



**New Thames Valley Vision
SDRC 9.1c: Demand Side Response Evidence Report**

Prepared By

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Executive Summary

The importance of distribution businesses conducting Demand Side Response (DRS) has been recognised in the regulation of energy networks. The NTVV project seeks to better understand the needs of business customers, with particular focus on the role DSR can play in managing distribution network constraints.

This document outlines the steps that were taken to establish the necessary tools related to SDRC 9.1c – namely “Demand side response evidence report”

The NTVV project has proved that we can engage commercial customers in demand response conversations, encourage them to take part in DSR and in many occasions, we have learnt that there are other benefits and offerings to customers other than purely financial incentives that attract interest. The NTVV project has signed 30 buildings on to our DSR programme without any direct financial incentive however; examining the on-going incentive structure is a key learning for the project over the next two years. Historic learning from the project has told us to simplify the commercial offering into a single document to reduce legal review.

This report provides evidence of the 30 signed agreements with the 30 ADR customers and presents the development of the new 3 way joint agreement that would be applicable to use in a non-business as usual context. This report also reports on the successes of commercial customer events that have taken place as part of the NTVV project.

Engagement and the installation of ADR has been a challenge however, learning from the US experience of established installations has proved invaluable.

This document meets the New Thames Valley Vision (NTVV) project deliverable in relation to SDRC 9.1c.

SSEPD and the NTVV project partners confirm that this document meets the SDRC 9.8a 2&3 criteria and evidence as provided in the NTVV Bid document, as summarised in the table below.

Criterion:	
<p>Knowledge Sharing of Method 2; Related Learning: LO1, LO2, LO4 & LO5 – Understand, anticipating and supporting change. LO4 – Supporting Change: Implement technologies to support the transition to a low carbon economy. LO5 – New commercial models with customer and how they will be delivered.</p> <p>SDRC 9.1c 30 Customers signed up to Automated Demand Response and host customer event – Renew new arrangements (Method 2 Learning Outcome 4.3)</p>	
Evidence:	Response:
<p>April 2015;</p> <p>c.i) Provide electronic copies of 30 signed agreements</p> <p>c.ii) Prepare a sample of new commercial arrangement to facilitate optimal use of the network, and provide written overview of technologies deployed in demand side response. Event, produce report including list of attendees, speakers, feedback and successes of the event.</p>	<p>Electronic copies of the agreements provided</p> <p>A new commercial agreement has been produced during the process of the project and can be seen in this report. A number of customer events have been held and an overview of their successes have been reported on along with recommendations for future events</p>

1 Introduction

The New Thames Valley Vision (NTVV) is a Low Carbon Network Fund Tier 2 project selected by Ofgem during the 2011 competitive selection process. Focussed on the low voltage network, the NTVV aims to demonstrate how electricity distribution networks can better serve their customers by understanding, anticipating and supporting their energy use as they move towards low carbon technologies.

In its Project Direction, Ofgem requires the NTVV to be undertaken in accordance with the commitments made in the Full Submission approved by Ofgem, pursuant to the LCN Fund Governance Document. The Full Submission is available for download from:

http://www.ofgem.gov.uk/Networks/ElecDist/lcnf/stlcnf/year2/new-thames-valley-vision/Documents1/NTVV_Proforma_Appendices.pdf.

This paper addresses the criterion and evidence stipulated in the NTVV Bid Successful Delivery Reward Criteria (SDRC's) 9.1c The focus of this report is being "Demand Side Response evidence report".

1.1 SDRC 9.8d Further Deliverable

Furthermore, although this document relates only to SDRC's 9.1c, it should be noted that there will be a subsequent related deliverable under SDRC 9.8d in the formal close down report with updated finding and insights into demand side response. This will be delivered in April 2017.

1.2 NTVV and TVV Terminology

Reference is made in this document to the "Thames Valley Vision (TVV)" as well as to the "New Thames Valley Vision (NTVV)". The reference to "New" was due to the successful 2011 LCNF Bid being an amendment of an original 2010 Bid. The project itself is presented to the local and industry stakeholders as the TVV.

It should also be noted that "The Low Carbon Community Advisory Centre" is referred to as the "Advisory Centre" or the "Centre" during the course of this document and the Centre has been given the title "Your Energy Matters".

1.3 Dissemination

As stated in the NTVV Bid document:

"The principle aim of NTVV is to demonstrate that understanding, anticipating and supporting changes in consumer behaviour will help DNOs to develop an efficient network for the low carbon economy."

And one of the stated objectives to achieve that aim is as follows:

"4. Undertaking dissemination and scaling activity to ensure validity and relevance to the GB, with learning and understanding provided at two levels:

- a. Provide front line training courses for the industry to embed real practical knowledge and skills
- b. Keeping the public informed so the intentions and benefits of the smart grid are clear and opinions informed"

The project does not consider learning dissemination to be a one-way channel - it is also important to understand how disseminated information is received by the audiences, what their consequent actions may be, and what influences that action may have. This will seek to avoid the risk of any unintended consequences.

2 Provide Evidence of 30 signed agreements

Please see Appendix 1 to view the 17 signed legal agreements that cover the 30 buildings that are consented onto the TVV ADR program.

The project has successfully signed 30 buildings onto the ADR programme. Of these 30 customer buildings, 13 are owned by Bracknell Forest Council and as such there is 1 legal agreement that covers 12 buildings. In addition the Fujitsu agreement covers both of the buildings that they have on the programme. Each building has an individually defined Peak Load Shedding Strategy (PLSS) agreement.

