upfront.

Following discovery of a faulty ICB, EA Technology developed an emergency PR strategy within hours of identification. At the time, EA Technology had appropriate resource and capabilities to react quickly and provide this for SSEN review; however, it should not be assumed that all SMEs will have the same capabilities readily available. Such scenarios should be discussed openly at the outset of the Project, and PR expertise shared, if needed.

In addition to the risk posed to a project due to scope changes, working relationships can also be heavily affected when additional, unintended risks arise as a consequence of the changes.

In the critical months leading up to the penultimate recruitment milestones, the nature of collaboration shifted under increasing attrition and risk. The rigid nature of the LCN Fund budget restrictions introduced additional pressures of the potential financial and reputational risk posed to both parties if the targets were not met. The benefits of creating a partnership arrangement to manage an innovative project with rapidly changing circumstance, such as My Electric Avenue, can be stifled when there is no flexibility in how the project must be delivered.

It is recommended that the principles of partnership working are agreed upfront to avoid slipping into default pseudo client-supplier roles when the Project enters difficult stages. During this time, frank and open disclosure still existed between the Project Sponsors, but collaboration was no longer perceived to be on an equal footing.

#### 3.2.5 COMMUNICATIONS

The My Electric Avenue project has demonstrated a clear link between the automotive and utilities sectors. Utilities and automotive sectors are both significant in terms of value and reach. They have a range of common interests, with albeit a relatively small overlap – getting energy in the right form, to the right place, to enable operation. With the introduction of low carbon technologies, particularly electric vehicles, the correlation between the sectors takes on a new significance. EVs rely on the utilities sector to deliver the energy to operate the cars; this impacts both sectors as customer behaviour and uptake changes. Results from the Project show that some local electricity networks will need investment to support the high growth of EVs. This situation can be managed, but it will need car manufacturers and the energy industry to work together.

As a direct result of the learning emerging from My Electric Avenue, it is clear that the historically small overlap of interest between the automotive and utilities sectors is becoming increasingly important.

Engagement activities are underway with:

- OLEV
- SMMT
- DfT
- TRL
- Innovate UK
- APC
- ETI
- Cenex
- IET

The DNO and Project Lead should agree the principals of partnership working during the bid development phase to ensure the collaboration agreed takes all eventualities into account.

#### RECOMMENDATIONS

- Reusing Customer Engagement Plans and Data Protection Strategies from previous, similar (and successful) projects should be undertaken wherever possible, adapting the key areas where necessary.
- SMEs who combine the role of technology provider with another role on the Project (such as management) should anticipate and be prepared to manage the challenges this poses to their overall relationship with the DNO.

To date there has been encouraging support from the automotive sector, and recognition that they need to work together with the utilities sector to mitigate the impact that EVs will have on GB’s electricity networks.

Through the above engagement activities, EA Technology has emphasised the essential need for closer collaboration between the automotive sector and grid as continuing to operate independently and disjointedly will increase the costs whilst decreasing the effectiveness of both sectors.

### 3.2.6 CONTRACTUAL AND MANAGEMENT WORKING PRACTICES

Later in this report we provide an overview of the changes introduced at the outset of the Project (section 7.2.1). During these changes the working relationship between EA Technology and SSEN changed from partners to a conventional client-supplier relationship. This set the precedence for later in the Project where challenges and setbacks again prompted a similar shift in the working relationship. It should be noted that this is not unique to MEA and we have experienced the same shift in other LCN Fund projects with other DNOs where strategic collaboration shifts to day to day “contract management”. For best practice all parties should seek to perform occasional strategic reviews to ensure a good partnership approach continues.

- Transport Systems Catapult
- IMechE
- Energy Systems Catapult
- BEAMA
- LowCVP

To date there has been encouraging support from the automotive sector, and recognition that they need to work together with the utilities sector to mitigate the impact that EVs will have on GB’s electricity networks.
The working relationship is underpinned by the Project’s principal contract. Responsibility and risk liability are likely to continue to influence working relationships. Therefore it is suggested that ‘worst case scenarios’ are discussed upfront and openly at the outset of the Project to ensure that roles and responsibilities in these circumstances are clearly understood and known by all.

During the bid development stage, SSEN and EA Technology agreed that the Project would be managed and delivered in a partnership arrangement with the ‘risk’ of the ‘DNO Compulsory Contribution’ shared between the two companies. As a consequence of the disparate company sizes, the split was agreed to be 75%:25% for SSEN and EA Technology respectively. Financial risk associated with overspend and similar was also to be apportioned on the same basis. The key intention behind this agreement was that to have an input in key decisions made, the party must also share the financial risk on the Project.

However, the principle of this agreement did not subsequently filter through into the final, principal contract under which the Project has been managed. A number of clauses throughout the contract relate to the appropriate allocation of risk liability except for the final one that supersedes all previous, requiring that any project expenditure deemed to be ‘disallowed’ by Ofgem shall be returned by EA Technology rather than ‘the Project.’

Had the risk of financial liability been transferable to each of the partners/suppliers within the project, this would have mitigated, or reduced the risk held by EA Technology. However, as detailed in section 4.2.2 above, there was no capability by the Project Lead to enforce this in the sub-contracts. The partners/suppliers were unwilling to agree to a contract whereby risks outside of their ability to influence the outcome would determine that extent of their financial liability. As the Project Direction required the contractual sign-up of the named partners, EA Technology were required to hold the financial risk or allow the project to fail.

It is appreciated that the DNO holds a significant level of responsibility, covering licence obligations and a need to provide excellent service to their customers. It is further acknowledged that existing business relationships should be maintained and supported with concern to the wider company reputation; these considerations will affect decisions made to affect the project. However, it must be respected that where a decision is being made primarily to maintain the licence and customer responsibilities of the DNO, the potential financial impact on other project partners must be considered. Increasing the potential financial liability to project partners in this context, particularly where the financial risk is already high as a consequence of other factors, should be avoided wherever possible.

Collaboration between the DNOs and EA Technology has been successful, but as with all innovation, there is still room for improvement.

**RECOMMENDATIONS**

During the bid development phase: Discuss ‘worst case scenarios’ and agree mitigations;
Agree the approach for Project Governance; and agree the proportion of financial liabilities for any project overspend or disallowed expenditure.

**3.2.7 COLLABORATION BETWEEN SSEN AND NORTHERN POWERGRID**

The involvement of more than one DNO was essential from the start of the Project in order to both achieve the recruitment challenge at the time, and ensure the results are more representative for the networks across Great Britain.

SSEN and Northern Powergrid have collaborated throughout the Project to ensure delivery of the Project.

As mentioned previously development of the Project’s Customer Engagement Plan (CEP) and Data Protection Strategy (DPS) required strong collaboration between both DNOs, and both provided templates of other LCN Fund CEP and DPS documents. The guidance provided by both DNOs in at this stage was exemplary, as it fostered positive working relationships and efficient progress against delivery.

Recruitment activities, test drive events and dissemination at the outset of the Project were heavily supported by both Northern Powergrid and SSEN. Following establishment of trial clusters, SSEN and Northern Powergrid have both shared information and knowledge of their networks to assist in understanding technical challenges with regards to PLC communications, and also offering equipment to enable faster deployment of technology or resolution of challenges specific to a single site.

**RECOMMENDATIONS**

Sharing knowledge between DNOs involved with a project should be utilised wherever practicable as it results in a more effective project and greatly improves the learning generated.

**3.2.8 LIAISON WITH OFGEM**

The Low Carbon Networks Fund is an excellent mechanism of delivering innovation for the electricity networks and Ofgem should be commended for its establishment.

Innovation in any industry sector, by its very nature, involves taking risks. Whilst Ofgem have taken the initial risk of allocating £500m for innovation projects, they are risk averse as a consequence of their core purpose of ensuring value for the consumer and that the energy industry does not take advantage of its position. This desire to mitigate risk is evidenced in the Project Direction they issue to projects which requires agreement to any conditions deemed necessary to balance the interests of the customer by not allowing funds to be spent without reason or consequence, against the desire to deliver the Project and try to provide valuable learning. My Electric Avenue’s Project Direction contained conditions which linked the release of the majority of project funds to a requirement to meet the overall recruitment target by a set date, as opposed to the original plan of sequential recruitment and funds released without condition. This approach reduced the financial risk to Ofgem, and therefore the consumers, whilst simultaneously increasing the risk to project delivery and the financial risk to project partners. Appendix II compares the risks relating to customer recruitment between the originally submitted project plan and the subsequent approach required to meet the revised requirements.

The level of risk allocated to the Project Lead raises the question whether Ofgem are the most appropriate funding body for running these types of innovative projects. Ricardo, the project’s independent evaluator, recommend that consideration be given to separating out the role of managing the Low Carbon Networks Fund from Ofgem’s regulatory activities and perhaps overseeing these projects using an independent body to help provide a culture of collaborative research.

There is an inherent risk that DNOs have to carefully consider wider discussions and activities when negotiating terms and conditions with Ofgem. Should other organisations provide the funding mechanism it may be the case that a firmer stance can be taken when negotiating contract terms and conditions and so the risks arising from conditions and clauses could be reduced.

1. Recommended at the ‘All Partner Meeting’ in December 2014.
The process for securing a change to the Project Direction was found to be time consuming and problematic; submission of the first change request through to final approval required approximately 23 months. Considering the size of the My Electric Avenue project in comparison to other LCN Fund Tier 2 projects and the nature of the request (to reallocate budgets in response to conditions agreed to with Ofgem as part of the funding award process), this seemed excessive.

The methods by which the change request process was managed contributed significantly to the duration and level of effort required to secure the approval. It is recommended that the change request process is modified to more reflect the below approach. The initial submission is used to brief Ofgem on the requested changes whereas the face-to-face meeting should be used to discuss any points of concern or need for additional clarity to inform Ofgem’s decision.

The intended output from the meeting should be either:

- A simple rejection of the request; or
- An acceptance, subject to specific evidence being provided.

Importantly, this approach intends that the face-to-face meeting determines the acceptability or otherwise of the Change Request to Ofgem, and agrees the evidence required to support that decision.

The level of detail required to make a decision must be proportional to request being made; for example, a request to extend the duration of a project whilst simultaneously increase the cost would be expected to be subject to a high level of scrutiny. Accordingly, a request to move budgets within the project whilst maintaining the original delivery schedule and overall project costs would not be expected to receive the same level of examination. Care should be taken to avoid repeated requests for further evidence and greater clarification requiring significant amounts of time and incurring significant costs to project partners.

Ultimately, the purpose of the meeting between Ofgem and the DNO would be to discuss all elements of the change request and agree the points that are acceptable to both parties. The submission of the change request should become a ‘formality’ where the already agreed requests and associated concessions (if any) are formally documented and approved. It should be expected a submission would only be returned to the DNO if specific points or information discussed and agreed in the meeting(s) were not included.

This approach would benefit from face-to-face discussions removing risk of ambiguity and misunderstandings in written documents whilst reducing the time required to reach an agreement. In this way, a change request can either be resolved in reasonable timescales, minimising effort required by all parties, or the application can be rejected quickly before too much time is spent.

**FIGURE 3: PROPOSED CHANGE REQUEST PROCESS**

**Update to submission**
- DNO updates the submission to reflect the discussion in the meeting, ensuring:
  - Request exactly matches that agreed in the meeting.
  - All necessary evidence requested in the meeting is provided.

**Dialogue**
- DNO & Ofgem meet to discuss the change request.
- Agree in this meeting what will be acceptable to Ofgem and the project.
- Agree the evidence required to enable Ofgem to approve the request.

**Verification & approval**
- Ofgem verify that the submission matches the agreement made in the meeting.
- If so: approves the change request.
- If not: highlight what is missing and return.

**Submission**
- DNO submits initial change request.

**Return submission to DNO.**

**RECOMMENDATIONS**

The Project Direction should be output focused, allowing a project to progress rapidly and dynamically towards a useful output rather than covering individual stages of the plan to achieve the Project outputs.

Improvements should be implemented to the Change Request process to reduce effort required by all parties and facilitate quicker decision making.

4.0 SDRC 9.3.2

**“A FRAMEWORK TO ENABLE UPDATE SUGGESTIONS TO SSE POLICIES AND/OR PROCEDURES, IDENTIFIED DURING THE COURSE OF THE PROJECT WILL BE PROVIDED, (E.G. A PROCEDURE DETAILING THE NECESSARY STEPS WHEN CONSIDERING A CUSTOMER’S REQUEST FOR AN EV CHARGING POINT).”**

During the development of the My Electric Avenue project bid, it was anticipated that there would be a need for the creation of procedures to enable the widespread adoption of EV charging points whilst protecting the networks. Since the start of the Project, the Energy Networks Association (ENA) has begun the process of issuing guidance and recommendations relating to the safe installation of EV charging points in domestic properties. Additionally, guidelines issued under the new UK price review period, RIIO-ED1, by Ofgem increase the need for effective monitoring and evaluating the impact of new loads being connected to LV networks.
### 4.1 Domestic Installation Considerations

At the time of writing, the ENA is in the process of issuing recommendations for installers when installing EV charging points to ensure protection of the LV network. The recommendations are being discussed with the DNOs and the UK automobile manufacturing and charging point industry.

The purpose of the recommendations is to ensure that the wiring in the installation address is capable of safely supporting the installation of the new charging point. This should take into account other equipment connected to the same circuit and the calculated After Diversity Maximum Demand (ADMD) load for the property, including the new charging point.

The new guidance is anticipated to require that installers notify the DNOs of new charging points installed on their network in all instances. Prior to installation, an evaluation of the supply cut-out fuse in relation to the anticipated load should be undertaken by the installer. Where any of the following instances occur, the DNO should be contacted and permission sought to continue before installation commences:

- Where there is an identified issue with the cut-out OR uncertainty on the adequacy of the cut-out.
- Where the cut-out rating is unknown, and the ADMD is greater than 60A (13.8kVA).
- Where the cut-out rating is known, and the ADMD is greater than the cut-out rating.
- There are safety concerns over the adequacy of the supply cut-out.
- The cut-out rating is less than the required after diversity maximum demand (ADMD) including the additional load of a charge point.

In such instances, the customer may need to upgrade their connection agreement for the property prior to the installation of the charging point. This may require the upgrading of the service connection of the property to accommodate the new, higher load.

Based on the currently proposed requirements for charging point installation under consideration by the ENA, the My Electric Avenue project team does not believe any changes are required.

The information provided to the DNOs relating to charging points will be sufficient to enable the identification of ‘at-risk’ LV networks.

### 4.2 LV Network Considerations

Under new guidelines issued as part of RIIO-ED1, customers have to be able to fully utilise their service connection to the limit of their cut-out fuse. It is possible on many domestic LV feeders that if this right were to be exercised, the feeder, or the connected transformer would become overloaded.

Consequently, there is a need for the capability of DNOs to anticipate the impact of additional LCTs such as EVs and heat pumps.

### 4.3 Recommended Process

Where new charging points are to be installed, under the guidelines proposed by the ENA, DNOs will receive notification in all instances of EV charging points being installed on the network.

A system where the impact of each additional load to the network in question can be evaluated is required. Such a system would enable DNOs to identify networks approaching the point where overloads are considered a possibility in the near future; at this stage, monitoring equipment should be deployed.

Ultimately, if Espirit or a similar technology is widespread, the monitoring equipment should contain the necessary capability to influence load on the network in order to protect the associated assets.

### Figure 4: Overall Process for Charging Point Illustration

- **ENA Proposed Installation Guidelines for EV Charging Points**
  - **Charging Point Installation Requested**
  - **Property Inspected and ADMD Calculated**
  - **Property Cut-out Inspected for Rating and Condition**
  - **Charging Point Installed; DNO Notified**
  - **DNO Updates LV Records with Details of Installed Charging Point and Revises Load Estimations**
  - **Calculate and Apply Threshold for When Number of Connections Requires Action**
  - **Deploy Traditional Reinforcement**
  - **Continue Monitoring Network for Indications That Espirit Control Can No Longer Mitigate Against Potential Network Overload**
  - **Deploy Espirit**

- **Cut-Out Rating Confirmed to Be Greater Than ADMD and No Safety Issues Identified.**

- **Cut-Out Rating Unknown, Under-Rated for ADMD, or Other Identified Safety Issues.**

- **Installer Contacts the DNO Due to Concerns Regarding the Cut-Out**

- **Issue Resolved**
5.0 SDRC 9.3.3

"AN ASSESSMENT FROM THE PARTICIPATING DNO OF THE LEVEL OF EFFORT EXPENDED ON PROJECT MANAGEMENT OF THE I²EV TASK BY THE STAFF INVOLVED IN COMPARISON TO PREVIOUS INNOVATION PROJECTS".

5.1 OVERVIEW

Ofgem had been considering how to open up electrical network innovation to third parties as a potential way to accelerate the development, testing and adoption of innovations as the industry moved into the RIIO-ED1 price control. This sets the outputs that all 14 electricity Distribution Network Operators (DNOs) need to deliver for their customer and the associated revenues they are allowed to collect for the eight-year price control period.

The commercial aims of the Project are as follows:

11. To enable all procurement related to the Project
12. To develop a novel commercial arrangement.
13. Demonstrate delivery of a LCN Fund project by the staff involved in comparison to previous innovation projects.

The innovation project used as a comparison is another innovation project's Programme Management efforts, it will primarily focus on the effort expended on MEA and draw out reasons behind any variances to the forecasts and assess if there is a net increase or decrease in the overall level of effort required once the variances are aggregated.

