

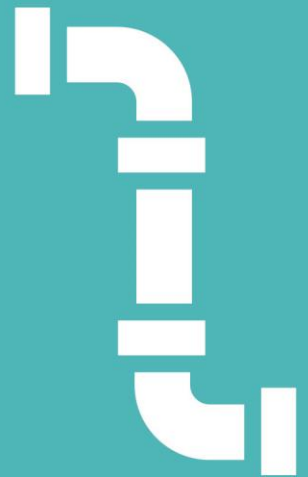
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Wales & West Utilities

Submission to Ofgem under Special Condition 3F
of RIIO –GD1 for the Physical Security Upgrade
Programme Costs

May 2018



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2 Ownership within WWU

2.1 Ownership

This RIIO GD1 Price Control Reopener submission is owned by:

- Steve Edwards; Director of Regulation and Commercial
- Chris Clarke; Director of Asset Management, Safety and Environment
- Neil Henson; Director of Finance
- Grant Rogers; Asset Integrity Manager
- Neil Dalley; Area Engineering Manager
- Iffut Mohammed; Finance Manager



3 Executive Summary

This document is a formal submission to Ofgem to request funding for the enhanced physical site security costs (Totex) incurred by WWU to date and forecast to the end of the RIIO GD1 period under the RIIO GD1 re-opener mechanism.

Following the Department of Energy and Climate Change (DECC) review of the UK's Critical National Infrastructure (CNI), WWU received formal notification in August 2014 that **REDACTED** of our sites had been listed on the CNI database as Category **REDACTED** (Appendix 7.1), requiring additional security systems to be installed. WWU engaged extensively with the Centre for the Protection of National Infrastructure (CPNI) to determine the nature and extent of the required works which commenced in late 2014, with completion expected in late 2018.

WWU is applying in the May 2018 reopener window for a total amount of £19.4m (which is £15.4m in 2009/10 prices). The submission is made up of:

	Actual Spend 31.3.18	Remaining Programme Forecast (2018/19)	Ongoing Operational Costs for the remainder of RIIO-GD1	Total
Outturn Prices	£14.74m	£3.90m	£0.72m	£19.36m
2009/10 prices ¹	£11.83m	£2.99m	£0.55m	£15.38m

Table 1; Summary of Programme Costs

At the time of writing, construction is complete on **REDACTED** sites, is well progressed on a further **REDACTED**, and we have recently mobilised construction on **REDACTED**. The services of an Alarm Receiving Centre (ARC) have been procured and monitoring services have been installed within WWU's System Operation locations at **REDACTED** and **REDACTED**. A detailed breakdown of our Physical Security Upgrade Programme (PSUP) delivery, costs and savings delivered can be found in Sections 5.3 and 6.0.

WWU's continuous drive to obtain value for money, through effective and efficient delivery of the PSUP has saved a total of **REDACTED** through the lifecycle of the programme whilst still satisfying the CPNI requirements.

The procurement event for the design and construction contract delivered a **REDACTED** saving against the next lowest tender; a further **REDACTED** saving was delivered by insourcing project management and avoiding any duplication of effort with

¹ Methodology for calculating 2009/10 prices can be seen in Appendix 7.5



bought in support services; and a further **REDACTED** was saved by mitigating variances against lump sums tendered for each site and other miscellaneous items. These savings are detailed further in Table 5.

Prior to commencing the programme, WWU undertook a lessons learned review of previously installed PSUP works undertaken by **REDACTED**. A number of learning points were identified, with the primary points being engagement with key stakeholders and effective and efficient deployment of management resources, which became fundamental to the delivery of the WWU programme.

The external auditing process provides assurance that the design and implementation meets the CPNI technical requirements. At the time of writing all sites have gone through the Technical Audit 1 process; Value for Money 1 (VFM1) audits were completed for the first three sites, however following the auditor being placed into administration, Ofgem will undertake the remaining VFM auditing process for this programme. (Section 5.4.2 Value for Money 1)

Alongside the construction programme and the installation of monitoring services, we have developed the security policies and procedures required for the business to operate the new systems and security protocols for the **REDACTED** sites.

A summary of the security upgrades installed at each site is included as Appendix 7.8.

Our Pricing Manager has provided quarterly updates to the Shipper industry contacts utilising the national shipper / network pricing forums that WWU set up ahead of the RIIO price control framework. Specific narrative has been provided from December 2016 to date and therefore the Shippers are aware of our re-opener submission.

The gas network quarterly revenue update reports (Mod186 reports) can be found at www.gasgovernance.co.uk.