The full list of buildings signed up to the NTVV load shedding programme along with the building owner can be found in the table below:

Reference	Building Owner	Participant Building
1	3M	3M
2	Bracknell & Wokingham College	Bracknell & Wokingham College
3	Bracknell Forest Council	Bracknell Forest Council Times Square
4	Bracknell Forest Council	Bracknell Forest Homes
5	Bracknell Forest Council	Bracknell Leisure Centre
6	Bracknell Forest Council	Bracknell Library
7	Bracknell Forest Council	Coral Reef Water Park
8	Dell	Dell
9	Bracknell Forest Council	Downshire Golf Club
10	Bracknell Forest Council	Easthampstead Conference Centre
11	Bracknell Forest Council	Easthampstead House Offices
12	Bracknell Forest Council	Edgbarrow School Main School
13	Bracknell Forest Council	Edgbarrow School 6th Form
14	Bracknell Forest Council	Edgbarrow Sports Centre
15	Fujitsu	Fujitsu - Main Offices
16	Fujitsu	Fujitsu BRA07
17	Garth Hill College	Garth Hill College

18	General Electric	GE - Bracknell
19	Goodmans	Goodmans P3
20	Honeywell	Honeywell UK Head Office
21	Kognitio	Kognitio
22	NHS	NHS Churchill House
23	Regus	Regus Management Offices
24	Bracknell Forest Council	South Hill Park Arts Centre
25	SSE	SSE - Reading
26	Bracknell Forest Council	The Look Out Discovery Centre
27	Towry	Towry
28	University of Reading	University of Reading ICMA Centre
29	Bracknell Forest Council	Brakenhale School
30	Ranelagh School	Ranelagh School

In addition to the 30 buildings listed above, the project engaged and consented 2 additional sites that have not progressed through to installation and whilst not a deliverable for this evidence report are detailed below as the learning of these customers is of high value and relevance to other network operators that may try to sign up customers to a demand response program.

The project team initially agreed to perform load shedding on the Heathlands Residential Care Home, after a site survey and audit of the building and the building management system it was deemed that there was not sufficient controllable load at this site to continue participation. As such this site was withdrawn from the project and engagement was made with additional project participants.

Another project partner that was fully signed up to the program was the John Nike Leisure Centre in Bracknell. This customer had agreed the load shedding strategy, signed the legal agreement and the project was due to install the equipment to begin the programme of load shedding. A change of the management team came into effect at the centre. A full review of business processes was made by the new management team and during this review they decided to withdraw from the programme. Despite the assurance of existing participants and the offer of incentive payments for the 2015-2016 load shed strategy we were unable to retain them onto the programme. Confirmation was given to the project team on the 25th March 2015.

The project had 2 contingency sites ready for engagement and the project has successfully agreed the load reduction ability of Ranelagh School within the time required for SDRC evidence.

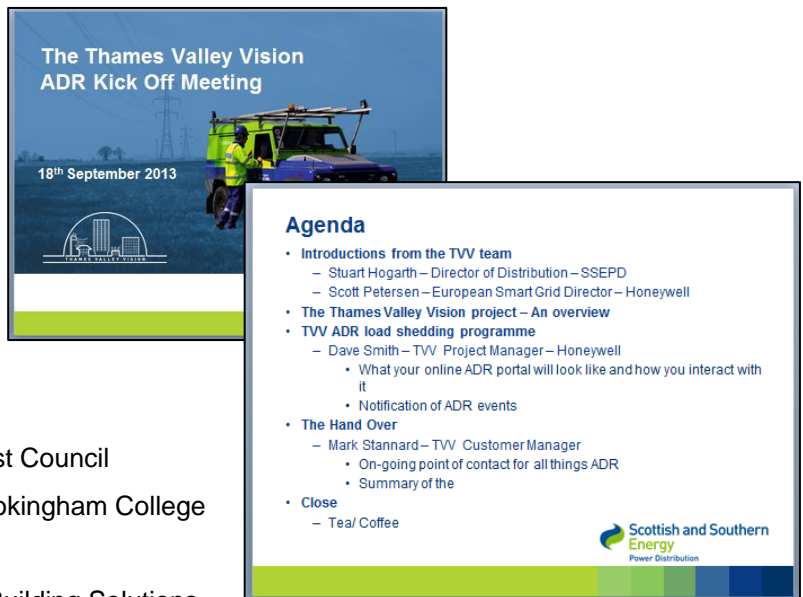
3 Customer Events

The key customer event that has been run since the ADR Kick Off meeting that happened on 18th September 2013. This meeting was to introduce the participants to the 2014 testing plan. The event was hosted by the Director of Distribution Stuart Hogarth with input from other project team members. At the event, each participant was handed a welcome pack to introduce them to what will be happening over the coming months and years.

This session was a very effective communication tool and the formal 'Welcome Pack' can be seen in Appendix 2.

Attendees at the session were;

- Nigel Canning – Kognitio
- Ian Harrison – NHS
- Stephanie Cook – Goodman
- Colin Griffin – Bracknell Forest Council
- Allen Cooke – Bracknell & Wokingham College
- David Dean – Towry
- Scott Petersen – Honeywell Building Solutions
- Mark Stannard – SSEPD
- Stuart Hogarth – SSEPD
- Nigel Bessant – SSEPD
- Charlie Edwards – SSPED
- Dave Smith – Honeywell Building Solutions



3.1 Other TVV ADR Events

Over time, and through presentations at scheduled events, the NTVV will share best practice between businesses for the adoption of low carbon technologies and promotion of solutions that provide, 'in effect' a low carbon benefit to the network business and the wider community.

These events are fully supported by the Thames Valley Chamber of Commerce (TVCC) who provide the logistical organisation of the events and invitations, and arrange relevant speakers. This activity is managed by the NTVV Customer Manager; who will require and request support from NTVV partners according to the subject matter to be covered.