Accordingly we feel that the primary observations made in this report should instead reflect the variance between the forecast level of effort by SSN for MEA Programme Management activities and the actual level of efforts expended, as this will hold the most value for other DNOs potentially considering whether a third party delivery model could work for them. One of the key concerns for any organisation considering this approach is how often they would be forced to intervene or expend significantly more effort than originally thought to meet an objective or overcome an issue, and so deviate from their forecast time and cost calculations.

As a result, whilst the report will consider the comparison with another innovation project’s Programme Management efforts, it will primarily focus on the effort expended on MEA and draw out reasons behind any variances to the forecasts and assess if there is a net increase or decrease in the overall level of effort required once the variances are aggregated.

5.1.1 SUCCESSFUL DELIVERY REWARD CRITERIA

At completion of the Project there will be a clear indication of how successful this novel approach to delivery and management has been, and this will be evidenced primarily through the reports for Successful Delivery Reward Criteria (SDRC) 9.3. The Project Direction states this requires:

SDRC 9.3.3 “An assessment, based on direct experience, of how a third party can effectively manage delivery on innovative projects with a DNO, and whether this allows DNOs to take on more innovation projects”.

This report seeks to provide evidence contributing towards meeting the requirements for SDRC 9.3, specifically by providing evidence to answer SDRC 9.3.3, which is stated in the Project Direction as:

SDRC 9.3.3.3 “An assessment from the participating DNO of the level of effort expended on Project Management of the I²EV task by the staff involved in comparison to previous innovation projects”.

5.1.2 ASSESSMENT METHODOLOGY

The innovation project used as a comparison is another of SSN’s Low Carbon Networks Fund projects - the New Thames Valley Vision project (NTVV). Of course the MEA Programme Management hours will be drastically less when compared with NTTV Programme Management hours due to the different nature of the task. SSN’s responsibility relating to MEA Programme Management responsibility for SSN was to provide assurance that the management and delivery by EA Technology was meeting the conditions agreed to in the Project Direction, our licence obligations and the commitments to our customers. In contrast, responsibility under, whilst NTTV Programme Management responsibility was for included all of these things plus and the day-to-day management and delivery of the Project. It is, however, still useful to determine whether the approach taken in MEA results in the significantly reduced level of effort expected or if it is actually an ineffective approach.
Some key observations made:
- We expended 11% more effort than forecast in the first year of the Project.
- We only expended 82% of the forecast effort in the second year.
- Significantly less effort was required in the first 7 months of the final year; only 32% of the forecast effort was expended.
- 91% of the actual hours expended was in the first 24 months of the Project as opposed to the 78% that was forecast. This was more than forecast in those 24 months.
- The total level of effort required up to July 2015, however, was only 82% of the total effort forecast up to that date.

The analysis also allows us to determine the months in which there was a peak in the hours expended. From the review into the activities that took place in those months we can readily view the number and type of activities that were either planned or expected to be undertaken against those which were unplanned, which starts to give an indication of the reasons behind the variances. Further details on the reasons behind these variations can be found in 6.5 Reasons behind variances.

### 5.4.1 Peak Months and Activities

**February 2013**

**Planned activities:**
- Establishing processes for use in the Project, in particular financial review processes.
- Initial review of Method Statements for technology installation.
- Creating a media engagement approach for EA Technology.
- Reviewing and editing Customer Engagement Plans and Data Protection Strategy documents.
- Reviewing SDRC 9.1 (Lessons learned from the bid process).

**Unplanned activities:**
- N/A.
April 2013
Planned activities:
— small scale trials on network in Bramley.
— assisting with events planning.
— sourcing mapping data for recruitment efforts.
— making introductions to relevant departments and contacts within SSEN.
— refining project delivery plans.

Unplanned activities:
— assisting with establishing internal PR contacts, processes and content for publication.
— continuing to resolve financial and commercial matters.

May 2013
Planned activities:
— assisting with legal reviews of processes and contracts.
— creation of a Management & Delivery document to assist with new approach.
— document reviews.
— helping generate and review PR materials.
— reviewing and editing of method statements for kit installation and technical briefs for operational staff.

Unplanned activities:
— further efforts to resolve/establish financial and commercial matters (the novel commercial agreement and associated impacts to our processes and systems).
— further assistance with producing and interpreting mapping data.
— events planning (launch event and roadshows).
— confirming customer connection data for cluster queries.

January 2014
Planned activities:
— reviewing and inputting into Project Progress Report.
— reviewing Esprit testing strategy.
— organising monitoring kit and staff to install on networks.
— reviewing customer handling processes during trials.
— reviewing questionnaires for participants.

Unplanned activities:
— further review of Method Statements.
— resolving issues with reconfiguring network in Chiswick and underground unit to house kit.
— frequent liaison with Ofgem over recruitment targets.
— meetings and calls planning how to reach recruitment targets and mitigate any issues.

June 2014
Planned activities:
— reviewing and inputting into Project Progress Report.
— sourcing network and profile class data for academic analysis.

Unplanned activities:
— continued review and input into Method Statement.
— ensuring accurate mirroring of financial records on both companies’ systems.
— resolving technology issues and remedial action including redesign and plans for removing and redeploying kit.
— assisting with final cluster mapping information requests and network queries.
— drafting and reviewing change request.

July 2014
Planned activities:
— reviewing and monitoring detailed network data reports.
— supplying network data to University of Manchester to assist their analysis/modelling.
— reviewing SDRC 9.5.3 report on meeting social trial numbers.

Unplanned activities:
— technology remedial action - review of redesign, plans and monitoring progress/issues.
— site visits to check remedial work.
— reviewing communications regarding remedial action.
— chasing Method Statement approval.
— continued efforts to ensure accurate mirroring of financial records in SSEN and EATL systems.
— supplying mapping data to University of Manchester.
— assisting with resolving issues with a business cluster.

5.5 REASONS BEHIND VARIANCES
A large contributor to the increased effort expended during the peak months identified in the previous section has been due to the attempts to provide a level of assurance and control over delivery progress, the meeting of objectives and financial expenditure. Effective Programme Management ensured we had visibility of all areas of the Project and a degree of input/control over various elements, which helped us ensure we would meet conditions agreed to in the Project Direction, our licence obligations as a Distribution Network Operator and the expectations of our customers.

The process agreed at the start of the Project was to mirror the financial transactions recorded in EA Technology’s finance system in SSEN’s finance system. This led to the situation where EA Technology would supply an invoice to SSEN at the end of a month and detail the different areas of the Project where costs had been incurred. SSEN would check these figures, query where necessary, and once approved for payment record this in the finance system. This led to an increased amount of labour being spent on tracking and providing assurance on the costs incurred, and then a significantly increased amount of labour being spent trying to resolve any queries as both systems would have to be interrogated to provide answers. Eventually the teams agreed on an approach that streamlined all processing and queries and so the mirroring of financial systems no longer became a task requiring continued levels of significant effort.

Some stages of the Project simply required more input than others, and so the flat forecast of Programme Management effort was not appropriate, such as in the early months where a large number of processes and documents needed creating, reviewing and amending to establish the novel approach being used on the Project.

The majority of the variances, however, were due to unexpected activities, such as the length of time and involvement required to establish the financial and commercial elements during May 2013 and attempts to resolve issues with the novel approach soon after as it became apparent that it was outside of the normal practices for several teams and systems and so needed time to overcome barriers to implementation.

On several occasions the need to produce and interpret the mapping data required for establishing clusters in the technical trial required a significant level of effort from SSEN’s Assurance & Liaison Officer, initially this was due to the challenges of volume of requests for SSEN’s Mapping Services team to process in addition to their regular workload and the frequency of queries from EA Technology, yet despite granting online access there were limitations with what content EA Technology could view and so continued effort was required. The most time-consuming element was the interpretation of the mapping data which required liaison with several teams within SSEN and the review and cross-checking of data to ensure complicated networks could be interpreted by EA Technology for recruitment purposes.

The complexity of certain networks also led to other challenges that required large levels of input and coordination from SSEN- in one instance reconfiguring of a network was required to create a cluster, and numerous teams were involved from both planning and operational areas of the business, including frequent input and chasing by the SSEN Programme Management staff to assess the technology being proposed to enable the integration of the Esprit technology with the link box required for the reconfiguration. Refinement of technical designs/operational permission and managing manufacturing lead times required both SSEN and EA Technology to expend much more effort than had been anticipated for anything of this nature.
One of the most significant increases in Programme Management effort was as a result of the activities related to meeting recruitment targets – when Ofgem confirmed funding of the Project SSE and EA Technology agreed to the conditions for the recruitment of customers, specifically those restricting the release of funding needed to progress the trials until recruitment targets were met. Given the implications and importance of meeting these targets both SSE and the Project team were focussed on monitoring progress towards the targets and so a significant amount of effort by both SSE and EA Technology was expended during the frequent liaison with Ofgem on this, especially as a result of the more frequent and in-depth meetings and calls with EA Technology reviewing progress, planning how to reach the targets and mitigating any issues.

This was not the only challenge resulting from the conditions agreed to by the Project team – the approach to recruitment had to change as a result and so this had a significant effect on the cost profile (though it should be noted not the total cost of the Project) and level of effort required in certain areas (such as maintaining customer engagement for months once a cluster was signed up due to the need to reach a certain number of clusters signed up before approval was given to lease the vehicles and proceed with next steps). Consequently SSE and EA Technology spent significant time and effort over the next 18 months attempting to seek approval from Ofgem to reallocate budget to ensure the conditions could be met and the delivery of the Project.

As a result, of the £5,932.76k budgeted for SSE labour within the Project £1,236.45k was allocated for Programme Management. This has been as a result of the involvement of several members of staff who have led or had input into the Project.

5.6 OTHER INNOVATION PROJECT’S (NTVV) BUDGETED PROGRAMME MANAGEMENT LABOUR

The budgets created for SSE labour within the NTVV Project covered a vast array of activities and work packages as expected from managing and leading the delivery of the Project.

Analysis of SSE’s financial systems show that from the beginning of the Project in January 2012 to July 2015 a total of 13,137 hours effort had been expended solely on Programme Management. This has been as a result of the involvement of several members of staff who have led or had input into the Project.

During June 2014 there was an issue with the Esprit technology that required remedial action that included a redesign, plus the plans to decommission the existing units and then reinstall them once updated. Given the potential for disruption to both the Project and customers SSE felt that whilst EA Technology were managing the situation well, there was a need for close monitoring of the activities and plans, and this level of detailed review also led to a large increase in the amount of time being spent on Programme Management activities.

Finally whilst having a third party manage and deliver the Project worked well operationally, it should be noted that the two-stage review process was a challenge when attempting to meet reporting deadlines - the usual drafting and review processes would be undertaken within EA Technology before a report was submitted to SSE, however the reviewers comments would have to be actioned by EA Technology and then sent for internal approval once more before being submitted back to SSE for final review. This often doubled the estimated time duration and in some cases effort required to finalise a report and so added to both parties’ Programme Management efforts.

5.7 NTVV’S EXPENDED LABOUR

Analysis of SSE’s financial systems show that from the beginning of the Project in January 2012 to July 2015 a total of 13,137 hours effort had been expended solely on Programme Management. This has been as a result of the involvement of several members of staff who have led or had input into the Project.

Much like in MEA the level of effort expended by the SSE team has failed to remain at a relatively constant level during these 43 months, with the unavoidable peaks as a result of intensive periods of activity, document reviews and resolving delivery challenges. Interestingly the intensity of effort increased significantly after the first 18 months, with the profile being composed of spikes and troughs as opposed to a constant level.

Having assessed the forecast hours anticipated to be expended against the actual hours recorded during the Project, we have been able to clearly see the trends of actual vs forecast (see Figure 7).
5.8 COMPARISON BETWEEN MEA AND NTUU

In order to do a comparison between the level of effort expended on SSNN Project Management activities in My Electric Avenue compared with those in New Thames Valley Vision it was decided to look at key periods within both projects rather than comparing totals due to the differences in length/maturity of the projects.

As can be seen in Table 5 Comparison of key periods we compared the hours expended on both projects for the start-up activities (equating to the first year of effort), part of the key delivery phase (equating to the second year of effort), and finally a period of stable delivery where efforts are continuing to maintain progress but data analysis is also beginning to take place.

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>PERIOD</th>
<th>MEA HOURS</th>
<th>NTUU HOURS</th>
<th>PERCENTAGE COMPARISON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start up</td>
<td>Year 1 total</td>
<td>742</td>
<td>2775</td>
<td>27%</td>
</tr>
<tr>
<td>Key delivery</td>
<td>Year 2 total</td>
<td>548</td>
<td>3549</td>
<td>15%</td>
</tr>
<tr>
<td>Stable delivery, data analysis beginning</td>
<td>Jan-Jul of Year 3 for MEA, Jan-Jul of Year 4 for NTUU</td>
<td>125</td>
<td>2252</td>
<td>6%</td>
</tr>
</tbody>
</table>

As expected, the level of effort needed for an assurance Programme Management role is significantly less than that required for complete Programme Management responsibilities. This is evident from the fact that MEA required 73% less effort in the start-up phase than NTUU, 85% less effort a year of key delivery and 94% less during a stable delivery phase.

Considering the hours expended versus forecast for each Project, however, it can give us an insight into whether the efforts within each Project was similar to the forecast or if they experienced similar overall expenditure of effort and making a comparison more suitable.

From the data we can see that year 1 of NTUU utilised only 82% of the forecast hours, however in the same period on MEA we utilised 11% more than the forecast total number of hours. The second year of delivery required 5% more effort than was forecast in NTUU, yet the reduction in overall effort started to show in MEA as only 82% of the forecast total was expended. And finally when considering the effort expended during the 6 months of 2015, the stable delivery period, NTUU had expended 14% more than forecast whilst MEA was 68% lower than forecast- however this can be explained by the fact that whilst NTUU was in stable delivery mode, a significant amount of effort was still being expended to overcome delivery challenges and attempts to push for further recruitment and deployment of technology.

5.9 ASSESSMENT OF LEVEL OF SSEU EFFORT REQUIRED FOR MEA PROGRAMME MANAGEMENT

There were concerns during the early stages of MEA that the level of effort that had been forecast for the Programme Management responsibilities of SSEU had been significantly under-estimated, as several activities required significantly more input than had been envisaged. After the time was taken to establish processes and contacts within SSEU the level of input returned to the expected levels, however there was the need for significant input halfway through the Project to ensure that one or two issues were brought to a successful conclusion. Following this period of activity it was possible to step back and continue to provide an arms-length role of assuring delivery, and this coinciding with the Project moving into its stable delivery phase resulted in a significant reduction of SSEU Programme Management effort after 18 months.

As stated at the start of this report, we feel that the assessment should be focussed on the variance between the forecast and actual levels of effort by SSEU for MEA Programme Management activities and the size and/or frequency of variation used as a measure of success or failure of this novel approach.

Having considered the fact that whilst there were several months when the amount of effort required from SSEU increased (sometimes significantly) to more than was forecast, the overall level of effort was nearly 20% lower than anticipated, and so we believe that this approach has been a successful one.

As a reminder, the commercial aims of the Project are:

1. Demonstrate delivery of a LCN Fund project by a non-DNO (EA Technology) on behalf of a DNO (SSEN).
   
   SSEU assessment: Achieved, repeatable.
   
   Further insights below.

2. To develop a novel commercial arrangement.
   
   SSEU assessment: Achieved, repeatable.
   
   Further insights below.

3. To enable all procurement related to the Project activity to be managed by a non-DNO.
   
   SSEU assessment: Achieved, repeatable.
   
   Further insights below.

4. Evaluate the extent to which third party delivery accelerates deployment of LCN Fund projects.
   
   SSEU assessment: Achieved, positive and repeatable outcome.
   
   Further insights below.

EA Technology has proven that they are capable of delivering a project on a DNO’s network on their behalf, and together we have worked to create and follow a novel commercial arrangement to facilitate this approach and help ensure the correct processes are in place to manage the associated risks. EA Technology have also undertaken all procurement activities and managed the associated tasks to ensure the Project is resourced and delivered appropriately, within budget and on time.

There were requirements for prolonged input/more DNO effort on certain activities but there’s no doubt that these can be overcome should this arrangement be repeated. As explained in the previous section, the evidence shows that having an assurance role allows for a significantly reduced level of input compared to owning the entire management of project delivery, and in fact even lower than originally expected for an assurance role.

If this model is to be replicated companies should obviously anticipate peaks in effort required during key periods of activity and factor in time for incident escalation, yet generally the inputs required will be less time-intensive during stable and winding down periods of delivery and so afford a level of confidence in the time-effectiveness using a third party for management and delivery of a project (although remembering the implications of the two-way review process when attempting to meet reporting deadlines).

Considering the successful management and delivery of the Project so far, along with the fact that the required input from the DNO has been minimal compared with other innovation projects by utilising the third party and utilising their expertise, we believe that the arrangement is successful one. It has reduced the input required by DNO staff which has allowed analysts, engineers, management and customer-facing staff to be utilised elsewhere in the business, whilst also bringing in expertise not necessarily within a DNO’s skillset and ensuring an ability to hit the ground running quicker in certain areas.

