RIIO-ED2 Engineering Justification Paper

Rutter Pole Circuit Reinforcements

Investment Reference No: 365/SEPD/LRE/POLE

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Definitions and Abbreviations

Acronym	Definition
AIS	Air-insulated Switchgear
ASCR	Aluminium Conductor Steel Reinforced
BSP	Bulk Supply Point
CBA	Cost Benefit Analysis
CBRM	Condition Based Risk Management
CEM	Common Evaluation Methodology
CI	Customer Interruptions
CML	Customer Minutes Lost
CT	Consumer Transformation
DFES	Distribution Future Energy Scenarios
DNO	Distribution Network Operator
EJP	Engineering Justification Paper
ESA	Electricity Supply Area
EV	Electric Vehicle
FCO	First Circuit Outage
FES	Future Energy Scenarios
GIS	Geographic Information System
GM	Ground Mounted
GSP	Grid Supply Point
HI	Health Index
IDP	Investment Decision Pack
LCT	Low Carbon Technology
LEP	Local Enterprise Partnership
LI	Load Index
LRE	Load Related Expenditure
LW	Leading the Way
NPV	Net Present Value
OHL	Overhead Line
PM	Pole Mounted
PV	Photovoltaics
RSN	Relevant Section of Network
SCO	Second Circuit Outage
SSEN	Scottish and Southern Electricity Network
SP	Steady Progression
ST	System Transformation
XLPE	Cross-linked Polyethylene

1 Executive Summary

There are a number of 33 kV overhead line circuits in our SEPD licence area designed and constructed on a dual Rutter pole construction.

The majority of these poles were constructed in the 1960s with large quantities showing aging features. Due to the short-arm configuration of Rutter poles for carrying a dual circuit, minimum safety clearance cannot be adhered to when works are required to be undertaken on either side of the circuits. Consequently, a dual circuit outage needs to be applied for operational activities resulting in poor customer interruptions (CIs) and customer minutes lost (CMLs).

This Engineering Justification Paper (EJP) considers a range of options to address the issues, setting out the options that have been considered and rejected prior to the CBA analysis, and the short list of those options included within the analysis, with a clear rationale for including or excluding each option.

The Cost Benefit Analysis results shown below in table 1 demonstrates that the most cost-effective solution, that delivers the best value for consumers in terms of the 45 year Net Present Value (£m), is option 4 which will replace the existing assets.

Options	Net Present Value (NPV) After 45 Years (£k)	Investment (£k)
Option 3 – Cable Replacement	-13,993	15,049
Option 4 – Rutter Pole Lines Reinforcement	-10,258	10,933

Table 1: CBA Results

Following the optioneering and detailed analysis, as set out in this paper, the proposed scope of works for Option 4 is:

Asset	Volume	Costs
33kV Underground Cable (Non-Pressurised)	18.75	[redacted]
33kV Poles (No.)	122	[redacted]
Detailed Design costs	-	[redacted]
Total		**£10,933k**

Table 2:RIIO ED2 Project Scope

The cost detailed above is the expected project cost attributed to the RIIO ED2 period. It should be noted a portion of this scope of works has been carried out during RIIO ED1. As a result, £1,580k has been allocated for the RIIO ED1 price control period. It means the total project cost for this programme is £12,513k.

This scheme delivers the following outputs and benefits:

- Improves security of supply
- Reduces CIs and CMLs under dual circuit outage conditions
- Improves safety clearances
- Improves asset conditions
- Facilitates the efficient, economic, and co-ordinated development of our Distribution Network for Net Zero.

The cost to deliver the preferred solution is £12.51m including £10.93m in RIIO-ED2 and the works are planned to be completed in 2024 and 2025. This investment sits within our Net Zero Totex ask.

