



Price Control for Northern Ireland's Gas Transmission Networks GT22

Annex 1 – Replacement Expenditure
May 2022



About the Utility Regulator

The Utility Regulator is the independent non-ministerial government department responsible for regulating Northern Ireland's electricity, gas, water and sewerage industries, to promote the short and long-term interests of consumers.

We are not a policy-making department of government, but we make sure that the energy and water utility industries in Northern Ireland are regulated and developed within ministerial policy as set out in our statutory duties.

We are governed by a Board of Directors and are accountable to the Northern Ireland Assembly through financial and annual reporting obligations.

We are based at Queens House in the centre of Belfast. The Chief Executive leads a management team of directors representing each of the key functional areas in the organisation: Corporate Affairs, Markets and Networks. The staff team includes economists, engineers, accountants, utility specialists, legal advisors and administration professionals.



Our mission

To protect the short- and long-term interests of consumers of electricity, gas and water.



Our vision

To ensure value and sustainability in energy and water.



Our values

- Be a best practice regulator: transparent, consistent, proportionate, accountable and targeted.
- Be professional – listening, explaining and acting with integrity.
- Be a collaborative, co-operative and learning team.
- Be motivated and empowered to make a difference.



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Acronyms and Glossary

ACRT	Annual/Cost Reporting Template
AGI	Above Ground Installation
ARR	Actual Required Revenue
ATEX	Equipment for explosive atmospheres
BGTL	Belfast Gas Transmission Limited
BGTP	Belfast Gas Transmission Pipeline
C&I Panel	Control & Instrumentation Panel
Capex	Capital expenditure
CBA	Cost Benefit Analysis
CP	Cathodic Protection
CPI	Consumer Price Index
DD	Draft Determination
DSEAR	Dangerous Substances and Explosive Atmospheres Regulations
e.g.	for example
FD	Final Determination
GMO NI	Gas Market Operator for Northern Ireland, the Contractual Joint Venture to deliver a single system operator
GNI	Gas Networks Ireland (parent company of GNI (UK))
GNI (UK)	Gas TSO operating in Northern Ireland
GT17	This is the name given to the price control period from October 2017 to September 2022
GT22	This is the name given to the price control from October 2022 to September 2027
ISO	International Organisation for Standardisation
IT	Information Technology
m	Million



MEL	Mutual Energy Limited
NI	Northern Ireland
NWP	North-West Pipeline
Opex	Operating Expenditure
p.a.	Per annum (per year)
PLC	Programmable Logic Controllers
PTL	Premier Transmission Limited
Repex	Replacement Expenditure
RIGs	Regulatory Instructions and Guidance
RPEs	Real Price Effects
RPI	Retail Price Index
SCADA	Supervisory Control and Data Acquisition
SNIP	Scotland to Northern Ireland Pipeline
SNP	South-North Pipeline
SONI	System Operator Northern Ireland (electricity network)
TR	Transformer Rectifier
TSO	GNI (UK), PTL, BGTL and WTL. WTL is not a TSO (Transmission System Operator) as defined by the European Commission but it is referred to as a TSO in this document for simplicity.
UK	United Kingdom
UPS	Universal Power Supply
UR	Utility Regulator
WTL	West Transmission Limited
WTPS	West Transmission Pipeline System



1. Introduction

Purpose of this Document

- 1.1 This annex details the final considerations of the Utility Regulator (UR) in relation to replacement expenditure (repex) for GT22.
- 1.2 Much of what might be described as capex in terms of accounting rules, we consider as being maintenance/repex. It does not add to the capacity of the existing pipeline network but rather replaces or upgrades existing equipment. We treat such spend in the same way as controllable operating expenditure.
- 1.3 The purpose of the repex analysis is to capture the larger (>£50k) ad hoc replacement projects. These projects have definable outputs, which can be captured and measured as part of the reporting process. By considering these projects separately, we can both consider their procurement efficiency and get a better view of steady-state maintenance costs.