With this approach it could feasibly allow several innovation projects to be run simultaneously with a relatively minor level of input required from the DNO. Obviously the costs would still be there as the third party would fulfil the management and delivery aspects, however with the relatively short timescales of these projects these costs would not be enduring the DNO (such as full-time permanent staff costs and associated overheads) and so could almost be treated as operational expenditure (OPEX) which has obvious benefits when considering tactical projects, whether of an innovative or Business As Usual nature.
6.0 CHANGES TO THE ORIGINAL CONTRACTUAL STRUCTURE (SDRC 9.2.2)

6.1 COMMERCIAL STRUCTURE – WHAT WORKED

6.1.1 CLARITY OF PROJECT SCOPE
The project scope was clearly defined through the bid documentation and the Project Direction, combining to aid the planning of deliverables and project strategy in a highly effective manner. Project partners and suppliers were able to clearly reference the documents when producing outputs and work plans created in the early months of the Project had clearly defined end goals.

These documents were directly referenced in the delivery contracts, and briefing sessions were set up with all of the partners at the start of the Project. Whilst the inclusion of all relevant documents (Governance Document, Project Direction, Full Bid, Management & Delivery Document etc.) in the contract ensured everything was available, it did pose a challenge to many of the partners/suppliers. We observe that many of the clauses are irrelevant to many of the partners/suppliers or highly specific to the LCN Fund, a DNO or its lead. Requiring all parties to review all documents created both confusion and time delays in getting contracts signed. On reflection, if this were to be done again, the relevant clauses should have been extracted and put into the body of a contract, this would however have taken significantly more time (and cost) for the DNO and/or lead party.

RECOMMENDATIONS
- Extract relevant clauses from LCN Fund Governance documents, Project Direction etc. and include them within the contracts.

6.1.2 CLEARLY DEFINED PROJECT MILESTONES
The definition of clear project milestones to be achieved to enable the release of funding or begin another element of work served to provide a clear focus for project strategy.

The SDRCs provide clear direction for the Project and all those working on the Project.

It is noted however that clarity could have been improved with regards identifying when a milestone could be deemed complete, detailed further in section 7.3.3.

6.1.3 WORKING RELATIONSHIPS
It is unusual for a project of the scale and duration of My Electric Avenue to be completed by the same project team which began working on it at the start. That the partners and suppliers across the Project have continued to maintain positive working relationships, supported the Project and are open to future projects with the same team (or subset thereof) is a testament to all companies concerned.

RECOMMENDATIONS
- Maintain regular frequent meetings between all parties to ensure cooperation and desire to succeed remains strong throughout the Project.

6.1.4 PROVISION OF PROJECT CONTINGENCY
The provision of project contingency has proved highly successful for the Project, removing the need to request additional funds from Ofgem. The mechanism for releasing contingency funds was stringent and rigorously applied, ensuring customers’ money was protected whilst allowing the Project to deliver the learning in line with original intentions. The level of contingency was set at c10% of the project value. This, again, was sufficient for this project.

The use of a contingency pot should be adopted for similar projects in the future.

RECOMMENDATIONS
- Provide a designated ‘project contingency’ for future projects, available with full agreement of the Project Steering Group, which shall be returned to Ofgem if unused.

6.1.5 INDEPENDENT PROJECT REVIEW
EA Technology recognised from the outline bid stage that it would be appropriate for an external party to be appointed to perform periodic reviews on the Project. This was deemed to be necessary to avoid accusations that the Project Lead had too much control over the outcomes.

The brief for the independent reviewers was to perform an unbiased evaluation of the Project, providing recommendations where appropriate and praising, or criticising as necessary. The remit was not limited to project deliverables, but encompassed all elements of work undertaken by the Project team, spanning liaison with Ofgem to customer recruitment.

The independent project review being undertaken by Ricardo was highly valued by the Project partners as observations and recommendations by an unbiased source can identify areas where change is genuinely required. It can also offer an impartial, holistic view of a project such as My Electric Avenue, with stakeholders ranging from an industry regulator to a SME. For these benefits, it is strongly recommended that such an approach be considered for future innovation projects where the size and scope is sufficient to justify the extra expenditure.

RECOMMENDATIONS
- Consider independent project reviews for all future Tier 2 equivalent projects.
6.2 COMMERCIAL STRUCTURE – WHAT DIDN'T WORK

6.2.1 A CHANGE IN PROJECT SCOPE BETWEEN FULL BID AND PROJECT DIRECTION

The project scope was changed through additional clauses/restrictions introduced via the Project Direction, making elements of the Project more difficult and requiring greater resource and expenditure to achieve. These changes created further ‘knock-on’ effects in equipment procurement, installation and data collection (both network and socio-economic) and analysis. Activities spanning across all project partners and suppliers were affected by these changes but were not reflected in changes to the project budget, nor in the timescales available to deliver the revised requirements.

The changes introduced by the Decision Document, and later detailed in the Project Direction related mainly to recruitment. These were:

— Parallel recruitment strategy adopted – many clusters in one ‘hit’.
— Sequential trial recruitment – Technical then Social.
— Limiting recruitment to EVs only, rejecting recruitment of customers with heat pumps.

This fundamentally altered the strategy originally planned in the bid, which had assumed a staged roll-out of recruitment and of technology (both electric vehicles and ‘Spirits’ technology). Under the new conditions, technology deployment could not start until all clusters were recruited. Original planning in the bid had anticipated technology roll-out as and when clusters were recruited. This would allow the Project to refine techniques and processes along the way, and reduce waiting time for electric vehicles. However the changes compressed the time available to implement the technical trials and required parallel deployment of the test equipment.

The additional conditions were intended to protect customers’ money as far as possible by preventing any further funds being used in case the recruitment levels achieved were unable to yield sufficient learning. However the unintended consequence of applying these conditions actually increased the risk to project delivery by making it more difficult to recruit and retain participants to the trials. It meant that customers registering for the trials were forced to wait until the funding milestone had been reached before vehicles could be ordered. It was found that some customers were unwilling to wait for all clusters to be signed up before initiating the order of their electric vehicle, which affected the ability to recruit customers on to the trials. In some instances, clusters that had originally met or exceeded the threshold of ten participants fell below this value and recruitment had to restart for that cluster.

Furthermore, suggested recruitment targets in the original submission, based on the sequential recruiting strategy, were imposed as deadlines in the Project Direction under the required new parallel recruitment approach. Each target effectively served as a funding gate, upon which if each criteria and deadline had not been met, the funds spent up until that point would be deemed ‘disallowed’ and could be claimed back. This funding gate was introduced to protect customers’ money in case recruitment targets were not met and the Project was stopped; however, combined with the changes to the recruitment requirements this actually increased the expenditure necessary to recruit participants and the risk of failing to achieve the requisite numbers.

Additional time, resource and cost were required to effectively recruit all clusters in parallel. The risk of not achieving the recruitment targets incentivised additional time, resource and cost to secure the future of the Project. Essentially, more money was spent than was originally planned to counter the greater risk introduced through the changed recruitment strategy. During negotiations over the Project Direction wording, the DNC and Project Lead requested a compromise to the change in approach. This agreement meant that should the recruitment targets be met earlier than the imposed deadlines, the funding restrictions could be lifted early, allowing the Project to order vehicles as soon as a cluster was established. Essentially the Project sought to order electric vehicles for customers who passed all recruitment criteria, early, to secure their participation in the trials, with a guarantee that the funds would not be claimed back by Ofgem (i.e. funds would not be deemed as ‘at risk’).

The Project met this requirement and requested the release of funding. Whilst Ofgem granted approval to proceed with deployment of technology and vehicles, it was ultimately at the risk of the Project Lead; EA Technology. The consequence of this was the introduction of an additional risk into the recruitment process. Specifically, participants indicated that they would leave the trials if equipment (i.e. electric vehicles) were not provided in a reasonable timescale. In either situation, a significant financial burden would have fallen on EA Technology. This risk was noted by Ricardo as part of their independent review for the period in question:

“[ ] one significant area of concern, which is the high financial risk imposed on EA Technology by Ofgem via the restrictions outlined in the Project Direction. Given the early recruitment success of trial participants, EA Technology have wisely decided to accelerate the establishment of the initial clusters for the Technical Trial, beginning the roll-out of electric vehicles to Technical and Social Trial participants ahead of schedule. Whilst this demonstrates the commitment of the Third Party Lead Supplier to the continuing success of the project, it has placed EA Technology at increased financial risk, especially considering their company size and annual turnover, since Ofgem may demand a return of funds if the targets for cluster establishment are not achieved by 12 March 2014. There also appears to be some debate regarding interpretation of cluster establishment. [...]” – Ricardo.

It also affected the Project’s relationships with Cluster Champions, as the lack of immediate funding release left participants with the perception that the Project had been disingenuous with regards vehicle delivery timescales when recruiting them to the Project. This made further recruitment in the same ‘cluster’ extremely difficult.

It is challenging to explain delays, specifically those caused by contractual requirements imposed by the Project Direction, to customers. A decision to protect the funds of many customers can, in some circumstances, ultimately inconvenience the relative few participating in the trial.

There was a genuine, significant risk to the success of the project that established clusters would ‘fail apart’ due to the funding restriction, preventing the rollout of vehicles and equipment in the period of December 2013 to March 2014. The risk was closed on March 7th 2014 upon submission of the final permutation of clusters to Ofgem. As the Principal Contract holder for this project, EA Technology is responsible for ensuring the success of this project and therefore recognised its duty to do everything within its power to ensure the successful delivery of the project. As such, EA Technology’s group board approved a decision to ‘hold-the-line’ on the clusters through funding the installation of equipment and provision of vehicles at the company’s risk until recruitment of the final ‘cluster of ten’ removed the funding restrictions imposed through the Project Direction. The value of this risk was a total of £1.1m; far greater than that envisaged at the project submission.

EA Technology was grateful to SSEN for making available £220k of temporary, repayable funds, which fortunately were not required, but were envisaged for cash flow purposes. Subsequent feedback from project partners and suppliers suggests that the high level changes introduced at the Decision Document had significant impacts on almost all areas within the Project.
RECOMMENDATIONS
Where changes to the Project are introduced by Ofgem via the Decision Document, the lead DNO and partners must be satisfied that the Project remains achievable. Where changes to timescales and budgets are considered necessary as a consequence of the changes introduced then this must be discussed between the project team and Ofgem prior to publication of the Decision Document.

If the Project Direction contains specific clauses restricting the use of funds, or implementing stage gates for project continuation, the details of when those requirements will be deemed to have been met must be detailed. Such clauses must be objective and unambiguous, avoiding the potential for subjective decision making at a later date.

The Project Direction should detail the specific capabilities of project partners rather than naming the companies, enabling the Project Lead to source alternative means of project delivery if necessary.

6.2.2 CONTRACTUAL RELATIONSHIP
The working relationship between SS EN and EA Technology has been solid through the Project, in spite of the structure of the contract; the contractual relationship between SS EN and EA Technology fluctuated over the course of the project between an approach that was a partnership and that more akin to one of a traditional customer – supplier relationship. The initial funding provided by SS EN to finance the first several months of the project pending the provision of sufficient LCN Fund deposits would not have been provided under a traditional business-as-usual contract. In other situations, where SS EN determined a need for action for the benefit of the network this was, understandably given the responsibilities of SS EN in relation to their licences, area and customers, communicated as an instruction rather than a discussion.

Where a project is awarded on a fixed price basis it is recommended that one level of capping funds is utilised, selecting the most appropriate for the size and type of project. For instance either by Ofgem categories (over the whole project), by project tasks per year, or agreed amount based on tasks completed at stage-gates.

Where Ofgem introduce significant changes to the project delivery plans post bid submission, it must be acknowledged that the cost of the overall project and/or individual components may change as a consequence and should therefore be prepared to discuss this as part of the Project Direction negotiations.

In future projects, the first phase should be focussed on project set-up, with a specific focus on the contractual negotiations. This phase should be funded although later phase funding could be restricted pending signing of contracts between associated partners/suppliers as was the case with the My Electric Avenue project.

This approach, when combined with the SME holding the financial liability, allows for the risk that decisions may be taken by the DNO that increase the liability on the Project Lead. Due to the project governance practices implemented on the Project between SS EN and EA Technology this was largely managed without issue, but had the potential risk been realised, the contracts in place made no provision for sharing of the liability.

RECOMMENDATIONS
If the intention at the outset of project development is for partnership working between the DNO and a 3rd party, the agreements should include a defined allocation of any future liabilities. A reasonable starting position for this should be the split agreed for the compulsory contribution.

6.2.3 FIXED, RESTRICTIVE BUDGETS
The financial restrictions on the Project introduced via the LCN Fund Governance requirements, combined with the additional clauses added via the Project Direction served to severely limit the Project’s capability to react to the changing scope identified in 7.2.1 above.

Project funds were initially limited, in multiple simultaneous ways:

— The benchmark for funding utilisation was the final bid submission document. Consequently, there was no allowance for the scope changes introduced through the Project Direction nor the transcription error identified in the final bid submission financial sheets.

— Funds forecast for use in any financial year could not be utilised in an earlier financial year.

— The project was required to report on variations in the forecast expenditure of any Project Tasks if the task was expected to cost more than 105% of the amount planned for during the bid submission. If the task was expected to cost more than 110% then permission to continue was required from Ofgem.

— The project was required to report on variations in the forecast expenditure of any Project Category if the Category was expected to cost more than 105% of the amount planned for during the bid submission. If the Category was expected to cost more than 110% then permission to continue was required from Ofgem.

— The project could not begin work on some tasks until participant recruitment was fully completed, with all project clusters recruited. This necessitated the delay of task commencement for some project partners.

— The project could begin some tasks, but not spend more than a defined amount of the budget until participant recruitment was fully completed.

It is noted that some relaxations were granted following approval of the Change Request specifically the need to report/request permission for exceeding task expenditure, enabling transfer of funds between tasks. At the point where the Change Request was approved, all other restrictions except for the one relating to the Project Category had been removed through the Project meeting the restriction target.

It is appropriate to impose financial restrictions on a project where there is uncertainty around the project’s ability to deliver the intended outcomes. However, imposing too many restrictions on the use of funds introduces additional risks and may actually make it less likely the project can succeed. Therefore it is recommended that where the funding body have any concerns, these are discussed with the project team and the most appropriate restrictions to mitigate those concerns be used whilst providing the project with the greatest possibility of success.

All projects must manage a level of risk that may affect timescales or adversely affect the project budget if realised and the budgetary restrictions were introduced by Ofgem in order to reduce the risk to customers’ money being invested in the Project. In the case of the My Electric Avenue Project, all Partners had submitted fixed priced tenders on the basis of the approach outlined in the bid submission. However, measures introduced via the Project Direction to protect the interests of the LCN Fund increased the financial liability and cost to the project; costs that were ultimately borne by EA Technology and Fleetdrive Electric. Where more than one stakeholder holds financial liability and/or is funding a project, consideration should be taken of the impact of proposed measures on all stakeholders, not just one. Proposed risk mitigations should in all cases be evaluated on the basis of:

— What is the cost of implementing the mitigation when compared against the value and likelihood of the risk?

— Does implementing the specific mitigation measure reduce the overall risk to the Project?
Protection of customers’ money

The funding restrictions introduced via the Project Direction were implemented to protect customers’ money. However, the unintended consequence created additional risk, both reputational and financial, to the Funding DNO, Project Lead and by extension Ofgem and the LCN Fund.

The financial risk significantly increased as a result of the unexpectedly rapid customer uptake, which far exceeded the original plan as agreed with Ofgem, combined with the funding restrictions linked to recruitment. In order to prevent the dissolution of multiple clusters and ensure the continued success of the Project, EA Technology was required to accept additional risk, both reputational and financial, totalling £1.1m. This is an extremely significant proportion of the Project, and so proposed risk mitigation measures should consider the financial and reputational exposure of all investors.

SME – Acceptance of risk liability

It is recommended that contractual risk liabilities are given a detailed review at bid development and be considered throughout contract negotiation, irrespective of the resource required to do so and the corresponding cost incurred to the SME. The review must ensure that the risk is relative to company size, financial contribution to the Project and is a level at which the company can continue to trade, if the situation occurs.

RECOMMENDATIONS

Risk mitigation measures should be implemented to protect the overall project, not just the interests of individual stakeholders.

Additional project clauses, introduced by Ofgem should be discussed with the Project Team prior to their implementation to avoid ‘unintended consequences’ adversely affecting the Project. Undertake a detailed review of contractual liabilities at bid development stage and re-visit the outputs during contract negotiation.

Partner financial contributions effectively represent commitment and a share in the Project which can be considerable, in some cases even exceeding the funding requested from Ofgem. As such, it is reasonable to expect that concerns raised by any stakeholder in the Project should be considered by all parties with a view to determining a suitable solution. It is recognised that Ofgem, in the role of Industry Regulator, are required to consider the value to the customer of awarding a project funding. However, these concerns and importantly, intended mitigations must be discussed fully with the bid team. This will ensure an acceptable solution is agreed on, which does not adversely affect the Project. This is particularly important where the Project team is funding a significant proportion of the Project, and so proposed risk mitigation measures should consider the financial and reputational exposure of all investors.

6.2.4 CUSTOMER RECRUITMENT REQUIREMENTS

The highly challenging recruitment targets linked to the release of funding made customer engagement activities significantly more demanding than what would have otherwise been the case.

The project was placed in the position of recruiting individuals without being able to guarantee when, or even if, the Project would be to deploy equipment and provide vehicles, resulting in a negative perception of the Project. This was exacerbated by a need to clarify the conditions linked to customer recruitment. Specifically, was the requirement to have EVs physically on drives or simply for customers to sign up to participate in the Project?

