ENWL ICE ICP/IDNO Workshop

22nd January 2019

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Agenda

Welcome & Introduction

ICE Workplan 2018/19 Update

ICE Workplan 2019/20 Development

Coffee Break

Health & Safety

Earthing Policy Update

Adoption Agreement Update

NMS Ready

Planned Supply Interruptions

Assessment & Design Fees

Panel Question & Answer Session

Wrap Up & Close

What do we want from you today?

- One word – **Feedback!**
- Use the feedback forms and give us your honest opinion
- Contact me, the ICE team or your usual contacts in ENWL at any time to give us feedback
- mark.williamson@enwl.co.uk
- ice@enwl.co.uk

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ICE Update:
ICP/IDNO 2018/19 Workplan

Lynn Smith, ICE Team

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How are we performing against our commitments?

Commitment	How we'll achieve it	Delivery Date	Status
We will continue to target improvements in LV time to connect	We will continue to work towards a 7-day average Time to Connect	Q4	**YTD Average 5.81 days**
We will continue to target improvements in HV time to connect	We will continue to work towards a 15 day average Time to Connect	Q4	**YTD Average 14.7 days**
We will continue to target improvements in LV time to Quote	We will continue to work towards a 11 day average Time to Quote	Q4	**YTD Average 8.60 days**
We will continue to target improvements in HV time to Quote	We will continue to work towards a 15 day average Time to Quote	Q4	**YTD Average 12.47 days**
We will target faster LV/HV design approval responses	We will target LV/HV design approvals responses within an average of 8 working days	Q4	**YTD Average 8.42 days**

How are we performing against our commitments?

Commitment	How we'll achieve it	Delivery Date	Status
We will provide stakeholders with the opportunity to comment on proposed policy changes before we make them	Publish draft policy documents online and inform registered stakeholders	Q1	✓ Complete
We will improve our communication of safety to ICPs working in our area	Email safety bulletins to registered stakeholders	Q1	✓ Complete by end of Q2
We will improve efficiency in issuing Bilateral Connections Agreement (BCA) documentation	Where multiple parties are involved we will notify ICPs of when a BCA is sent and to whom it was sent to	Q2	✓ Complete
We will provide more clarity and transparency on the energisation process for non-contestable works	We will provide a guidance document outlining the prerequisites to agreeing a power on date to ensure an efficient process	Q3	Delayed
Improve connection charging approach to make charging fair for our customers	Engage with our stakeholders regarding our proposals	Q4	On Target

How are we performing against our commitments?

Commitment	How we'll achieve it...	Delivery date	Status
We will continue to support Self Determination of Points of Connection by ICPs	We will host 2 sessions over the year (subject to a sufficient number of registrations)	Q4	**On Target** **1 complete, 1 planned**
We will continue offer opportunities for stakeholders to engage with us	Host 2 workshops 80% of attendees surveyed rate the event as "useful" or "very useful"	Q4	**On Target** **1 complete, 1 today**
We will provide more clarity on land consents process and progress	Host a Wayleaves workshop and 2 surgery sessions 80% of attendees surveyed rate the event as "useful" or "very useful"	Q4	**On Target** **1 complete, 1 planned**
We will provide stakeholders with the opportunity to receive detailed briefings on policy changes	Host 2 webinars 80% of attendees surveyed rate the event as "useful" or "very useful"	Q3	**2 completed in Nov and Dec.** **Additional planned for Feb**
We will publish quarterly updates on anonymous performance of our inspections of ICPs and our own contractors	Quarterly newsletters distributed to registered stakeholders and published online	Q4	**On Target**
We will publish quarterly updates on our actions and outputs	Quarterly newsletters distributed to registered stakeholders and published online	Q4	**On Target**

ICE 2019-20 Proposals

Hannah Sharratt, Customer Engagement & Regulation Manager

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What will we cover today

Seek feedback from you on what is important and what we can put in place to improve our services to you

Explain
our process for ICE

Get feedback from you on the relative importance of topics

Discuss and prioritise potential commitments

2019-20 ICP / IDNO ICE Workplan Development

Gather Ideas & Options:	Assessment & Benefits Review:	Assessment & Benefits Review:	Confirm:	Finalise
Draft ICE commitments & actions (Dec / Jan)	Test draft ICE actions with stakeholders (Jan / Feb)	Review & respond to feedback (Feb / Mar)	Test updated ICE actions & KPIs / outputs with stakeholders (Mar)	Publish Workplan (Apr)
Internal engagement	External engagement	Act on feedback	External engagement	Finalise & Issue

Topics : level of importance

- For each of the following topics, please indicate the level of importance to you
  - 1 = low importance, 5 = extremely important

Competition in Connections	Training	Clarity of Customer Responsibilities
Process / Tracking of projects	Time To Quote	Level of communication
Legal Consents / Wayleaves	Time To Connect	Ease of application
Cost of connection works	Design Approvals	Payment Options
Interactivity	Breakdown of charges	A&D Fees
Managed / Flexible Connections	Clarity of our Requirements	Other factors, eg Highways, National Rail, BEIS

Proposed ICE ICP / IDNO Workplan

How we created the proposed plan...

Draft 2019/20 ICE Workplan

ICE Commitments League – Ranking exercise

- **Individual activity:** Using the sheets provided, please categorise each proposed ICE commitment.
- **Group activity:** Using the cards provided, please categorise each proposed ICE commitment.
- Please also provide feedback on our proposed actions, and describe the benefit completing the action will give you.

