Project FALCON

Six Monthly Progress Report

Version 1.1

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Contents

1. Executive Summary

As stated in the last report Project Falcon commenced on 3rd January 2012. The project is progressing well and below is a summary of progress, lessons learnt and the plans for the previous, current and next phases.

At a high level the plan for Falcon is over five phases. The first being Mobilisation, the second Design, then Build, Trials Implementation and finally Consolidate and Share. During this reporting period, we have moved from Design into Build.

We recently started the Build Phase and hence we are now commencing the installation of equipment, finalising designs for the Scenario Investment Model and Trials Distribution Management System and starting the process of analysing data as part of the Load Estimation work. The project is progressing generally to timescale and plan, there are a few matters that are outstanding, but these are mainly small design and procurement matters and are not halting the project's progress.

1.1 Design to Build Transition

The majority of partners successfully moved into the Design Phase from Mobilisation, starting to gather the requirements and drill down into the detail. Workshops continued every week in order to facilitate the exploration of the detailed solution design. We, unfortunately, had to terminate Aston University's contract near the end of the Design Phase. This was due to their failure to deliver work to the quality and timescales required. We have, however, renegotiated a revised scope, ways of working and have signed a contract with them for the remainder of the project.

We successfully started capturing the knowledge gained in the project and initiated the process of collating it and sharing it via our website and WIKI. The collaboration aspects of the whole project have been larger to plan and manage than first appeared to be the case. Technology differences between party organisations in part the main factor to consider. This has been a good learning point and whilst small in the scheme of the project still worthy of capturing and disseminating none the less. We continue to promote the capturing of knowledge throughout the project and gathered other DNOs knowledge managers together to discuss this in December.

2. Project Manager's Report

The Falcon project is nearly a year into its lifecycle. The three month mobilisation phase was successfully completed. This report focuses on progress from the Design phase and into the first two months of the Build Phase. This is a difficult transition to make as the project has to be ready to transition, with enough information and data in place in order to commence the next part of their work. The summary below gives insights into the Design and Build transition.

2.1 Design and Build Phase Progress

The Design Phase was from March to the end of September. Initially, it was intended that in this phase, we would design the entire Falcon solution ready to start building it when the Build phase started on October 1st. As an example, we have been able to achieve this for the telecoms solution, where the low level design was completed in the expected timescales. This, however, was not the case for the Scenario Investment Model. The complexity, level of detail and expertise required to develop a brand new piece of software needed more than the seven months assigned to the Design Phase. This extension in the detailed design of the SIM does not; however, impact on what the project is expected to output at the end of the Design Phase i.e. SIM built.

As the work in some areas continues across I have blended the two phases together for ease of reading.

The following sections reflect on the progress of each project area.

2.1.1 Scenario Investment Model

During the design phase,

- Requirements for the SIM were captured,
- the Intervention Techniques Learning Objectives (what we want to learn from the project), Use cases (how the trials are going to be implemented) and;
- how they will be modelled in the SIM were documented.

Following an audit of the processes and approach taken to develop the SIM, it became apparent that Cranfield University and WPD needed software development expertise and experience to supplement the team to ensure quality expectations were met in the timescales required. This expertise was sourced from Logica.

The Network Modelling Tool provider tender process was delayed by two months due to agreement of scope and tendering delays. This has been a major learning from the first phases of the project. Naturally, this delay had an impact on the development of the SIM Design. TNEI were awarded the Network Modelling Tool contract and we are back on track with the overall detailed designs and interfaces between the SIM harness and the Network Modelling Tool.

The concept of the SIM has been developed into a high level design. This design, along with screen shots of what the planner might see and a draft operations manual is contained into the SIM blueprint.

The blueprint, available on www.lowcarbonuk.com, was sent to an expert panel for review and comment. It was also sent out for consultation by other DNOs. We experienced varying degrees of engagement from the other DNOs. A report has been submitted to Ofgem summarising comments.