We have also continued to provide the Ofgem team with progress and forecast costs through our annual cost visits and regulatory cost and narrative returns.



4 Background

The Department of Energy and Climate Change (DECC), now the Department for Business, Energy & Industrial Strategy (BEIS), has put in place a Physical Security Upgrade Programme (PSUP), to reduce the vulnerability of the most critical assets within the gas transmission and distribution networks.

WWU has been engaged with the Centre for the Protection of National Infrastructure (CPNI) since 2009 in relation to those assets that were considered likely to fall within the scope of the planned PSUP. REDACTED WWU sites were identified by DECC as requiring additional security measures to be installed. Whilst not funded in the RIIO GD1 price control settlement, two re-opener windows (May 2015 and May 2018) were provided, where work was required to be undertaken, to fund additional allowances for efficiently incurred expenditure to be recovered.

Due to the high level of uncertainty around the likely cost of the programme of works WWU decided not to make a submission in May 2015, but to progress the programme and seek funding for all of the work at the May 2018 reopener window now that sufficient progress has been made on which to base our reopener submission.

It should be noted that the REDACTED sites upgraded, whilst owned by WWU, do also contain some CNI assets owned and operated by REDACTED, however these are not the principle driver for these REDACTED site security upgrade projects. In accordance with the draft agreement reached between the Gas Distribution Network operators, National Grid Gas, OFGEM and DECC in 2014, the PSUP at these REDACTED sites is being delivered solely by WWU, who will own, operate and maintain all of the security provision and incur the full costs thereof.

There are a further REDACTED sites owned by WWU that are the subject of a separate PSUP programme being progressed by National Grid Gas. In each case the National Transmission System assets are the sole driver for these projects, so in accordance with the aforementioned draft agreement, National Grid Gas are defining and delivering those security upgrades and will own and operate all of the additional security provisions, bearing the full costs thereof.



4.1 Qualification Criteria

As part of the RIIO-GD1 Price Control, gas network operators are able to apply for PSUP related expenditure. These additional costs are able to be recovered through changes to allowed revenue and ultimately impact customer charges via the Annual Iteration Process.

We have kept both Shippers and Ofgem updated with progress and timing of a likely submission to the re-opener mechanism. To date WWU has funded all efficiently incurred costs.

The threshold is defined as 'an amount of change to the allowed expenditure which, when multiplied by the relevant Distribution Network's Totex Incentive Strength rate exceeds or is likely to exceed 1% of the Distribution Network's materiality threshold amount'.

The materiality threshold calculation therefore for Wales & West Utilities is as follows:

	Calculations	Base	Licence
Materiality Threshold	1% of £341.301m = £3.41m	2009/10	SC3F Appendix 2
Totex Incentive Strength	63.17% of £15.4m =£9.7m	2009/10	SC3F Appendix 1
RPI	£19.4m	2017/18	Ofgem's RPI Indices April 2017 yearly average



5 Programme Process and Timeline

5.1 Project Goals and Strategy

The project goal was to obtain a fit for purpose Integrated Security System (ISS), fully compliant with CPNI technical specifications with a cost-effective solution that is demonstrably good value for money.

In line with this principle WWU looked to avoid replacing existing assets prior to the end of their economic life. WWU has achieved this by retaining the existing palisade fencing and electrical infrastructure in some cases whilst still delivering the CPNI requirements.

Prior to commencing the design and construction phases of the programme, WWU reviewed the Ofgem document entitled: "Notice of our decision for the review of costs associated with the TPCR41 enhanced physical security upgrade programme and the RIIO-T12 and RIIO-GD13 enhanced physical site security uncertainty mechanisms"² dated 30th September 2015 (See Appendix 7.7) and also held a meeting with other GDNs to identify the lessons learned from their completed PSUP projects.

The main learning points from the other network operators' programmes, both identified from the above document and through meeting with the other GDNs, which have been applied to our project delivery are:

- Ensure thorough stakeholder engagement within WWU to avoid delays and changes to scope throughout the life cycle of the project.
- Avoid duplication of management effort between WWU, Technical Consultants and the Main Works Contractor.
- Maintain control of risks and changes to scope to avoid unnecessary cost increases.
- Implement efficient project management procedures and minimise handoffs within the whole project delivery organisation, to avoid delays to the programme and resultant compensation events.
- WWU made the decision not to make an advanced purchase of high value spares as part of the project, electing instead to forecast these in our future costs as part of the reopener allowance.