#	Team	MP	W	D	L	G	Pts
1.	Liverpool	22	18	3	1	50:10	57
2.	Man City	22	17	2	3	59:17	53
3.	Tottenham			0	6	46:22	48
4.	Chelsea	22	14	5	3	40:17	47
5.	Arsenal	22	12	5	5	46:32	41
6.	Man Utd	22	12	5	5	44:32	41
7.	Watford	22	9	5	8	32:32	32
8.	Leicester	22	9	4	9	26:25	31
9.	West Ham	22	9	4	9	30:32	31
10.	Everton	22	8	6	8	33:31	30
11.	Wolves			5	9	23:28	29
12.	Bournemouth	22	8	3	11	31:42	27
13.	Brighton	22	7	5	10	24:30	26
14.	Crystal Palace	22	6	4	12	20:28	22
15.	Burnley	22	6	3	13	23:43	21
16.	Southampton	22	4	7	11	23:39	19
17.	Cardiff	22	5	4	13	19:41	19
18.	Newcastle	22	4	6	12	16:31	18
19.	Fulham			5	14	20:49	14
20.	Huddersfield	22	2	5	15	13:37	11

Into Europe

Mid Table

Relegation Zone

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All for safety and safety for all

Ian Lawless
SHE Advisor

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The present and the future, a plea.

- To enable Electricity Northwest to be a safe Distribution Network Operator.

- We need your help

Cradle to the grave

• Safe to build	ICP / IDNO / DNO
• Safe to maintain	IDNO / DNO
• Safe to decommission	IDNO / DNO

North West the safe network

- The right information
- To the right person
- At the right time

Because we will do the basics well

- Communication
- Co-operation
- Competency
- Control

On the factory floor

- Correct signage with contact details
- Correct size joint holes
- Appropriate protection
- Falls and trips – Good order

Using the past for a safer future.

Code of Practice 333: Earthing Design for 11/6.6kV Distribution Substations and Equipment

Mike Doward
Connections Charging Manager

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Earthing Policy – the background

- A Reminder of ENWL's obligations:
  - EREC S34 & ENATS 41-24 – Licence requirement
  - The ESQCR, in particular Regulation 8

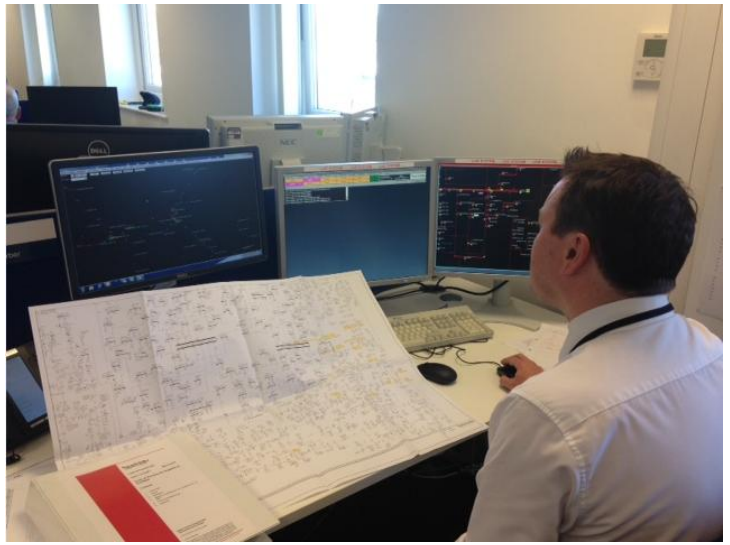
> (b) the earth electrodes are designed, installed and used in such a manner so as to prevent danger occurring in any low voltage network as a result of any fault in the high voltage network; and

  - Many other Acts and Regulations apply, for example H&S at Work
- Current approach in Code of Practice 333 has gaps
- CP333 completely re-written
  - 3 methods of assessment introduced - design effort appropriate to situation
  - Greater detail provided where required
  - More information on site measurements
  - Approved by Technical Policy Panel and ready for go live

CP333
Go Live
01 Feb 19

Code of Practice 333

- Designed to provide ICP's, as well as ENWL staff, sufficient information on ENWL earthing systems to enable self assessment and design



- To be used with other forms of published data: -
  - Primary fault level
  - Impedance data
  - Geographical data

- Will introduce an approach that incorporates three types of assessment

Policy Overview Recap – Type 1 Assessment (GES)

- Tick box exercise
- Simple, quick – no detailed design
- Global Earthing System concept
- Final site measurement after installation
- Already implemented – summer 2017
- Now includes subs with steel doors
- Expected use – cities, towns
- Requires final commissioning measurements

Requirements for Type 1 Assessment:

•Surrounded by urban / built up area

•Cable fed

•New substation is Standard ENWL Design

•Primary transformers impedance earthed

•Local ground R is 300 ohm m or better (data may be from on-line sources such as BGS)

•IDNO designs included if all touch voltages safe for EPR up to 2kV (demonstrated by modelling)

Policy Overview Recap – Type 2 Assessment (Basic Assessment)

- For sites failing the Type 1 (GES) criteria
- Design effort minimised – can use some assumed values
- Desktop exercise where possible
- Look up tables provided in CP333 – standard designs in lieu of bespoke studies
- Use on line sources – BGS
- Site soil resistivity measurements not required if Cold
- Requires final commissioning measurements