Using feedback from the consultation, the detailed design of the SIM is currently underway. The architectural design of the SIM is in a draft format, ready for review and we are in the process of clarifying and confirming the SIM's data sources. We have set up a WPD SIM user group consisting experience 11kV planning engineers and strategic planners. This group will test the SIM at specific points during the Build Phase to ensure it is a suitable and viable tool. We would welcome planners from other DNOs to be involved in this process and have extended an invitation to our contacts in each DNO.

2.1.2 Load estimation

We are investigating how we could improve on our existing load estimation so that we can:

1) Create long term load scenarios which predict the impact of uptake of low carbon technology and economic growth. These future values will be a key input to the SIM
2) Estimate energy consumption at present for supporting real-time or near real time systems where load values are required.

During the Design Phase we had to amend our approach to load estimation.

While there have been some changes to the timescales, the work will still achieve the same overall objectives as stated above. The timing of the deliverables were not set to reflect dependencies within Falcon as a whole, but rather with the aim of providing early results to the industry and to coincide with the end of the SIM design phase. The change in timescales does not impact the development of the SIM or the Build Phase of the Falcon Trials.

We publicised our revised approach to load estimation at our dissemination event at University of Bath in July which included two lively workshops and wider discussions on load estimation. These were well received and the general consensus was behind our approach. The changes are detailed further in the SDRC section of the report.

Compliance with the Data protection section in the LCNF governance document posed an issue during the Design and early stage of the Build phase. There was a difference between WPD's and Ofgem's interpretation of the Data Protection Act Good Practice Guide. This is now resolved and Ofgem have approved our Data Protection Plan. In Q1 2013, we will write a Data Protection report and circulate to other DNOs and Ofgem.

2.1.3 Engineering intervention techniques

The impacts, learning objectives and use cases for each of the engineering techniques have been documented, reviewed and approved by relevant partners and WPD. The approach for each technique was shared with other DNOs and the industry at the dissemination event held in July. More detail can be found on the lowcarbonuk.com website.

The locations for the engineering trials and monitoring equipment were identified early on and processes to gain access to land near specific substations are now underway. We engaged Milton Keynes Council early on in the Phase to ensure the process runs smoothly. This engagement has, so far, helped mitigate risks associated with gaining access to land.

Standard equipment has been ordered through our existing contracts and is beginning to arrive at the Milton Keynes depot.

We have agreed a Build Phase contract with Alstom for some of the trials equipment and the monitoring equipment contract was awarded contract to Selex.

The tender process for Technique 4 – Energy Storage System is in the process of being finalised. Technique 4 trials locations may be altered based on outcome of this process.

2.1.4 Trials Distribution Management System

The contract for the Trials Distribution Management System (TDMS) was awarded to GE Detailed requirements have been captured and the design of TDMS in process. We are working with GE to ensure the development of the TDMS aligns with the rest of the project plan. This is not currently foreseen as an issue.

2.1.5 Telecommunications

Following the approval of the requirements during the early stages of the Design Phase, the Falcon high level and low level telecommunications designs are complete. The main equipment required to build the Falcon communications network has been delivered. As an innovative approach to providing frequency spectrum, WPD, the JRC and the MoD have worked together to release the 1.4GHz spectrum previously reserved for MoD use. We will use this bandwidth in the Falcon trials area.

It is very likely that this frequency spectrum will be suitable for use as an industry standard for utility applications and the early indications are that this spectrum is delivering some excellent results. This is an unexpected additional benefit from Falcon which will be of use across the UK.

In parallel to developing the telecommunications low level design, a Test lab, located at WPD's Milton Keynes depot has been designed and is currently under construction. The lab forms two purposes – one to test the telecoms and engineering trials equipment, the other to showcase the Falcon Network to interested parties, such as the JRC, Ofgem, DECC and other DNOs.