An overview of these events can be seen below;

Developing a low carbon centre of excellence
The New Thames Valley Vision
Cost: FREE (member and non-member)

Monday 27th February, 2012 at 08:00am

Honeywell Building Solutions, Honeywell House, Skimped Hill Lane, Arlington
Business Park Bracknell, Berkshire RG12 1EB

(NOTE: If postcode is entered into Sat Nav devices, directions will be incorrect: use
RG12 1EN)





Following the successful Thames Valley Vision OFGEN bid to develop a centre of excellence for smart grid related technology in Bracknell, Honeywell UK are delighted to host this breakfast session where they, along with Scottish & Southern Energy Power Distribution (SSE), Bracknell Forest Council, GE, Honeywell, Kema, EATL and the University of Reading, will be sharing the latest developments in the Thames Valley low carbon project and highlighting opportunities for businesses in the area to play an active part in the project.

TVCC and technology partners in the Thames Valley Vision for a low carbon centre of excellence invite businesses in the Thames Valley to understand how to reduce their energy by both good practice and by adopting the advanced technologies being introduced to the UK and European marketplace.

8.00am - Registration and refreshments
8.10am - Mark Stannard, Future Networks Manager - Scottish & Southern Energy
8.25am - Scott Petersen, UK Marketing & Strategy Director - Energy Solutions, Honeywell
8.45am - Professor Peter Grindrod, University of Reading
9.00am - Q&A & Networking
9.30am - Close

For more information and to book please call 01753 870500 or [click here](#)



Green economy, Stupid!

of 1992 said, "It's the economy stupid!"
recovery go hand in hand with low carbon,
Es and larger businesses in the Thames
the latest technologies out there to reduce
ing practices?

giving Director of Fleetdrive Electric
boot camp" an insight into the UK market for sustainable
er Thames Valley organisations.

ir of the Regus Green Board UK
the challenges in reducing Regus's carbon footprint over the
practical advice on how businesses, both large and small,
of Government initiatives and cost-effective technologies.

ture Networks of SSE
providers in the UK are monitoring and measuring the
and commercial property solutions and what this could mean
Valley.

further information or to book please:
www.thamesvalleychamber.co.uk/events to book online
01753 870500 for our Bookings Hotline

Facilities & Operations Forum

Thursday 14 Feb 2013, GE Bracknell



Investing Energy Wisely



The power to do more



Brilliance delivered



Power Distribution



Including an update on the **Automated Demand Response (ADR)** trials in Bracknell

Thames Valley Chamber of Commerce is pleased to invite you to the first Facilities & Operations Forum of 2013. Designed for F&O practitioners, as well as those involved in the wider property arena, this forum covers best practice and innovation on operational issues and cost, building and energy management.

This session will focus on the very topical issue of energy (including the practical steps that businesses can take to ensure cost-efficient and best practice use of this vital resource), as well as updating on, and inviting wider participation in, Bracknell's innovative 'Automated Demand Response Project'. *

Date: Thu 14 Feb
Time: 08:00 - 10:00

GE Energy
The Arena
Downshire Way
Bracknell
RG12 1PU

Cost: FREE of charge to members and non-members

Itinerary

08:00 Arrival for breakfast & networking

08:30 **Speakers & Topics**

David Kirkland - Technical Solutions Director, GE Energy
Welcome & GE's role in the New Thames Valley Vision Project

Mandy O'Shea - UK & Southern Europe Facilities Manager, Dell.
Dell - how we manage our facilities across our portfolio

Ashley Bateup - Managing Director, 8point3 Ltd.
LED lighting for brighter businesses

Mark Stannard - Customer Manager, SSE Power Distribution.
Update on Automated Demand Response (ADR) trials in Bracknell, to include a short certificate presentation to ADR Participants by Mark Mathieson, Managing Director of Networks, SSE.

09:35 Closing comments on discussions

09:40 Tour of GE Grid IQ Innovation Centre, 10:00 close

* For further details on the above companies and the Bracknell ADR trial please visit www.thamesvalley.co.uk/events

**BOOK
NOW**

For further information or to book please:

Visit: www.thamesvalleychamber.co.uk/events to book online

Call: 01753 870500 for our Bookings Hotline

Email: customerservices@tvchamber.co.uk

- Coworth Park Pilot 30th September 2011** – This event was the pilot for the Focus group format attended by 4 companies to introduce the potential of involvement in TVV ADR project. This event proved to be very valuable in engaging businesses and was supported by the TVCC. This event was hosted free of charge at Coworth Park due to partnership with TVCC.

SSE Focus Group - Agenda

Date: 30th September 2011 @ 14:30 - 16:30

Coworth Park, Blacknest Road, Ascot, Berkshire SL5 7SE

Attendees;

Paul Britton (Chair)	-	Thames Valley Chamber of Commerce
Allen Cook	-	Bracknell & Wokingham College
Barry Kingsland	-	Cable & Wireless
Anett Samuelson	-	Vinci Facilities (GE)
Colin Griffin	-	Bracknell Forest Council
Scott Petersen	-	Honeywell
Mark Stannard	-	SSE
Brian Shewan	-	SSE

Agenda;

• Introductions	Paul Britton
• Overview & Update of NTVV	Mark Stannard
• Pressing Energy Issues	All
• AutoDR & EPC as part of the NTVV	Scott Petersen
• AOB	All
• Tour of Coworth Park	

- GE Bracknell Focus Group 29th Feb 2012** – The formal agenda can be seen to the right. This focus group was a small session that brought participants together with 2 prospective participants in order to share experiences. This is not an event that we would suggest replicating at such a small scale as the benefit was minimal.