It is noted, that placing vehicles ‘on-drives’ required the use of funding that was restricted from use until all participants had ‘signed up’ although when clarification was sought, Ofgem confirmed that the funding would not be released until cars had been delivered. This placed the Project in the position of having to spend funds ‘at risk’ as the expenditure would only become approved and ‘available’ once all vehicles were deployed and the assigned money spent.

Future projects should ensure that where restrictions on funding or project continuation stage-gates are introduced, the criteria by which the requirement will be deemed to have been met are clearly defined and exposure of any stakeholders to risks considered when planning stage-gates and steps needed to reach them.

RECOMMENDATIONS

Where restrictions on funding or project continuation stage-gates are introduced, the criteria by which the requirement will be deemed to have been met are clearly defined and exposure of any stakeholders to risks considered when planning stage-gates and steps needed to reach them.

6.2.5 REQUIREMENT FOR ALL SUPPLIERS/ PARTNERS TO BE UNDER CONTRACT

By requiring organisations named as project partners or supplies in the bid submission to sign contracts before funding could be released, the Project Direction had restricted EA Technology’s ability to replace project partners, and any project funds drawn upon by the Project could be deemed ‘disallowed’ until all of those partners had signed up to the Project. The unintended consequence of this was that the proposed partners and suppliers were in a stronger negotiation position than the Project Lead, EA Technology.

The changes introduced by the Decision Document increased the input required, compared with that expected at the bid stage. Partners and suppliers had tendered on a fixed price basis, and so were (reasonably) unwilling to accept more responsibility or scope for the same cost.

There was no commercial benefit for partners to accept scope changes or increased liability to their own tender submissions, in response to changes introduced by Ofgem, when their involvement in the Project dictated approval and release of funding. At the point of negotiation, EA Technology had committed circa £120k to the Project by signing the Project Direction, in addition to the cost of submitting the bid. The cost to partners and suppliers if they chose to walk away at this point was only the equivalent of time spent on the bid; a reasonable amount of money, but not enough to warrant accepting increased liability to protect.

Unable to negotiate new terms with partners as a result of the governance of the Project Direction, EA Technology were forced to absorb most of the impacts of the changes via ‘in-kind contribution’. The Project recommends that partner names are not published in the Project Direction, to ensure the Project Lead has a degree of flexibility and negotiating power following approval, but before contract signing. This is particularly important if partners/suppliers have quoted on a fixed price basis but changes to the bid submission are required by Ofgem for funding to be approved.

If particular partners/suppliers are preferred by Ofgem, the team recommends detailing the specific capabilities of that partner/supplier rather than naming them. This would allow the participation of an equally qualified alternative, if scope changes passed onto the Project lead are then rejected by the original partner. Ultimately, this approach would reduce the burden on the Project Lead.

RECOMMENDATIONS

Detail the specific capabilities of required project partners/supplier rather than naming them in the Project Direction.

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6. In-kind contribution refers to funds provided by project partners towards the project. In this case, it meant that EA Technology funded the financial shortfall of the costs for the submitted bid compared to the costs of the project actually approved by Ofgem.

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4/New text 8

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5/End of text 8

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6. EA Technology would have been bankrupted if the total risk was realised.
6.2.6 INDIRECT RELATIONSHIP BETWEEN ‘PROJECT LEAD’ AND OFGEM

In a project such as My Electric Avenue, the indirect relationship between Ofgem and Project Lead introduced delays in responding to queries (in either direction) and the potential for miscommunication. An approach should be considered for future projects of this type where the Project Lead is nominated by the DNO as the ‘representative of the project’ enabling them to discuss matters relating to the Project with Ofgem directly. This would facilitate a quicker response to queries and reduce the possibility of miscommunication.

RECOMMENDATIONS
The Project Lead should be nominated as the DNO’s ‘Project Representative,’ authorised to speak on their behalf to Ofgem in relation to the Project.

6.3 OTHER OBSERVATIONS

6.3.1 COST OF BIDDING AND PROJECT PARTICIPATION

There is an inherent cost associated with the generation and submission of a project bid, this investment is speculative and has no guaranteed return. Funding DNOs applying to undertake an LCN Fund project are required to part fund the Project, with the minimum contribution being 10 per cent of the Initial Net Funding Required. This is considered a Compulsory Contribution and has the potential to be returned to the DNO if all Successful Delivery Reward Criteria (SDRC) defined in the Project Direction are met and the Project is considered to have been well managed.

The compulsory contribution for the My Electric Avenue project equated to £474,943 and was split between SSEN and EA Technology, 75%:25% respectively with any amount returned by Ofgem to be distributed accordingly. This contribution was paid into the project bank account by SSEN and EA Technology in-line with the Ofgem payments; 12 equal monthly payments over the course of the Project’s first financial year.

Following completion of the Project, the funding DNO can submit a ‘Successful Delivery Reward Application,’ requesting the return of the Compulsory Contribution if the Project has been well managed and delivered all planned outcomes.

This application cannot be submitted until after completion of the Project and with the decision process run annually in May of each year, if the application is approved, the DNOs will receive the ‘reward’ via the ‘Use of System’ charges in the following financial year. In the case of the My Electric Avenue project, the financial timescales from the initial investment to return of Successful Delivery Award is six financial years, twice the duration of the project.

It is noted that EA Technology participated in the My Electric Avenue project and invested £120k through the Compulsory Contribution in the expectation that the project would be a success and that the SDR Application would be granted. It was not envisaged during the bid submission that the timescales would be changed such that this investment would take six years to return.

RECOMMENDATIONS
The Project Lead should be aware of the significant timescales between payment of the Compulsory Contribution and its potential return as a Successful Delivery Reward.

FIGURE 8: COMPULSORY CONTRIBUTION & SUCCESSFUL DELIVERY REWARD PROCESS

<table>
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<tr>
<th>CALENDAR YEAR</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<td>COMPULSARY CONTRIBUTION &amp; RETURN VIA SUCCESSFUL DELIVERY REWARD</td>
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<tr>
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<td>PROJECT ENDS</td>
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Following the completion of the Project, the funding DNO can submit a ‘Successful Delivery Reward Application,’ requesting the return of the Compulsory Contribution if the Project has been well managed and delivered all planned outcomes.

This application cannot be submitted until after completion of the Project and with the decision process run annually in May of each year, if the application is approved, the DNOs will receive the ‘reward’ via the ‘Use of System’ charges in the following financial year. In the case of the My Electric Avenue project, the financial timescales from the initial investment to return of Successful Delivery Award is six financial years, twice the duration of the project.

It is noted that EA Technology participated in the My Electric Avenue project and invested £120k through the Compulsory Contribution in the expectation that the project would be a success and that the SDR Application would be granted. It was not envisaged during the bid submission that the timescales would be changed such that this investment would take six years to return.
With the benefit of hindsight, the project bid was too restrictive in outlining recruitment targets as the numbers included in the bid submission were intended for indicative purposes with the number of participants required per cluster varying dependent on the network type. The requirement for multiple clusters of at least ten participants led to some potential clusters, from which validation could have been gained, being dismissed through only having nine volunteers.

In future project bids, it is recommended that the bid team focus on the learning to be achieved and the relevant characteristics to be looked for when recruiting participants, such as network types and proportional penetration of the trial technology rather than just numbers of recruits.

**6.3.2 OVERLY PRESCRIPTIVE IN BID**

The need for SSE’s Regulation team to review all deliverables prior to issuance to Ofgem was not in place during the bid development process. Consequently, after this requirement was implemented, additional time for documentation review and approvals was required in all delivery schedules.

**RECOMMENDATIONS**

Schedule project deliverables to be submitted in a reasonable period of time after the pre-requisite project elements are complete and allow sufficient time for the DNO review process.

**6.3.3 SUBJECTIVE INTERPRETATION OF PROJECT DIRECTION CLAUSES**

A number of clauses introduced by Ofgem to the Project Direction had clearly defined restrictions but the clause relating to the customer recruitment requirements introduced through the Project Direction. It should be noted however, that smaller companies may be flexible with regard changing the project delivery plan as the situation changes, as even under a fixed price quotation this would generally be accepted without a corresponding change in the contractual agreement as this can introduce additional work and risk not allowed for in the initial quotation.

This situation was experienced in the initial stages of the My Electric Avenue project, where the changes introduced to the Project by the Project Direction increased the work load required and the risk to project. Consequently, the additional costs were largely covered by EA Technology, as was the financial risk as there was no scope for the increase in project funds.

**RECOMMENDATIONS**

In future Project Directions, where funding restrictions or project stage-gate clauses are introduced, a clear, un-ambiguous description of when the Project will be deemed to have met the requirements should be included.

**6.3.4 SSEN REGULATION REVIEW**

Small companies can be more flexible than a larger company when required to accommodate shifting scope or changes to project plans in response to external factors. EA Technology is highly appreciative of the additional effort and support provided by the other partners in the Project to deliver the additional requirements introduced through the Project Direction.

It should be noted however, that smaller companies may be flexible with regard changing the project delivery plan as the situation changes, as even under a fixed price quotation this would generally be accepted without a corresponding change in the contractual agreement as this can introduce additional work and risk not allowed for in the initial quotation.

This situation was experienced in the initial stages of the My Electric Avenue project, where the changes introduced to the Project by the Project Direction increased the work load required and the risk to project. Consequently, the additional costs were largely covered by EA Technology, as was the financial risk as there was no scope for the increase in project funds.

**RECOMMENDATIONS**

Where changes to the Project scope, delivery approach or liabilities are a result of changes introduced via the Project Direction, the Project Team should be allowed the opportunity to re-plan and re-cost the project, irrespective of whether ‘protection against cost overruns’ was requested in the bid submission.

**6.4 LCN FUND GOVERNANCE**

**6.4.1 REGULATION REVIEW**

Working within the LCN Fund Governance requirements is BAU for DNOs through having delivered multiple projects within the framework during the years the funding has been available. Significantly, however with all previous similar projects the leading DNO has been responsible for management and delivery of the entire project with a consequence that the sub-contractors are effectively ‘shielded’ from interaction with Ofgem.

It is therefore important in the event of a similar arrangement being implemented again that the DNO assumes a position of needing to inform the ‘Project Lead’ of all specific details pertaining to regulation, reporting, processes and interaction with Ofgem, especially during the bid development process. Whilst SSE organise a Regulation & Legal training session for EA Technology’s project team to advise on these areas, it is acknowledged that further benefits could have been yielded from holding this session during bid development to allow for plans to be adjusted to meet the necessary requirements.

Regulation teams within DNOs are responsible for ensuring continuity and consistency in messages provided to Ofgem. This requires visibility of all deliverables and communication for onward submission to Ofgem; all documents must pass through them for approval. Their primary role is to consider the potential risk and subsequent liability to the DNO in the first instance and the wider industry second, which in BAU fits well within management responsibilities. This risk assessment is not specifically extended to the third party Project Lead.

The importance of regulation reviews must not be overlooked in project planning, however dynamic projects on tight timescales are affected when the time Regulation teams require to undertake their responsibilities is not factored into original milestones and delivery timelines for documents.

EA Technology were unaware during the bid development process that every document issued was required to be approved by the Regulation team. Consequently, delivery timescales were significantly reduced for all outputs. This was particularly noticed during development of the independent reviews produced every six months that were by necessity required to be started as late as possible to maximise the duration of the project being reported upon whilst needing to be started earlier due to the increased review timescales.

The time to review documents was generally consistent, being dependent on workload from elsewhere within the SSEN group and resource constraints within the department. Crucially, later reviews of the same document have tended to require the same amount of time for review.

Based on experience from the Project, each review by Regulation typically takes up to one week, following which further changes/iterations may be requested.

The risk of delayed document approval lies solely with the Project Lead and therefore it is critical that they and third party Project Lead are aware that approval is not always a simple and quick task.

Ofgem aim to provide a response within one month of information submitted to them. This has largely been adhered to, with the longest period for a response being six weeks after submission.

The unintended consequence of the entire process means that a single round of submissions can take up to several months to complete. Within the context of the Project, this process creates delays and a greater need for additional management and risk mitigation.

The wider process had implications for the My Electric Avenue submission of SDRCs, namely 9.5.1 relating to recruitment, the Change Request which was approved following a 23 month drafting/review/amendment process, and the six monthly Project Progress Report.

The team acknowledges that Regulation reviews are crucial, but recommends that the review process is streamlined if at all possible for innovation projects. For future projects, the delivery timescales for documents should be extended to allow for the necessary approvals and reviews undertaken by Regulation with data contained within a report taken from a ‘defined date’ after which further changes will fall into the next reporting period if applicable.

Together with the Project Lead, the team recommends the Project Lead has clear visibility of the assessments undertaken on documents during the bid development process. This would give the Project Lead a greater understanding of which documents require reviews and which do not, aiding project planning.

**RECOMMENDATIONS**

Ensure the Project Lead has clear visibility of the assessments and reviews to be undertaken on documents. Define reporting periods such that sufficient time is available to produce, review and issue documents to meet Ofgem reporting requirements.
6.4.2 PROJECT FUNDING
The typical process by which project funds are transferred into the Project bank account can create further complications for funding work planned immediately after project ‘kick off’.

Funds provided to the Project by Ofgem are paid into the project bank account in 12 equal instalments over the first financial year of the Project. Therefore, the amount awarded to the Project is not actually available at the time the Project starts. As a consequence, with the Project start date of 1st January 2013, there were insufficient funds to support work until five months into the Project.

FIGURE 9: PROJECT FUNDING AVAILABILITY

This process is known to DNOs, but was not anticipated by EA Technology during the bid development process and as a result, the Project plan assumed availability of project funds to cover work in the initial months. This included the first SDRC deliverable, which was issued before the first LCN Fund payment was received.

The team recommends that similar projects, like My Electric Avenue, have an official start date linked to the financial year in which project funding is made available, with an extended but funded set up and contract negotiation period. Alternatively, the DNO must review activities planned immediately after project kick-off to ensure that these are started following the first fund payment. This approach has already been implemented by SSE in their SAVE project.

Furthermore, for future projects of this type, DNOs must be aware that knowledge regarding Ofgem governance and processes not contained within the LCN Fund governance document needs to be shared with project partners. This is specifically important with relation to the bespoke processes in which LCN Fund and similar type projects are funded (i.e. ‘drip-feed’ of funds for projects).

SSEN and EA Technology funded necessary project activities ‘at-risk’ to meet the required learning (from the negotiation process) until the Project could access the allocated funds. This action is evidence of the strong collaboration between EA Technology and SSE at this stage.

RECOMMENDATIONS
Projects should have an official start date linked to the financial year in which project funding is made available.

6.4.3 LCN FUND REPORTING
It is recommended that the level of detail reported to Ofgem should be reviewed for relevance and expedience and considerations for effort required to produce the information required - this is even more salient when funding has been awarded on a fixed upper limit basis. For example, responding to Ofgem’s requests for clarifications on financial data and explanations of expenditure to date at the budget’s individual line level in the submitted Change Request increased the cost of management and resource required to do so.

Similarly it is felt that where changes are required to the Project as a consequence of conditions set in the Project Direction, and if the learning outcomes and associated total costs remain the same, the level of rigor applied to the Change Control process should be appropriate.

The Management and Delivery Document provides a three stage approvals process, which typically takes approximately three to four weeks to complete, depending on the amount of editing required. Project Progress Reports are required by Ofgem on a six monthly basis. As a result of the approvals process this means that the document is drafted up to a month before it is submitted, and therefore careful management of the data was needed to ensure no information was out of date. Early on it was decided to adjust the reporting periods to take this into account.

Recent changes made by Ofgem as part of the RIIO framework introduced new data assurance licence conditions, requiring DNOs to undertake data assurance activities to reduce or manage the risk of inaccurate or incomplete reporting. These new requirements for any documents submitted to Ofgem have increased the amount of time needed in stage two of the process. Since 1st April 2015 a DNO is required to undertake a risk assessment on relevant documents, and consider the impact of publishing incorrect data on all potential stakeholders. This new requirement has increased time pressures on the Project Lead to provide documents in a timely fashion to allow Regulation more time to review, but equally has increased the likelihood of additional ‘last minute’ changes and updates to the document before submission to bring information ‘up to date’.
It is recommended that reports which are intended to be a six monthly review of project progress are allowed to be published up to two months following the end of the six month review period. This then allows sufficient time for Regulation to undertake the necessary reviews and for any final updates to be provided to being information ‘up to date’.

Alternatively, if the same deadlines are used, it should be acknowledged that these reports, whilst covering a six month window, had ‘slip’ months from the period being reported on and submission of the document to enable time for relevant reviews. Once submitted for review by the DNO it is recommended that iterations to the document are limited to two, to reduce the amount of ‘last minute’ re-work of the document to bring it up to date.

There are several fundamental aspects of LCN Fund approvals which are inherently known and understood by DNOs, but are unknown and unanticipated by companies who have not previously worked directly with Ofgem on a project such as MEA.

The impact of gated approvals (through the Project lead, the Funding DNO team and their Regulation department, and then Ofgem) on project progress was unanticipated by the Project Lead. EA Technology had no prior experience to indicate the potential impact of this. As the process is heavily enshrined in the LCN Fund, the DNO was not aware that this needed to be highlighted and discussed.

The same is applicable to the detail of financial reporting within the LCN Fund, which is markedly different to that of other projects previously managed by EA Technology.

There is a greater need for collaboration at the outset of a project and training in the BAU processes and requirements of LCN Funds (or equivalent).

Therefore it is recommended that relevant training material (i.e. this report) is provided by either the DNO or the Project Lead to support those entering into a similar commercial arrangement.