² Document published by Ofgem following the review of CPNI project submitted by other companies for the May 2015 Reopener



Further to the lessons learned above, WWU identified additional areas for reducing project costs:

- WWU maintained direct control of the construction project, utilising external support only when required to bring specific knowledge, such as defining the Site Specific Operational Requirements (SSOR) and with respect to security principles and protocols.
- Retain and reuse existing assets / equipment wherever possible e.g. utilising existing site welfare facilities, retaining palisade fence and electrical infrastructure.
- Procure materials and services direct from suppliers, where possible, to avoid incurring overhead uplift costs from the principal contractor.

5.2 Programme Governance

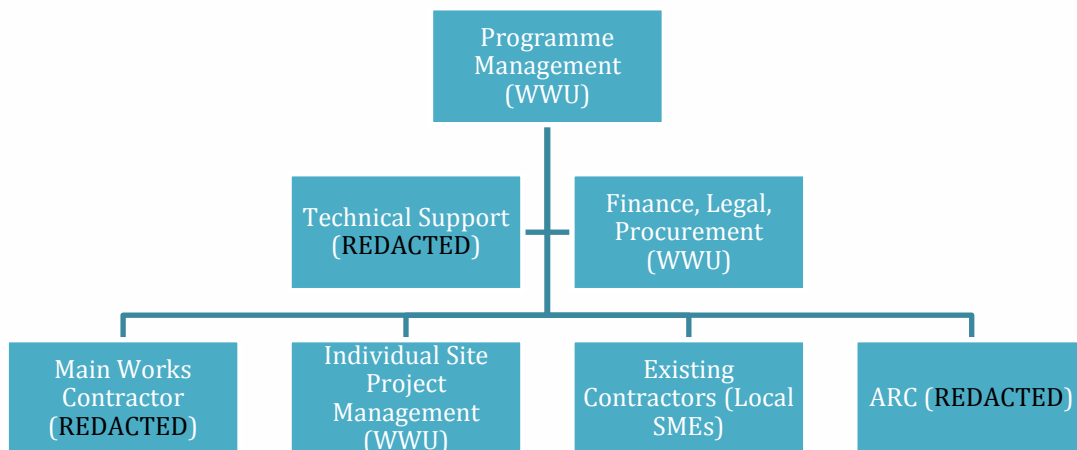


Figure 1; Programme Management Hierarchy

5.2.1 Programme Management

WWU has managed the programme utilising existing staff, which was determined to be the most cost effective method of delivery, saving **REDACTED** and also enabling WWU to maintain full control of all aspects of the programme.



The initial phases of the programme were managed by WWU Asset Management, while the design and construction elements were managed by WWU Capital Delivery Team. See Table 1; Summary of Programme Costs

5.2.2 Specialist Technical Support (**REDACTED**)

REDACTED was appointed onto a technical service framework following an EU compliant tender process.

REDACTED was engaged during our PSUP to assist WWU with:

- Developing and drafting of the Operational Requirements (OR) and Site Specific Operational Requirements
- The tender process
- Specialist security elements of the design and construction
- Drafting new WWU security policies and procedures

5.2.3 Main Works Contractor (**REDACTED**)

REDACTED was appointed as the principal contractor for the security works, which included detailed design and construction of the **REDACTED** sites, following a competitive tender.

5.2.4 Project Management (WWU)

Supervision of the sites under construction was undertaken by WWU Operational staff to provide quality assurance of the works, plant protection and to ensure a robust health and safety approach was being adopted. The result of the effective and efficient WWU site management has been no delays or costs associated with materialised risk.

5.2.5 Existing Contractors (Local SMEs)

A number of enabling works, services and materials were procured directly from local SMEs where this was found to be more cost effective than having **REDACTED** undertake the works. See Section 6.3 for savings delivered.

5.2.6 Alarm Receiving Centre (ARC) (**REDACTED**)

A number of options were considered to provide an ARC:

- Option 1 - a bespoke WWU facility to be built and operated at our head office, this was discounted due to excessive building and site security upgrade costs.



- Option 2 - contracting with an existing industry owned ARC, this was discounted due to the complexity of incorporating different technological solutions into another network operators existing ARC.
- Option 3 - the selected option, to contract a managed ARC service from **REDACTED** (**REDACTED** per annum) at their existing facility in **REDACTED**, which has received approval by the Association of Chief Police Officers (ACPO). This was found to be the most cost effective solution, without compromising the integrity of the ARC.

The **REDACTED** ARC is fully compliant with all the relevant BS/EN standards and Codes of Practice and also has full back up via their failover facility located in **REDACTED**, which is also fully compliant.

