

My Electric Avenue (I²EV)

SDRC 9.4.1

18 Month Independent Review

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Date: July 2014

Version: 1.1

*The 'My Electric Avenue' project is the public identity for the Low Carbon Networks Fund Tier 2 project "I²EV."
The formal title "I²EV" is used for contractual and Ofgem reporting purposes.*

Project leads



Project partners



My Electric Avenue has received support from Ofgem through the Low Carbon Networks (LCN) Fund.

Version Tracking

Date	Version	Author/s	Notes	Reference documents
29/07/2014	1.1	TB		Schedule to Project Direction v1.10 18-month Independent Review
31/07/2014	1.2	TB	Minor change requested by SSEPD.	

Final Approval

Date	Version	EA Technology authorisation by	SEPD authorisation by
29/07/2014	1.1	 D. Hollingworth	
31/07/2014	1.2	 D. Hollingworth	Nigel Bessant

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1 Introduction

1.1 Purpose

The purpose of this document is to provide a response to the third six month review of the I2EV (My Electric Avenue) project that has been completed by the independent consulting company appointed for this task, Ricardo UK Ltd, hereafter referred to as Ricardo.

1.2 Background

Ricardo is responsible for completing regular independent reviews of the I2EV (My Electric Avenue) project. As stated in the Project Direction¹ the Successful Delivery Reward Criterion (SDRC) for the independent review process are as follows:

Table 1-1: SDRC for the Independent Review Process

Successful Delivery Reward Criterion	Evidence
<p>9.4 An assessment of how the DNO and other interested parties can ensure independent validation of a third party's Solution throughout a project, and upon completion.</p> <p>Related learning: Learning outcome C1.3.2 - how are the project and results validated?</p> <p>Related Task: 9 - Project recommendations and implementation</p> <p>Related commercial aims: Under 2.2 the commercial aims are to: - Demonstrate delivery of a low carbon network project by a non-DNO on behalf of a DNO.</p>	<p>9.4.1 The provision of 6 monthly independent reviews of the project and technology with specific inclusion of improvements and adaptations to working practices incorporated by the project team following the previous independent review.</p> <p>(a) Produce a 6 monthly report (highlighting strengths and improvement areas) to be tabled at steering group meetings. (b) Produce response to 6 monthly report, detailing improvements planned by Project Steering Group, as a result of the review.</p> <p>Achieved by months 7, 13, 19, 25, 31, and 36. (July 2013, January & July 2014, January, July & December 2015.)</p>

The month 18 independent review report completed by Ricardo meets the SDRC evidence requirement 9.4.1 (a). This report meets the SDRC evidence requirement 9.4.1 (b) as outlined in Table 1-1 above.

¹ I2EV Schedule to Project Direction ver 1.10

2 Independent Review: Executive Summary

This project was submitted to Ofgem's Tier 2 Low Carbon Network (LCN) Fund as 'I²EV' but was rebranded as 'My Electric Avenue' in early 2013 to improve public acceptance. The project is led by EA Technology (Third Party Lead Supplier), with project partners Scottish and Southern Energy Power Distribution Limited (SSEPD) (the host Distribution Network Operator), Northern Powergrid, Nissan, Fleetdrive Electric and Zero Carbon Futures. Further support is provided via subcontractors, which include the University of Manchester, De Montfort University, Ricardo UK Ltd, Automotive Comms, Creative Concern, and ANDtr.

This report is the third of the periodic 6-monthly independent reviews and includes recommendations on specific improvements and adaptations to working practices to be incorporated by the project team. It covers the key project activities and deliverables during the period **1 January 2014 to 30 June 2014**, principally involving:

- **Technical Trial** – Continued establishment of viable clusters for Technical Trial, as per SDRC milestones, and ramp-up of Technical Trial with participants with the roll-out of pre-trial questionnaire, delivery of Nissan LEAF EVs to Technical Trial participants, and the installation of the Esprit technology
- **Social Trial** – Continued engagement and sign-up of participants for the Social Trial, issuing pre-trial questionnaires and delivery of Nissan LEAF EVs to some Social Trial participants
- **Project Management** – Ongoing effective project management and coordination of project partner activities, and the preparation of a revised Change Request to Ofgem

The review is based upon key documents delivered to Ricardo prior to or for the purpose of the review, and has been augmented with formal and informal discussions during project meetings and conference calls.