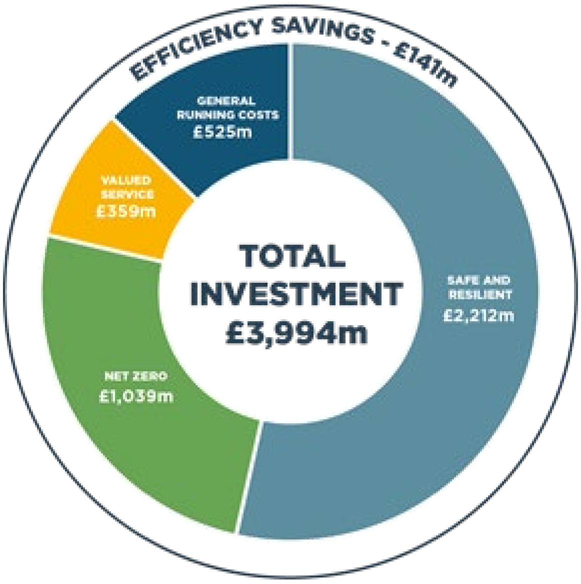

Figure 1: SSEN total investment cost within RIIO ED2

2 Investment Summary Table

The table below provides a high level summary of the key information relevant to this Engineering Justification Paper (EJP) which discusses the investment proposal for the reinforcements of 33kV Rutter Pole Circuits in SEPD license area.

<table>
<tr><td>Name of Scheme/Programme</td><td colspan="3">33kV Rutter Pole Circuit Reinforcements</td></tr>
<tr><td>Primary Investment Driver</td><td colspan="3">Load</td></tr>
<tr><td>Scheme reference/mechanism or category</td><td colspan="3">356/SEPD/LRE/POLE</td></tr>
<tr><td>Output references/type</td><td colspan="3">33kV Pole
33kV Cable</td></tr>
<tr><td>Cost</td><td colspan="3">£10.933m</td></tr>
<tr><td>Delivery year</td><td colspan="3">2023/24-2024/25</td></tr>
<tr><td>Reporting table</td><td colspan="3">CV1: Primary Reinforcement</td></tr>
<tr><td>Outputs included in RIIO-ED1 Business Plan</td><td colspan="3">Yes</td></tr>
<tr><td rowspan="2">Spend apportionment (£m)</td><td>ED1</td><td>ED2</td><td>ED3+</td></tr>
<tr><td>1.58</td><td>10.933</td><td>0</td></tr>
</table>

Table 3: Investment Summary

3 Introduction

Our ***Load Related Plan Build and Strategy (Annex 10.1)***[1] sets out our methodology for assessing load-related expenditure and describes how we use the Distribution Future Energy Scenarios (DFES) 2020 as the basis for our proposals. We have established a baseline view of demand, providing a robust projection of the drivers of load-related expenditure for the ED2 period. Our ex-ante baseline funding request is based on the minimum investment required under all credible scenarios and is strongly supported by our stakeholders. Our plan will create smart, flexible, local energy networks that facilitate the accelerated progress towards net zero – with an increased focus on collaboration and whole-systems approaches.

This investment is a component of our strategic goal of 'Accelerating progress towards a net zero world'.

Section 4 of this Engineering Justification Paper (EJP) describes our proposed load related investment plan for the reinforcement of rutter poles in RIIO-ED2. The primary driver considered within this paper is load related security of supply and network resilience issues as well over all safety concerns of the existing rutter poles.

This EJP provides high-level background information for this proposed scheme explaining the existing network arranges, the load growth forecasts through the Distribution Future Energy Scenarios (DFES) and setting out the need for this project. The Detailed Analysis section of the EJP describes the network studies undertaken, detailing the results which further justify the need of the proposed investment.

Section 5 provides an exhaustive list of the options considered through the optioneering process to establish the most economic and efficient solution. Each option is described in detail, with the EJP setting out the justification for those options which are deemed unviable solutions, and therefore not taken forward to the Cost Benefit Analysis.

Section 6, Cost Benefit Analysis (CBA) Summary, provides the comparative results of all the options considered within the CBA and sets out the rationale and justification for the preferred solution. This section also describes how we have established the cost efficiency of the plan with reference to the unit costs that have been chosen.

Finally, **Section 7** of this EJP also sets out the deliverability of the plan for RIIO-ED2 and this proposed investment.