The first wood pole with radio equipment was installed in November and as a result we've successfully undertaken some radio connectivity testing which has exceeded expectations. The quality of the data being transferred is excellent. Due to this, we are looking at the potential to use the WIMAX technology across other parts of the WPD network. The test lab, once built, will provide an opportunity to share our learning with other DNOs.

2.1.6 Commercial intervention techniques

With Technique 5, we will be contracting with distributed generation that can be started or increase output in order to reduce the load on the Distribution Network at times of high stress.

With Technique 6, we will be contracting with customers who have a flexible demand to reduce load in order to reduce the overall load on the Distribution Network at times of high stress

Due to a shortage of specialist resource in this area of the project in the early stage of the Design Phase, the detailed development of the commercial techniques was a little behind schedule. This also impacted the development of the customer engagement plan. Once additional resource was recruited, the approach was quickly developed to the same level of detail as the engineering techniques.

We will be developing a new contractual framework and business processes that will enable the direct communication or via third party aggregators to command behavioural changes on customer sites. This will involve a dispatch facility within the distribution network control room to signal a request to change operational mode at the customer site in line with a pre-agreed and contracted demand reduction or generation increase.

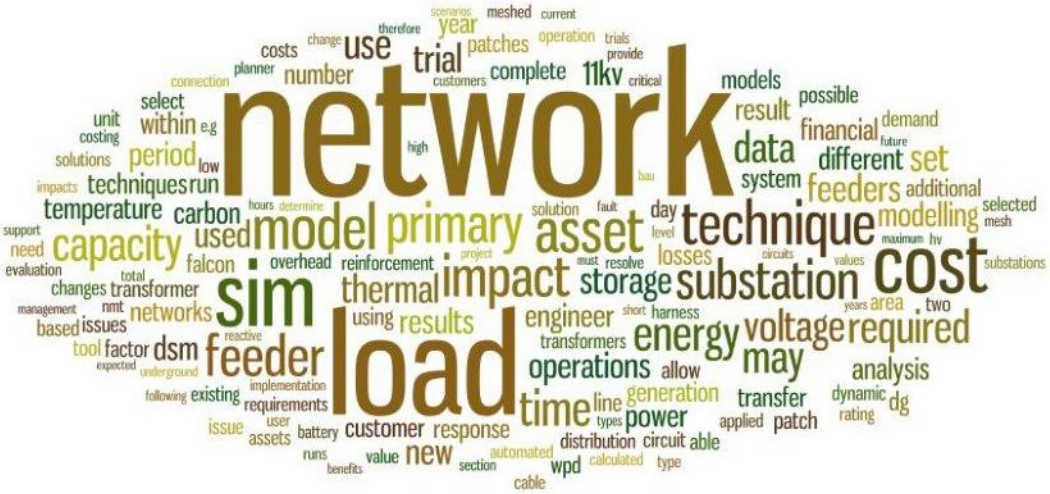
Draft contracts for both techniques have been developed. As soon as the customer engagement plan is approved, we will engage with Industrial and Commercial and Distributed Generation customers in the Milton Keynes area. In the interim, a press article was released locally and we have met with the Chamber of Commerce and spoken at Milton Keynes Business Leaders clubs to raise awareness of our intentions.

2.1.7 Knowledge Capture and dissemination

A key objective of Falcon is to explore and trial innovative knowledge capture tools and techniques and assess which are suitable and feasible in WPD and the wider industry.

The team has been using the knowledge capture approaches developed by the University of Bath, specifically the Knowledge capture forms at the numerous workshops held during the Design phase.

This has enabled University of Bath to start their analysis of the output of the design phase. An example of their analysis conducted so far is demonstrated in the ‘word cloud’ below. A word cloud works by counting the frequency of the words and then using font size to indicate which words occur more frequently in the selection. The word cloud below is a summary of all the knowledge capture forms from across the project.