RECOMMENDATIONS

The level of financial detail reported to Ofgem should be reviewed for relevance and expedience.

The level of rigor applied to the Change Control process should be appropriate for the changes requested.

6.4.4 RISK MANAGEMENT

It should be acknowledged that any project sufficiently innovative to be approved by the LCN Fund will inherently contain more risk than a BAU project. The impact of such risks will inevitably require the flexibility of the project team, steering group and Ofgem with regard to timescales and finances. It is fully recognised that it remains the responsibility of the project manager to reduce the impacts as far as is reasonably possible. However it is the responsibility of the Steering Group and Ofgem to not prevent reasonable measures being implemented, where they are identified as necessary.

Where projects are approved with learning targets for a fixed budget, the project manager must be granted authority to run the Project as they see fit, within the agreed budgetary restrictions.

To this end, the My Electric Avenue project was submitted with an allocated contingency budget that was held and managed entirely by the project management team. It was agreed that in order to access contingency funds, the Project Steering Group, consisting of staff from both EA Technology and SSE, would have to approve the request.

Deviations from the plan should continue to be reported to Ofgem with appropriate justification. However if all intended learning is achieved, decisions on how best to spend the budget within the Project could be left to the Project Lead. More importantly, budget deviations from initial forecasts can itself provide valuable learning for improving the scoping and management of future projects.

It is generally expected that if a project is tendered on a fixed price basis, the delivery of the stated outcomes is the responsibility of the project team. This includes the risks and rewards associated with the Project.

If the Regulator wishes to encourage more projects to be delivered by 3rd parties, the team recommends that the default approach regarding cost savings is reviewed. It was the experience of the My Electric Avenue project team that the default position of the regulator is that all cost savings achieved on a project are assumed to be funds which can be claimed back. However, any unforeseen costs (i.e. not covered within the budget) are to be covered by the Project Lead.

This approach taken by the Regulator was discussed extensively as part of the Change Request to the Project Direction submission process. Further rate reductions offered by EA Technology to enable project delivery within the limited budget were initially incorrectly identified as cost reductions to be reclaimed. This approach would have placed further pressure on the project finances and increased risk rather than enabling delivery.

It is recommended that Ofgem consider that effective project management requires a holistic view of the entire project rather than each type of expenditure being an ‘isolated silo’. Where cost savings have been achieved, there may be other areas of the Project which could benefit from the funds. Particularly if changes made at the outset of the Project increase the cost of delivery. Consideration should be taken across the entirety of the Project, making allowances for other areas where costs have increased, allowing the team to manage the overall budget in line with widely accepted project management practices.

Under the current governance of cost savings, and inflexibility regarding unforeseen costs, there is a risk of dis-incentivising companies to undertake innovation projects such as My Electric Avenue.

The value of these governance principles need to be reassessed to ensure that they deliver an appropriate environment for innovation.

RECOMMENDATIONS

Ofgem should consider that effective project management requires a holistic view of the entire project rather than each type of expenditure being an ‘isolated silo’.

6.4.5 LCN FUND RESTRICTIONS

Financial restrictions allow a level of protection over how customers’ money is spent, ensuring it is spent wisely and to provide valuable learning. The type of restriction, and level of detail at which they are imposed should be evaluated relative to the Project’s risk, size and level of both government and third party financial contribution.

The My Electric Avenue project was restricted financially on several different levels. This included restrictions by Ofgem category, project task, financial year and deliverable milestone. These were all applied in line with the budget submitted in the original bid submission. However, the budget had not been updated to reflect the additional costs of the changes introduced by the Decision Document, and later the Project Direction. Essentially, the project team were required to operate within the originally submitted financial expenditure profile, whilst delivering a more complex and intensive recruitment strategy and holding a higher level of project risk.

The end result of the combined restrictions meant that the budget was controlled in multiple layers and ‘directions’ across the Project. For BAU projects this approach can work extremely well to prevent over-spend and allow highly accurate forecasting of when money is required and for what. Research projects require, by their very nature, a more flexible approach and consequently, too many barriers to the use of funds can increase the overall risk of a project failing. In this scenario, if a project fails, all funds spent up until that point would have been wasted. The approach to financial restrictions can then essentially undermine the potential (benefits) of the Project.

On smaller projects such as My Electric Avenue the level of financial restriction applied was considered excessive. Particularly when the level of funding provided by project partners exceeded that provided by Ofgem, and additional requirements introduced by Ofgem are considered.

Splitting out the general activities into tasks essentially set up funding barriers between tasks. This meant that even if funds were available within the total budget, the Project was unable to move them between tasks without approval. This approval could only be provided by Ofgem in the form of an agreed Change Request.
Expenditure for customer recruitment and dissemination significantly exceeded that planned during bid submission. This was a consequence of the additional requirements introduced by the Decision Document and required by the Project Direction. As a result of overspending on publicity for recruitment, dissemination activities have been heavily impacted. Options for sharing project learning have been limited due to lack of funds within the allocated task.

The team recommends therefore that a single financial restriction is applied for projects of a similar size to My Electric Avenue. Funds could be capped by either:

- Ofgem categories across the Project;
- Project tasks as outlined in the submitted plan; or
- Expenditure limits planned to agreed stage-gates.

It is important that all three of the possible restrictions above are not used in conjunction on the same project.

As a result of the Change Request approval (in July 2015) the financial restrictions have recently been reduced. The new arrangements mean that financial reporting is now only to Ofgem category, thereby allowing funds to be shared across tasks as and where needed, although the final project reporting will provide the total expenditure detailed by task and category. As a result the Project is now able to be more active in disseminating learning from the Project with the wider industry. This arrangement should be the default approach to managing and protecting finance for innovation projects, rather than the latter described above.

### 6.4.6 COMMUNICATION ARRANGEMENTS

Arrangements set out in the Management and Delivery Document are focused on ensuring the project team are aware of roles and responsibilities, providing assurance, and opportunities to review progress at regular intervals in the Project.

Communication channels within EA Technology were drafted within the Management and Delivery document from the outset of the Project. These included monthly partner progress meetings and monthly project assurance meetings.

These arrangements have worked well. Monthly meetings have provided an open forum with partners to discuss any risks, propose solutions and keep stakeholders engaged and updated of progress. Equally monthly teleconferences with the SSEN team have allowed regular updates on current risks, and open discussion of suggestion solutions and results of actions taken. The communication channels used have enabled the team to adapt to and address technical challenges ensuring responsible management of risks and issues.

Project steering meetings together held by SSEN and EA Technology serve to ensure open and frank disclosure between the original project sponsors.

Monthly partner meetings were originally intended to include installation suppliers. However, as the majority of these activities were subcontracted this was deemed unnecessary. Project suppliers have provided feedback to the team, indicating that their inclusion in these meetings would have been beneficial.

Therefore, the team recommends that suppliers are invited to bi-monthly partner meetings to provide them an overview of the Project status in the period leading up to and including their involvement.

### 6.5 THE NOVEL COMMERCIAL ARRANGEMENT

The commercial structure for the PEV (My Electric Avenue) Project differs from the typical Tier 2 LCN Fund project structure as it allows a 3rd party organisation to lead the delivery of a Tier 2 LCN Fund project in partnership with a Lead/Funding DNO.

In the commercial structure, Ofgem operates as the Client, providing payment for the Project learning outlined in the Bid Documentation. The project must be delivered by the DNO within the commercial structure of the LCN Fund Project Governance with specific restrictions and additional requirements introduced through the Project Direction. Project delivery is delegated to a third party Project Lead and specific documents have been developed to enable this:

- **Principal Contract**: Defines the contractual relationship between SSEN and EA Technology.
- **Management & Delivery Document**: Defines the working relationship and distribution of responsibilities between SSEN, EA Technology, the Project Partners and the Project Suppliers.
- **Supporting Guidance Document**.

It is noted however, that experience on the Project has shown that irrespective of the responsibility delegated by the DNO, as the Project Direction (contract) is between Ofgem and the DNO, the DNO will remain contractually accountable to the LCN Fund. The result of this arrangement means that the Lead DNO is required to operate as an interface between the Project and Ofgem for any communication, meetings or issuing of deliverables.

Essentially therefore, the ‘novel commercial arrangement’ is established by the principal contract and supporting documents, and enacted by the subcontracts between EA Technology and the project partners and suppliers (see Figure 10).
FIGURE 10: RECAP OF THE I²EV (MY ELECTRIC AVENUE) COMMERCIAL STRUCTURE

Governance Between EA Technology and SEPD
- Principal Contract
- Management and Delivery Document
- SDRC 9.2.1 – Supporting Guidance
- SDRC 9.2.1 – Commercial Learning

Sub-Contracts
- Governance between EA Technology and Project Partners
- Task Orders

Sub-Contracts
- Governance between EA Technology and Project Suppliers
- Task Orders

FIGURE 11: PROJECT PARTICIPANTS

ORGANISATION

- OFGEM
- SOUTHERN ELECTRIC POWER DISTRIBUTION
- EA TECHNOLOGY LIMITED
- ZERO CARBON FUTURES
- NISSAN
- FLEETDRIVE

Further information on the roles and responsibilities of the organisations listed in Figure 11 can be found in the FEV (My Electric Avenue) Management and Delivery Document (See Annex 1).
6.6 SUBCONTRACT ARRANGEMENTS

6.6.1 TIMESCALES

Timescales for subcontract negotiations should be extended and funded within the project lifecycle. Restrictions on funding availability set by the Project Direction were designed to protect customers’ money.

Restricting fund availability until all partners had signed served as a strong incentive to speed up the negotiation and contract signing phase. As outlined earlier (section 7.2.5), this was to the detriment of the Project Lead. Change in roll-out of trial technology and charging curtailment resulted in significant changes to the team’s approach to the Project and therefore also affected planned work for some subcontractors.

The team recommends that in all innovation projects where the commercial arrangement varies from the norm, this process should be the first phase within the wider project timeline. This is in addition to the period of time allowed to review and refine the project timeline. This has already been implemented as BAU in the Tier 2 LCN Fund project, SAVE.

RECOMMENDATIONS

Where the commercial arrangement varies from a BAU scenario, the contractual negotiation phase should be the first of the wider project timeline. Future projects of this type should be scheduled to start relative to the financial year to match funding availability. Starting earlier than this will incur the need for project partners to self-fund the Project for a period of time.

6.6.2 BUDGET NEGOTIATION

The My Electric Avenue project was scoped and submitted on the basis of a fixed price quotation from all partners and suppliers. It was on this basis that the Project requested zero ‘protection against cost over-runs’.

Elements of the bid were selectively rejected (i.e. heat pumps and sequential recruitment) in the Project Direction, which fundamentally cut through these quotations. Increasing the risk and delivery costs to the Project, while project tasks were already underway. The change to the deadlines for recruitment and new targets to facilitate the installation. Though usual templates were provided from BAU, they were adapted and developed (via several iterations).

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Negotiation

Ofgem’s decision on whether to award funding to a project should be based on the re-submission document and any subsequent discussions with the project team. For the avoidance of doubt, implementation of changes to the Project (e.g. requirements, methodology or risk mitigations) should be discussed and agreed with the project team prior to publication in the Decision Document.

Addition of an interim negotiation window would facilitate all-party agreement and enable the Project Lead/delivery body to assess impact of proposed changes on finances, scope, deliverables and overall risk etc. Linked to this, it is recommended that the Project is re-scoped in accordance with changes introduced post-negotiation, prior to signing the Project Direction.

Where working practices assumed during the bid development are overturned, the overall risk portfolio should be reviewed to ensure the revised risk level is not disproportionate to the project value.

6.6.3 NEGOTIATION

As discussed in other areas of this report (section 7.2.5), naming organisations within the Project Direction ensures very little flexibility in negotiating terms of contract. This is because any change to the name of an organisation in the Project Direction requires a formal Change Request (refer to section 4.2.8).

In any other similar innovation project the team recommend that a flexibility clause is introduced into contracts for partners or suppliers. This would allow a certain level of flexibility to adapt appropriately to challenges experienced with the trial technology although this would likely increase the cost of any work tendered on a fixed price basis.

De Montfort University were forced to make significant changes to the research schedule as a result of delays in roll-out of trial technology and charging curtailment resulting from the additional funding restrictions. The approach was adapted in line with changes to ensure that the same learning was gained from the research for the previously agreed cost.

However, more management and planning time was needed to adapt the research approach once the Project had started. Under a fixed price budget, this required diverting some funds originally intended for delivery to management of the task instead. The learning here is that it should be acknowledged that some change is inevitable in conducting a project with trial technology, and this understanding should be reflected in both supplier tenders and contracts.

RECOMMENDATIONS

Fixed price tenders, particularly in advance of project, award should detail the level of flexibility within the tender and consequently identify where further deviation is considered to be a change of scope.

6.6.4 TEAM WORKING

The partnerships and team working evidenced during the My Electric Avenue project has been unique; unusually all project partners and members of the team are still working towards common goals. This provides a powerful representation of effectiveand positive working relationships.

The recruitment relied upon individuals acting as a ‘Cluster Champion’ for their area. Quickly adapting the strategy for recruitment meant that in some instances incorrect information was given to Cluster Champions; placing short-term strain on the Project and subcontractor’s relationship with that customer and potentially the cluster. In particular, information given to participants regarding the waiting time for ordering electric vehicles was incorrect. The project team provided information based on the assumption that the contractual clause, regarding release of funds for ordering vehicles, would be enacted once the requirements were met. However the decision not to enact a clause within the Project Direction meant the Project was required to change the message to customers.
Similarly, as a result of parallel recruitment, ‘clusters’ of trial participants were encouraged to race against each other to complete the establishment process in a ‘1st past the post’ strategy. As many clusters were progressing at a similar rate, there was a challenge in timing when to notify a cluster that they had been beaten by another cluster ‘to the post’.

Despite these challenges and impacts to relationships everyone, from project partners to subcontractors to cluster Champions, continued to work together to meet the objectives, showing that strong team mentality established at the start of a project can help ensure positivity and momentum is maintained even during challenging periods.

A wealth of learning was generated through the project, consistent messaging, timely and effective provision of update information to customers, quick response in case of any delays in trial roll-out – are all vital and crucial learning points.

A minority of trial participants were not sent a survey because information stalled between project partners at crucial times.

The learning here centres on the fact that, given the challenging timescales and recruitment targets, some slippage in partner delivery performance may be anticipated; it is essential to manage any missed communication immediately and resolve the situation and impact with the customer to reduce risk of attrition, or damage to project/partner reputation.

RECOMMENDATIONS

Use of established BAU processes where possible accelerates creation of project processes, however updates to BAU procedures, where improvements are identified as part of the project, should be implemented.

Ensure all communications to customers and potential participants is prompt and consistent.

6.6.5 COMMUNICATION

There was no contractual requirement for monthly progress calls, or reports with subcontractors. However, management of project activities were supported by regular, weekly communication channels, supported by reporting during crucial times (i.e. recruitment and installation). Templates for these meetings and reports developed organically out of project needs during different stages in the overall timeline.

Another unforeseen result of the change in recruitment resulted in rapid development of processes bespoke to the Project, all required at the very beginning of the Project. These processes covered establishment, recording data, vehicle order, issuing trial participant surveys and vehicle delivery. Despite weekly meetings and updates, information sharing slipped on occasion under the challenging timescales and recruitment targets.

A minority of trial participants were not sent a survey because information stalled between project partners at crucial times.

The learning here centres on the fact that, given the challenging timescales and recruitment targets, some slippage in partner delivery performance may be anticipated; it is essential to manage any missed communication immediately and resolve the situation and impact with the customer to reduce risk of attrition, or damage to project/partner reputation.

6.7 REVIEW OF THE CONTRACTUAL ARRANGEMENT

An independent legal review of the commercial arrangement was commissioned to recommend how the principal contract should be adapted for future projects of this nature. The specific aim of these recommendations being to better enable two parties (the DNO and the selected delivery organisation) to work as partners, in both practical and legal terms.

6.7.1 INDEPENDENT OBSERVATIONS OF THE PRINCIPAL CONTRACT

Whilst the ‘background clause’ of a contract does not tend to contain any legally binding provisions, in the event of a dispute the Court can look to the background clause as an interpretive guide to any ambiguity elsewhere in the document.

Given the circumstances of the My Electric Avenue project in particular, but considering the scale of such projects in general, it is felt that a more detailed background into the Project being contracted should be included in future projects. This detail should make particular note of key areas discussed during bid development, for instance, providing greater insight into the intended spirit of the relationship between the Funding DNO and Project Lead.

Confirmation of the role of each signatory to the contract within the wider project should also be included to provide insight to the nature and extent of the intended collaboration.

Due to the nature of the LCN Fund Governance documentation and specifically, the companies it was intended to influence, the DNOs, it appears that the full extent of the document is not applicable to EA Technology or any other third party provider. Consequently, rather than providing an ‘order of precedence’ it may well have been more appropriate to reference the specific sections in the higher tier documents where required.

Care should be taken to avoid obligations on the supplier from becoming too widely reaching. Reasonable endeavours to complete the Project would be expected, but clauses such as ‘such other work as shall be reasonably expected’ without establishing the boundaries of such requests is ambiguous and leaves the potential for onerous obligations.

In any project of this nature, but particularly where extensive collaborative working is intended, such a contract should confirm that the Funding DNO would co-operate in all matters relating to the Project. This would be expected to include confirmation that where any act or omission by either party adversely affects the Project, the other party will not be liable for any costs, charges or losses sustained as a consequence.