SSE Focus Group - Agenda

Date: 29th February 2012 - 14:00 - 16:00

GE, 2 The Arena, Downshire Way, Bracknell, RG12 1PU

Attendees;

Mark stannard (Chair)	-	SSE
David Parry	-	Mitsubishi (3dAir)
Allen Cook	-	Bracknell & Wokingham College
Annette Bennett	-	SSE Facilities Manager
Peter Smith	-	TBBA & Council Chamber President
Rob Labinski	-	Honeywell Building Solutions
Adebayo Amona	-	Honeywell Building Solutions

Agenda;

• Introductions	All
• Overview & Update of NTVV	Mark Stannard
• Pressing Energy Issues	All
• AutoDR & EPC as part of the TVV	Rob Labinski
• ADR Experience so far	Allen Cook
• AOB	All

- **Honeywell Bracknell, 1 Year of ADR - 20th April 2015**

This event marked the close of our first year of ADR testing programme, initiated on 31st March 2014.

The prime purposes of this event were threefold:

1. With over 250 load-sheds across 11 customers a wealth of data and accompanying analysis has now been amalgamated by the Thames Valley Vision team- This event allowed for sharing of these findings, challenges encountered and how they will be overcome moving through 2015.
2. Given the learning from 2014 the event was tailored to engage with customers and gain their opinion on their first year of ADR testing (open discussion and a closed questionnaire were prepared). It also looked to introduce reporting on each participants building, a dedicated ADR inbox and regular customer events.
3. The event introduced a new six month testing program, to run until October 2015 (the next customer event). This testing program took on board learning from 2014 and introduced more events to gather more data, longer duration events, no notification events and occasional weekend event.

The event agenda can be seen below:



Thames Valley Vision

Scottish and Southern Energy
Power Distribution

1 Year of ADR -The Agenda
20th April 2015, 9am-10:30am- Honeywell, Bracknell

A welcome breakfast and colored name badges...

Introduction from Charlie Edwards, Customer Manager

What do we know this year that we didn't know in 2013? We'll look through the kind of data we have been getting from the 11 clients currently enrolled onto our testing program, the learning have taken from this and the opportunities posed moving forwards.

Moving through 2015

Here what we have planned for another years ADR testing, including: a closer customer engagement strategy, a new shedding strategy and even incentivised load-shedding.

Your data!

Here we will present all currently enrolled customers with an overview of what we have learnt from each buildings participation. This will include the challenges in analysing your data, the reliability and the size of load-sheds. Additionally we will detail how different variables both internal and external affect your buildings load-shedding potential and highlight some key questions that we think would be mutually beneficial to understanding your load-shedding capacity.

Group Discussion

This will be the perfect opportunity to engage with the Thames Valley Vision project team regarding your viewpoint, learning and experience of your ADR involvement until now. Your feedback will be taken on-board, reported on and where appropriate changes made to the next year of ADR testing. We will also encourage you to share your experiences with other project participants, exploring how attitudes and encounters match and vary.

Honeywell Presentation

Bracknell Forest Council University of Reading GE Honeywell DNV-GL eq technology

Attendees at the session were;

- Nigel Canning – Kognitio
- David Dean – Towry
- Scott Petersen – Honeywell Building Solutions
- Andy Fowler – Honeywell Building Solutions
- Dan Fernbank - University of Reading
- Adrian Price – SSE
- Claire Davis - GE
- Jo Burton - University of Reading
- Cliff Mandeville - Garth Hill College
- Alistair Weir - Edgbarrow
- Sarah Rigby – SSEPD
- Gordon Hewitt – SSEPD
- Charlie Edwards – SSPED

The event was well represented by companies that were involved in the first year of load shed trials and some customers yet to participate in the trials and are scheduled for the 2015/2016 programme. As such it was a very useful opportunity to highlight how the scheme works, the analysis and learning from the first year and to perform a 'live' load shed event. A full breakdown of the event can be found in Appendix 3 - TVV Customer ADR 'Overview Pack'.

4 Technologies deployed in demand side response

An ADR installation is split into two sections; physical and communications. This section considers the physical aspects whereas communications are considered in section 4.2.2.

4.1 Technology deployed in customer buildings for ADR

4.1.1 Plant being shed

It is helpful to understand what plants have load shed capability in the UK, building on knowledge gained from examples in the US. Listed below are some examples of plants controlled through the BMS to enact load shedding events and some individual customer examples.

Controlling Chillers

Weather conditions drive the requirement for chilled water. The chilled water is used for space heating via air handling units and this will drive the total electricity consumption of

chillers. In order to provide flexibility in demand response that may be made available, it will be important to control the chillers individually (rather than having them all off or all on). This will enable the delivery of ADR of different magnitudes and different durations. For example, on a warm summer day, when the chillers would need to operate, several ADR strategies may be implemented: switching off all chillers for very short time or switching one chiller for longer period of time, while maintaining the comfort levels in both cases. As the implemented ADR equipment can provide this flexibility, further trials will need to be conducted understand the relationship between the magnitude of demand response that may be available across different durations of ADR exercises.

Controlling Air Handling Units

Air Handling Units (AHU) could be switched off when they provide fresh air and ventilation to zones at times when there are no activities. The viability of this strategy is assessed during the site audit and the presence of CO2 monitors will ensure that the exercise of the AHU based demand response would maintain the required air quality (applied in areas / rooms that are not used). The scope of this ADR strategy will be subject to examination through further trials.