These words clouds enable people not at the meetings and discussions to instantly gauge what the discussion has been about and is starting to become a powerful way of getting messages across to the wider project team who don't attend all meetings. University of Bath will be creating more of these clouds as part of the overall analysis of Falcon.

As well as keeping the westernppowerinnovation.co.uk and lowcarbonuk.com websites regularly updated, we held a dissemination event on July 17th at the University of Bath. We presented a general overview of the project, but also we held specific workshops on the proposed telecoms solution and our approach to load estimation, as outlined earlier in the report. The feedback from the event was very good.

In October, we also shared our overall project approach at the ENA/WPD LCNF conference in Cardiff.

Following conversations with other DNOs at these two events, we instigated a workshop with the DNOs and the ENA which was held on 11th December. The purpose of this was to understand what knowledge capture and dissemination techniques work in their organisations and how we can best share learning from the projects between ourselves and across the industry. We all have websites; however they are generally a passive way of communicating. Challenges and success stories each DNO faced and options to create cross DNO dissemination events were also discussed. It was agreed that working to create a closer knowledge sharing forum would be beneficial. This was an initial meeting and it is hoped that this collaboration will continue throughout the project lifecycle.

<u>The use of Social media</u>

We are trialling a number of social media avenues in Falcon to ascertain which is the most appropriate to use in the industry.

The first project Falcon podcast is complete and has 80 hits so far. We suspect that although this number is quite low, many of the hits are our key stakeholders, meaning it will have been seen by a targeted audience. The development of second podcast is underway.

Our wider social media strategy, particularly Twitter and LinkedIn, have been deliberately low-key during the early phases of the project because of the conceptual nature of the Design phase. We will be conducting more social media work from now on. Already our lowcarbonuk.com-related Twitter account has 67 followers; the LinkedIn page is currently being constructed. Further analysis and of tools and techniques will be shared in the next 6 month report.

2.1.8 Benefits management

We now have a signed off overview document of Benefits Management that summarises what we are doing overall and specifically the approach we are taking. Supporting this is a detailed Methodology and is awaiting signoff by the Project. Carbon benefits are the only aspect that is awaiting sign off and agreement on the final solution. We have taken a pragmatic approach to building these models to ensure that they can be delivered on time, rather than engineering them into the SIM for example. We intend to use spreadsheets to do the calculations.

Detailed design of these spreadsheets that will do the calculations has started and is on target for completion during the build phase as expected and will start capturing benefits during the physical trials

2.2 Key Design Phase achievements

- SIM Blueprint completed
- SIM Blueprint consultation complete, pending report review from Ofgem.
- Trials (techniques 1-4) Design complete
- Commercial techniques (5&6) approach approved.
- Tender process completed for :
    - Trials Distribution Management System
    - Substation Monitoring equipment
    - Network Modelling Tool (NMT)
- First Podcast created and further podcasts planned for the next period
- Hot spot map report competed
- Successfully passed the Design – Build Phase gateway review
- Customer engagement plan approved
- Telecoms Low Level Design complete
- Benefits management approach approved
- Trials design disseminated at conference in July, October and December conferences/meetings
- A revised Build Phase Plan is complete
- Knowledge Capture embedded into overall programme
- Analysis commenced on the knowledge captured

2.3 Outlook

Falcon is progressing well. There are some very valuable lessons that WPD and the partners are learning that we all agree will be of significant value to the industry- but it is only by trying these ways and methods that you can learn and move forward.

The SIM and NMT workstream is moving rapidly and rigour and controls are firmly in place to ensure that progress will continue.

The Engineering Techniques are being planned, and once purchasing negotiations are resolved we can commence the physical installations and the resources are in place to start that in the new year.

The Telecommunications workstream is already well advanced, equipment is coming in and the delivery of the solution is on track.

Load Estimation, whilst it has had some unforeseen issues, is now moving in the right direction with results and detailed findings due in February and March 2013.