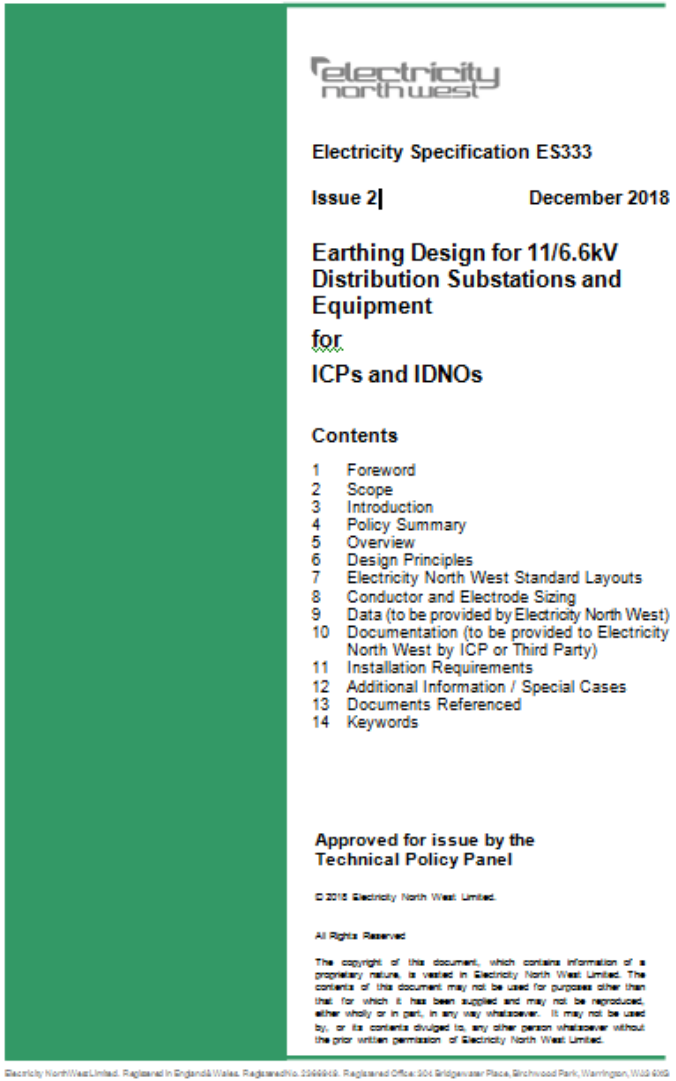
Type 2 expected to be the usual method for suburban to rural mixed networks

Policy Overview Recap – Type 3 Assessment (Detailed Assessment)

- Full design study
- Site soil resistivity measurements required
- Unavoidable to ensure safety
- Expected requirement for upland areas such as Lake District
- Requires final commissioning measurements

CP333 – other changes

- Guidance on measurement techniques, eg Wenner
- Suite of standard ENWL substation designs
- Look up tables for touch voltages
- Look up tables for earth electrode resistances
- Decision tree to guide assessment type selection
- Worked examples
- Guidance for Hot & Cold HV metered connections
- ES333 re-written – guide for IDNOs – approved by Technical Policy Panel. Go live 1 February 2019



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Electricity Specification ES333

Issue 2 **December 2018**

Earthing Design for 11/6.6kV Distribution Substations and Equipment

for

ICPs and IDNOs

Contents

Approved for issue by the Technical Policy Panel

Code of Practice 333

- Implementation done over two stages
- Interim Implementation
  - Type 1: -
    - ICP can assess and submit as part of Design Approval
    - Standard earthing installation to be used
  - Type 2: -
    - ENWL will undertake study using parameters in CoP 333
    - ENWL will advise if site classed as Cold – Standard designs to apply
    - ENWL will advise If site classed as Hot and provide information to facilitate detailed assessment,
      - ICP then has two options available: -
        - Option 1 - collect Wenner readings from site and provide calculations to ENWL proving site is cold
        - Option 2 – full design as per Type 3
  - Type 3: -
    - ICP to undertake full design study (Hot site) and provide to ENWL for Design Approval
  - ENWL earthing study will begin at offer acceptance
  - Examples in CoP333
- Full implementation

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Adoption Agreement Update

Mike Doward
Connections Charging Manager

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Update on Agreements & Adoptions process

- As many of you know we have been reviewing these over the past 12 months;
  - To try and reduce the volume of paperwork
  - To create simpler forms
  - And to make the process quicker and less painful ☺
- Thank you to many of you in the room for your contribution and feedback
- We will be going fully live with the new process and documents **from the 1st April**
  - Some of you are already trialling and using the new forms now
  - For others we will be here to help everyone make the transition
- Between now and then we will be offering a number of Webinar sessions to help train and get everyone used to the new forms