Detailed Approach

- 1.4 As part of their business plans, TSOs submitted a list of repex projects for which they sought an allowance. With the aid of specialist consultants, we considered the TSO submissions regarding the GT22 repex programme.
- 1.5 When determining an allowance the principal issues considered are need, costs and risks. At draft determination (DD), each project was given a categorisation as follows:
 - **Category 1** – Both need and cost are well supported and justified. These projects attract full or majority allowance.
 - **Category 2** – Need is established but costs are not supported. These projects can be subject to partial allowance if we have a clear view on the reasonable level of spend.
 - **Category 3** - Need is established but costs are very uncertain. These projects can be considered as a *Relevant Item* where no ex-ante allowance is given but costs can be requested during the GT22 period when the scale of spend is better understood.
 - **Category 4** – Both need and costs are unjustified. These projects are subject to full disallowance.
- 1.6 In making assessments, our consultants advised as to both the need and reasonableness of costs. In order to reach a final determination (FD), we have considered their views alongside:



- a) TSO representations;
 - b) Experience from other utilities; and
 - c) Benchmarking (where possible).
- 1.7 For context, we have repeated the detail of the draft determination for each project including, synopsis, cost, outputs, project categorisation and draft recommendation. Where full allowance was not provided at the draft stage, we set out the rationale and detail / justification that was considered missing.
- 1.8 As part of their consultation responses, both MEL and GNI (UK) provided data to address the information gaps. In this annex, we summarise these responses and set out our views regarding the issues. This includes a final allowance position and detail on the required outputs.
- 1.9 All figures in this annex are given in March 2021 prices and in pre-efficiency amounts, unless otherwise stated.



2. GNI (UK) Repex Programme

Repex Projects

2.1 UR analysis of the GNI (UK) projects is set out in the tables below.

Table 1 – Cathodic Protection Analysis

Project Name	Cathodic Protection
Amount Requested in GT22	£169k
Project Synopsis <ul style="list-style-type: none"> GNI (UK) is requesting funds to update the cathodic protection of the pipelines. Request of £169k compares to GT17 allowance of £220k. 	
Outputs <ul style="list-style-type: none"> 2 Transformer Rectifiers. 40 CP test posts. 9 Remote monitoring units. 	
DD Issues / Summary <ul style="list-style-type: none"> Limited spend to date in GT17. TSO will not deliver anode ground beds but this seems reasonable, as replacement is not needed. However, GNI (UK) expect to spend close to budget on other GT17 outputs. Given the materiality and project importance, this request seems reasonable. 	
DD Classification	Category 1
DD Recommendation	Approve in full
TSO Consultation Response <ul style="list-style-type: none"> Not applicable. 	
UR Final Views <ul style="list-style-type: none"> No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above, in line with the GNI (UK) business plan. 	
FD Recommendation	Approve in full

Table 2 – Site Instrumentation Analysis

Project Name	AGI Site Instrumentation
Amount Requested in GT22	£759k
Project Synopsis <ul style="list-style-type: none"> GNI (UK) is requesting funds to replace three RTUs and upgrade the communications at 16 other AGIs to accommodate the new SCADA system. Request of £759k compares to GT17 allowance of £335k. 	



<p>Outputs</p> <ul style="list-style-type: none"> • 3 RTUs. • 16 Communication upgrades. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> • Limited spend to date in GT17 on similar projects. • GNI (UK) indicate that they will be able to deliver 3 RTUs, 1 UPS and 7 battery charger units for £324k in GT17. • If this is the case, delivery of GT22 outputs appears expensive. • It is not totally clear how the communications upgrade spend links to the separate and material SCADA cost request under system operation. • UR recommend partial allowance until certainty can be provided on GT17 spend and the costs of the communications upgrade can be established. 	
DD Classification	Category 2
DD Recommendation	Partial allowance (50%)
<p>TSO Consultation Response</p> <p>In their consultation response, GNI (UK) made the following points:</p> <ol style="list-style-type: none"> 1) Communications upgrades are driving increased costs above GT17. 2) The fixed line service provider is ceasing operation of this technology in 2023-24. This is driving the need for the satellite system upgrade. 3) Cost is based on a tendered price following an open market procurement. 4) The repex spend relates to the design, materials and installation costs of the system as well as the first year of rental, support and maintenance costs. 5) These ongoing costs will transfer to the system operation SCADA line thereafter. 	
<p>UR Final Views</p> <ul style="list-style-type: none"> • Whilst a detailed cost breakdown was not provided in the DD response, the TSO has provided the requested detail via the query log (Query 59). • This indicated that the communications work would be in the region of c. £443k. Such a cost seems reasonable for installation at 16 sites plus one year of rental and support expenses. • Given the detail provided and the need for dual communication links, our conclusion is to accept the TSO request and provide the associated allowance. • Outputs for GT22 monitoring/delivery will be those listed above, in line with the GNI (UK) business plan submission. 	
FD Recommendation	Approve in full

