

Annex 4 – Responses to Draft Determinations Engineering Justification Paper feedback from Ofgem Consultation on RIIO-ED2 Draft Determinations

Engineering Justification Paper index

Scope

This annex provides status and indexing information in relation to additional information provided for Engineering Justification Papers (EJPs) and associated Cost Benefit Analyses (CBAs) submitted as part of the RIIO-ED2 Business Plan Draft Determination response.

This includes highlighting where EJPs have been provided in excess of the minimum requirements set out by Ofgem as defined in Table 1.

As with the previously submitted 193 Engineering Justification Papers these EJP Addendums are for use by Ofgem and its contracted consultants only and are not to be published without the prior permission of Western Power Distribution who require the opportunity to redact some content should it be appropriate.

Table 1 Engineering Justification Paper requirements

EJP Requirement	Description
Yes (>£2 million)	EJPs provided as it meets Ofgem's criteria for high value (>£2 million) load related and non-load related investment programmes.
Yes (>33%Δ)	EJP provided as it meets Ofgem's criteria for load related and non-load related investment programs where the asset replacement volume proposals have increased by more than 33% when compared to RIIO-ED1 price control periods and the forecast cost exceeds £0.5 million.
WPD Elected	WPD elected to provide EJPs for work programmes greater than £1 million even when the work volume has increased by less than 33% in order to provide stakeholder with enhanced transparency.

Overview

Our 193 EJPs and associated CBAs were created to support our highly ambitious RIIO-ED2 Business Plan. Each represents an essential, interrelated element which is required for us to deliver what our stakeholders want. Ofgem's Draft Determination response indicated that 89 of our EJPs are justified. The remaining 104 EJPs were categorised as partially justified or unjustified.

Since receipt of the Draft Determination we have sought to understand the reasoning behind the classification of the partially justified and unjustified EJPs, analyse the impact of the disallowances for our customers and worked collaboratively with Ofgem via their Supplementary Question process to ensure we can provide the additional information required to address any concerns prior to Final Determinations.

In response we are submitting 98 EJP addendums, 2 CBAs and additional supporting information including a cyber security paper which covers the further 6 EJPs.

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Table 2 Engineering Justification Paper Draft Determination Response Tracker

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP001	Replacement of Internal Combustion Engine Vehicles with Pure Electric Vehicles and Charger Installation	Yes (>2m)	Partially Justified	Addendum
EJP002	Mobile Generator Replacement Programme	Yes (>2m)	Unjustified	Addendum
EJP003	Replacement of Bunkered Fuel Tanks	Yes (>33%Δ)	Unjustified	Addendum
EJP004	Exeter Depot Refurbishment	Yes (>2m)	Partially Justified	Addendum
EJP005	Torquay Depot Refurbishment	Yes (>2m)	Partially Justified	Addendum
EJP006	Plymouth Depot Refurbishment	Yes (>2m)	Partially Justified	Addendum
EJP007	General Buildings Refurbishment Programme	Yes (>2m)	Unjustified	Addendum
EJP008	Incorporating Solar PV in our Non-Operational Sites	Yes (>2m)	Partially Justified	Addendum
EJP009	Disaster Recovery Data Centre Replacement	Yes (>2m)	Unjustified	Addendum
EJP010	Cyber resilience OT plan	Yes (>2m)	Partially Justified	Annex 3
EJP011	IT New Application software & upgrades	Yes (>2m)	Unjustified	Addendum
EJP012	IT Desktop Computing	Yes (>2m)	Unjustified	Addendum
EJP013	Computer Infrastructure (IT)	Yes (>2m)	Justified	Not Required
EJP014	IT Communications - Voice and Data	Yes (>2m)	Unjustified	Addendum
EJP015	Cyber Security (IT)	Yes (>2m)	Partially Justified	Annex 3
EJP016	Diversions - Conversion of Wayleaves to Easements, Easements and Injurious Affection Claims	Yes (>2m)	Partially Justified	Addendum