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NMS Overview

Chris Fox, Head of Business Connections

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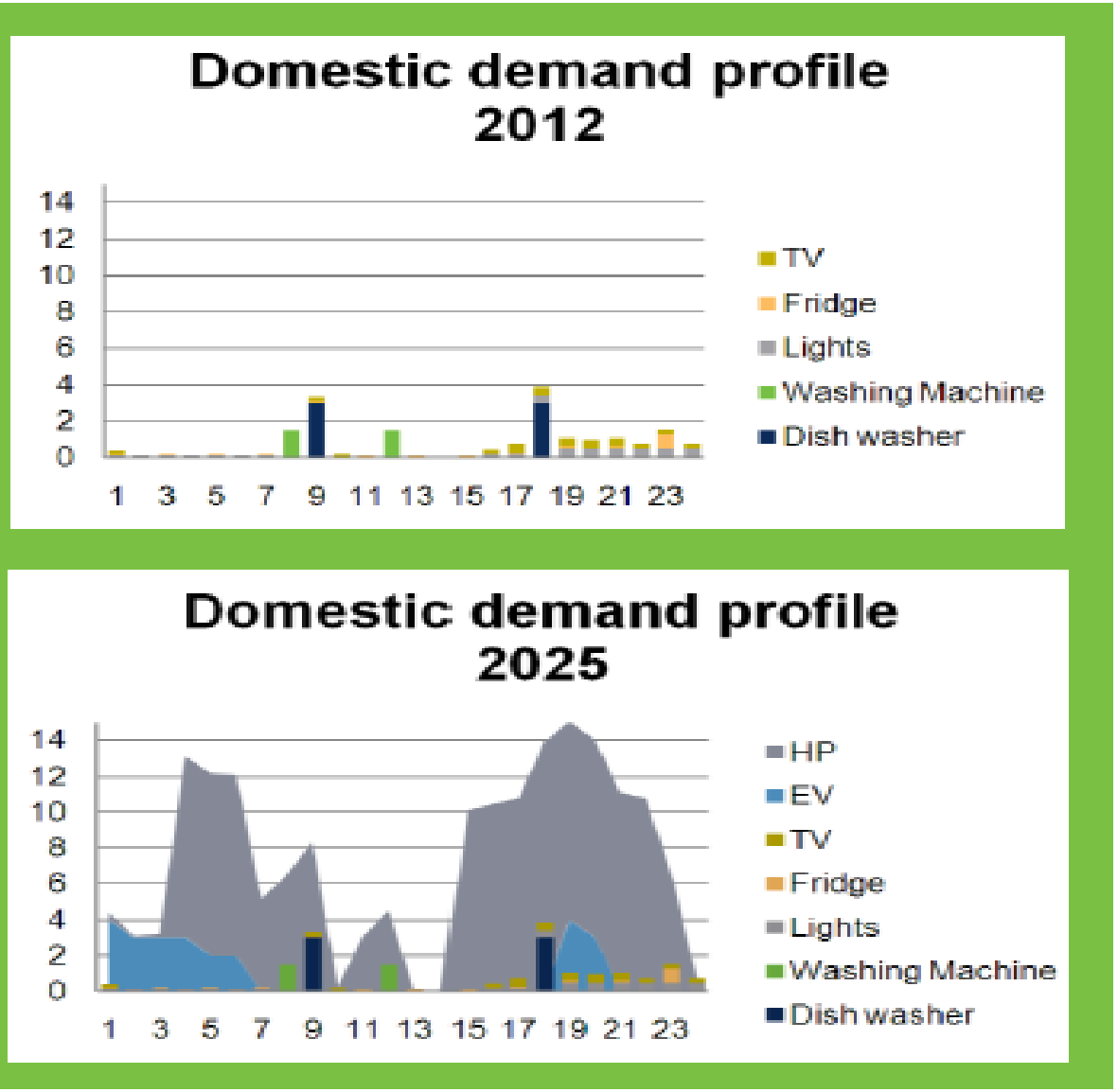
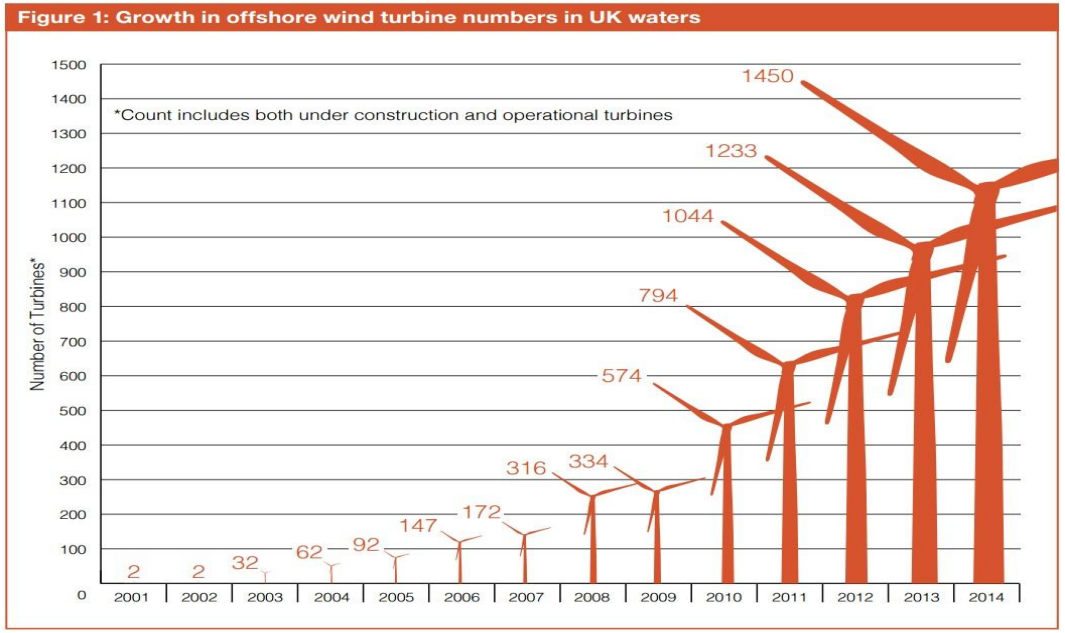
Contents

- Driver for change
- Our NMS solution
- What that means for you
- Questions
- Summary