Table 3 – Site Electrical Analysis

Project Name	AGI Site Electrical
Amount Requested in GT22	£1.048m
<p>Project Synopsis</p> <ul style="list-style-type: none"> • GNI (UK) is requesting funds to replace electrical equipment at AGIs. • Request of £1.05m is one of the more material repex schemes. 	



<ul style="list-style-type: none"> Costs are forecast to be incurred quite evenly across all years. 	
<p>Outputs</p> <ul style="list-style-type: none"> 7 Battery chargers. 15 Distribution boards. 15 Isolating transformers. 6 Generators. ATEX and general lighting at 17 sites. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> This is new spend so not really an issue with GT17 projects. Would seem to be quite a lot of asset replacement for the amount requested. However, there a couple of concerns for instance: <ul style="list-style-type: none"> a) Gormanstown costs are £96k but are only getting lighting upgrades. Design and construction costs for this AGI seem questionable (see Q43 breakdown). b) Derryhale is planned for distribution board and isolating transformer replacement despite being 5-6 years younger than the rest of the network. c) MEL are only now planning replacement of distribution boards despite an older network. This raises concerns that some of the work is not required. UR recommend that the sites in most need are addressed in GT22, with the remaining AGIs undertaken in GT27. 	
DD Classification	Category 2
DD Recommendation	Partial allowance (50%)
<p>TSO Consultation Response</p> <p>In their consultation response, GNI (UK) made the following points:</p> <ol style="list-style-type: none"> Distribution boards have a 20-25 year life expectancy and will be approaching the end-of-life during the GT22 period. Proactive replacement will maintain the safe availability of AGI's. The cost at Gormanstown reflects its status as a large AGI situated close to the sea, which is more susceptible to degradation. GNI (UK) propose to upgrade the Derryhale distribution board and isolating transformer at the same time as the lighting works to maximise efficiency. 	
<p>UR Final Views</p> <ul style="list-style-type: none"> We remain unconvinced by the TSO arguments with respect to this project. Most of the AGI's were constructed in 2004 or 2005. Using its own life expectancy estimates for distribution boards, much of the work should fall into the GT27 price control period. Experience from MEL would indicate that lifespan greater than 25 years is possible. CCNI has further stated that, <i>"the UR should take a view over whether it is realistic to expect that they will all be delivered within the timeframe or whether it is likely that some will actually not be completed until GT27. In either case, the repex allowance for that expenditure should be held over until the next regulatory review"</i>. It is our view that it is not realistic that all this work will be undertaken in GT22. Consequently, we are maintaining the DD position. Outputs for GT22 monitoring/delivery will be approximately half those listed above. It will be for the TSO to decide which sites to undertake in GT22 based on criticality. However, we would not expect the focus to be exclusively on small cheaper sites. 	
FD Recommendation	Partial allowance of £0.52m (50%)


Table 4 – Security Refurbishment Analysis

Project Name	Security Refurbishments
Amount Requested in GT22	£602k
Project Synopsis <ul style="list-style-type: none"> GNI (UK) is requesting funds to replace CCTV cameras and the intruder detector systems at 16 AGI installations. 	
Outputs <ul style="list-style-type: none"> 31 CCTV cameras spread across 16 different AGI locations. 16 IDS systems at the same 16 locations (TSO response to Q25). 	
DD Issues / Summary <ul style="list-style-type: none"> We expected investment in this area given that it was a relevant item in GT17. Costs look reasonable compared to comparable projects. TSO response to Query 24 only identifies 15 sites yet costs are for 16 sites. Within the business plan there is 16 sites but one is Maydown where costs may not be expected having been constructed in 2016. UR recommend full allowance on the basis that the design for Maydown AGI would have been undertaken prior to the publication of BS8418:2015, which is identified as a driver for investment. 	
DD Classification	Category 1
DD Recommendation	Approve in full
TSO Consultation Response <ul style="list-style-type: none"> Not applicable. 	
UR Final Views <ul style="list-style-type: none"> No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above, in line with the GNI (UK) business plan. 	
FD Recommendation	Approve in full