5.3 Timeline Summary of Site Delivery

TABLE REDACTED

Table 2; Summary of Site Status

*WWU is in discussion with Centre for Applied Science and Technology (CAST) regarding completion of the Tech Audit 2, utilising the secondary communications option (4G) to mitigate delays in the provision of fibre optic communications links.

5.4 Design

An outline of the design process is listed below:

1. Site Vulnerability Assessment undertaken with WWU and CPNI, to determine the level of security upgrades required
2. Creation of the Operational Requirements (OR) with specific necessities to reduce vulnerability
3. Production of an Site Specific Operational Requirements (SSOR) to detail the minimum security solution required
4. OR and SSOR sent to CAST in accordance with Home Office requirements, for review and approval
5. Detailed Design produced to satisfy the requirements set out in the OR and SSOR while utilising existing assets, wherever possible
6. The design was then tested as 'fit-for-purpose' by CAST which provided a Tech Audit 1 sign off on the technical design
7. Value for Money 1 Audits (VFM1) completed for the first three sites. This has been superseded by the Ofgem VFM assessment following the appointed auditor, Harnser, being placed into administration



Keeping value for money at the forefront of our ethos, WWU tested and challenged every proposed solution. This resulted in revisions to the CPNI's requirements at two sites, retaining 60% of the existing fence at **REDACTED** and a revised solution at **REDACTED**, reducing the overall cost of the works at both sites.

Partly driven by the adverse terrain the revised solution retained 100% of the existing palisade fence at **REDACTED**, whilst still meeting the CPNI requirements and proving to be a significantly more cost effective solution.

5.4.1 Technical Audit 1

Regular correspondence and meetings with CPNI and CAST, together with the teamwork ethos adopted from the start with **REDACTED** and **REDACTED**, enabled us to achieve Tech Audit 1 approval. See Appendix 7.3 for the Technical Audit 1 Reports .

5.4.2 Value for Money 1

Following Harnser (VFM auditors) being placed into administration, the VFM audit process has stalled. Initially Harnser undertook VFM audits on the first three sites and would only audit the main works construction costs and site design, planning to audit the full programme costs under VFM2.

Following discussions with Ofgem earlier this year, it has been agreed that these audits will now be undertaken by Ofgem as part of their Reopener submission review.

5.5 Construction

Following approval of the Tech Audit 1 and our negotiation and agreement of the final lump sum price, **REDACTED** mobilised to site to undertake construction. As part of the negotiation strategy, WWU identified materials and services that we could procure directly from suppliers to achieve costs savings, as detailed in Section 6.3.

REDACTED were appointed via an NEC Option A contract, in accordance with WWU procedures and noted by best practice in the Harnser review (Appendix 7.2). This defined the final lump sum price for construction following the completion and approval of the design via Tech Audit 1. This provided WWU with clarity of the final construction price, with the only remaining cost risk being deviations caused by changes to the works information.

A rolling design and construction programme was adopted across the sites to enable WWU and **REDACTED** to implement cost savings through efficient deployment of resources.



5.5.1 *Technical Audit 2*

Upon completion of construction and installation of communications links, the sites will be subject to Tech Audit 2 by CAST providing confirmation that the technical specifications have been met.

At the time of preparing this report Tech Audit 2 is 95% complete on two sites, these will be completed, along with one additional site, by the end of July 2018. The remaining sites will be completed before the end of 2018. (TABLE REDACTED

Table 2; Summary of Site Status).

5.5.2 *Value for Money 2*

As stated in Section 5.4.2, VFM2 is planned to be undertaken as part of the reopener review, directly by Ofgem.



6 Financial Summary

6.1 Summary of the design and build costs (Capex)

Category of Work	Spend incurred to 31.3.18	Total Spend	Percentage of Total Cost
Programme and Project Management (WWU)	REDACTED	REDACTED	REDACTED
Specialist Technical Support (REDACTED)	REDACTED	REDACTED	REDACTED
Design (REDACTED)	REDACTED	REDACTED	REDACTED
Construction (REDACTED)	REDACTED	REDACTED	REDACTED
Construction (Other Vendors)	REDACTED	REDACTED	REDACTED
ARC & Comms	REDACTED	REDACTED	REDACTED
Total	REDACTED	REDACTED	REDACTED

Table 3; Breakdown of design and build Costs

6.2 Additional Operational Costs for the remainder of RIIO-GD1 (Opex)

Category of Work	Total
Maintenance (WWU)	REDACTED
Maintenance (REDACTED/3 rd Party)	REDACTED
ARC Services, Comms and site electricity	REDACTED
Provision of replacement equipment	REDACTED
Total	REDACTED

Table 4; Summary of Ongoing Maintenance Costs



6.3 Savings Delivered

WWU took every opportunity to reduce the cost of the project and utilise existing equipment and infrastructure, see Table 5; . The WWU project team was never satisfied that good value for money could not be bettered, even if the values saved were small in consideration to the overall programme value.