The TDMS workstream is now well under way and the feedback from initial meetings is that the solution is suitable for the scale of the trials and can be implemented in the required timescales. It also, as stated previously may have further benefits for the wider WPD business in the future.

3. Business Case Update

We forecast there will be no significant direct benefits (either carbon or financial) during the course of the project trials, as there is no change to the existing DR5 plan.

Our approach for capturing benefits for each technique is documented and a process is in place to ensure any future benefits are captured.

4. Progress against budget

The following table shows the project spend to end of November 2012. The design of the project has impacted on the categorisation of some of the costs and the resource profile is different to what was initially expected. Please see commentary against individual line items for more detail.

In light of the completion of the design phase, the structure of the budget for the remaining phases of the project is now in a position to be revised to align more effectively with partner and supplier payments. The proposed revisions will be shared with Ofgem in Q1 2013.

	Total Budget	forecast spend End Nov 2012	Actual Spend at End Nov 2012	Variance £	Variance %	Commentary
Labour	**2281**	**561.3**	**294.1**			
Project Management Costs (WPD)	813	152.5	162.7	10.3	7%	
WPD Design Team	1468	408.8	131.4	-277.4	-68%	There is a delay in transferring costs to the relevant WPD departments, however this does not take the entire underspend into account. Specific expertise and skills are required to develop and deliver specific aspects of the project. WPD does not currently have these skills in house. Resourcing for the project is being reassessed and options will be assessed in Q1 2013.
Equipment	**1679**	**36.0**	**35.8**			
Solution Design - Use Cases Review and finalise use cases	8	4.1	4.0	-0.1	-3%	
Solution Design - Use Cases Detailed desktop network design	56	27.8	27.8	0.0	0%	
Solution Design -Method infrastructure scenario investment model Design	8	4.1	4.0	-0.1	-3%	
Deploy intervention techniques Intervention technique 1 - Dynamic Asset Management	61	0.0	0.0			
Deploy intervention techniques Intervention technique 2 - Automatic Load Transfer	12	0.0	0.0			
Deploy intervention techniques Intervention technique 3 - Meshed Networks	138	0.0	0.0			
Deploy intervention techniques Intervention technique 4 - Storage	1388	0.0	0.0			
Operate Scenario Investment Model Deploy learning from intervention techniques to SIM	8	0.0	0.0			

Contractors	**6012**	**1059.4**	**1230.7**			
Project Management Costs (Logica)	736	203.3	306.2	102.8	51%	As above - Logica costs have increased due to the wide range of skills and expertise required to successfully design and deliver the project.
Solution Design - Use Cases Review and finalise use cases	240	195.4	246.2	50.8	26%	The work being delivered within the Load estimation workstream - (assessing estimates vs physical substation monitoring, creating future load scenarios) and the design and development of the Trials Distribution Management System does not align with the original bid budget. For the purposes of this report, they are allocated to these lines, however a revised budget will be presented to Ofgem for future reporting
Solution Design - Use Cases Detailed desktop network design	287	288.1	313.3	25.3	9%	
Solution Design -Method infrastructure scenario investment model Design	325	174.9	226.0	51.1	29%	
Scenario Investment Model Build Scenario Investment Model Software Development	244	0.0	0.0			
Deploy monitoring equipment infrastructure Deploy IP infrastructure	6	0.0	0.0			
Deploy intervention techniques Intervention technique 1 - Dynamic Asset Management	3	0.0	0.0			
Deploy intervention techniques Intervention technique 2 - Automatic Load Transfer	1671	0.0	0.0			
Deploy intervention techniques Intervention technique 3 - Meshed Networks	73	0.0	0.0			
Deploy intervention techniques Intervention technique 4 - Storage	336	0.0	0.0			
Deploy intervention techniques Intervention technique 5 - Distributed Generation	44	0.0	0.0			
Deploy intervention techniques Intervention technique 6 - Demand Side Management	86	0.0	0.0			
Operate trials Intervention technique 2 - Automatic Load Transfer	24	0.0	0.0			
Operate trials Intervention technique 3 - Meshed Networks	7	0.0	0.0			
Operate trials Intervention technique 5 - Distributed Generation	90	0.0	0.0			
Operate trials Intervention technique 6 - Demand Side Management	90	0.0	0.0			
Operate Scenario Investment Model Gather intervention technique results	218	0.0	0.0			
Operate Scenario Investment Model Assess Results	397	0.0	0.0			
Operate Scenario Investment Model Deploy learning from intervention techniques to SIM	245	0.0	0.0			