Table 5 – Aerial Marker Analysis

Project Name	Aerial Markers
Amount Requested in GT22	£212k
Project Synopsis <ul style="list-style-type: none"> GNI (UK) is requesting funds to replace or add aerial location marker posts. Need is based on IGEM TD1 standard compliance. GNI (UK) state, "Prior to GT17 the marker coverage on the pipeline was approximately 17% and during GT17 the marker post coverage will be brought up to just below 50%. During GT22 GNI (UK) intends to reach 100% coverage and install a marker post at every field boundary and road crossing." (Annex 2, p30) 	



Outputs	
<ul style="list-style-type: none"> 1,074 aerial marker posts. 	
DD Issues / Summary	
<ul style="list-style-type: none"> GNI (UK) intend to spend £120k on 600 marker posts without an allowance in GT17. This indicates a level of need. Unit costs in GT22 are similar to that forecast for GT17. Response to Query 45 indicates that 268 of the posts are replacements for M4 posts. Given the increased visibility and reduced risk from new markers, need for replacement of the M4 posts is somewhat uncertain. UR recommend allowance for 806 posts and retention of the M4 posts. 	
DD Classification	Category 2
DD Recommendation	Majority allowance (£159k)
TSO Consultation Response	
In their consultation response, GNI (UK) made the following points:	
<ol style="list-style-type: none"> M4 marker posts are much smaller than aerial markers and are not visible from the air or over hedgerows. Compliance with IGEM/TD/1 is the key reason for investment. Would be more costly to incur separate mobilisation expenses should the M4 posts be replaced in the future. 	
UR Final Views	
<ul style="list-style-type: none"> We are not entirely convinced that the M4 maker posts would not be compliant or that the risk would not be acceptable. However, given that some work is required in the period and the mobilisation costs would be less efficient via a staged approach, it seems reasonable to undertake all the aerial marker activity in one go. Consequently, we are amending the draft position to a full allowance. Outputs for GT22 monitoring/delivery will be those listed above. 	
FD Recommendation	Approve in full

Table 6 – Actuator Analysis

Project Name	Actuators
Amount Requested in GT22	£260k
Project Synopsis	
<ul style="list-style-type: none"> GNI (UK) is requesting funds to replace 20 actuators. Need is based on deterioration and the fact that these actuators are not well supported anymore. GNI has replaced these actuators in RoI. 	
Outputs	
<ul style="list-style-type: none"> Replacement of 20 actuators at 8 different AGI sites. 	



DD Issues / Summary	
<ul style="list-style-type: none"> Unit costs in GT22 are £13,000 per actuator. MEL have also costed an actuator replacement programme at £10,400 per actuator. Given the similarities with these assets, the lower benchmarked unit rate would seem appropriate in this instance. UR suggest replacing 50% (10) of the actuators in GT22 based on the AGI risk priority and the remaining 50% in GT27. Spare parts from the actuators removed in GT22 can form emergency parts. 	
DD Classification	Category 2
DD Recommendation	Partial allowance (£104k)
TSO Consultation Response	
<p>In their consultation response, GNI (UK) made the following points:</p> <ol style="list-style-type: none"> Costs may not be comparable as GNI (UK) request includes cost to deploy, install power supply and safely dispose of existing actuators. Harvesting spares may not be that helpful, as using components prone to degradation will only compound the existing issue. The manufacturer support for these assets are no longer available. Failure would cause safety issues and operational difficulties. 	
UR Final Views	
<ul style="list-style-type: none"> GNI (UK) has made it clear that the assets must be replaced in GT22. They also do not seem to believe that harvesting spares is a viable approach. We are inclined to accept this argument for these particular assets. However, we are still of the opinion that the lower unit rates are appropriate as deployment and disposal costs would be expected for MEL as well as GNI (UK). We therefore propose to support all the 20 actuator replacements but at the lower unit rate for the final determination. 	
FD Recommendation	Partial allowance (£208k)