4 Background Information

Rutter poles are the old-fashioned design for the pole structure to carry electricity overhead lines. Majority of these poles in the SEPD licence area were constructed in the 1960s with large quantities showing aging features. An example of a Rutter pole is shown in Figure 2. Rutter pole circuits generally supply 33/11 kV primary substations as transformer feeders.

[1] ***SECTION D: (Chapter 10), Responding to the net zero Opportunity, (Annex 10.1), Load Related Plan Build and Strategy***

Figure 2. Example Image of a Rutter Pole

While this design has the advantage of low cost and space efficiency, it has a number of drawbacks. Due to the short-arm configuration for carrying a dual circuit, minimum safety clearance cannot be adhered to when works are required to be undertaken on either side of the circuits. Consequently, both circuits need to be taken out of service for operational activities such as replacement of isolators, pole replacements or fault repairs. In order to reduce customer interruptions and customer minutes lost at the substations fed by these Rutter pole circuits, 11 kV backfeeding and mobile diesel generation have to be utilised. However, it is often found that the 11 kV networks don't have sufficient backfeed capacities particularly in the winter. In addition, the deployment of diesel gensets is time consuming and has environmental implications. The circuits identified in this paper are not expected to experience thermal overloading issues. Where circuits comprising of rotter poles are experiencing thermal issues, these circuits will be addressed in a separate EJP.

In RIIO-ED1, we have completed 3 Rutter pole replacement schemes totalling £2.62m based on the above justifications. For RIIO-ED2, we have identified the following schemes (Table 4) for reinforcement. It should be noted that other rutter pole circuits might arise for intervention during the RIIO-ED2 period which will be accounted for by the Uncertainty Mechanism. This paper only concerns with the circuits we have high confidence in at this stage.

33 kV Circuit	No. Rutter poles structure	Circuit Length(km)	No. Customers
Coxmoor Wood – Wrecclesham	56	9	6,775
Hunston – Birdham / Selsey	43	4.7/6.48	12,759
Coxmoor Wood – Crookham	27	7.1	7,866
Hunston – Rose Green	17	5	7,604
Havant– Horndean/Waterlooville – Horndean	6	3.3 (dual circuit section)	15,569
Upper Heyford - Bicester	17	6.82	1,554
Aldershot – Farnham	9	2.75	8,870
Total	**175**	**45.15**	**60,997**

Table 4: 33kV Rutter Pole circuits identified for reinforcement

Appendix 1 shows the demand projections for the affected substations according to the DFES 2020 Consumer Transformation scenario. The increases in demand, which are mostly driven by the EV and heat pump uptake, would pose a larger risk to the CIs and CMLs when these Rutter pole circuits are switched out.

5 Optioneering

This section sets out the high-level investment options that are considered when resolving the issues detailed above. As described below, a holistic approach is taken to ensure investment options represent best value for money for network customers are identified.

5.1 Whole System Considerations

We have additionally considered the potential for using Whole System solutions (involving collaboration with third parties) to deliver this investment programme. We set out our assessment in Appendix 3. This follows our standardised approach for embedding Whole System considerations into our load and non-load investment decisions (in line with Ofgem's ED2 business plan guidance), as described in our ***Whole System (Annex 12.1)***.

Our assessment enables us to take a proportionate consideration of Whole System options, based on the feasibility of such options existing and materiality of the costs involved.

In this case, our Whole Systems assessment finds that this programme is not expected to have any wider Whole System interactions and there are no feasible Whole Systems solutions.

5.2 Summary of Options Considered

The table below provides a summary of the five investment options under consideration along with the advantages and disadvantages associated with each. A more detailed description of each option is then provided within the proceeding section.