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP017	Visual Amenity (Undergrounding in National Parks and AONBs)	Yes (>2m)	Unjustified	Addendum
EJP018	New Fibre Deployment	Yes (>2m)	Partially Justified	Addendum
EJP019	Fibre Refurbishment	Yes (>2m)	Partially Justified	Addendum
EJP020	New Communication Sites for Fibre Network	WPD Elected	Unjustified	Addendum
EJP021	New Radio Communication Sites	Yes (>2m)	Unjustified	Addendum
EJP022	Communication Tower Replacement & Refurbishment	Yes (>2m)	Partially Justified	Addendum
EJP023	Communication Buildings Replacement & Refurbishment	Yes (>2m)	Unjustified	Addendum
EJP024	Communication Sites Battery & Charger Replacement	Yes (>2m)	Partially Justified	Addendum
EJP025	Communication Sites Generator Replacement	WPD Elected	Unjustified	Addendum
EJP026	Communication Sites Physical Security Upgrade	Yes (>2m)	Partially Justified	Addendum
EJP027	Securing Telecommunication Equipment	Yes (>2m)	Unjustified	Addendum
EJP028	Communication Site Link Resilience	Yes (>2m)	Unjustified	Addendum
EJP029	IP & Firewall Network Replacement	Yes (>2m)	Justified	Not Required
EJP030	Microwave Upgrade & Replacement	Yes (>2m)	Partially Justified	Addendum
EJP031	DWDM Network Upgrade Programme	Yes (>2m)	Partially Justified	Addendum
EJP032	LTE Network Build & Growth	Yes (>2m)	Partially Justified	Addendum
EJP033	Automation Communications Equipment Migration	Yes (>2m)	Unjustified	Addendum
EJP034	Inter-Tripping Protection Circuit Communications Equipment Replacement	WPD Elected	Justified	Not Required

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP035	Remote Terminal Unit Growth Programme	Yes (>2m)	Partially Justified	Addendum
EJP036	Readiness for the PSTN Switch Off	Yes (>33%Δ)	Partially Justified	Addendum
EJP037	Remote Terminal Unit Replacement Programme	Yes (>2m)	Partially Justified	Addendum
EJP038	Worst Served Customers	Yes (>2m)	Unjustified	Addendum
EJP039	PCB Removal Programme	Yes (>2m)	Justified	Not Required
EJP040	Reducing the risks associated with overhead lines across school playing areas	Yes (>2m)	Partially Justified	Addendum
EJP041	Flood Mitigation	Yes (>2m)	Unjustified	Addendum
EJP042	LV Underground Cable Replacement Programme	Yes (>2m)	Partially Justified	Addendum
EJP043	HV Underground Cable Replacement Programme	Yes (>2m)	Partially Justified	Addendum
EJP044	EHV Underground Cable Replacement and Refurbishment Programme	Yes (>2m)	Justified	Not Required
EJP045	132kV Underground Cable Replacement and Refurbishment Programme	Yes (>2m)	Justified	Not Required
EJP046	LV Pole Line Conductor and Pole Replacement and Refurbishment Programme	Yes (>2m)	Partially Justified	Addendum
EJP047	HV Pole Line Conductor and Pole Replacement and Refurbishment Programme	Yes (>2m)	Partially Justified	Addendum
EJP048	EHV Pole Line Conductor and Pole Replacement and Refurbishment Programme	Yes (>2m)	Partially Justified	Addendum
EJP049	132kV Pole Line Conductor and Pole Replacement Programme	Yes (>2m)	Partially Justified	Addendum
EJP050	EHV Overhead Tower Line Conductor and Fittings Replacement Programme	Yes (>2m)	Partially Justified	Addendum
EJP051	132kV Overhead Tower Line Conductor and Fittings Replacement Programme	Yes (>2m)	Partially Justified	Addendum

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP052	132kV Overhead Tower Replacement and Refurbishment Programme	Yes (>2m)	Partially Justified	Addendum
EJP053	LV UGB Replacement Programme	Yes (>2m)	Justified	Not Required
EJP054	LV Substation Switchgear Replacement Programme	Yes (>2m)	Justified	Not Required
EJP055	HV Substation GM Switchgear Replacement Programme	Yes (>2m)	Justified	Not Required
EJP056	HV Circuit Breaker GM Primary Replacement Programme	Yes (>2m)	Justified	Not Required
EJP057	33kV Circuit Breaker Replacement Programme	Yes (>2m)	Justified	Not Required
EJP058	66kV Circuit Breaker Replacement Programme	Yes (>2m)	Justified	Not Required
EJP059	132kV Circuit Breaker Replacement Programme	Yes (>2m)	Partially Justified	Addendum
EJP060	HV Switchgear Pole Mounted (other) Replacement Programme	Yes (>2m)	Justified	Not Required
EJP061	EHV & 132kV Switchgear (other) Replacement Programme	Yes (>2m)	Justified	Not Required
EJP062	HV Transformer Replacement Programme	Yes (>2m)	Partially Justified	Addendum
EJP063	EHV Transformer Replacement Programme	Yes (>2m)	Unjustified	Addendum
EJP064	132kV Transformer Replacement Programme	Yes (>2m)	Unjustified	Addendum
EJP065	LV Cut Outs Replacement Programme	Yes (>2m)	Partially Justified	Addendum
EJP066	LV Services (UG) Replacement and Refurbishment Programme	Yes (>2m)	Partially Justified	Addendum
EJP067	LV Services (OH) Replacement and Refurbishment Programme	Yes (>2m)	Partially Justified	Addendum
EJP068	LV Undereaves Services Replacement	Yes (>2m)	Partially Justified	Addendum