Table 7 – Valve Controller Analysis

Project Name	BM5 Slam Shut Valve Controllers
Amount Requested in GT22	£120k
Project Synopsis	
<ul style="list-style-type: none"> GNI (UK) is requesting funds to replace 20 BM5 slam shut valve controllers. Need is based on age and deterioration. GNI has replaced these actuators in RoI in 2014. 	
Outputs	
<ul style="list-style-type: none"> Replacement of 20 valves at 10 different AGI sites. 	
DD Issues / Summary	
<ul style="list-style-type: none"> Unit costs in GT22 are £6,000 per valve. UR has no particular concerns with this project. Full allowance is recommended. 	



DD Classification	Category 1
DD Recommendation	Full allowance
TSO Consultation Response	
<ul style="list-style-type: none"> Not applicable. 	
UR Final Views	
<ul style="list-style-type: none"> No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above, in line with the GNI (UK) business plan. 	
FD Recommendation	Approve in full

Table 8 – Heating System Analysis

Project Name	Gas Pre-Heating System Replacement
Amount Requested in GT22	£832k
Project Synopsis	
<ul style="list-style-type: none"> GNI (UK) is proposing to replace two boiler package systems in GT22. One at Coolkeeragh and one at Ballymagaraghan AGI. Systems were selected based on the Decision Support Tool (DST). 	
Outputs	
<ul style="list-style-type: none"> Replacement of 2 boiler package units. 	
DD Issues / Summary	
<ul style="list-style-type: none"> UR would be expecting some expenditure in this area given the asset life of boilers. Costs appear reasonable compared to the forecast delivery costs in GT17 of the Coolkeeragh power station package and the costs incurred by MEL when replacing the Knocknagoney boiler house unit. The principal concern is the level of GT17 underspend which is estimated to be in the region of £240k. UR consider that this should be factored into the GT22 allowance given the monies already funded by customers for this activity. 	
DD Classification	Category 2
DD Recommendation	Partial allowance (£590k)
TSO Consultation Response	
<p>In their consultation response, GNI (UK) made the following points:</p> <ol style="list-style-type: none"> The TSO has relied upon its Asset Management System (AMS) to prioritise investment. In GT17, this meant reallocating costs from boilers to other more urgent areas such as pipeline markers. UR consultant's support this expenditure. If not funded, GNI (UK) will not be able to complete boiler packages, which would be an instruction to disregard safety. If future allowances are discounted based on a review of spend, then in accordance with the principle of regulatory consistency, GT22 allowances should be increased where GT17 allowances were exceeded. 	



UR Final Views

- We remain unconvinced by the arguments put forward with respect to this project. In response, we would make the following points;
 - a) The GNI (UK) business plan is forecasting overspend of **£0.3m** in GT17 across all repex projects. However, the position at the end of 4 years is underspend of c. **£1.9m** with no spend on boiler packages at this point.
 - b) We agree with our consultants that GT17 spend on pipeline markers is reasonable. However, given the level of under delivery across all projects to date, we cannot have certainty that double funding of the same boiler activity will not occur.
 - c) GNI (UK) has clearly indicated that they will not undertake part of their funded GT17 boiler refurbishment programme.
 - d) Our position is not an instruction to disregard safety but rather that the TSO has already been fully funded for the activity after consideration of work not undertaken in GT17.
 - e) The price control is set up as a 'fair bet' with the TSO retaining all outperformance and taking risk on overspend. Not undertaking funded outputs then requesting monies in subsequent price controls for similar activity places asymmetric risk on the consumer. This in our view, would be an inconsistent regulatory position should full allowance be provided.
 - f) We have uplifted allowances in GT22 where outturn costs have been greater than budget and are considered efficient. Likewise, GNI (UK) has retained outperformance during GT17 in areas where spend has been lower than forecast. However, non-delivery of agreed outputs cannot reasonably be considered as legitimate outperformance.
- Given the issue of GT17 delivery, we do not consider it reasonable that the consumer be exposed to further risk in this area.
- CCNI has also stated that, *"It is important that consumers are not asked to pay twice for the same work, and that work already paid for in GT17 is not included in the GT22 allowances."*
- We agree with this sentiment and do not propose changing from the DD position. However, we would not rule out a further request for funds when the GT17 position is fully clarified and if the need should arise.
- Outputs for GT22 monitoring/delivery will be those listed above, in line with the GNI (UK) business plan.