Option	Description	Advantages	Disadvantages	Result
1. Do nothing	No interventions required. In case of a double circuit outage, security of supply relies on 11 kV backfeed and use of mobile diesel generators.	Minimum cost and workload; Small impact to existing network; Short delivery time.	Worsened CIs and CMLs and environmental impact.	Not Progressed to CBA
2. 100% Replacement with H-poles	Replace all the existing dual circuit rutter poles with alternative dual circuit H-poles	Relatively low cost. Allows single circuit outages	Wayleave negotiations are very challenging Visual impacts. Inadequate OHL conductor size to meet future demand Maintenance liabilities remain	Not Progressed to CBA
3. 100% Replacement with underground cables	Replace all the Rutter pole circuits with dual underground cables	Increases the security of the network Reduce maintenance liability	Relatively high cost	Progressed to CBA
4. Rutter Pole Line Reinforcement	This hybrid solution uses a combination of • Replacing the existing dual circuit Rutter poles with alternative dual circuit H-poles; • Replacing the dual OHL circuit with a dual circuit underground cable where it is cost effective to do so.	Allow latest and most efficient technology to be installed; Increase network resilience; Long term benefit.	Can incur long outages if replacement cannot be built offline;	Progressed to CBA
5. Flexibility Solution	Flexibility services contracted to reduce demand to the level which can be supported by backfeed capability and mobile generators.	Relatively low cost Defers need for network reinforcement	Amount of flexibility depends on location-specific resources and interests. CAPEX may still be required. Not relevant with this EJP	Not Progressed to CBA

Table 5: Summary of Load Related Investment Options

5.3 Detailed Option Analysis

5.3.1 Option 1: Do Nothing

Estimated Cost: £N/A

Due to the short-arm configuration of a Rutter pole for carrying a dual circuit, minimum safety clearance cannot be adhered to when works are required to be undertaken on either side of the circuits. Consequently, dual circuit outages need to be applied for operational activities such as replacement of isolators, pole replacements or fault repairs. However, with the 33kV Rutter Pole circuits identified in this paper, there are not feasible or economical conventional back feed plans to supply demand during dual circuit outages and this would pose a large risk to the CIs and CMLs, especially with the demand growth in ED2. Therefore, this option is not considered viable.

5.3.2 Option 2: 100% Replacement with H-poles

Estimated Cost: £N/A

This option proposes to replace all the existing dual circuit Rutter poles with alternative dual circuit H-poles. However, this proposal is considered not viable for all the schemes due to the following reasons:

- For some circuits, it is challenging to install a temporary overhead line alongside the existing Rutter pole line. For example, the woodland surrounding the circuit in some cases would encroach the safety distance of a temporary line during construction and would require a large swathe of trees to be removed to enable the replacement of the overhead line.
- From our ED1 experience dealing with renewing/negotiating new OHL wayleaves, this process is likely to introduce significant delay to the scheme delivery. This option would also require a dual circuit outage to carry out the works or a temporary line arrangement. A temporary line arrangement would require the work to last multiple months, potentially restricting agricultural works in the fields in some cases.
- For some circuits, the future demand growths require larger OHL conductors to be installed. The new pole structures would not be able to withstand the new conductors. Therefore, it would be necessary to upgrade the overhead line with underground cable in this case.
- The land use where the Rutter pole circuits are situated has changed over time. The increase in housing developments on greenfield sites means, in some of the cases, that the replacement of overhead line with underground cable is now necessary as existing lines are now in a proximity to these urban areas.

Replacing the Rutter pole circuits solely with a H-pole solution is not technically viable. Therefore, this option has not been progressed to the CBA analysis.

5.3.3 Option 3: 100% Replacement with underground cables

Estimated Cost: £15,050k

This option proposes to replace the entire Rutter pole sections with dual circuit underground cables. This option would remove the Rutter poles from the network and therefore increase the security of the network and reduce maintenance liability. Easement negotiations would be required for the cable routes.

5.3.4 Option 4: Rutter Pole Line Reinforcements

Estimated Total Cost: £10,933k for ED2

In addition to the three Rutter pole schemes which have been completed in RIIO-ED1, seven schemes are currently being designed (Table 5) which have costs that are more mature. Based on the engineering outcome of all of these projects, it is estimated that the volume Rutter poles replaced with H-poles and dual circuit underground cable for each of these projects is set out in Table 4 below. These scheme which have been identified

On that basis, we have applied the hybrid solution to the schemes in Table 4 using a combination of:

- Replacing the existing dual circuit Rutter poles with alternative dual circuit H-poles;
- Replace the OHL circuit with a dual underground cable where it is cost effective to do so.