With consideration to the financial exposure on EA Technology, resulting from clauses introduced to the Project by the Project Direction, future contracts should make provision for such eventualities if necessary.

Termination of contract clauses should be balanced between parties, specifically, a clause allowing contract termination for any reason and at any time, should be applicable for use by both signatories.

Overall, whilst the contract met the requirements for enabling a non-DNO entity to manage an LCN Fund Tier 2 project, it did not achieve the aims of a ‘partnership commercial arrangement.’ In hindsight it is acknowledged that where different risks arise, where the associated liability lies with the distribution network, any decisions should be taken by the DNO.

However, recognising this does allow for an ‘order of precedence’ and responsibilities are borne by more than one party, leads to the conclusion that the financial liabilities should be similarly dispersed. Specifically, where a signatory holds, or takes the responsibility for decisions in relation to an element of the Project, the signatory should remain financial liable for that decision.

6.7.2 SDRC 9.2.3 – UPDATED CONTRACT TEMPLATE

The contract put in place between SSE and EA Technology for the My Electric Avenue project was not expected to be perfect from the outset of the Project. Trailling a new contractual approach was anticipated to encounter areas where improvements could be made, and emphasised why a strong business relationship was required between SSE and EA Technology to enable any such difficulties to be managed.

The contract template, previously published under SDRC 9.2.1 has been updated to reflect the below recommendations, either through additional clauses or through commentary for future projects to emphasise areas for consideration.

This revised template constitutes SDRC 9.2.3 – An updated contract template taking into account learning from 9.2.2.

RECOMMENDATIONS

Where the customer (Funding DNO) has obligations to ensure successfully project delivery, provision to require meeting of these obligations should be included.

Limitation of liability should be reciprocal between all signatories.

Termination clauses should be reciprocal between all signatories.

Financial liabilities should be dispersed between the signatories in accordance with the roles and responsibilities held.
7.0 KEY LEARNINGS AND RECOMMENDATIONS

7.1 SDRC 9.2.2 REVIEW OF THE CONTRACT PUT IN PLACE BETWEEN SSEN AND EA TECHNOLOGY

7.1.1 BID DEVELOPMENT
- Changes introduced at contract negotiation stage significantly increased risk liability beyond reasonable limits in relation to [SME] company size and financial contribution. To avoid this, changes to the approach which incur additional risk to the Project and partners need to be fully considered before being accepted. If these changes also delay roll-out of technology to customers, this will likely impact the timeline of deliverables and SDRCs and hence should also factor heavily in decisions.
- Budgets allocated to bid development for NIA or NIC projects should include contingency to cover contract negotiations. This will reduce internal (financial) pressures to accept proposed changes without question.
- Legal clauses should be introduced into the bid submission and/or re-submission to avoid a situation where additional restrictions are imposed on a project, increasing the forecast costs but without increasing the available funding.

7.1.2 PROJECT DIRECTION
- Making changes to the project scope after bid submission has the potential for causing significant problems to the project team as quotations and tenders provided by partners/suppliers may be affected.
- Naming project partners and suppliers in the Project Direction reduces the scope for negotiation of contract terms with those Project Partners. This can have significant impact when combined with imposed scope changes.
- Although financial accountability is an essential element of project governance, multiple levels of financial restrictions serve only to hinder project management efforts when changes are required.
- Where projects are approved with agreed learning targets for a fixed budget, the project manager should be granted the authority to run the Project as they see fit, within the agreed budgetary restrictions.

7.1.3 GOVERNANCE
- Due to the nature of the novel commercial working arrangements, the Project Lead was unfamiliar with Ofgem/DNO processes and ways of working.
- A non-DNO entering into a similar commercial arrangement in the future would benefit from training material provided by the DNO to provide the key information relating to delivering projects within the LCN Fund. It is recommended that this report is used as the basis of initial training material.
- Processes embedded within the industry need to be discussed and explained at the outset of the Project to have a clearer view of risks.
- Contract negotiation and contract signing needs to be planned as the first phase of any innovation project where the commercial arrangement varies from the norm.
- The team recommends timescales for publishing project documents are increased in the event of a project run in a similar fashion to the My Electric Avenue project to allow relevant time for review in both the DNO and the Project Lead organisations.
- Requests for multiple iterations of documents, with the intention of 'updating' before submission should be avoided as it increased resource and cost across both Project Lead and DNO. Future projects would benefit from a more streamlined review process.

7.2 SDRC 9.3.1 PROCESSES ESTABLISHED AND UTILISED THROUGHOUT THE PROJECT

7.2.1 BID DEVELOPMENT
- Open disclosure through the bid development worked well between SSEN and EA Technology – this is essential for managing expectations, risk and issue management on a dynamic project.
- Collaboration between SSEN and EA Technology was evidenced by funding contributed by both companies to develop the bid submission.
- Recommend an update to the bid submission guidance document, specifically regarding timing provided for re-submissions. Following any changes to bid submissions (SME or DNO) a reasonable amount of time should be allowed for re-drafting the submission.
- It is natural for large scale multi party projects to drift from collaboration to command and control over time. Periodic internal strategic reviews would help reduce the risks of losing or diminishing the benefits of a collaborative relationship.
- Changes in partner collaboration should be expected at Expert Panel stage. Roles and responsibilities should be discussed upfront (i.e. who answers which topics) and agreed before-hand to avoid surprises.

7.2.2 PROJECT DIRECTION
- The strength of collaboration between the DNOs and EA Technology was tested due to the changes to the Project Direction introduced by Ofgem.
- Introduction of an additional negotiation window between bid submission and publication of Project Direction would benefit project governance, by mitigating the risk of unilateral changes to the direction of the Project without buy-in from all parties to that contract; following the negotiation process post bid submission, any changes Ofgem wishes to introduce should trigger a new stage of engagement with project partners.
- Recommend an update to the bid submission guidance documents to reflect the additional negotiation stage.

7.2.3 PROJECT DELIVERY
- Project risk can affect working relationships, defaulting to pseudo client-supplier under pressure of deadlines, funding restrictions and reputational risk.
- It is recommended that a specific ‘partnership arrangement’ be established prior to the project commencement, which includes provision for dealing with risk liabilities. This would avoid potential problems related to this later in the Project.
- Sharing experience of developing documents such as the Data Protection Strategy and Customer Engagement Plan evidenced good collaborative working between SSEN, Northern Powergrid and EA Technology.
- Partners provided templates and processes already well-established in BAU for project activities to expedite progress; where these didn’t exist, they were developed bespoke for the Project through collaboration across the team.
- Regular communication processes supported management of project activities.
7.2.4 GOVERNANCE

— Due to the innovative nature of the Project’s contractual arrangements, EA Technology was unused to working with Ofgem, albeit via SSEN.

— DNOs are familiar with the LCN Fund governance, through delivering previous projects under the same fund. Previous LCN Fund projects have ‘shielded’ subcontractors from interaction from Ofgem. Therefore despite EA Technology’s prior involvement in other LCN Fund Tier 2 projects, more support was required in the initial stages than had been envisaged during the bid development phase.

— Significant collaboration is required upfront, especially during bid submission, to allow the DNO to ‘teach’ non-DNOs the fundamentals of governance within the LCN Fund framework; this should include all specific details pertaining to reporting, processes and interaction with Ofgem.

— Secondments would be useful to provide regulation perspective while developing bid documents, and avoid issues early on.

— Ofgem should implement a single approach to financial governance, selecting the most appropriate for a given project rather than restricting expenditure by Ofgem category, project tasks, recruitment stage-gates and by financial year. Crucially, it should not include a combination of these as this risks effectively ‘crippling’ the project manager’s ability to react when the Project does not progress exactly accordingly to plan.

7.2.5 FINANCIAL CONSIDERATIONS

— It is right that partners should both invest in a project; crucially this should consider relative size and profitability of the company.

— Cash flow issues can be managed more easily in larger companies but could potentially significantly impact SMES. DNOs need to be aware of this and be prepared to provide support as SSEN has done.

— Ofgem’s financial reporting processes and timing (access to funds) posed a challenge to the Project, as the reporting categories do not align with usual SME financial reporting structure. As a result, SSEN had to bankroll the Project for the first five months before sufficient funding was released to exceed expenditure incurred on the Project. DNOs have a responsibility to share their knowledge of bespoke financial processes surrounding typical funding for innovation projects with SMES (or other companies following the same route who are unfamiliar with Ofgem processes).
TABLE AII.1 RECRUITMENT RISK COMPARISON: BETWEEN PRE-BID SUBMISSION AND PROJECT DIRECTION

<table>
<thead>
<tr>
<th>PLANNED DELIVERY DATE</th>
<th>ACTUAL DELIVERY DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected risks associated with cluster recruitment at bid stage</td>
<td>Actual risks associated with cluster recruitment post issuing of the Project Direction v1.10</td>
</tr>
<tr>
<td>The key risk SS EN and EA Technology relating to recruitment at bid stage was that the Project would be unsuccessful in recruiting 100 customers across sufficient clusters by the dates set out in SDRC 9.5.1 i.e. 10 clusters by Month 18 (Project bid page 51). The consequence would have been failure to meet this SDRC, with a potential impact on the likelihood of receiving funding through the Discretionary Reward Mechanism. In the event of failure to meet the SDRC, mitigations proposed in the bid (e.g. use of heat pump clusters) would have been used to enable the Project to continue and deliver relevant learning.</td>
<td>The Project Direction added a new requirement to achieve 100 trial participants and at least seven clusters with at least ten participants per cluster, with the Project being halted if not achieved by March 2014 (Month 15). Funding for cluster establishment was also restricted until seven clusters of ten were recruited. The consequence of failure to meet these conditions would be halting the Project. The potential impacts are substantially greater to the project participants: Reputational risk to EA Technology, SS EN and the project partners for failing to deliver project; Market positioning risk – EA Technology is a new entrant to EV charging and associated infrastructure (this is the dominant reason why EA Technology is undertaking the I²EV project), a premature halt to the Project would likely result in a loss of any market positioning, undermining our ability to sell product into the marketplace; Loss of the full compulsory contribution of £480k (NB. the proportion of this contribution made by EA Technology (£120k) is equivalent to 25% of the company’s operating profit for FY13).</td>
</tr>
</tbody>
</table>

Trial Recruitment – Social then Technical
It was planned during the bid development that the Project would look to recruit social trial customers initially and use them as ‘nodes’ from which to grow individual clusters for the technical trial. [Project Bid: Page 4, Task 2 – Customer Engagement, paragraphs 1 – 4; page 45, Section 8.3 ‘Clusters of EV Charging Points’; Page 48, top diagram, ‘I²EV customer engagement routes’].

Trial Recruitment – Technical then Social
It was determined that the high level of risk around insufficient recruitment of trial participants (namely halting of the Project) required a more focussed effort on cluster recruitment rather than relying entirely on social trial participants who were already part of the Project to find and recruit others.

<table>
<thead>
<tr>
<th>PLANNED DELIVERY DATE</th>
<th>ACTUAL DELIVERY DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing – Planned</td>
<td>Marketing – Reality</td>
</tr>
<tr>
<td>The marketing strategy originally planned would have used tools described in the bid, but less intensively, as a result of the cluster by cluster approach, and with a reliance on positive publicity from early established clusters. [Project Bid: Page 29, ‘Technical trials’ and ‘General information’].</td>
<td>The same tools were used but for a mass marketing approach to attract in a wider range of interest, which has then be managed in parallel. The volume of communications has been significantly higher than planned, due to the significantly increased volume of interested potential participants. Consequently, in combination with the need for maintaining the interest of potential participants without the ability to establish the cluster as an active trial site personal communications to manage the expectations of individual customers/cluster champions have been required. Ultimately this has yielded extremely positive customer recruitment results, and generated solid learning for the Low Carbon Networks Fund.</td>
</tr>
</tbody>
</table>
## APPENDIX 5: INVOICING DETAIL TEMPLATE

### My Electric Avenue (I²EV) Project Invoicing - <month> <year>

<table>
<thead>
<tr>
<th>PO Line 1</th>
<th>Comments</th>
<th>Invoice Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task 00</strong></td>
<td>Novel Commercial Arrangement</td>
<td>£ -</td>
</tr>
<tr>
<td>Ofgem Category: Contractors</td>
<td>£ -</td>
<td></td>
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<tr>
<td><strong>Task 01</strong></td>
<td>Initial Background</td>
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<tr>
<td>Ofgem Category: Contractors</td>
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<td></td>
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<tr>
<td><strong>Task 02</strong></td>
<td>Customer Engagement</td>
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<td>Ofgem Category: Contractors</td>
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<td><strong>Task 03</strong></td>
<td>Integration of the Technology</td>
<td>£ -</td>
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<td>Ofgem Category: Contractors</td>
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<tr>
<td><strong>Task 04</strong></td>
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<td></td>
</tr>
<tr>
<td>Travel &amp; Expenses</td>
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<tr>
<td>Contingency</td>
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<tr>
<td>Decommissioning</td>
<td>£ -</td>
<td></td>
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<tr>
<td>Other</td>
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</tr>
<tr>
<td><strong>Task 05</strong></td>
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<tr>
<td>Ofgem Category: Contractors</td>
<td>£ -</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>£ -</td>
<td></td>
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<tr>
<td><strong>Task 06</strong></td>
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</tr>
<tr>
<td>Ofgem Category: Contractors</td>
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</tr>
<tr>
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FORM OF AGREEMENT

THIS FORM OF AGREEMENT is executed on the ......................................................... day of ......................................................... [YEAR] between

[LEAD/FUNDING DNO NAME], a company registered in England and Wales under number [COMPANY NUMBER] having its registered office at [ADDRESS] (“the Customer”)

and

[3RD PARTY LEAD SUPPLIER NAME], a company registered in England and Wales under number [COMPANY NUMBER], having its registered office at [ADDRESS] (“the Supplier”).

BACKGROUND:
The Customer wishes to undertake a research and development project entitled [PROJECT NAME] pursuant to the [INSERT FUNDING REGIME] which will involve [PROJECT DESCRIPTION] (see Box One).

The parties have agreed that the Supplier shall procure delivery of the Project on behalf of the Customer, with the Customer fulfilling the role of Funding DNO and providing an assurance function as appropriate throughout the delivery. (See Box Two).

IT IS THEREFORE HEREBY AGREED as follows:

1.0. DEFINITIONS

1.1. For the purposes of this Agreement, the following terms are defined as follows:

Affiliate means, with regard to any company, a subsidiary or holding company of that company and any subsidiary of a holding company of that company, “subsidiary” and “holding company” having the meanings ascribed to them under section 1159 of the Companies Act 2006.

Background Intellectual Property means any Intellectual Property, other than Foreground Intellectual Property, which is used in the Project.

Business Customer means any third party company engaged by the Supplier to participate in the Project as a trial participant.

Change Request means a change to a Purchase Order or Work Order as requested by a party in accordance with the change control mechanism as set out in Appendix C.

Commencement Date means [INSERT COMMENCEMENT DATE].

Confidential Information means all information, whether or not in writing, relating to a party that is designated as confidential or that, given the nature of the information or the circumstances surrounding its disclosure, ought reasonably to be considered as confidential, including, but not limited to: (i) trade secrets (ii) all third party information that a party is required to keep confidential by law or by contract (including personal data); (iii) the existence of Purchase Orders and Work Orders and the contents thereof; and (iv) in relation to the Customer any Intellectual Property Rights licensed to the Supplier for the performance of the Agreement.

Customer’s Group of Companies means the Customer, any Affiliate of the Customer and shall include any joint venture company in which the Customer or any Affiliate owns no less than fifty per cent of the share capital eligible to vote or has the right to appoint or remove no less than half of the board of directors.

Customer means the company within the Customer’s Group of Companies as specified in this Agreement which has engaged the Supplier to provide a Deliverable or perform the services in accordance with the terms and conditions of this Agreement.

Data means the data belonging to or provided by the Customer which comes into the Supplier’s possession or control in the course of performing its obligations under this Agreement and includes (without limitation) the Customer’s customer data (eg consumption, inferred data, demographics, behaviour), designs, models, drawings, work notes, reports, specifications, manuscripts, documentation, manuals, samples, prints, photographs, negatives, tapes, discs, software, user guides, written technical guidance information or any other similar items embodied in any intangible or tangible media and all copies of such items. Data shall also include Data generated or utilised in the performance of this Agreement but does not include computer programs.

Data Protection Strategy means document [PROJECT NAME AND DOCUMENT REFERENCE]

Deliverables means any material (including but not including Supplier’s Background Intellectual Property) to be supplied to the Customer under this Agreement.

Documentation means all documents and other written material describing, explaining or assisting in the operational use, technical maintenance and design and development of that supplied hereunder.

Force Majeure Event means in relation to either party any event beyond the reasonable control of the party and which results in or causes the failure of that party to perform any of its obligations under this Agreement, including but not limited to acts of God, fire, explosion, flood, earthquakes, war, riots, acts of terrorism, acts of Government, sabotage, civil commotion or severe weather conditions. For the avoidance of doubt, it is agreed that lack of funds and industrial action taken by the employees, agents or sub-contractors of either party shall not be considered to be a Force Majeure Event.
2.0. TERM

2.1. This Agreement shall commence on the Commencement Date until expiry of the Term, unless otherwise agreed between the parties or terminated earlier in accordance with clause 19.