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP069	Batteries Replacement Programme	Yes (>2m)	Partially Justified	Addendum
EJP070	Raising and Lateral Mains	Yes (>2m)	Unjustified	Addendum
EJP071	Overhead Line Clearances Programme	Yes (>2m)	Justified	Not Required
EJP072	Tree Management Programme	Yes (>2m)	Partially Justified	Addendum
EJP073	Rugeley 132kV GSP Rebuild Project	Yes (>2m)	Justified	Not Required
EJP074	Upsizing LV Cables		Justified	Not Required
EJP075	Upsizing HV Transformers		Justified	Not Required
EJP076	PowerOn Core IT Server Hardware refresh	Yes (>2m)	Justified	Not Required
EJP077	PowerOn Application Enhancements	Yes (>2m)	Unjustified	Addendum
EJP078	Cyber security controls and proactive monitoring (LAN Segregation & Enhancements)	Yes (>2m)	No Feedback	N/A
EJP079	Cyber security controls and proactive monitoring (Other NIS Actions)	WPD Elected	No Feedback	N/A
EJP080	Cyber security controls and proactive monitoring (SCADA Protocol Support)	WPD Elected	No Feedback	N/A
EJP081	Cyber security controls and proactive monitoring (IPv6 Enablement)	WPD Elected	No Feedback	N/A
EJP082	Distributed Energy Resource SCADA Monitors	Yes (>2m)	Partially Justified	Addendum
EJP083	LV Geo-schematic Representation in PowerON	WPD Elected	Unjustified	Addendum
EJP084	Technology Refresh of early ANM systems	Yes (>2m)	Justified	Not Required
EJP085	DERMS Hardware	Yes (>2m)	Unjustified	Addendum
EJP086	ICCP and visibility portal	WPD Elected	Unjustified	Addendum

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP087	Homogenisation of PowerON	Yes (>2m)	Justified	Not Required
EJP088	Development of Future Network Viewer Forecasting System	Yes (>2m)	Unjustified	Addendum
EJP089	System Voltage Optimisation Rollout (SVO) SP5	Yes (>2m)	Unjustified	Addendum
EJP090	Self-Serve Connections & Services Solution	Yes (>2m)	Unjustified	Addendum
EJP091	Machine Learning Applications and Data Analytic Services	Yes (>2m)	Justified	Not Required
EJP092	Planning State Estimation	Yes (>2m)	Justified	Not Required
EJP093	Low Voltage Connected Data	Yes (>2m)	Justified	Not Required
EJP094	Internal Data Platform	WPD Elected	Justified	Not Required
EJP095	Innovation Hub	WPD Elected	Unjustified	Addendum
EJP096	Open Cloud Data Platform	Yes (>2m)	Unjustified	Addendum
EJP097	Online Work Schedule Viewer	WPD Elected	Unjustified	Addendum
EJP098	Automated Data Mastering Solution	WPD Elected	Justified	Not Required
EJP099	Work Scheduling and Management Solution	Yes (>2m)	Justified	Not Required
EJP100	Planning Data for Smart Meters	Yes (>2m)	Justified	Not Required
EJP101	Time Series Data Store (TSDS) Enhancements & Data Historian	Yes (>2m)	Partially Justified	Addendum
EJP102	Strategic Analysis and Investment Planning Software	Yes (>2m)	Unjustified	Addendum
EJP103	Stability Analysis	Yes (>2m)	Unjustified	Addendum
EJP104	DFES Data Architecture and Systems	Yes (>2m)	Unjustified	Addendum
EJP105	System Architecture for Secondary Trading of Flexibility Services	Yes (>2m)	Unjustified	Addendum