Drivers towards change





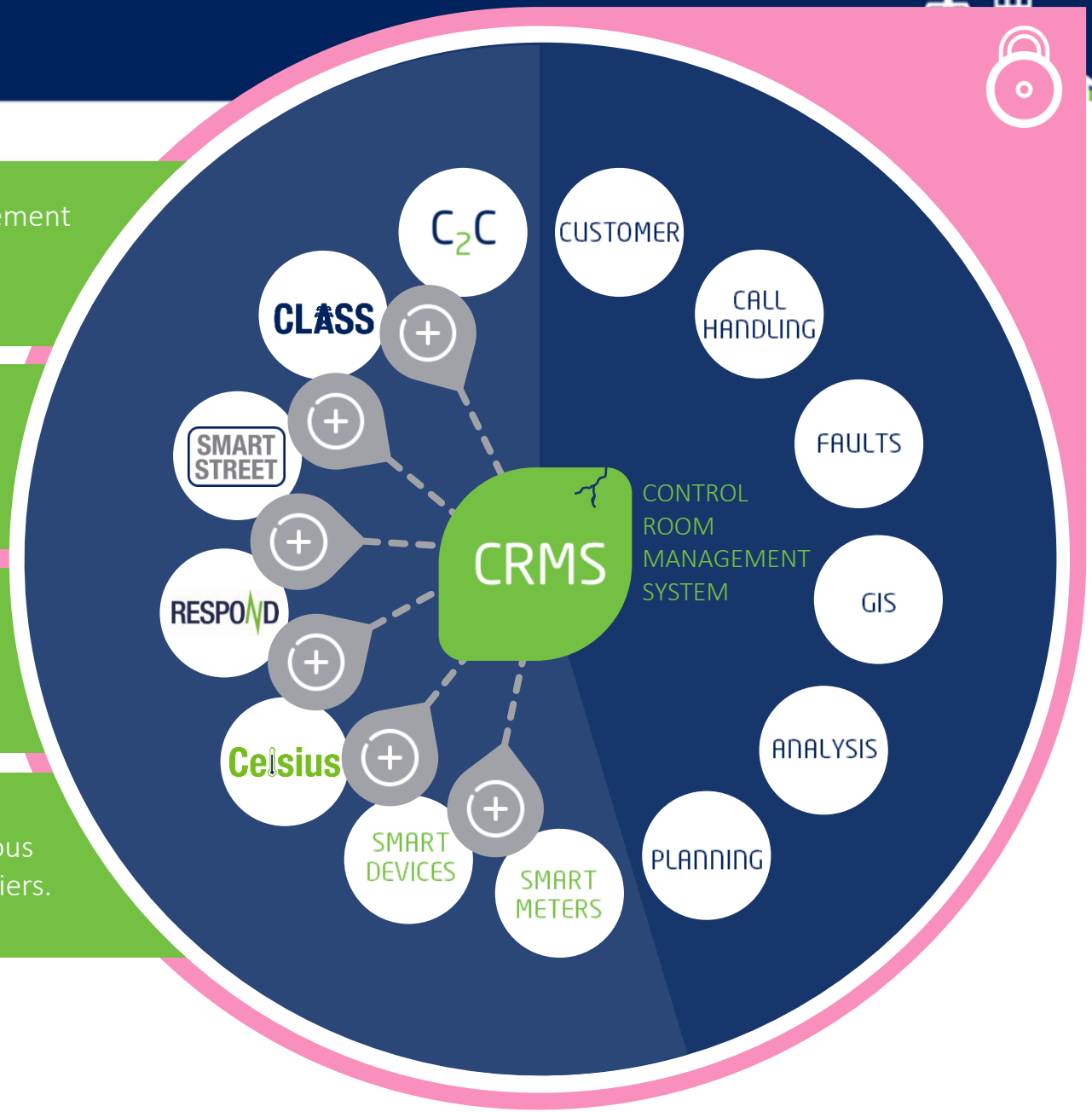
- In less than ten years time the level of domestic consumption is predicted to soar
- Traditional demand profiles will change significantly

CRMS, Our Control Room Management System, purpose built, very proud of what its helped us achieve

Nearing obsolescence, ageing, reaching its capability limits

Costly bolt-ons, funded by innovation projects, unfeasible to be continually funded as is

Higher security risk, using numerous third party connections and suppliers.



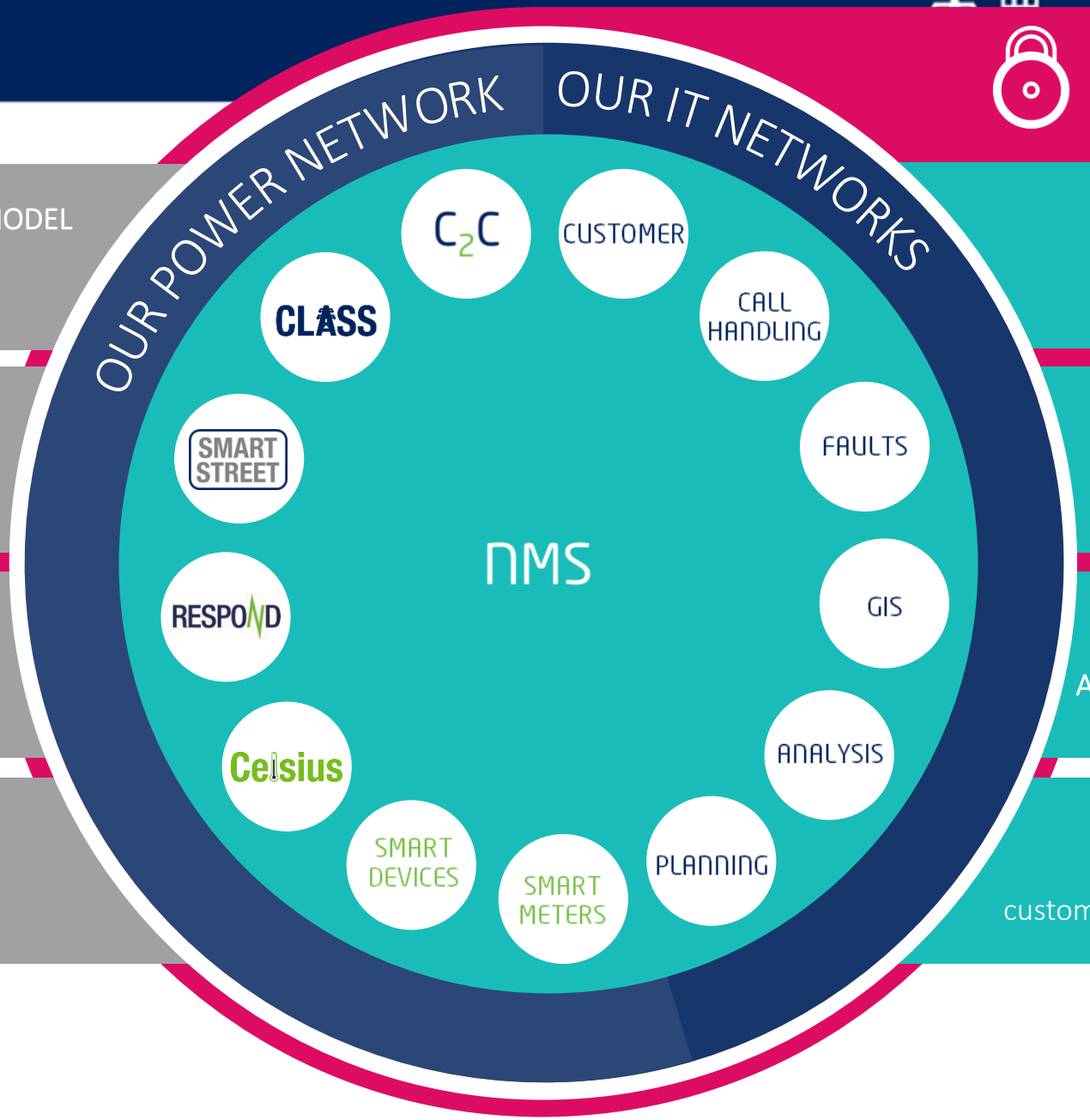
Passive & static diagram with some elements network intelligence