2.2. Any extension of the Term shall be completed in accordance with clause 5 (Variation).

3.0. APPLICATION OF AGREEMENT

3.1. The following documents shall be read as one and shall constitute the entire agreement between the parties with respect to the Project (the “Agreement”) and shall prevail over and supersede all prior agreements, understandings, statements, commitments and communications between the parties, whether written or oral. In the event of any inconsistency or ambiguity within the Agreement, the order of precedence shall be as follows:-

- The LCN Fund Governance Document;
- Project Direction;
- This Form of Agreement;
- Management and Delivery Document (Appendix A); [see Box Three]
- all other Appendices;
- Any supplementary agreements entered into pursuant to Clause 5 below.

3.2. The Agreement together with any documents expressed by the Agreement to be incorporated herein constitutes the entire agreement between the parties relating to its subject matter and supersedes all prior representations, agreements, negotiations or understandings with respect hereto, whether oral or in writing. Nothing in this clause shall, however, operate to limit or exclude any liability for fraud or fraudulent misrepresentation.

4.0. COMMUNICATIONS

4.1. Day-to-day communications between the parties may be conducted by e-mail. All Notices, requests, consents, approvals and other communications required to be given under the Agreement shall be in writing and sent by first class post, by facsimile or delivered in person. Such notices shall be deemed received:

- if sent by post, on the third business day after posting;
- if sent by facsimile on the date of dispatch provided that the notice is sent before 5pm on a day which is a business day at the place of receipt and successful dispatch is confirmed by a transmission report; or
- if delivered in person or by courier, on the date of receipt provided that delivery is made on a day which is a business day at the place of receipt.
5.0. VARIATION

5.1. No amendment or addition to the provisions of the Agreement shall be binding on the parties unless in writing and signed on behalf of each of the parties by their duly authorised agents.

5.2. The control of changes to the Agreement (including any changes to the Management & Delivery Document) shall be via the change control mechanism detailed in Appendix C.

6.0. SUPPLIER’S OBLIGATIONS

6.1. The Supplier shall undertake reasonable endeavours to complete the Project with all skill and care. The Supplier shall comply fully with the Management & Delivery Document at Appendix A.

6.2. If the Supplier subcontracts any element of its obligations under the Agreement, it shall remain responsible for providing those obligations as if it had not subcontracted.

6.3. The Supplier shall co-operate with any other contractors providing services to the Customer in general and particular with those specified in the Management & Delivery Document.

6.4. The Supplier shall comply with all reasonable instructions of the Customer with regard to the performance of the Agreement.

6.5. The Supplier must inform the Customer promptly in writing of any event or circumstance likely to affect its ability to deliver any aspect of this Agreement and/or the Management & Delivery Document and/or the Project Direction.

6.6. The Supplier shall notify the Customer of any potential or actual health and safety hazards which may be involved in performing its obligations under the Agreement. The Supplier shall be responsible for timely resolution of any such potential or actual health and safety hazards within the allocated budget of the Project Direction. For avoidance of doubt breach of any health and safety requirement shall be material breach of this Agreement.

6.6.1. The Supplier shall comply with the provisions of the Customer’s Responsible Procurement Policy as set out in Appendix E (as may be amended and notified to the Supplier from time to time) (“the Policy”). The Supplier shall notify the Customer at any time during the Term of any changes in the supply chain which will have or could reasonably be foreseen to have an impact on the Supplier’s compliance with the Policy. The Customer reserves the right to request additional information regarding such changes and their impact on the goods and services provided under the Agreement and the Supplier’s ability to comply with the Policy.

6.6.2. If the Customer determines that the changes made to the supply chain will result in the Supplier being unable to comply with the Policy, the Customer shall notify the Supplier accordingly and if the Supplier is unable or fails to comply with the Policy within 30 days of such notice and such breach is not remediable or if remediable is not remedied within thirty (30) days (or any other period agreed between the parties), then the Customer reserves the right to terminate the Agreement without incurring any costs whatsoever and recover from the Supplier any additional direct costs incurred by the Customer including but not limited to additional costs to the Customer for completing the scope of the Agreement or part thereof so terminated. Monies paid in advance which have not been used or committed by the Supplier at the time of termination shall be refunded to the Customer by the Supplier within twenty eight (28) days of such termination.

6.7. All data transferred by means of an electronic and/or hard copy between the Supplier and the Customer, whether or not it is part of the deliverables or forms part of the deliverables, must be transferred securely ensuring integrity and confidentiality of the data is not compromised. The most appropriate method of transfer must be agreed by both parties depending on the sensitivity and nature of the data and shall be in accordance with the Data Protection Strategy. In the event that there is a loss of any data whatsoever or the data has been mishandled howsoever, then the Supplier is wholly responsible for notifying the Customer in a timely manner and indemnifying the Customer against all losses, costs, expenses, damages, liabilities, demands, claims, actions or proceedings which the Customer may incur as a result of such loss or mishandling.

6.8. The Supplier shall:

(a) comply with all applicable laws, statutes, and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010 (Relevant Requirements);

(b) not engage in any activity, practice or conduct which would constitute an offence under sections 1, 2 or 6 of the Bribery Act 2010 if such activity, practice or conduct had been carried out in the UK;

(c) comply with the Customer’s Anti-bribery Policy PO-COR-052 Rev 1.01 appended to this agreement at Appendix H, as the Customer may update from time to time (Relevant Policy);

(d) have and shall maintain in place throughout the term of this agreement its own policies and procedures, including adequate procedures under the Bribery Act 2010, to ensure compliance with the Relevant Requirements, the Relevant Policy and will enforce them where appropriate; and
8.0. JOINT (CUSTOMER AND SUPPLIER) OBLIGATIONS

8.1. The below elements of the Project are to be undertaken with input from both the Customer and the Supplier. The Supplier shall cover [% VALUE] of any financial liabilities arising from such Project elements. (See Box Five)

(a) [See Box Seven]

9.0. LCN FUND GOVERNANCE

9.1. The parties acknowledge that the Project is subject to and must be undertaken in accordance with the LCN Fund Governance Document and each agree to comply with its terms. (See Box Six)

(a) [See Box Seven]

9.2. The parties acknowledge that the Project Direction may be amended or revoked. Any such amendment shall be processed in accordance with the Change Request mechanism detailed in Appendix C. In the event of revocation of the Project Direction or any part thereof the Customer shall have the right to revoke the associated deliverable(s) under this Agreement and the Supplier shall only be entitled to recover costs incurred in connection with the Project up to and including the date of such amendment or revocation to the extent that the Customer is able to recover the same from the Authority. This shall be the Supplier’s sole right in respect of any such amendment or revocation.

9.3. In the event that any of the events described in paragraphs 3.1110 to 3.114 of Section Two of the LCN Fund Governance Document occurs, the Supplier shall work with the Customer and the Authority to seek a resolution such that the project under this Agreement may continue. In any case the Supplier shall only be entitled to recover costs incurred in connection with the Agreement up to and including the date upon which such event occurs to the extent that the Customer is able to recover the same from the Authority. This shall be the Supplier’s sole right in respect of any such event.

9.4. The Supplier may use the LCN Fund logo for purposes directly associated with this Agreement but shall not use the Ofgem or Ofgem E-Serve logos in any circumstances.

9.5. This Project may be subject to an audit by Ofgem. This will include demonstration that the Project is compliant with the appropriate conditions in the relevant Electricity Distribution Licence, the RIGs, the LCN Fund Governance Document and the Project Direction. This audit may be undertaken by Ofgem, or by a third party appointed at the discretion of Ofgem. The Customer and Supplier agree to furnish the evidence and personnel required to comply with such an audit. For avoidance of doubt the Supplier shall be responsible for provision of evidence against the LCN Fund Governance Document and the Project Direction, the Electricity Distribution Licence and RIGs compliance shall be dealt with by the Customer save that the Customer shall still be provided with supporting evidence on these areas where such evidence can be provided by the Supplier.
10. PRICES

10.1. The prices payable to the Supplier shall not exceed the total stated in the Project Direction and shall not be subject to variations unless specifically agreed in a Change Request. The maximum amount of Discretionary Funding that the Customer as Funding DNO can request as additional cost for funding overrun of the project is (£ VALUE). For work to be undertaken by the Customer, payment shall not be made to the Supplier to subsequently be provided back to the Customer.

10.2. Prices quoted shall be exclusive of Value Added Tax but shall be deemed to be inclusive of any other form of tax and/or import duties applicable from time to time unless the contrary is expressly stated or is clear from the face of the document on which the price is quoted. Value Added Tax at the appropriate rate where chargeable shall only be paid by the Customer on receipt of a valid Value Added Tax invoice.

10.3. Unless otherwise agreed by the parties, the Supplier shall receive no compensation under the Agreement other than through a Purchase Order executed pursuant to the Agreement.

10.4. Prices quoted to the Customer shall be inclusive of all applicable expenses. At the Customer’s request a breakdown of expenses included in the price shall be provided. No additional payment for expenses shall be provided to the Supplier.

10.5. The Customer, in accordance with the Project Direction, is required to provide a DNO Compulsory Contribution. The value of the DNO Compulsory Contribution applicable to this Agreement is (£ VALUE). The Supplier shall cover [% VALUE] ([£ VALUE]) of the DNO Compulsory Contribution (“the Supplier Compulsory Contribution.”) The Supplier Compulsory Contribution shall be paid into the Project bank account in twelve equal installments to the Customer on a monthly basis in the first year of this Agreement, first payment to be made upon the Commencement Date. For avoidance of doubt failure to make any of the twelve Supplier Compulsory Contribution payments shall be deemed breach of a material term and may be progressed in accordance with Clause 20.1 (see Box Nine)

11. PAYMENT

11.1. The Supplier shall send to the Customer as soon as reasonably practicable after supply of Services a Value Added Tax invoice. All invoices must be addressed to the Customer address stipulated in the corresponding Customer Purchase Order. If no address is stated on the Customer’s Purchase Order, Invoices are to be submitted by the Supplier to the Customer, [ADDRESS], quoting the relevant order number stated on the Purchase Order. In addition the invoice shall [PROJECT NAME]. No invoice shall quote more than one Purchase Order number.

11.2. Payments in accordance with this Agreement will be made 14 days after receipt of a correct invoice. Correct payments shall be those payments in accordance with the provisions of the Management & Delivery Document or Purchase Order or Change Request (as the case may be). Where the Supplier has not invoiced the Customer within 12 months of the date in which the relevant payment was due, the Customer shall have no obligation to pay that individual payment and the Supplier’s right to require payment shall cease.

11.3. Whenever under the Agreement or Management & Delivery Document or Purchase Order or Change Request (as the case may be) any sum of money is recoverable from or payable by the Supplier, the same may be deducted from any sum then due or which at any time thereafter may become due to the Supplier, under the Agreement or the Management & Delivery Document or any other Work Order or any other contract with the Customer.

11.4. The Customer reserves the right to change to Self-Billing or E-Invoicing in the future. The move to Self-Billing or E-Invoicing will be implemented by mutual agreement between both parties.

11.5. All payments will be made via the Banks Automated Clearance System (BACS). No other method of payment shall be used.

11.6. The Gas and Electricity Markets Authority (the “Authority”) shall remain the Authority in application of those clauses. Should Ofgem deem any expenditure Disallowed Expenditure in accordance with (Compliance) of the Project Direction then:

a) where the element of the Project is the responsibility of the Customer, such funds shall be returned by the Customer to Ofgem;

b) where the element of the Project is the responsibility of the Supplier, such funds shall be repaid by the Supplier to the Customer, who shall in turn return such funds to Ofgem;

c) where the element of the Project is an area of joint responsibility the repayment of such funds shall be repaid by the Customer [% VALUE] and the Supplier [% VALUE] in accordance with process outlined above.

11.7. For the purposes of reporting projected variances in accordance with Clause 10.7 the Project Budget at Appendix G shall be utilised.

11.8. The Supplier shall furnish the Customer with an anticipated payment profile against the Project Budget detailed at Appendix G on not less than a quarterly basis. In any case more regularly as necessitated. The Customer reserves the right not to authorise payments where invoices are not consistent with the payment profile provided and no acceptable explanation for variance has been provided by the Supplier. Any invoice submitted that is not consistent with the payment profile provided shall not be deemed a correct invoice in accordance with clause 10.2 until such time as an acceptable explanation for variance is provided. (See Box 10)

11.9. Payment shall only be made once all applicable Condition Precedents have been met, specifically these are: (See Box 11)
11.10. The Supplier shall ensure that no more than one invoice per month is submitted to the Customer unless otherwise agreed by both parties and shall provide the anticipated payment profile in this format. In exceptional circumstance the Customer may approve more than one invoice to be issued in a month, such waiver to be granted in writing by the Customer otherwise the invoice shall not be deemed a correct invoice in accordance with clause 9.2.

12.0. AUDIT RIGHTS

12.1. The Customer shall be entitled to audit Supplier’s records in relation to any matter associated with the Agreement including any Purchase Order or the Management & Delivery Document upon giving seven days’ notice in writing of its intention to do so. The Supplier shall afford the Customer all reasonable facilities and access to records necessary to perform such audits.

13.0. ASSIGNMENT

13.1. The Supplier shall not assign, sub contract, transfer, charge or deal in any manner or otherwise dispose of any or all of the Supplier’s rights or obligations under this Agreement without the prior written consent of the Customer, provided that such consent shall not be required in relation to the sub-contractors specified in Section 3 of the Management & Delivery Document.

13.2. The Customer may at any time assign, sub-contract, transfer, charge or deal in any manner all or any of its rights or obligations under this Agreement.

14.0. PUBLICITY

14.1. No publicity release or announcement relating to the terms or existence of this Agreement or the activities of the Customer under this Agreement may be made by the Supplier without the Customer’s prior written consent and save as permitted in this clause.

14.2. If any such publicity release or announcement is ongoing it must not be amended without the Customer’s prior written consent; and the Customer may withdraw consent to the use of the publicity release or announcement without notice at any time.

15.0. PERSONNEL

15.1. The Supplier shall provide all personnel necessary for the performance of the Agreement. In the event that the Supplier requires to add to or replace a member of the Supplier identified at Appendix B of the Management & Delivery Document for unforeseen reasons, the Supplier will provide the Customer with alternative staff for its approval which must be someone of equal or greater calibre whom (if acceptable to the Customer) will complete the task. The Customer may at its absolute discretion request the removal of the aforesaid personnel assigned to this project in which instance the Supplier will use reasonable endeavours to replace such personnel with someone of equal or greater calibre whom (if approved by the Customer) will complete the task.

15.2. The Customer reserves the right to refuse to admit to its premises any member of The Supplier’s Team, whose admission would be, in the reasonable opinion of the Customer, undesirable.

15.3. The parties shall not for a period of six (6) months from the termination date directly or indirectly solicit or seek to procure (otherwise than by general advertising) the employment of or employ or use the services of, any employee or employees of the other party who carried out any task in relation to the Management & Delivery Document without the prior written consent of the other party.

15.4. The Supplier and the Customer shall provide to the employees of other party engaged in the activities covered by the Management & Delivery Document, when required, a suitable temporary place of work and the necessary supplies and amenities comparable to those provided for its own staff of similar status.

15.5. Each party shall be responsible for the acts, omissions and defaults of its employees, agents, representatives and sub-contractors as though they were the acts omissions and defaults of its own, subject always to the terms of this Agreement.

15.6. The parties agree and acknowledge that the Supplier's personnel providing services to the Customer under this Agreement will remain for all purposes employees of the Supplier. Notwithstanding the previous sentence, if at any time the Customer is for any reason whatsoever considered pursuant to the Transfer of Undertakings (Protection of Employment) Regulations 2006 (as amended) (“the Regulations”) (or any replacement legislation thereof) to be the employer of:

a) any staff providing, or who have provided, services to the Customer under the terms of this Agreement; or
b) any staff who have historically been responsible wholly or partly for the Services under this Agreement,

The Supplier shall indemnify and hold the Customer harmless in respect to all and any liabilities and costs falling on the Customer in respect of such staff by virtue of the application of the Regulations or otherwise.

16.0. CONFIDENTIALITY

16.1. Subject to clause 14.2, neither party shall use or disclose any confidential information, (whether verbal or in writing or on magnetic or other media) relating to the other party’s business and which is made available to either party under or in connection with this Agreement (“Confidential Information”).

16.2. Such Confidential Information or any part thereof may only be disclosed to or used by the Supplier’s Team to the extent it needs to know the same for the purposes of performing its obligations under this Agreement. Each party shall keep the Confidential Information secret and confidential and shall ensure that such persons shall comply with substantially similar obligations of confidentiality as set out in this Agreement.
17.3. Personal Data shall be treated as strictly confidential by all Parties and all Parties shall take such technical and organisational security measures to protect Personal Data as may be necessary to ensure compliance in relation thereto with the 1998 Act. Without prejudice to the foregoing, all Parties shall use reasonable endeavours to ensure that only those of their personnel expressly authorised to have access to Personal Data for the purpose of performing the Party’s obligations under this Agreement shall have access to Personal Data and that each such personnel undertakes to abide by the obligations regarding Personal Data and contained in this Agreement.

17.4. Each party warrants to the other that it holds and has complied with the notification provisions of the 1998 Act (or that it is deemed to have so complied by virtue of paragraph 2 of Schedule 14 to the 1998 Act) in respect of its respective obligations under this Agreement and that performance of its respective obligations hereunder shall not breach or contravene such notification.