No	Circuit	Proposed solution		Detailed Technical Assessment	Delivery year	Scheme cost (£m)
		H-Poles structure Replacement	Cable Replacement(km)			
1	Coxmoor Wood – Wrecclesham	56	2.15	Yes	2024/25	[redacted]
2	Hunston – Birdham / Selsey	43	2	Yes	2024/25	[redacted]
3	Coxmoor Wood – Crookham	N/A	4.9	Yes	2023/24	[redacted]
4	Hunston – Rose Green	N/A	4.7	Yes	2023/24	[redacted]
5	Havant– Horndean/Waterlooville - Horndean	6	1	Yes	2024/25	[redacted]
6	Upper Heyford - Bicester	17	N/A	Yes	2024/25	[redacted]
7	Aldershot – Farnham	N/A	4	Yes	2023/24	[redacted]
	Associated Design Costs	N/A	N/A	N/A	N/A	[redacted]
	Total	**221**	**31.03**			**10.93**

Table 6: Proposed Reinforcement Solution

5.3.5 Option 5: Flexible Solution

The option of using flexible solutions to defer or remove the need for asset reinforcement has been considered. Despite our commitment to the Flexibility First approach, these projects are not technically compatible with a Flexible Solution to avoid or defer the works as the nature of the issue, the aging condition and inadequacy of rutter pole design remain. However, in some cases the use of flexibility services may provide TOTEX benefits to SSEN and our customers during scheme delivery by;

a) Avoiding/reducing the risk of planned outages during scheme delivery through load/generation management, supporting or enabling backfeeds to the affected circuits
b) Avoiding/reducing the need for Mobile Diesel Generation in planned or unplanned outage scenarios where backfeeds are unavailable.

These opportunities will be reviewed, and Flexibility secured should a CBA prove a positive benefit, with justification of the decisions/reviews recorded. Further detail of our Flexibility First approach and assessment methodology can be found in our ***DSO Strategy (Annex 11.1) Appendix F - Delivering Value through Flexibility.***

6 Cost Benefit Analysis

This section provides an overview of the results from the Cost Benefit Analysis (CBA). This detailed exercise has been undertaken to support the investment strategies discussed within this EJP.

6.1 CBA of Investment Options

Ofgem's RIIO-ED2 standard CBA template was used to assess costs and benefits of the conventional options for each circuit individually. Capital reinforcement costs, CI/CML penalties, network losses and other societal benefits are the key parameters used in the CBAs of the three options progressed. The customer interruptions / customer minutes lost (CI/CML) were calculated based on the potential overload and the probability of a failure. Further information on our Cost Benefit Analysis (CBA) approach is set out within our ***Cost Benefit Analysis Process (Annex 15.8)***.

6.2 CBA Results

The results of the cost benefit analysis show that option 4 is the preferred option, which has the lowest CAPEX cost and subsequently the lowest NPV value of all the options assessed. It should be noted that only ED2 related costs are reflected in this table.

Options	NPV After 45 Years (£k)	ED2 Investment Cost (£k)
Option 3 – Cable Replacement	-13,939	15,050
Option 4 – Rutter Pole Lines Reinforcement	-10,219	10,930

Table 7: CBA results summary

Options	Unit	2023/24	2024/25	2025/26	2026/27	2027/28	Total
Option 3 – Cable Replacement	£m	4.613	10,436	0	0	0	15.049
Option 4 – Rutter Pole Lines Reinforcement	£m	5.96	4.972	0	0	0	10.933

Table 8: Cost Apportionment of Proposed Options

6.3 Costing Approach

Our RIIO ED2 Business Plan costs are derived from our outturn RIIO ED1 expenditure. We have modified costs per activity, capturing and reporting those adjustments in our cost-book. By tying our costs back to reported, outturn, real life data this approach provides multiple data points on which both the Regulator and we can benchmark cost efficiency.