FULLY INTERACTIVE ELECTRICAL MODEL GIVING REAL-TIME CONTROL & FEEDBACK

Reduce investment in reinforcing our electricity network, and in fault level investment

Integrates our low carbon tech and 2.5m smart meters, to enable our Smart Grid

Enables us to continually innovate



Operation process performance improvements

Will support 13,000 switching devices and 35,000 measurement points

BRINGS DATA TOGETHER FOR ADVANCEMENT IN GIS PLATFORMS

Will deliver improvements in customer service, by reducing customer interruptions and minutes lost

NMS Timeline

Dec 2014

NMS Contract
Schneider Electric selected to provide new NMS

Nov 2015

Release 1a SCADA
Testing of replacement SCADA commenced

Jun 2016

Release 1a SCADA
System production ready begin transfer

Release 1b FLISR
Testing of automatic restoration tool (FLISR)

Spring 2017

RTU Migration
Transfer all Primary substation telecontrol

End of 2018

Release 1b FLISR
FLISR working in "monitoring mode"

CLASS 2
Deployment of CLASS frequency & demand

2019/20

Release 2 OMS
Outage Management System

CRM Integration
OMS integration to Customer Relationship Management system

TRS
Large Area Restoration for 132kV & 33kV faults

FLISR
Go live date

NMS Cutover
Transfer to new NMS – switch off old CRMS

What this means for you?

- Advanced applications allow for:
  - Simpler connection studies
  - More dynamic Points Of Connection (greater opportunities to connect)
  - Reduction in the need for ENWL network reinforcement
  - Further web based access to network data

- Even greater need to provide timely pre-laid connection drawings
  - If its not in the system it cannot go live

- Even greater emphasis to provide accurate and timely as-laid drawings
  - To maximise every bit of spare capacity available

Thank You & Questions?

Summary

- ✓ NMS creates additional benefits for everyone to share (greater capacity to share)
- ✓ It is a key change for ENWL and our stakeholders
- ✓ To maximise this change everyone needs to do their part (pre-laids/as-builts)
- ✓ The phased go-live started in 2018 and will continue through into 2020

Finally, NMS 1 unlocks the door for more opportunities smarter solutions..... NMS 2!

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Planned Supply Interruptions

Jonathan Cropper, Connections Delivery Manager

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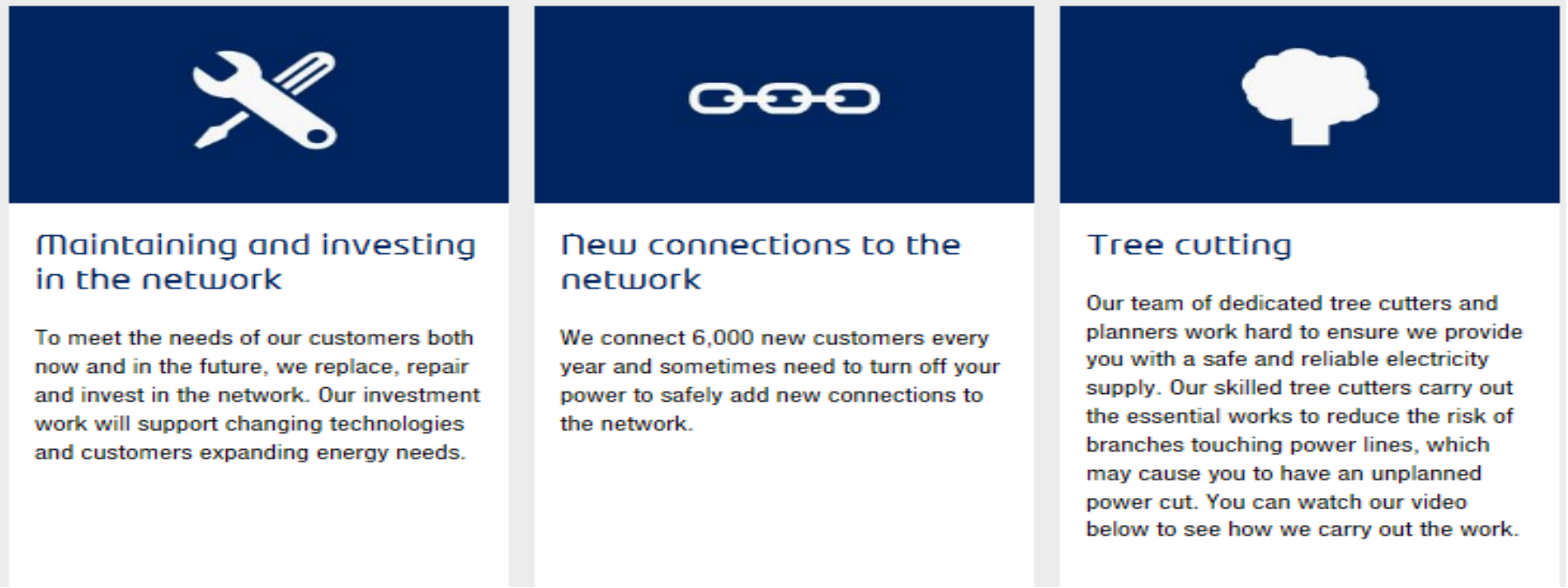
Why do we have PSI's....