17.5. Neither Party shall transfer any Personal Data outside the European Economic Area.

17.6. All Parties shall fully indemnify the others against all claims, demands, actions, costs, expenses, losses and damages arising from or incurred by reason of any loss, damage or distress suffered by any person as a result of the loss, destruction or unauthorised disclosure of, or unauthorised access to, personal data by it or its personnel or as a result of any failure to comply with the provisions of this clause 17. The indemnity given by the all Parties pursuant to this sub-clause shall survive for a period of two years following termination.

18.0. INTELLECTUAL PROPERTY RIGHTS

18.1. The Supplier agrees that, during the course of this agreement, it will not enter into any agreement, arrangement, joint venture, collaboration, competitive project or other dealing whatsoever with any other person or body which would or might affect, conflict with or prejudice this agreement or the rights of the Customer under it, or which would or might prejudice the general objectives of the Project.

18.2. Subject to clause 18.3 each party shall give full disclosure to the other of all Background Intellectual Property owned or licensed by it which is relevant to the Project.

18.3. All Background Intellectual Property is and shall remain the exclusive property of the party owning it (or, where applicable, the third party from whom its right to use the Background Intellectual Property has derived).

18.4. Subject to clause 18.5, Foreground Intellectual Property shall vest in and be owned absolutely by the party creating or developing it. To the extent that either party sub-contracts performance of the Project, that party shall ensure that any Foreground Intellectual Property arising from the work of its sub-contractor shall be assigned to it absolutely.
18.5. To the extent that any Foreground Intellectual Property arises, is obtained, or developed by the parties jointly or otherwise than solely by either party, it shall be jointly owned in equal and undivided shares by the parties. If any such jointly-owned Foreground Intellectual Property is registrable, the Supplier shall be responsible for the filing and prosecution of applications for registration on behalf of the parties and in their joint names in such countries as the parties agree in writing. The Supplier shall be responsible for the maintenance and renewal of any such registrations in such countries, subject to the Customer co-operating in the provision of all necessary assistance, information and instructions and bearing an equal proportion of any fees and costs, including reasonable agents' and lawyers' fees, in relation to such registrations, provided that:

a) if only one party wishes to apply for registration in any country or countries, the party wishing to apply may do so at its sole cost and expense on behalf of both parties and in their joint names, and the party not making such an application shall provide the party making the application with all necessary assistance, information, and instruction;

b) neither party shall amend or abandon any registration in respect of which the parties are jointly registered without the other party's written consent; and

c) the party making an application for registration shall consult with the other party at reasonable intervals concerning the application for and maintenance of such registration.

18.6. Each party shall immediately give written notice to the other party of any actual, threatened or suspected infringement of any party's Background Intellectual Property or Foreground Intellectual Property, whether jointly or solely owned, or any unauthorised use of any party's Technology.

EXPLOITATION

18.7. Subject to, but with immediate effect from issue of, the Close Down Report in respect of the Project, the Supplier grants to the Customer:

a) an irrevocable, royalty-free, worldwide right and licence under the Customer's rights in any jointly-owned Foreground Intellectual Property arising from or created, produced or developed in the course of the Project, to exploit commercially such jointly-owned Foreground Intellectual Property in connection with the production, manufacture, distribution, marketing, selling, advertising and promotion of the Project, and to sub-license any third party to do the same; and

b) an irrevocable, royalty-free non-exclusive, worldwide right and licence under the Customer's Background Intellectual Property and Foreground Intellectual Property for any purpose relating to the Project, and to the extent necessary to enjoy the benefits of the right and licence granted by the Customer to the Supplier under clause 18.8(a), and to sub-license any third party to do the same on reasonable commercial terms.

INFRINGEMENT

18.9. The Supplier shall indemnify and hold the Customer harmless from all claims and all direct costs, proceedings, damages and expenses (including legal and other professional fees and expenses) awarded against, or incurred or paid by, the Customer as a result of or in connection with any alleged or actual infringement, whether or not under English law, of any third party's Intellectual Property Rights or other rights arising out of the operation of the Agreement.

18.10. Without prejudice to clause 18.9 the Supplier shall immediately give notice in writing to the Customer of any challenge to the Customer's Intellectual Property or any inadvertent disclosure or unauthorised use of such Intellectual Property or know-how which comes to its knowledge. The Supplier shall, at the Customer's expense, give such assistance as is reasonably requested by the Customer to assist the Customer in the prevention of any such infringement, challenge or unauthorised use. The Supplier shall not institute any legal proceedings without the Customer's prior written consent.

19.0. OTHER INDEMNITIES AND INSURANCE

19.1. During the Term and for a period of 6 years thereafter, the Supplier shall maintain in force, with a reputable insurance company, professional indemnity insurance and public liability insurance to cover the liabilities that may arise under or in connection with this agreement and shall, upon the Customer's request, produce the insurance certificate giving details of cover.
19.2. The Supplier shall indemnify and keep indemnified the Customer against personal injury (including death) to any persons or loss of or damage to any property of the Customer which may arise out of the act, default or negligence of the Supplier, its sub-contractors, their employees or agents in consequence of the Supplier’s obligations under the Agreement or Purchase Order and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto provided that the Supplier shall not be liable for nor be required to indemnify the Customer against any compensation or damages for or with respect to injuries or damage to persons or property to the extent that such injuries or damage result wholly from any act, default or negligence on the part of the Customer, its employees or contractors (not being the Supplier or employed by the Supplier).

19.3. The Customer shall indemnify and keep indemnified the Supplier against personal injury (including death) to any persons or loss of or damage to any property of the Supplier’s which may arise out of the act, default or negligence of the Customer, its sub-contractors, their employees or agents in consequence of the Customer’s obligations under the Agreement or Purchase Order and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto provided that the Customer shall not be liable for nor be required to indemnify the Supplier against any compensation or damages for or with respect to injuries or damage to persons or property to the extent that such injuries or damage result wholly from any act, default or negligence on the part of the Supplier, its employees or contractors (not being the Customer or employed by the Customer).

19.4. Without thereby limiting their responsibilities under sub-clause 19.2 and 19.3 the Supplier and the Customer shall insure with a reputable insurance company against all loss of and damage to property and injury to persons (including death) arising out of or in consequence of its obligations under this Agreement and against all claims, demands, costs and expenses in respect thereof; save only as is set out in the exceptions in sub-clause 19.5 and 19.6. For the avoidance of doubt the parties acknowledge and agree that the provisions of this clause 19 shall have no effect on clause 16.

19.5. Notwithstanding any term of this Agreement neither party shall be liable to the other party in contract, tort (including negligence or breach of statutory duty) or otherwise arising in connection to this Agreement for any indirect, special or consequential loss or damage or loss of profits, loss of revenue, loss of opportunity or loss of data.

19.6. Except in respect of injury, including death to a person due to negligence for which no limit applies, the liability of the parties under sub-clauses 19.2 and 19.3 as appropriate shall not exceed the total value of the Agreement in respect of any event or series of connected events, and the Supplier’s entire liability out of contract or tort is limited to the total value of this Agreement.

19.7. In addition to those exemptions detailed at clause 19.6 no cap on liability shall apply to clauses 13.6 and 16.9 of this Agreement, nor to any third party claims, nor to any matters for which the Supplier is insured where the Customer shall receive the full benefit of any such insurance policy.

19.8. Nothing in this Agreement shall limit or exclude the liability of the Supplier for breach of the provisions of Section 12 of the Sale of Goods Act 1979, or Section 2 of the Supply of Goods and Services Act 1982 as may be amended from time to time, or for fraudulent misrepresentation or fraud.

19.9. The provisions of this clause 19 shall survive the termination of this Agreement.

20.0. DISPUTE RESOLUTION

20.1. All disputes between the parties arising out of or relating to the Agreement shall, in the first instance, be discussed between the senior representatives of the Supplier and the Customer.

20.2. If any dispute cannot be resolved by discussion in accordance with clause 20.1 (see Box 13) within a maximum of 14 days after it has been referred under clause 20.1, either party may escalate the dispute to directors of the Supplier and the Customer.

20.3. If any dispute cannot be resolved by discussion in accordance with clause 20.1 (see Box 13) within a maximum of 14 days after it has been referred under clause 20.2 (see Box 15), either party may escalate the dispute to mediation, the mediation to be conducted by such third party (the “Mediator”) as the parties shall reasonably agree between them. The fees of the Mediator shall be borne equally by the parties.

20.4. The decision of the Mediator shall not be binding on the parties, and both parties shall have the right, following the Mediator’s decision, to institute proceedings in a court of competent jurisdiction.

21.0. TERMINATION

21.1. In addition to other remedies at law or equity available to the parties, either party may terminate the Agreement if the other party breaches any material term or covenant of the Agreement; provided, however, that the terminating party must give at least 30 days’ prior written notice of its intent to terminate the Agreement for such material breach, and if the other party shall cure such breach during such 30 day period, or if such breach is incapable of being cured within such 30 day period, begin and diligently pursue a course of action reasonably calculated to cure such breach, then the Agreement shall continue without termination or interruption provided that the party not in breach may serve a further 30 days written notice during such remedy period in the event that such course of action is not, in its reasonable opinion, remedying a cure to the material breach.

21.2. If the either Party is unable to pay its debts (within the meaning of section 123 of the Insolvency Act 1986), or becomes insolvent, or is subject to an order or a resolution for its liquidation, administration, winding-up or dissolution (other than for the purposes of a solvent amalgamation or reconstruction), or has an administrative or other receiver, manager, trustee, liquidator, administrator or similar officer appointed over all or any substantial part of its assets, or enters into or proposes any composition or arrangement with its creditors generally, or is subject to any analogous event or proceeding in any applicable jurisdiction, the other Party may terminate the Agreement by notice with immediate effect.
23.1. Work performed under this Agreement will be judged by the Authority against the Successful Delivery Reward Criteria (“SDRC”) detailed within the Management & Delivery Document.

23.2. The maximum amount of SDRC reward the Supplier shall be eligible for is the value of the Supplier Compulsory Contribution ([E VALUE]).

23.3. Any award of SDRC reward shall be entirely at the discretion of the Authority. For avoidance of doubt any request to recover cost overruns will make work performed under this Agreement ineligible for an SDRC reward. Should the Authority decide to award an SDRC reward then the Customer shall pass through the reward in proportion to percentage contributed to the DNO Compulsory Contribution by the Supplier, in this instance 25%.

23.4. The Customer shall be required to provide sufficient evidence to the Authority to evaluate the application for SDRC reward. The Supplier shall provide such evidence and support this process throughout all stages as necessary, in any case providing initial draft of such documentation for Customer review. If the Authority does not deem that sufficient evidence has been provided then it will notify the Customer of the same and allow a re-submission. If after the re-submission it is still considered that insufficient evidence has been provided then the application will be rejected.

23.5. Should the Supplier have reasonable grounds to believe it shall not meet any of the SDRC then it shall notify the Customer of the same not less than 2 months before the due date of the SDRC and in any case it shall provide earlier notification in accordance with 6.5 as appropriate.

23.6. Supplier failure to meet the SDRC shall potentially lead to invocation of Clause 5.4 and/or 5.5 by the Authority. Should no resolution be reached under those Clauses then the event may be deemed a breach of material terms and progressed in accordance with Clause 20.1.

23.7. Work performed under this Agreement may at the Authority’s discretion be eligible for a Discretionary Reward. Should the Authority award a Discretionary Reward and identify that such reward has been made against this Project that shall be split [RATIO XX:XX] between the Customer and the Supplier.

23.8. Should the Authority provide a Discretionary Reward against a portfolio of the Customer’s Low Carbon Network Fund projects without a specific allocation to this Project then the following mechanism shall apply:

23.8.1. The Customer and Supplier shall approach the Authority for further breakdown of the exact amount awarded to this Project. Should such information be provided then Clause 23.7 shall apply, if not the process detailed at Clauses 23.8.2 and 23.8.3 shall apply.

23.8.2. The Customer shall calculate in direct proportion to the individual value of the projects in the portfolio a value of Discretionary Reward applicable to this Project.

23.8.3. The Discretionary Reward applicable to this Project (as determined by the Customer in accordance with Clause 23.8.2 above) shall then be split [RATIO XX:XX] between the Customer and the Supplier.

24.0. MISCELLANEOUS

24.1. The headings in the Agreement are for reference purposes only and shall not affect the meaning or construction of the clauses to which they relate.

24.2. Unless the context otherwise so requires references to:

24.2.1. the Customer and the Supplier include their permitted successors and assigns and shall collectively be referred to in this Agreement as the “parties” and singularly as a “party”;

24.2.2. any statute, subordinate legislation, European directive, international convention or rule or regulation made pursuant to such legislation (“Legislation”) shall be interpreted as a reference to the same as amended and in force from time to time and to any Legislation that varies, modifies or re-enacts or consolidates such Legislation;

24.2.3. any gender include all genders and references to the singular shall include reference to the plural and vice versa;

24.2.4. sub-clauses, clauses, and the Management & Delivery Document of the Agreement shall remain unaffected.

24.2.5. reference to either party shall include a reference to that party’s employees and agents and sub-contractors and reference to the Customer shall include a reference to the Customer’s Group of Companies.
24.3. If any provision of the Agreement is held invalid, illegal or unenforceable for any reason, such provision shall be severed and the remainder of the provisions hereof shall continue in full force and effect as if the Agreement had been executed with the invalid provision eliminated. In the event of a holding of invalidity so fundamental as to prevent the accomplishment of the purpose of the Agreement, the parties shall immediately commence good faith negotiation to remedy such invalidity.

24.4. The failure of either party to seek redress for violations or to insist upon strict performance of any term, condition or provision of the Agreement, or the failure of either party to exercise any right or remedy to which it is entitled hereunder, shall not constitute a waiver thereof and shall not cause a diminution of the obligations established by the Agreement. A waiver of any default shall not constitute a waiver of any other default. No waiver of any of the terms, conditions or provisions of the Agreement shall be effective unless it is expressed to be a waiver in writing and communicated to the other party in accordance with clause 4.

24.5. Except as otherwise expressly provided by the Agreement, all remedies available to either party for breach of the Agreement are cumulative and may be exercised concurrently or separately, and the exercise of any one remedy shall not be deemed an election of such remedy to the exclusion of other remedies.

24.6. The Agreement shall be binding on the Customer and the Supplier, and the Supplier’s successors and permitted assignees.

24.7. Any or all of the Customer’s Group Companies present and future shall have a right to enforce any or all of the terms of this Agreement and this Agreement shall confer benefit on each of them; provided that the terms of the Agreement can be varied by the parties without the consent of the Customer’s Group Companies other than the Customer. No other third parties shall have any such rights.

24.8. Save as specifically stated herein, nothing contained in the Agreement shall, or shall be deemed to, in any way, limit or restrict any rights of the Customer, or any obligations of the Supplier, with respect to the Products and or the Services as may exist or be created by or under common law, statute or equity.

24.9. The terms and conditions of this Agreement shall be governed by and construed in accordance with the laws of England, and the parties hereto hereby submit to the exclusive jurisdiction of the English Courts.

25.0. FORCE MAJEURE

25.1. A party who becomes aware of a Force Majeure Event which gives rise to or which is likely to give rise to any failure or delay in performing its obligations under this Agreement shall forthwith notify the other party and shall inform the other party of the period for which it is estimated that such failure or delay shall continue. The affected party shall take reasonable steps to mitigate the effect of the Force Majeure Event, but otherwise shall not bear any liability or responsibility to the other for the Force Majeure Event.

IN WITNESS WHEREOF, the parties hereto have caused the Agreement to be executed by their duly authorised representatives on the date first above written.

Signed for and on behalf of [LEAD/FUNDING DNO NAME]

By: __________________________________

Name: __________________________________

In the presence of: _________________________

Title: ___________________________________

Signed for and on behalf of [3RD PARTY LEAD SUPPLIER NAME]

By: __________________________________

Name: __________________________________

In the presence of: _________________________

Title: ___________________________________

Signed for and on behalf of [LEAD/FUNDING DNO NAME]

APPENDIX A: MANAGEMENT & DELIVERY DOCUMENT

[INSERT MANAGEMENT & DELIVERY DOCUMENT] (see Box 16)

APPENDIX B. EXTRACT OF THE CUSTOMER’S IT SECURITY PROCEDURES

[INSERT EXTRACT FROM CUSTOMERS IT SECURITY PROCEDURES] (see Box 17)

APPENDIX C. CHANGE REQUEST

[INSERT CHANGE REQUEST PROCESS AND ASSOCIATED FORMS]

APPENDIX D. DEPENDENCIES

[INSERT ANY PROJECT DEPENDENCIES. FOR EXAMPLE, WHERE THE SUPPLIER IS DEPENDENT UPON THE CUSTOMER]

APPENDIX E. EXTRACT OF THE CUSTOMER’S RESPONSIBLE PROCUREMENT POLICY

[INSERT EXTRACT FROM CUSTOMERS PROCUREMENT POLICY]

APPENDIX F. REQUIREMENTS IN RELATION TO PUBLIC CUSTOMERS

[INSERT CUSTOMERS REQUIREMENTS IN RELATION TO PUBLIC CUSTOMERS]

APPENDIX G. PROJECT BUDGET

[INSERT PROJECT BUDGET FROM PROJECT DIRECTION]

APPENDIX H. ANTI-BRIBERY POLICY

[INSERT CUSTOMERS ANTI-BRIBERY POLICY]

APPENDIX I. HEALTH & SAFETY

[INSERT CUSTOMERS HEALTH & SAFETY REQUIREMENTS]
My Electric Avenue has received support from Ofgem through the Low Carbon Networks (LCN) Fund.