	Savings (000s)	Comments
Design & Construction Tender	REDACTED	Cost savings achieved through the tender event for the design and construction works contract
Support Services - REDACTED	REDACTED	Insourcing project management greatly reduced the use of technical consultancy to only providing support in specialist areas. This resulted in a significant saving from REDACTED original proposal by ensuring no duplication of project management effort between WWU and REDACTED resources.
REDACTED Price Negotiation	REDACTED	Variance between initial final lump sum price and final lump sum price (excluding provisional sums)
REDACTED Access Steps	REDACTED	REDACTED provisional sum value vs WWU tendered value with minor civil providers (SMEs)
REDACTED Price Negotiation	REDACTED	Variance between initial final lump sum price and final lump sum price (excluding provisional sums)
REDACTED Site Compound	REDACTED	WWU rented the site compound directly from the neighbouring power station operator, rather than pay REDACTED to provide welfare facilities
REDACTED Price Negotiation	REDACTED	Variance between initial final lump sum price and final lump sum price (excluding provisional sums)
REDACTED Emergency Steps	REDACTED	REDACTED provisional sum value vs WWU tendered value with minor civil providers (SMEs)
REDACTED Sterile Zone and Gates	REDACTED	REDACTED provisional sum value vs WWU tendered value with minor civil providers (SMEs)
REDACTED Heras fencing	REDACTED	WWU purchased the Heras fencing on site as it was cheaper than rental for the period
REDACTED Price Negotiation	REDACTED	Variance between initial final lump sum price and final lump sum price (excluding provisional sums)
REDACTED Fence	REDACTED	WWU retained REDACTED of the original fence, resulting in materials and programme duration cost savings.
REDACTED Price Negotiation	REDACTED	Variance between initial final lump sum price and final lump sum price (excluding provisional sums)
REDACTED Electrics	REDACTED	WWU provided an electrical connection to the welfare facilities at REDACTED, saving generator and fuel costs



REDACTED Kiosk Delivery	REDACTED	WWU delivered the kiosk to REDACTED , avoiding the main works contractor overhead fee
REDACTED Site Compound	REDACTED	WWU provided much of the site establishment at REDACTED from existing facilities, reducing the requirements for the main work contractor to provide
REDACTED Price Negotiation	REDACTED	WWU robustly and aggressively contested the price received from REDACTED during the construction price negotiations, utilising a multitude of different contractual avenues
REDACTED alternative fence solution	REDACTED	The cost saving of adopting the alternative specification for the fence at REDACTED , which was agreed by CPNI. (de-scoping the requirement to install an electric fence)
CCTV Cameras for Construction Site Security	REDACTED	WWU procured the CCTV cameras required to secure the site under construction as it was cheaper than rental by the main works contractor
Material Storage containers	REDACTED	WWU purchase of storage containers, mitigating rental fees, and resulting in WWU having an asset for other uses following project completion
Valve Handle Storage Cages (All Sites)	REDACTED	WWU procured the valve handle storage, avoiding the main works contractor overhead fee
Total	REDACTED	

Table 5; Project Savings Achieved



7 Appendices

7.1 DECC letter

CNI Confirmation letter to WWU - 1Aug14

Confirmation from DECC to WWU of the CNI category of the WWU sites considered in their review.

7.2 Harnser review document

RIIO security reopener - Harnser report redacted version

A report commissioned by Ofgem to provide analytical and costing support to the Security Enhancement Programme currently being undertaken at gas and electricity sites designated to be part of the Critical National Infrastructure (CNI) of the United Kingdom.

7.3 Technical Audit 1 Reports

7.4 Value for Money Audit 1 Reports

7.5 Cost breakdown for the design, construction and maintenance of the PSUP

Detailed cost breakdowns for the **REDACTED** sites, the ARC and the ongoing maintenance requirements

Includes calculation for conversion of prices in to 2009/10 values

7.6 Summary of tender process

7.7 Ofgem Notice of Decision

Notice of Ofgem's decision for the review of costs associated with the TPCR41 enhanced physical security upgrade programme and the RIIO-T12 and RIIO-GD13 enhanced physical site security uncertainty mechanisms

Document published by Ofgem following the review of CPNI project submitted by other companies for the May 2015 Reopener

7.8 Summary of the security upgrades installed on each site