- We have planned power cuts so our engineers can safely work on the cables that provide power to your property. Temporarily interrupting your supply is the safest way for our engineers to work.
- Below are some of the reasons why we have planned power cuts



Maintaining and investing in the network

To meet the needs of our customers both now and in the future, we replace, repair and invest in the network. Our investment work will support changing technologies and customers expanding energy needs.

New connections to the network

We connect 6,000 new customers every year and sometimes need to turn off your power to safely add new connections to the network.

Tree cutting

Our team of dedicated tree cutters and planners work hard to ensure we provide you with a safe and reliable electricity supply. Our skilled tree cutters carry out the essential works to reduce the risk of branches touching power lines, which may cause you to have an unplanned power cut. You can watch our video below to see how we carry out the work.

Customer Voice

ENWL undertake a lot of research to understand what service our customers expect to receive from us, this includes:

- Feedback from Ofgem surveys
- Commissioning independent research
- Customer engagement

Customer satisfaction in relation to Planned Supply Interruptions accounts for 10% of our overall CSAT score.

- We have used this feedback to develop our PSI 10/10 Process
- ENWL ELT host monthly PSI Steering Groups with representatives from across the business to discuss performance
- ENWL ELT host a weekly call with business owners to perform a post PSI review/lessons learned

Understanding what our customers tell us and the level of service they expect from us ensures we are delivering a 10/10 service and meeting customers expectations

Planned Supply Interruptions - 10 out of 10

THE VOICE OF THE CUSTOMER

PSI What makes 10 out of 10?

Our customers told us the important factors that deliver a great service for them:

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We will give our customers 10 days notice

f their
We don't turn of their electricity before 9.00am

We will get electricity back on in time for tea by 5.00pm

We won't cancel planned works

We plan our times with accuracy to restore their electricity within the hour

Contact us

Updates are available on the day through our website, twitter, facebook and by ringing us on 0800 195 4141

In Winter we add some extras: We don't plan to turn customers off on a Friday in December. We will have the lights on for when it's dark and we will aim to only turn off electric once per home.

POWER CUT? CALL 105

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Planned Supply Interruptions

We also understand from speaking to our customers that different types of customers have different needs

- Vulnerable customers
  - May have specific needs that require additional support, e.g. Generation, Welfare Support
  - Receive the 6 and 1 day reminder via a phone call
- For small, medium enterprises (SME's) they have told us to deliver 10/10 means:
  - 40 days advance notice
  - Carded 30 days in advance
- Large organisations e.g. Industrial, Hospital/Medical Centres, Retail Units, Churches, Charities, Dairy Farms
  - visit each organisation and agree energisation dates well in advance of the 40 days notice

PSI Summer Banding is between 1st March and 30th November

- Where possible ALL PSIs should be planned between these dates
- The outage should be planned to last no more than 8 hours between 9am and 5pm
  - This can be extended to commence at 8:30am to 5pm with SLT approval

Planned Supply Interruptions

THE VOICE OF THE CUSTOMER

PSI Winter working

2018-19 guidance

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- Winter banding from 1 December to 28 February
- The hours of darkness will be avoided
- A standard PSI to be no more than 6.5hrs long between 9am - 3.30pm
- No PSIs permitted on ANY Friday in December
- No customer to be impacted by more than one PSI during Winter
- No customer shutdowns between 22 December - 2 January

Following this guidance will help us to deliver great CSAT performance

POWER CUT? CALL 105

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Golden Rules of the 21 Day Process

Prior to Day 21

Confirm availability of all necessary resources and gain approval.

Day 21

Data management receive the PSI request from Operations

Day 21-16

Data Management produce the list of customers affected

Day 10

Customers receive their notification

Day 13

CRM is updated against each customer that will be affected by PSI

Day 15-14

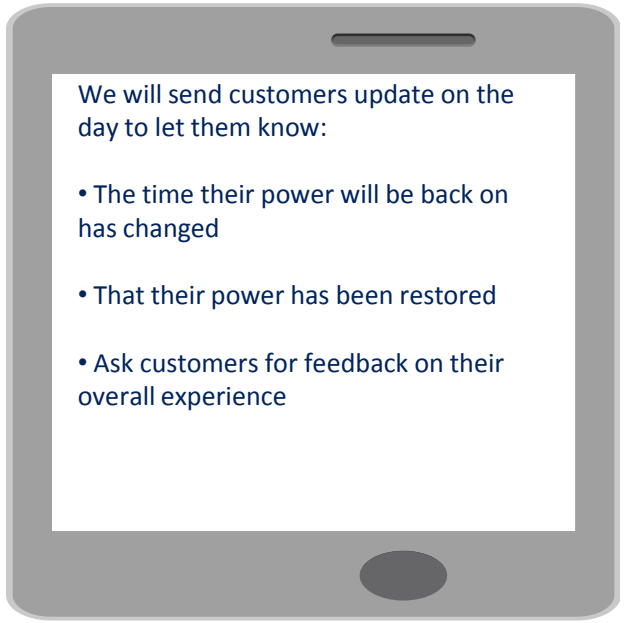
Cards are printed and posted

How we Communicate with Customers

10 Days notice via Card

6 & 1 Day Reminder Text

On the Day Updates



Golden Rules of the 21 Day Process

Day 6

Customers are proactively rang if on PSR, other customers texted with reminder

Day 5

Early starts or over-runs reviewed with approval manager to identify lessons learnt

Day 1

Customers reminder text

Day 0

Supply interruption takes place and is completed within the approved timeframe

Day 0

Following this guidance will help us to deliver great CSAT performance

Planned Supply Interruptions

To minimise the impact of a planned supply interruption, please follow this guidance:

- Provide the correct outage notice period for each customer type
- Complete a PSI form + PSI checklist for each outage and obtain relevant approvals
- Engineers to check impacted customer lists prior to outage cards being issued
- Plan the project well. Think about resource allocation, material reservation, securing generators/leads, resolve third party access restrictions, complete pre-works etc.
- No outages can be cancelled without SLT approval
- Comply with planned off and on times
- Communicate with the network management hub on the day of the outage so proactive communications can be issued to impacted customers
- Comply with the winter PSI rules

For further information speak to your ENWL Coordinator and read COP640 ‘Reducing the Impact of Supply Interruptions due to Planned Work’

Connections Offer Expenses - Update

Brian Hoy, Head of Market Regulation and Compliance

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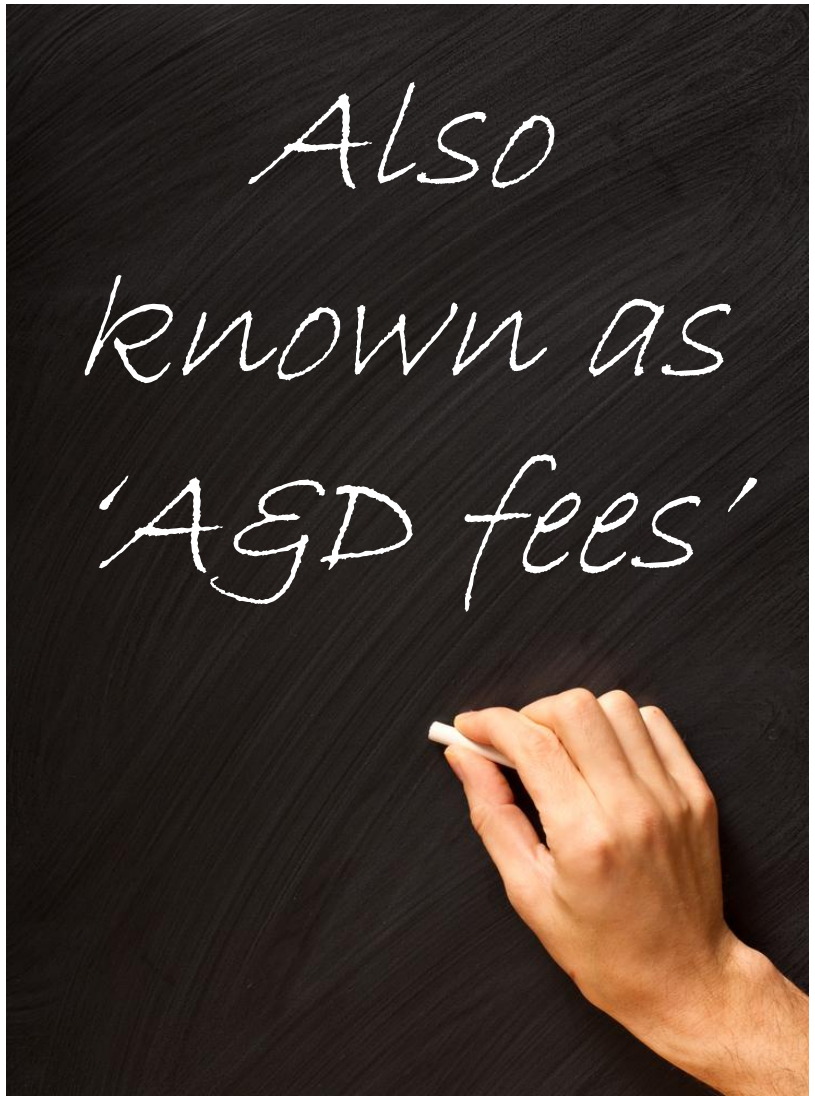
Connection Offer Expenses

BEIS introduced new regulations from April 2018

These allow DNOs to charge customers for their connection offer whether it is accepted or not

BEIS intention is to allow a fairer allocation of costs to customers



What do we propose to charge for?

What we won't be charging for	What we will be charging for
Budget Estimates	EHV offers (demand and generation) from May 2018
Minor connections (1-4)	HV generation offers over 1MVA from January 2019
Cancellations within cooling off period	LV and other HV offers (demand and generation) but from a later date
Offers for diversions	Requotes including interactivity requotes
	Cancellations (after cooling off period)
	Gen+ initial assessments

These charges will be due whether the connection offer is accepted or not

The basic process

Customer Application	Connection Offer issued	Connection Offer validity period	Acceptance
Email informing customer is liable for payment for quote but with 10 working day cooling off period	Connection offer issued together with invoice for £1,000 with 30 day payment terms	Quote validity period normally 180 days but will end after 30 days if invoice not paid	Customer pays balance of Connection Offer Expenses if they accept as part of Acceptance Fee

Summary

Four different options available to you for EHV offers and HV generation over 1MVA

Budget Estimate	Gen +	Full Works Offer	POC Only Offer
•No charge •Can't accept •No queue position	•Initial charge of £500 payable in advance •Further charge of £1,000 for full offer •Queue position retained	•Initial charge of £1,000 (Dual Offer) •Balance based on type of acceptance: • £20,200 - EHV full works •£15,800 - EHV POC only •£5,870 - HV gen full works •£4,500 - HV gen POC only	•Initial charge of £1,000 for connection Offer •Balance based on type of acceptance: •£15,800 - EHV POC only •£4,500 - HV gen POC only

EHV applicable from 4 May 2018
HV Generation greater 1MVA applicable from 1 January 2019

Wrap up and Close

Mark Williamson

Energy Solutions Director

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Wrap Up & Close

- Please give us your honest feedback on the forms provided
- Presentation slides will be available via our website at the latest early next week.
- Don't forget to get in touch with us at ICE@enwl.co.uk
- Thank you for your attendance and have a safe journey home.