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP106	Demand Dissaggregation, Consumer Behaviour & Flexibility	Yes (>2m)	Unjustified	Addendum
EJP107	DSR Operation and Dispatch System	Yes (>2m)	Partially Justified	Addendum
EJP108	Hardware for DSO systems	Yes (>2m)	Unjustified	Addendum
EJP109	LV Monitoring (Open LV)	Yes (>2m)	Unjustified	Addendum
EJP110	LV Network Monitoring	Yes (>2m)	Partially Justified	Addendum
EJP111	Directional Power Flow at Primary Substations	Yes (>2m)	Partially Justified	Addendum
EJP112	Secondary Reinforcement Programme	Yes (>2m)	Partially Justified	Addendum
EJP113	Shrewsbury GSP Reinforcement	Yes (>2m)	Justified	Not Required
EJP114	Staythorpe GSP Reinforcement	WPD Elected	Partially Justified	Addendum
EJP115	Llanfoist GSP	Yes (>2m)	Partially Justified	Addendum
EJP116	Hirwaun GSP	Yes (>2m)	Partially Justified	Addendum
EJP117	Ferryside GSP	Yes (>2m)	Partially Justified	Addendum
EJP118	Alverdiscott/Indian Queens GSP Group Reinforcement – New GSP and BSP	Yes (>2m)	Partially Justified	Addendum
EJP119	Bustleholm 132kV Fault Level Reinforcement	WPD Elected	Justified	Not Required
EJP120	Kitwell 132kV Fault Level Reinforcement	Yes (>2m)	Justified	Not Required
EJP121	Wolverhampton 33kV Switchgear Reinforcement	WPD Elected	Justified	Not Required
EJP122	Coventry 132kV Fault level Reinforcement	Yes (>2m)	Unjustified	Addendum

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP123	Willington 132kV Fault level Reinforcement	Yes (>2m)	Justified	Not Required
EJP124	Exeter Main GSP 132kV Fault level reinforcement	Yes (>2m)	Justified	Not Required
EJP125	Indian Queens GSP 132kV Fault Level Reinforcement	Yes (>2m)	Justified	Not Required
EJP126	Chipping Sodbury BSP Reinforcement	Yes (>2m)	Justified	Not Required
EJP127	Lea Marston to Elmdon 132kV Circuit Reinforcement	Yes (>2m)	Justified	Not Required
EJP128	Meaford BSP Reinforcement	Yes (>2m)	Justified	Not Required
EJP129	Rugby 33kV Fault level Reinforcement	Yes (>2m)	Unjustified	Addendum
EJP130	Clipstone 33kV network Reinforcement	Yes (>2m)	Justified	Not Required
EJP131	Northampton Group 132kV Circuit Reinforcement	Yes (>2m)	Justified	Not Required
EJP132	Derby South to Spondon 132kV Circuit Reinforcement	Yes (>2m)	Unjustified	Addendum
EJP133	Woodbeck 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP134	Winster BSP Reinforcement	Yes (>2m)	Justified	Not Required
EJP135	Sharnbrook 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP136	Ilkeston 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP137	Grassmoor 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP138	Harbury BSP Reinforcement	Yes (>2m)	Justified	Not Required
EJP139	Whitwell BSP Reinforcement	Yes (>2m)	Justified	Not Required

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP140	Harbury to Banbury 132kV Circuit	Yes (>2m)	Justified	Not Required
EJP141	Rhos BSP Reinforcement	WPD Elected	Justified	Not Required
EJP142	Usk Way 33/11kV Substation	Yes (>2m)	Unjustified	Addendum
EJP143	Abergavenny 132/66kV Substation Reinforcement	WPD Elected	Justified	Not Required
EJP144	Upper Boat - Mountain Ash, Dowlais and Merthyr East 132kV Circuit Reinforcement	Yes (>2m)	Unjustified	Addendum
EJP145	Llanfyrnach 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP146	Morwenstow 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP147	Countess Wear 33/11kV Substation Reinforcement	WPD Elected	Justified	Not Required
EJP148	Feeder Road BSP Reinforcement	Yes (>2m)	Justified	Not Required
EJP149	Exeter City BSP Reinforcement	Yes (>2m)	Justified	Not Required
EJP150	Landulph BSP Reinforcement	WPD Elected	Justified	Not Required
EJP151	Chewton Mendip 33/11kV Substation Reinforcement	WPD Elected	Justified	Not Required
EJP152	Flexibility Procurement	Yes (>2m)	Unjustified	Addendum
EJP153	ANM Schemes Rollout	Yes (>2m)	Unjustified	Addendum
EJP154	Fixed Power Quality Monitoring Equipment Installation Programme	Yes (>2m)	Justified	Not Required
EJP155	Low Frequency Demand Disconnection (LFDD) Optimisation	Yes (>2m)	Justified	Not Required
EJP156	Ludlow to Presteigne 66kV Circuit Reinforcement	Yes (>2m)	Unjustified	Addendum