Overall assessment of project so far

What is the reviewers' overall assessment of the project so far?	Good
Have the key objectives for the period been achieved?	Yes
Has the project made satisfactory progress towards meeting the overall project objectives?	Partially
Has each Task made satisfactory progress against the Plan of Works?	Partially
Has the project management been performed as required?	Yes
Has the collaboration between project partners and sub-contractors been effective?	Yes
Is there evidence of underperforming project partners or sub-contracts, lack of commitment or change in interest?	No
Have the project partners adequately publicised the project to raise awareness of the project with the general public?	Yes
Have the project partners adequately disseminated results and learning from the project?	Yes

In the third reporting period, the project team has continued to demonstrate strong customer engagement and good customer relationship management. SDRC 9.5.1 has successfully been completed ahead of schedule, and the delivery of Nissan LEAFs has marked the start of the Technical Trial. Good progress has been made regarding recruitment for the Social Trial, and some participants have already completed their pre-trial questionnaire and received their Nissan LEAF.

EA Technology, the Third Party Lead Supplier, have continued to work professionally and diligently in their role as project coordinator. A good structure of Task management and progress meetings has been established to ensure good communication among the various project partner and task teams. EA Technology has continued to encourage various team building activities, such as the organisation of a press event for the first Technical Trial cluster and a face-to-face project partner meeting.

However the Independent Reviewers have highlighted concerns regarding the Esprit technology as rolled out at the beginning of this reporting period. These concerns were related to the technology readiness of the Esprit system as installed up to April 2014, the quality of the support documentation for the Esprit technology and the collection of data from the Esprit system. It is acknowledged that any trial of a new technology will encounter unforeseen issues. However, the fault discovered in an Intelligent Control Box (ICB) in April 2014 lead to the effective product recall and redesign of all ICB units, which has delayed the start of the Esprit technology trial by approximately four months. This could have major consequences for the success of the Technical Trial if the updated and improved ICB design is not rolled out from July 2014, or if further serious faults are encountered with the Esprit technology during the trial period. To a certain extent the impact was exasperated by an Ofgem funding restriction driving an all-in-one rather than a more phased roll-out of the technology.

Highlighted Strengths

Customer recruitment for the Technical and Social Trials continues to be a key strength of the 'My Electric Avenue' project. The project team appears to have built strong and good relationships with the trial participants. Feedback received via the questionnaires, interviews and feedback forms will provide opportunities for the MEA team to continue to refine their customer engagement strategy over the duration of the Technical and Social Trials, and provide valuable learning for future technology trials.

EA Technology have built a strong project team of project partners and subcontractors. Revision of the scope of work and deliverable schedules for Task 6 and Task 7 has enabled DMU and the University of Manchester to respond to changing circumstances with the roll-out of the Technical and Social Trials.

Recommendations

The reviewers recommend the following areas for improvement in the next reporting period:

- Whilst some documents have been generated and improved in advance of the ICB redeployment, there is still scope to continue to improve documentation associated with the Esprit technology and its design.
- Although many of our previous recommendations to improve document control are already being applied at EA Technology's instigation, there is still scope to further improve project document control.
- Consider carefully which documents to submit to the independent reviewers "for review" and "for information"

3 Response from EA Technology

3.1 Overall response

EA Technology is pleased that the independent review, undertaken by Ricardo at the 18-month point of the project has assessed the project as being 'Good' (Green). We are grateful that the significant efforts to secure the necessary customer recruitment for the trials and associated early achievement of the SDRC 9.5.1 deliverables were noted as a key strength of the project.

It is particularly gratifying that the work undertaken to develop a project team of companies from varying industries has been noted, including the acceptance by all affected parties to accept changes to delivery schedules to accommodate changing circumstances driven by funding availability.

The concerns highlighted by the reviewers with respect the readiness of the Esprit technology at the point of initial deployment are acknowledged and indeed were identified by EA Technology prior to being raised in this review. In ideal circumstances, EA Technology would have undertaken further system testing prior to wider deployment, for example testing on the low voltage network local to the Capenhurst offices. However, neither this nor other methods to test the implementation were available prior to installation as part of the My Electric Avenue (I²EV) project.

This lack of pre-trial testing was exacerbated by the need to deploy equipment to all clusters simultaneously / in a short period. This arose from restrictions on funding within the Project Direction, intended to limit the project's financial exposure to the risk of insufficient customer recruitment when this was considered to be a significant challenge. An unintended consequence of this decision significantly contributed to the ability to deploy and test the equipment in a phased approach.