Operate modified trials Assess Results	56	0.0	0.0			
Learning dissemination Market research with stakeholders	28	196.2	137.6	-58.6	-30%	Milestone payments do not align with original bid budget plan
Learning dissemination Electronic media	49	0.0	0.0			
Learning dissemination Workshops / seminars	302	1.5	1.4	-0.1	-7%	Milestone payments do not align with original bid budget plan
Learning dissemination FALCON Dissemination conferences	73	0.0	0.0			
Learning dissemination Academic dissemination	120	0.0	0.0			
Learning dissemination Other media	41	0.0	0.0			
Learning dissemination Reports	132	0.0	0.0			
Learning dissemination Training	91	0.0	0.0			
IT	**2914**	**7.5**	**3.8**			
WPD IT Costs - Hardware and connection	72	6.8	3.0	-3.8	-56%	There is a delay in transferring costs across to WPD IR
Solution Design - Use Cases Detailed desktop network design	247	0.0	0.0			
Scenario Investment Model Build Hardware/Software purchase	97	0.0	0.0			
Deploy monitoring equipment infrastructure Deploy IP infrastructure	1620	0.0	0.0			
Deploy intervention techniques Intervention technique 1 - Dynamic Asset Management	133	0.0	0.0			
Deploy intervention techniques Intervention technique 2 - Automatic Load Transfer	133	0.0	0.0			
Deploy intervention techniques Intervention technique 3 - Meshed Networks	133	0.0	0.0			
Deploy intervention techniques Intervention technique 4 - Storage	133	0.0	0.0			
Deploy intervention techniques Intervention technique 5 - Distributed Generation	135	0.0	0.0			
Deploy intervention techniques Intervention technique 6 - Demand Side Management	173	0.0	0.0			
Operate Scenario Investment Model Assess Results	35	0.0	0.0			
Learning dissemination Market research with stakeholders	2	0.8	0.8	0.1	7%	Milestone payments do not align with original bid budget plan
IPR Costs	**0**	**0.0**	**0.0**			
Travel & Expenses	**329**	**80.3**	**76.8**			
Phase 1 - Solution Design	157	80.3	76.8	-3.5	-4%	
Phase 2 - Solution Build	124	0.0	0.0			
Phase 3 - Trial Implementation	21	0.0	0.0			
Learning Dissemination	28	0.0	0.0			
Payments to users	**240**	**0.0**	**0.0**			

Operate modified trials Gather intervention technique results	240	**0.0**	**0.0**			
Contingency	**0**	**0.0**	**0.0**			
Decommissioning	**0**	**0.0**	**0.0**			
Other	**668**	**284.3**	**245.5**			
Phase 1 - Solution Design	421	233.7	230.5	-3.2	-1%	
Phase 2 - Solution Build	95	0.0	0.0			
Phase 3 - Trial Implementation	106	0.0	0.0			
Learning dissemination	46	0.0	15.0	15.0	100%	Milestone payments do not align with original bid budget plan
TOTAL	**14123**	2028.8	1886.7	-142.1	-7%	The underspend is mainly due to the delay in transferring costs to the relevant departments in WPD, plus the mismatch of milestone payments with the original bid budget

5. Bank Account

Please refer to Appendix 1.

6. Successful Delivery Reward Criteria (SDRC)

We have detailed below the SDRC's for the Design and Build Phases and highlighted progress and challenges that we have made and faced.