Controlling AHU Fan speed reduction

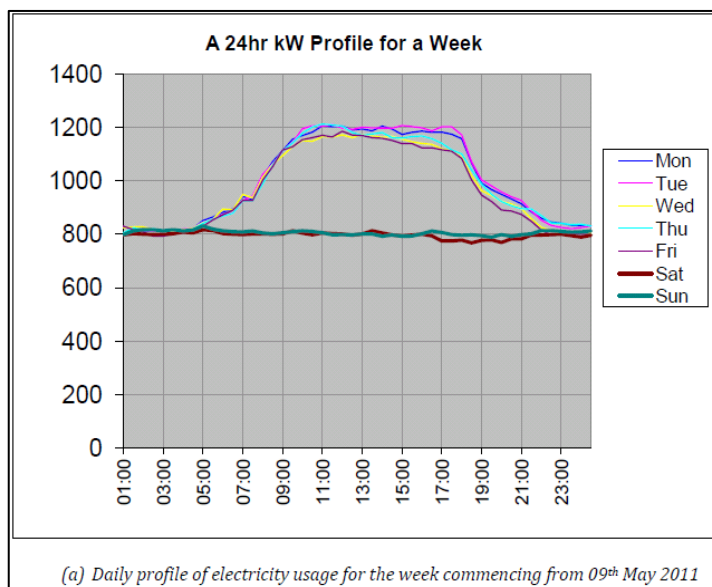
Variable Air Volume systems supply air conditioner demand and can operate efficiently while part loaded. In this case, the ADR strategy would involve de-loading the Variable Air Volume through reducing the speed of AHU fan. The speed reductions could be 30-50% but generally not below the minimum operation limit i.e. 30 percent of the peak design. Estimation of the corresponding amount of demand response will be determined by the actual operating point and the reduction in speed. It is important to keep in mind that the speed reduction will affect comfort levels, temperature and air quality. Understanding the relationship between the magnitude of demand response, reduction of speed and the impact on the comfort levels will need to be investigated in further trials.

4.1.2 Customer Load Examples

The section below gives 5 examples of the plant that is being shed in customer buildings. Load profiles are included to show building load before load shedding equipment installation.

Example 1 - Electrical load-reduction measures:

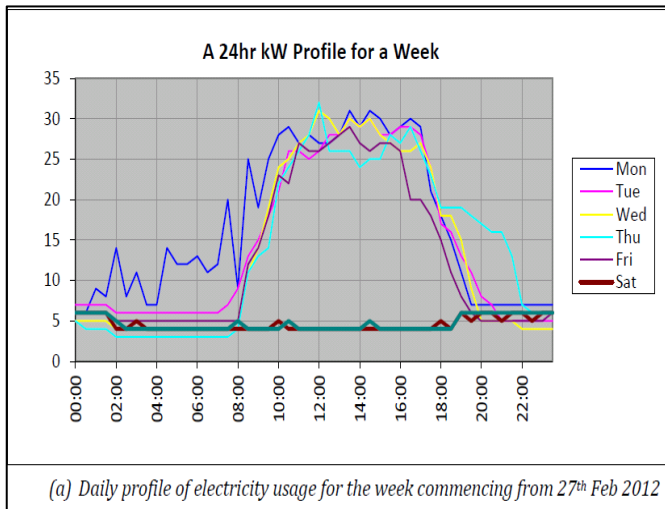
- Decrease or increase all zone temperature setpoint by 2°C
- Reduce the number of VRF water source unit in operation on each floor
- Reduce the fan speed on water cooled condenser units
- Reduce the speed of the Versatemp water circulation pump
- Switch off one of the Triplex lifts and one of the Duplex lifts
- Reduce the number of Airedale units in operation in the machine room and accompanying office areas
- Switch off all split units serving the Annex building
- Switch off all split units serving the meeting and conference rooms
- Switch off the HVAC primary boiler and associated circulating pumps
- Switch off all zone's perimeter heating pumps
- The average base load for the building as seen in both figures is about 800 kW with a peak load of about 1,200 kW however, this would require investment to the customer to allow full load shedding potential to be realised



Example 2 - Electrical load-shed measures:

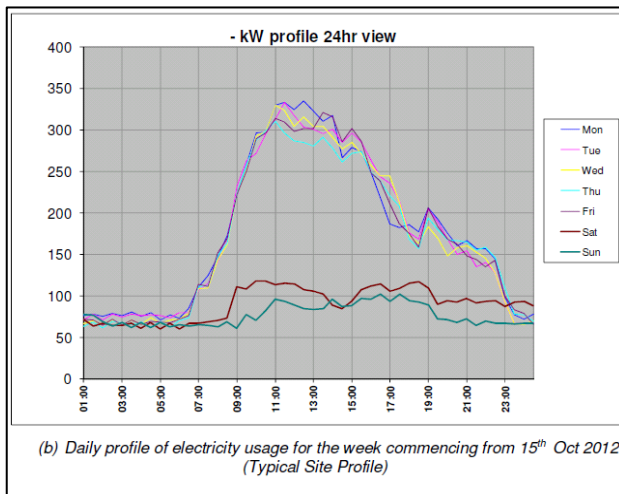
- Decrease or increase all zone temperature setpoint by 2°C
- Switch off the VRF DX unit in operation
- Switch off all lossnay units

- Switch off the ground source heat pump and its ancillary



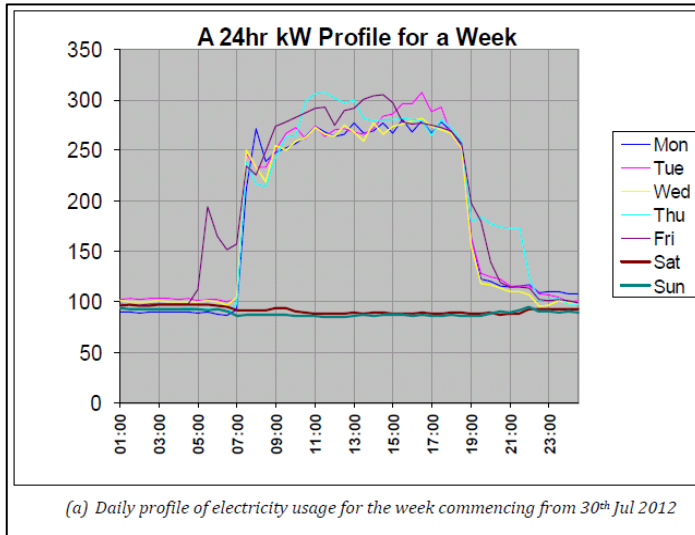
Example 3 - Electrical load reduction measures:

- Switching off non essential AHU supply and extract Fans
- Switching off non essential cooling Fan coil units in classrooms only
- Switching off Constant Temperature & Variable temperature Heating pumps



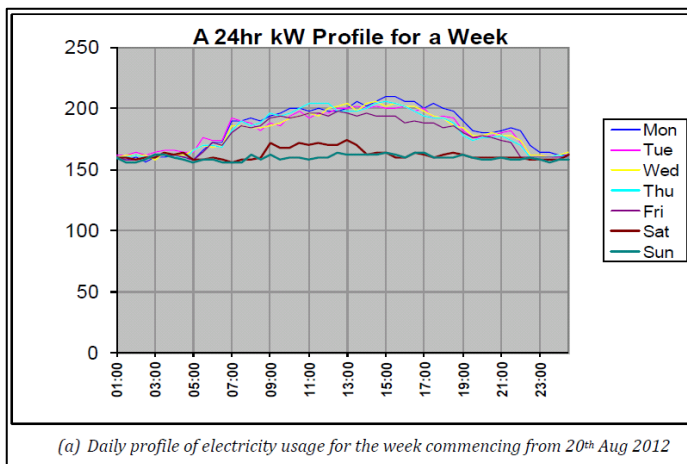
Example 4 - Electrical load reduction measures:

- Decease or increase all zone temperature set-point by 2°C
- Duty cycling of fan coil units
- Chiller load reduction
- Switch off one of the Triplex lifts
- Pre-cooling of chilled water loop



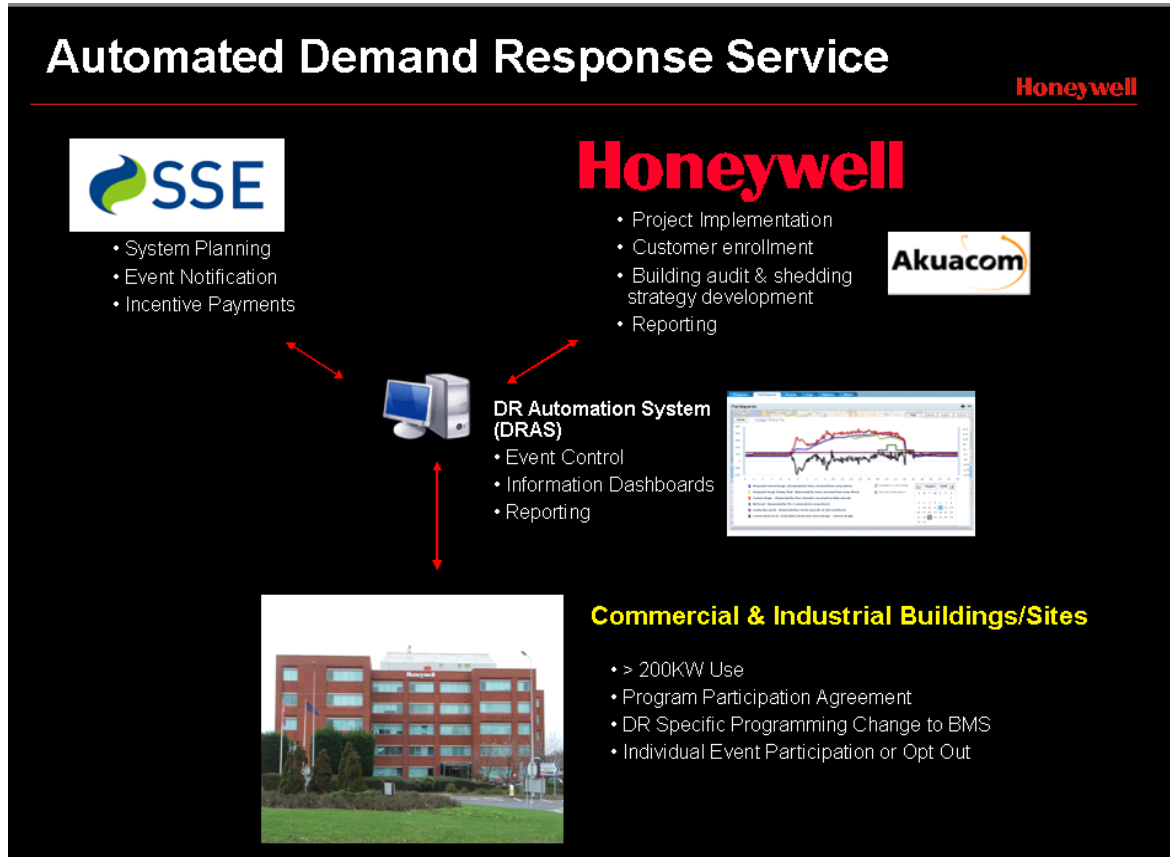
Example 5 - Electrical load reduction measures:

- Decease or increase all zone temperature set-point by 2°C
- Duty cycling of fan coil units
- Chiller load reduction
- Pre-cooling of chilled water loop
- AHU load reduction