FD Recommendation	Partial allowance (£590k)
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Table 9 – Pilot Control Valve Analysis

Project Name	Pilot Valves
Amount Requested in GT22	£100k
Project Synopsis	
<ul style="list-style-type: none"> • GNI (UK) proposes to replace 20 pilot control valves on the NWP. 	



Outputs	
<ul style="list-style-type: none"> Replacement of 20 pilot valves (Annex 2, p56, Table 40). 	
DD Issues / Summary	
<ul style="list-style-type: none"> There is no particular concern with this project. UR recommends full allowance. 	
DD Classification	Category 1
DD Recommendation	Full allowance
TSO Consultation Response	
<ul style="list-style-type: none"> Not applicable. 	
UR Final Views	
<ul style="list-style-type: none"> No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above, in line with the GNI (UK) business plan. 	
FD Recommendation	Approve in full

Table 10 – Cyber Security Analysis

Project Name	Cyber Security
Amount Requested in GT22	£1.26m
Project Synopsis	
<ul style="list-style-type: none"> GNI (UK) proposes to undertake significant cyber security upgrades. Need is based on NIS Directive compliance. 	
Outputs	
<ul style="list-style-type: none"> 1 Tier 1 site with station control system. 1 Tier 1 RTU site. 6 Tier 2/3 RTU sites. 	
DD Issues / Summary	
<ul style="list-style-type: none"> UR has no particular concern with project need. However, we do not yet have a clear breakdown of these project costs nor the reason for selection of the various Tier 2 sites. Response to Query 18 on cyber security maintenance costs indicated that a procurement exercise will be held in Q4 of 2021 which will give full visibility of costs. UR therefore propose a holding allowance of £1m in the DD until the procurement exercise can be complete. 	
DD Classification	Category 2
DD Recommendation	Holding allowance (£1m)



TSO Consultation Response

In their consultation response, GNI (UK) made the following points:

- 1) TSO understands the rationale for a holding allowance.
- 2) Requests that a relevant item be granted for the remaining amount (£0.26m).
- 3) Upon the completion of detailed design of the cyber security upgrades on the various sites, GNI (UK) will revert to UR comprehensively outlining the detailed costs and activities involved.

UR Final Views

- It is not entirely clear why the cyber security procurement exercise has not progressed as expected. GNI (UK) has confirmed that procurement is now scheduled for Q2 of 2022.
- However, it is clear from both TSO submissions and the NIS Directive that significant work is required in this area.
- We are content to maintain the draft position and provide a relevant item for costs up to the amount disallowed.
- We would welcome further engagement with GNI (UK) when costs are known and outputs are finalised.

FD Recommendation

Partial allowance (£1m)

Table 11 – Meter Replacement Analysis

Project Name	Meter Replacement
Amount Requested in GT22	£1.01m
Project Synopsis	
<ul style="list-style-type: none"> • GNI (UK) proposes to spend £1m on meter replacement/refurbishment. • Need is largely based on age and replacement after 20 years. 	
Outputs	
<ul style="list-style-type: none"> • 15 Meters (4 ultrasonic, 10 turbine, 1 refurbishment). • 3 Gas chromatographs. • 12 Flow computers. • 12 Metering enclosures. • 40 Pressure transmitter valve blocks. 	
DD Issues / Summary	
<ul style="list-style-type: none"> • Cost appears reasonable given the MEL cost request for four ultrasonic meters. • However there are a number of material concerns with this project including: <ol style="list-style-type: none"> a) Virtually no spend on GT17 meter programme has occurred to date. b) Ability to replace 9 turbine meters and 1 chromatograph in the final year of GT17 seems doubtful. c) Programme appears to be based on age rather than obsolescence. Response to Query 42 indicates that TSO has work to do on the In-Service Testing (IST) programme, which will inform investment. d) Meters requested by MEL are at AGIs constructed 6-8 years earlier than the GNI (UK) sites. This suggests that the need may not be that pressing 	