SDRC	Progress and challenges
Documented SIM design blueprint by 28th September 2012	The Blueprint was documented and available for viewing on schedule. The blueprint, available on the lowcarbonuk.com website, contains a prototype visualisation and a draft operations manual. It has been reviewed by an expert panel and other DNOs. We received varying degrees of engagement from other DNOs; A report detailing the review has been sent to Ofgem. A draft version of the SIM's data resilience and back up methods has been produced. This document can only be finalised once the detailed design of the SIM is complete. A communications plan detailing knowledge dissemination roles and responsibilities and activities is complete. It is continuously being refined, as we explore new techniques. In addition to updates on the westernpowerinnovation.co.uk and lowcarbonuk.com websites, the learning from the Design Phase was shared with other DNOs and the wider industry in July at the WPD dissemination event and at the ENA event in October. Another workshop took place in December with other DNOs to share further learning. Our customer data privacy strategy has been reviewed by Ofgem. Once formally approved it will being uploaded to the westernpower.co.uk website.
Substation load estimates will be developed based on industry and consumer data (initial report by September 2012). The effectiveness of using estimates as an alternative to physical substation monitoring will be established by the project.	The change in modelling approach means that we will not be creating standard profiles for non-domestic customers but rather using an array of variables to determine energy consumption. For domestic customers there will be a process to determine the optimum number of customer types by narrowing down the existing set of over 90 archetypes. This has effectively been achieved by the EST work but will require additional profile pruning at a later stage. The aim of obtaining a dataset from the LV Networks Template project is to validate the estimated demand profile curves was to speed up the comparison of estimated data to measured data. We have been able to use LV Network template data to compare to estimates derived using the SVAA formulae i.e. the data from Logica. This has not focussed on selected groups however but encompassed approximately 350 substations and used three months data to get as

	coverage for data analysis as possible Rather than creating a limited set of new profile curves we are creating a comprehensive energy model. Estimates will be created using this model for comparison to LV Network Template data but this will be a more involved process and is expected to be available in February 2013. An initial report has been produced that analyses the LV Network templates data against the estimates created using the SVAA process. This report does not include the analysis of the estimates created using the energy model as these will not be available till February 2013, assuming the data protection strategy plan is approved by Ofgem by end of December 2012. This report will therefore be updated in March 2013 and further updated once FALCON monitoring equipment is installed. This SDRC is substantially completed but some elements are delayed.
SIM built and an updated run will take place to identify network `hotspots' by September 2013.	We are on track to deliver this SDRC. The development hardware for the SIM is on currently order and the hosting hardware will be purchased once the final host has been correctly sized. The Network Modelling Tool (NMT) software has been purchased from TNEI through a competitive tender process. Aston University are developing algorithms for the way techniques will be modelled in the SIM and Cranfield are developing the SIM Harness, which encapsulates the NMT. The Architectural Design Document is in the process of being finalised. This gives the high level design of the system. The low level design work will commence in January 2013. The system test overview has been documented and is currently under review. Detailed test specifications for each of the tests will follow. The hotspot map, which is a pre-cursor to the type of analysis that will eventually be performed by the SIM is complete. This is available for registered users to view in the industry section of www.lowcarbonuk.com. A link to the lowcarbonuk.com website will be available via www.westernpowerinnovation.co.uk

7. Learning Outcomes

The following shows the high level learning obtained in the Design Phase and in the Build Phase so far:

- Tendering timescales are set and were planned into the overall project plan, however in some areas, contractual negotiations have taken a considerable amount of time and could

have compressed installation timescales. This, however was a risk flagged in the mobilisation phase and thus far, it has not impacted the critical path.