It provides a high level of cost confidence in our Business Plan cost forecast for RIIO ED2. Through our benchmarking analysis, we recognised that not all Non-Load related RIIO-ED1 actual unit costs sit within the upper quartile efficiency band. Where this is the case, we have applied a catch-up efficiency to those cost categories.

Further detail on our unit cost approach, cost efficiency and cost confidence for RIIO-ED2 can be found within our ***Cost Efficiency (Annex 15.1).***[2] Following our draft Business Plan, we have continued to develop project scopes and costs, utilising valuable stakeholder feedback. We have included developments of our Commercial Strategy within the updated project scope and delivery strategy.

Unlike asset replacement, large load projects will include more unique and site-specific costs for example civils, waterway, road or rail crossings and local planning considerations. Through detailed bottom up project assessment, we have identified projects that are impacted by Regional and Site factors driving additional costs.

Category	Sub-category	Unit Cost (£k)	Unit	Asset Count	Predominant Costing Approach	Cost £k
Overhead Line	33kV Pole	[redacted]	#	122	ED1 6yr average actual unit rates	[redacted]
Cable	33kV UG Cable (Non-Pressurised)	[redacted]	km	18.75	ED1 6yr average actual unit rates	[redacted]
Miscellaneous	Detail Design Costs	-	-	-	-	[redacted]
					Project Total	**10,933**

Table 9: Proposed Solution Cost Breakdown (RIIO ED2)

7 Deliverability and Risk

Between our draft and final Business Plans we have carried out a more detailed deliverability assessment of our overall plan as a package and its component investments. Using our draft Business Plan investment and phasing as a baseline we have followed our deliverability assessment methodology. We have assessed any potential delivery constraints to our plan based on:

- In-house workforce capacity and skills constraints based on our planned recruitment and training profile and planned sourcing mix as well as the efficiencies we have built into our Business Plan ***(detailed in our Workforce Resilience Strategy in (Annex 16.3)*** and ***Cost Efficiency (Annex 15.1)***
- Assessment of the specific lead and delivery timelines for the asset classes in our planned schemes
- We have evaluated our sourcing mix where there were known delivery constraints to assess opportunities to alleviate any constraints through outsourcing
- We have engaged our supply chain ***Supply Chain Strategy (Annex 16.2)*** to explore how the supply chain could support us to efficiently deliver greater volumes of work and how we could implement a range of alternative contracting strategies to deliver this

[2] Link to ***Cost Efficiency (Annex 15.1***).

- We have also engaged with the supply chain on the delivery of work volumes that sit within Uncertainty Mechanisms to ensure we have plans in place to deliver this work if and when the need arises
- Specific to load schemes: We have carried out flexibility assessments at all voltage levels in order to understand when we can defer reinforcement through paying for flexibility services, therefore ensuring our investment profile is deliverable and at the lowest cost to consumers see ***Flexibility within Load Related Plan Build and Strategy (Annex 10.1***)
- We have assessed the synergies between our planned load, non-load and environmental investments to most efficiently plan the scheduling of work and minimise disruption to consumers
- Based on our assessment of delivery constraints and potential solutions to resolve them, we have revised our investment phasing accordingly to ensure our Business Plan is deliverable, meets our consumers' needs and is most cost efficient for our consumers

The table below sets out the revised investment phasing based on the outcome of our deliverability assessment:

	2023/24	2024/25	2025/26	2026/27	2027/28
Revised Investment Phasing	£5,961k	£4,972k			

Table 10 Investment phasing on deliverability assessment

This investment scheme is part of the wider load-related investment portfolio in RIIO-ED2. SSEN have developed a strategy to deliver a much larger volume of work in comparison with the level of investment in ED1. We have engaged with our supply chain to negotiate the most effective unit costs and we have taken measures to ensure we secure a future workforce with the right skills and competencies to deliver capital projects in ED2.

In RIIO-ED1, SEPD have delivered a number of 33kV and 11kV OHL projects using internal workforce. The experience and skills acquired from these projects lay the foundation for the delivery of the proposed option within this paper.