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP157	Stockton 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP158	Hill Chorlton 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP159	Ironbridge to Star Aluminium 33kV Circuit Reinforcement	Yes (>2m)	Justified	Not Required
EJP160	Halesowen 132/11kV Reinforcement	WPD Elected	Justified	Not Required
EJP161	Sutton Coldfield 132/11kV Reinforcement	Yes (>2m)	Justified	Not Required
EJP162	Shrewsbury Group 33kV Circuit Reinforcement - New Shelton 33/11kV Substation	Yes (>2m)	Justified	Not Required
EJP163	Stowfield to St Weonards Reinforcement	WPD Elected	Justified	Not Required
EJP164	Lea Marston to Copt Heath 132kV OH Reinforcement	Yes (>2m)	Justified	Not Required
EJP165	Coseley 132/11kV Substation Reinforcement	WPD Elected	Justified	Not Required
EJP166	Ellesmere Avenue 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP167	West Bridgford 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP168	Holme Carr 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP169	Staythorpe to Hawton 132kV Circuit Reinforcement	WPD Elected	Justified	Not Required
EJP170	Ratcliffe to Loughborough Tee 132kV Cable Reinforcement	Yes (>2m)	Unjustified	Addendum
EJP171	Wingerworth 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP172	Ambergate 33kV Network Reinforcement	WPD Elected	Partially Justified	Addendum

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP173	Northampton BSP Reinforcement	Yes (>2m)	Justified	Not Required
EJP174	Atherstone 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP175	Holbeach and Long Sutton Reinforcement	Yes (>2m)	Justified	Not Required
EJP176	Cardiff East to Cardiff North BSP Demand Transfer	Yes (>2m)	Partially Justified	Addendum
EJP177	Cardiff North 33kV Network Reinforcement	Yes (>2m)	Partially Justified	Addendum
EJP178	Haverfordwest to Brawdy 33kV Circuit Reinforcement	Yes (>2m)	Justified	Not Required
EJP179	Pembroke 132kV Network Reinforcement	Yes (>2m)	Unjustified	Addendum
EJP180	Hirwaun to Aberdare No 2 33kV Circuit Reinforcement	Yes (>2m)	Justified	Not Required
EJP181	Establishment of Third 132kV Circuit from Swansea North GSP to Rhos BSP	Yes (>2m)	Justified	Not Required
EJP182	Mid Wales 66kV Circuit Reinforcement (Abergavenny Northern Ring)	Yes (>2m)	Justified	Not Required
EJP183	Ravenhill 33/11kV substation Reinforcement	WPD Elected	Justified	Not Required
EJP184	Witheridge 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP185	Camborne/Hayle BSP Group Reinforcement	Yes (>2m)	Justified	Not Required
EJP186	Gunnislake Primary 33/11kV Substation Reinforcement	WPD Elected	Justified	Not Required
EJP187	Mullion 33/11kV Substation Reinforcement	Yes (>2m)	Justified	Not Required
EJP188	St Tudy- Davidstow 33kV Circuit Reinforcement	WPD Elected	Justified	Not Required

EJP Ref	EJP Name	EJP Requirement	Ofgem's Draft Determination position	Response
EJP189	St Mawgan 33/11kV Substation Reinforcement	WPD Elected	Justified	Not Required
EJP190	Newquay - Trevemper 33kV circuit	Yes (>2m)	Justified	Not Required
EJP191	Isles of Scilly 2nd 33kV Subsea Cable	Yes (>2m)	Partially Justified	Addendum
EJP192	Hayle BSP Reinforcement	Yes (>2m)	Justified	Not Required
EJP193	Replacement of pre-1958 Pole Mounted Transformers	Yes (>2m)	Unjustified	Addendum