- The use of existing WPD framework agreements with some suppliers has helped expedite in some instances.
- Due to the number of partners, suppliers and stakeholder involved in the project, it has taken longer than expected to ensure project team members, partners and suppliers are clear of their and each other's roles and responsibilities, however it has been beneficial to ensure delivery runs smoothly
- Engaging with Milton Keynes Council early on has facilitated the wayleaves process i.e. gaining access to council owned land required to install housing for trials equipment
- Taking the time to develop detailed, agreed plans with the relevant internal and external stakeholders has ensured risks are flagged as early as possible.
- Communicating the concept and purpose of Falcon to numerous audiences has been more difficult than expected, however new; more engaging methods are currently being trialled.
- Business or 'domain' expertise doesn't' necessarily equate to Project management expertise.
- There were differences in the approach to protecting data between the Data Protection Act (DPA) guidance notes and the LCNF governance document. Some customer related data used in Falcon is not classified as personal data within the DPA good practice guide, but will require responsible handling. A white paper detailing our findings will be produced in Q1 2013 and issued to the other DNOs
- Engaging with other DNO's around the SIM was harder than initially expected. In the future our approach will be refined to allow more time to conduct the engagement and be more proactive. This learning has been helped refine our approach to internal stakeholders.
- Even though an initial meeting has taken place, informally sharing experiences and knowledge gained with peers in other DNOs, specifically around knowledge management has been beneficial.

8. Intellectual Property Rights (IPR)

No Intellectual Property Rights have been generated or registered during this period. It is not anticipated that any further IPR will be generated in the next reporting period.

9. Risk Management

The project has a RAID log that is managed by Project Support and reviewed with the project team and key WPD senior stakeholders.

Partners report on their progress every two weeks and this informs the RAID log and its supporting process. Below are the key risks and issues that we have and the actions that are being taken to address them. Careful management of these forms a key part of our weekly Project team meetings.

Risk/Issue	Description	Mitigating action
The technology used	As the equipment is installed it may not deliver what we	Detailed designs, descriptions and testing

in the Project doesn't work	expect or it fails during testing	plans are or have been created. The Technical Design Architect owns the whole design and it's 'deliverability'. We have developed a test lab to test the equipment to be deployed on the network before field testing commences. We have ensured that there has been and will continue to be close liaison between suppliers, partners and WPD to develop a deliverable solution.
The whole solution does not integrate effectively	There are a number of solutions within the overall design and there is a risk that the whole solution might not work.	Detailed requirements and designs have been developed in conjunction with impacted parties e.g. Cranfield University, TNEI and WPD IR. Interface specifications are being developed and reviewed as a technical community – members from project partners, the core project team and WPD. As stated previously the Technical Design Architect owns the whole design and it's 'deliverability'.
Little or no uptake in commercial trials (techniques 5 & 6)	There is a risk that, even with the expertise now recruited into the project team, customers are not interested in taking part in the trials, either due to not enough financial incentive or just not interested in the concept.	Now that the customer engagement plan has been approved by Ofgem, communication and engagement with Industrial and Commercial and Distributed Generation customers will increase substantially in Q1 2013 to ensure participation.
Costs exceed the budget	There is a risk that as the technical design becomes more detailed and clearer, costs could increase	Continuous dialogue is taking place between all the technical partner/suppliers to ensure a common understanding of requirements, scope, budgetary constraints and the potential impact of scope creep. A Technical Forum, chaired by the Technical Design Architect, has been set up to ensure there is an arena to discuss any differences in technical opinions/scope. They are considered and, if costs could be impacted, it's escalated for consideration.
SIM and NMT won't work together	There is a risk that TNEI and IVHM can't make the SIM work as a whole.	There is continued dialogue between Cranfield University, TNEI and WPD to ensure the requirements, roles and responsibilities are clear (and reflected contractually, where appropriate) as well as ensuring a common understanding.

10. Accuracy Assurance Statement

This report has been reviewed by Roger Hey, Future Networks Manager, recommended by Paul Jewell, Policy Manager and approved by Nigel Turvey, Design & Development Manager