8 Conclusion

This Engineering Justification Paper (EJP) provides relevant information in relation to the load related investment for 33kV rutter pole lines in SEPD license area in RIIO-ED2.

The following options were considered:

- Option 1: Do nothing
- Option 2: 100% Replacement with H-Poles
- Option 3: 100% Replacement with underground cables
- Option 4: Rutter Pole Line Reinforcements
- Option 5: Flexible Solution

Option 4 is the preferred option based on the analysis conducted in this EJP. Of the seven schemes proposed as part of the baseline load reinforcement, it is expected the investment cost during RIIO ED2 will be £10.933m. To date this project has spent £1.58m on associated design costs during RIIO ED1 which means the total project spend will be £12.513m.

Appendix 1. Relevant Policy, Standards, and Operational Restrictions

The policies, manuals and standards and operational restrictions relevant to the content of this paper.

Policy Number	Policy Name / Description
TG-NET-OHL-010	Load Ratings of Overhead Lines – Data Sheet
TG-NET-OHL-012	Short Circuit Ratings of Overhead Lines – Data Sheet
TG-NET-OHL-104	Electrical Constants for Overhead Lines- Data Sheet
TG-NET-CAB-009	Load Ratings of LV to 33kV Underground Cables – Design Data
TG-NET-CAB-010	Electrical Constants for LV to 33 kV Underground Cables- Data Sheet
TG-NET-CAB-011	Short Circuit Ratings of 6.6kV to 33kV Underground Cables - Design Data

Table 11 Relevant documents

Appendix 2. CT Demand Projection

Substation	ED1 (last 3 years)			ED2					Future		
	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Wrecclesham	12.7	13.0	13.5	13.9	14.4	14.9	15.6	16.3	17.0	17.7	18.6
Birdham	11.6	11.9	12.2	12.5	12.8	13.3	13.9	14.5	15.2	15.9	16.7
Selsey	12.0	12.2	12.5	12.6	12.8	13.0	13.3	13.6	13.9	14.3	14.6
Crookham	11.4	11.6	12.1	12.4	12.9	13.5	14.2	14.9	15.6	16.4	17.4
Rose Green	12.2	12.5	12.8	13.1	13.6	14.4	15.2	16.0	16.8	17.6	18.4
Hordean	20.1	20.6	21.3	22.1	22.9	24.0	25.5	27.0	28.6	30.3	32.2
Farnham	17.5	18.1	18.9	19.5	20.2	20.9	21.8	22.7	23.6	24.6	25.6
Godalming	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
Bicester	19.2	20.8	22.6	24.3	26.4	29.0	31.9	34.8	37.5	40.2	43.3
Cottisford	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3
Upper Heyford	8.1	8.6	8.9	9.1	9.4	9.8	10.1	10.5	10.9	11.3	11.7
Midhurst	11.1	11.5	11.9	12.3	12.7	13.3	14.0	14.8	15.6	16.5	17.4
Tetbury	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.8	9.1	9.3	9.6
Emsworth	10.2	10.6	11.0	11.4	11.8	12.6	13.5	14.3	15.1	15.9	16.8
Gable Head	11.9	12.3	12.7	13.1	13.5	14.3	15.1	15.9	16.8	17.8	18.9
South Bersted	18.4	19.5	20.8	21.6	22.1	22.7	23.6	24.5	25.5	26.5	27.7
Bilsham	14.4	15.0	15.8	16.7	17.6	19.2	21.0	22.8	24.6	26.4	28.3
Argyle Road	17.2	17.6	17.8	18.1	18.3	18.6	19.1	19.6	20.2	20.9	21.6
Tongham	15.1	15.7	16.2	16.7	17.3	18.2	19.3	20.4	21.5	22.6	23.8
Overton	11.6	11.7	11.9	12.0	12.2	12.4	12.6	12.8	13.0	13.3	13.6
Bramley Green	4.3	4.4	4.6	4.8	5.0	5.2	5.5	5.8	6.1	6.5	6.8
Hoeford	11.5	11.8	12.1	12.4	12.8	13.3	13.9	14.5	15.1	15.7	16.4

Table 12:CT Demand Projections (MVA)