4.2 Honeywell equipment deployed

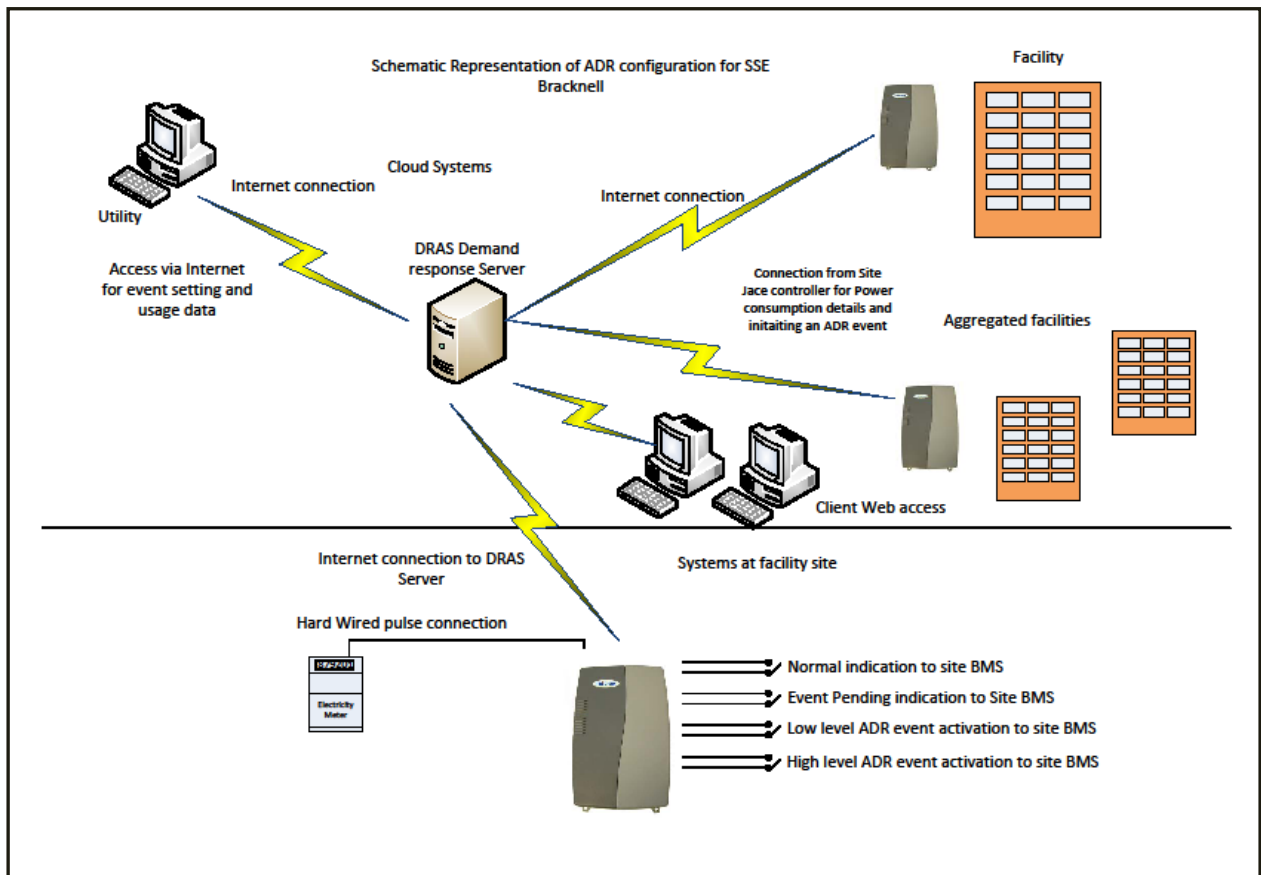
The diagram below shows an overview of the Honeywell technology;



4.2.1 The Honeywell ADR system;

Figure 2 shows the high level architecture of the ADR system, including the following key elements:

- Demand Response Automation System (DRAS) – Cloud based server & back up server – Server based in US for secure data storage
- DRAS Licence (Honeywell Akuacom) – For use of systems
- DR Gateway – Site interface between Building Management System (BMS) and DRAS. The physical box that sits at the customers' building and both reaches out to the cloud server looking for events, and sends the instruction to the BMS (Building Management System, existing technology at customer site) to activate load shedding strategy
- BMS Software modifications – programs that are added onto the existing BMS for load shedding. The Honeywell equipment then sends a signal to the BMS to activate the load shed upon request.
- Main Electrical meter interface – where the Honeywell system monitors the kW usage
- Localised Internet connectivity – if this is not available on site, it is organised by Honeywell



The above ADR system sits on a SaaS (Software as a Service) platform, linked via secure internet connections. The Operator (DNO) can log in and view real time (<15 minutes) loads on individual sites and monitor the aggregated loads. The Operator can also look back at the results of load shedding events in data and/ or graphical form. Customers can view their own site's load profile and actively participate (either by allowing load shedding events activated by the DNO or, if they want, by activating their own strategies, via the secure internet connection, once signed in).

4.2.2 Communication technology deployed

The document that can be seen below highlights an overview of the communications requirements.

Rev B

Honeywell

ADR JACE Controller Web Access Overview

Please find following some additional information on the requirements for the ADR controller web access. It may be useful prior to our onsite test that we need to arrange.

Connection of a single JACE Controller to the internet hosted server @ SSE: 70.42.189.242. However this may change in the event of a Disaster Recovery failover will require a different IP address and a temporary change of our DNS entry.