This is a key learning point that EA Technology strongly recommends is considered when similar concerns are being managed in future projects.

Whilst the bypassing of the ICBs was unplanned, it is not believed to result in a significant loss in learning to the project. Due to the data available from the vehicles of both technical and social trial participants via the CARWINGS system, customer-charging patterns will still be available. In addition, the Monitor Controllers (MCs) already installed have remained connected to the network throughout the period, continuing to provide data on the connected LV feeders.

Based on the analysis undertaken from the MC data, it is clear that the load on all feeders has reduced to some extent since February 2014, (in some cases by approximately 50%). This reduction is mainly a result of natural reductions in demand from winter to summer, despite the use of Electric Vehicles (EVs) over the same period. As such, EA Technology would not expect the Esprit system to operate until late autumn at the earliest as network loads begin to increase noticeably.

EA Technology is seeking to redeploy ICBs to all clusters before late autumn, with the first cluster (Marlow) having been successfully redeployed on 21st July 2014 and the others planned for the coming weeks.

3.2 Specific responses

3.2.1 Documentation relating to the Esprit system

EA Technology acknowledges that improvements to the documentation generated as part of the initial deployment of the Esprit system were required. As part of the redeployment process, significant changes were underway prior to, and in parallel with, the 18-month review to implement improvements. These changes include:

- Additional, detailed training for on-site installation staff
- Revised method statements for the installation of ICBs
- Greater levels of on-site checking as part of the commissioning process
- Improved commissioning documents for redeployment of ICBs

3.2.2 Project Documentation

EA Technology notes that in the 12-month independent review, five specific recommendations were made relating to the control of documentation within the project. These recommendations have all been implemented although due to the effort and associated costs required, not in all cases to the full extent suggested by Ricardo.

Improvements can always be made to a document control process; however these changes will not always provide sufficient benefit to be worth incurring the associated costs. With this consideration, improvements have been made to the processes within EA Technology relating to the formal documentation generated as part of the project. Any documents or deliverables submitted to EA Technology require the implementation of Ricardo's previously suggested improvements. For internal documents relating to the project in EA Technology and partner companies, we expect adherence to the company's document control measures.

Moving forward, where improvements to process are identified and on evaluation are considered to be valuable from a cost-benefit perspective they will be implemented to the project's processes.

3.2.3 Consideration of documents submitted for 'review' and 'information'

EA Technology acknowledges that the 18-month independent review required evaluation of a significant volume of information across all elements of the project. For future reviews, where possible the number of documents provided will be reduced to ensure the essential information is available for the review, with additional material provided on an 'as requested' basis.

4 Response from SSEPD

Scottish and Southern Energy Power Distribution (SSEPD) has reviewed this third independent analysis of the I2EV (My Electric Avenue) Project and is pleased to see that the project as a whole is classified as Good (Green). SSEPD also recognise the strengths that Ricardo have identified - specifically the good customer engagement and customer relationship management which have allowed the project to successfully complete recruitment for both the Technical and Social Trials. Clearly, EA Technology will need to adapt their customer relationship approach as the project moves from a recruitment/installation phase into a longer (and potentially less engaging) trial stage. We will look to EA Technology and its partners to exercise the same level of rigour in these areas that has been demonstrated to date.

The report also identifies an area of potential risk to the successful completion of a task and the overall Technical Trial programme. This risk relates to the product recall and remediation plan associated with ICB devices. Whilst we agree with Ricardo's assessment of a potential risk to programme, we are now able to be more confident that this risk is abating, having recently witnessed the first installation of replacement ICB units. SSEPD has closely monitored this particular area of the project and has been assured by the good level of communication during this period between EA Technology and SSEPD. To ensure the project has not been impacted by this recall, EA Technology is supplementing data collection by gathering comparable data through the Nissan CARWINGS system; though it is noted that some work remains to finalise the data flows associated with this mitigation. EA Technology must ensure all necessary works are completed to enable ICBs reinstallation before periods of higher load when ICB operation would normally be expected. EA Technology must also complete work on the CARWINGS data flows to ensure this additional mitigation is fully effective.

We note that EA Technology have implemented the project and document quality management improvements previously identified. SSEPD expect EA Technology to implement the further improvements that would aid third party review, as noted by Ricardo in this review, proportionate to the effort required without detracting from the core objectives of the I²EV project.

SSEPD would like to thank Ricardo for their review of this project and their helpful analysis of the project to date.