The java device is configured to connect to the following URL, for example:

<https://sse.openadr.com/RestClientWS/rest>
<https://sse.openadr.com/obixserver/obix/dataService/>

The JACE will require the following information;

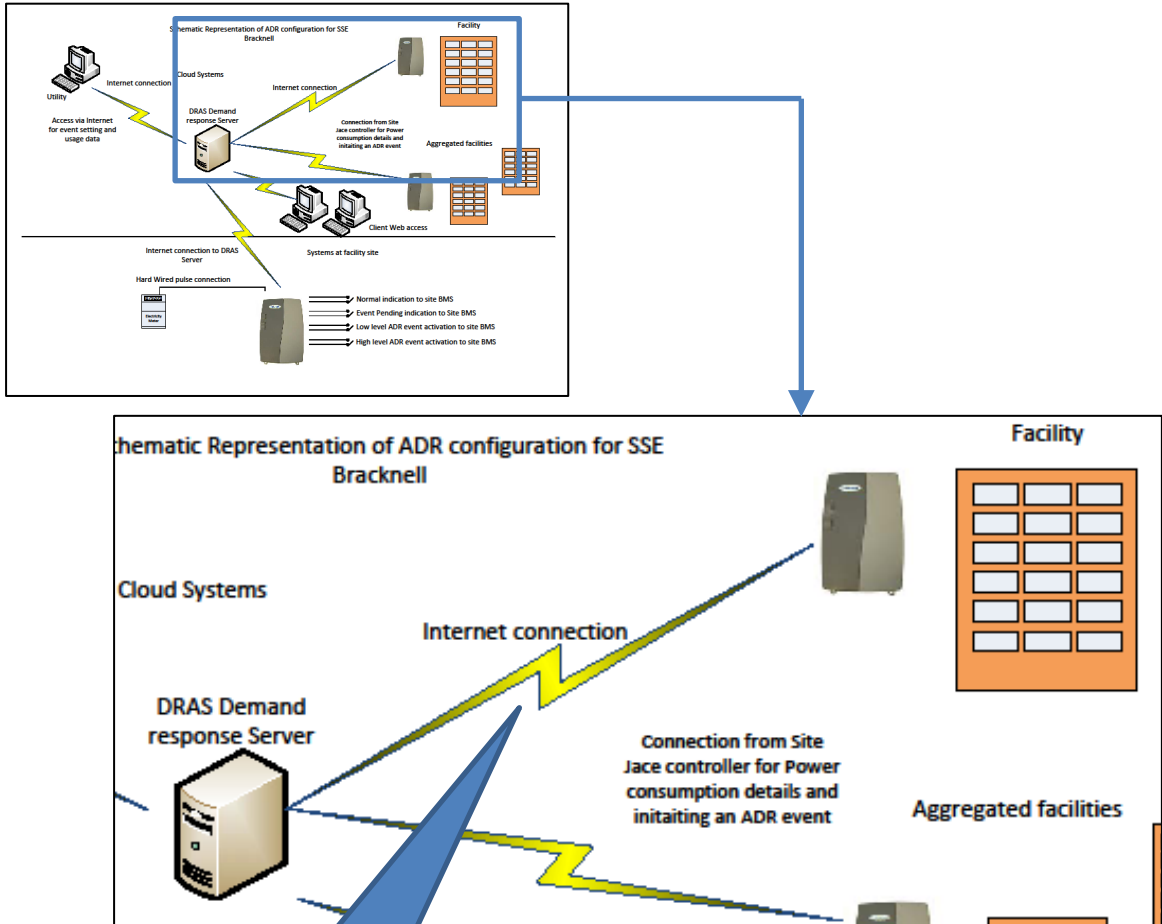
1. Static IP address
2. Subnet Mask
3. Gateway
4. DNS
5. Ports 80 to be open
6. Ports 443 to be open
7. Ports 37 to be open. Time synchronization (NTP) UDP

We also require the JACE to use Fully Qualified Host Names (FQHN) to connect to the DRAS. IP addresses will not work.

Other useful information that may help:

- Exempted the JACE User agent from proxy authentication as it does not appear to know how to handle HTTP authentication requests. This should handle any HTTP requests from the Java client used by JACE and any HTTPS requests made if the client is configured for explicit proxy.
- Implemented proxy authentication exemptions based on the host access. This should cover any HTTPS requests if the client is not using an explicit proxy configuration.
- All that is required are the URLs (again: not IP address) and a client account that our support team configures on the DRAS server side. There is no domain user account required.

With close engagement with relevant IT departments from each of the participants, connecting to the DRAS with the JACE system over a fixed connection was not an issue and was simply a routine task during the installation phase. However, in 2 cases, obtaining a communications link in the customers building proved difficult. Following these difficulties, Honeywell have decided to install GPRS wireless communications into 2 buildings to data and the key learning from this to ensure install does not get slowed in any way is to make the decision to switch to GPRS as soon as it appears a fixed communications link may be problematic to obtain.



This wired internet connection will in future be replaced with GPRS in the situation where issues arise following learning from the NTVV experience

5 Sample of new commercial agreement

During the 2014 testing phase, financial incentives were not given however, during testing phases in both 2015 and 2016, various commercial incentive models will be trialled with all customers signed on to the ADR programme.

The key commentary and learning in this section is focussed around the commercial agreement. The key lesson learnt throughout the project to date is that it is imperative to minimise the document that requires legal sign off. In section 2.5 it is highlighted that the primary bottleneck when recruiting customers is the length of time for legal departments to achieve final sign off. A specific area of issue in the contract has been that of joint liability between Honeywell and SSEPD and although when full legal review takes place between companies, this has never been a contentious issue. On one specific occasion, it was an insurmountable hurdle. In this example, the legal team that were required to sign the ADR contract off were based overseas and although the local legal teams were satisfied, it was not seen as enough of a priority to review leading this customer not to be able to participate.

The mitigation for this is naturally to reduce the count and length of these documents for review to ease potential hold ups.

Appendix 4 shows the original two legal documents that require legal sign off and Appendix 5 is the new consolidated version that is now used.

6 Appendices

Appendix 1 – Electronic copies of 30 signed ADR agreements

Appendix 2 – TVV Customer event ‘Welcome Pack’

Appendix 3 – TVV Customer ADR ‘Overview Pack’

Appendix 4 – Old dual agreements

Appendix 5 – New consolidated agreement