<ul style="list-style-type: none"> UR recommends 25% allowance with a relevant item for GNI (UK) to request further revenues depending on the findings of the IST programme. 	
DD Classification	Category 3
DD Recommendation	25% allowance (£253k)
<p>TSO Consultation Response</p> <p>In their consultation response, GNI (UK) made the following points:</p> <ol style="list-style-type: none"> 1) Meters will reach 20 years old during the GT22 period. 2) Proactive intervention is necessary as run to failure is not an option and in-service testing supports 20 year replacement policy. 3) Refurbishment of ultrasonic meters every 8 years is the optimum interval. 4) Gas chromatographs will be beyond lifespan and flow computers are unsupported. 5) Work on GT17 programme is underway and is with the contractor. 	
<p>UR Final Views</p> <ul style="list-style-type: none"> We remain somewhat unconvinced by the TSO arguments. For instance; <ol style="list-style-type: none"> a) GNI (UK) state that they, “will conduct ‘as-found’ testing on the refurbished or replaced meters in GT22, the results of which will inform future meter policy.” We do not see why this activity should not happen on the GT17 meters before deciding whether GT22 investment is required. b) In discussions with the TSO, the IST findings and policy seemed more applicable to distribution rather than transmission assets. c) Meters on the MEL network have successfully run past the 20-year period, suggesting the current policy may be conservative. d) As at the end of year 4, relatively little progress has been made on the GT17 meter programme. Whilst some investment is expected, we are of the opinion that it is reasonable to have a holding allowance with a relevant item for further funding when the need for investment becomes certain. No specific outputs have been set for the 25% allowance given. We would anticipate further engagement in this area when a clear view of the full activity required becomes apparent. 	
FD Recommendation	25% allowance (£253k)



GNI (UK) Repex Conclusions

2.2 The pre-efficiency repex request and allowances are set out below:

Table 12 – GNI (UK) Repex Request vs Allowance (Pre-Efficiency)

Project Name	GNI (UK) Request	UR DD Allowance	UR FD Allowance	FD Decisions
Cathodic Protection	£0.17m	£0.17m	£0.17m	Category 1 - Full allowance
AGI Site Instrumentation	£0.76m	£0.38m	£0.76m	Cat. 2 - Full allowance
AGI Site Electrical	£1.05m	£0.52m	£0.52m	Cat. 2 - 50% allowance
Security Refurbishments	£0.60m	£0.60m	£0.60m	Cat. 1 - Full allowance
Aerial Markers	£0.21m	£0.16m	£0.21m	Cat. 2 – Full allowance
Actuators	£0.26m	£0.10m	£0.21m	Cat. 2 - Lower unit rate
BM5 Valve Controllers	£0.12m	£0.12m	£0.12m	Cat. 1 - Full allowance
Gas Pre-Heating Systems	£0.83m	£0.59m	£0.59m	Cat. 2/3 - Removed GT17 underspend
Stabilising Pilot Valves	£0.10m	£0.10m	£0.10m	Cat. 1 - Full allowance
Cyber Security	£1.26m	£1.00m	£1.00m	Cat. 2/3 - Partial allowance
Meter Replacement / Refurbishment	£1.01m	£0.25m	£0.25m	Cat. 3 - 25% allowance
Total Cost	£6.37m	£4.00m	£4.54m	

2.3 The final determination makes provision for around 71% of the pre-efficiency repex request. We are also proposing relevant items for the meter replacement project where further cost requests are expected and can be requested throughout the GT22 period.

2.4 A holding allowance has also been proposed for cyber security upgrades which can be subject to future adjustments should the need arise. Consideration may also be given to further boiler package funding requests depending on GT17 delivery and other relevant factors.



3. MEL Repex Programme

Repex Projects

3.1 UR analysis of the MEL projects is set out in the tables below.

Table 13 – SCADA Refresh Analysis

Project Name	SCADA Refresh
Amount Requested in GT22	£2.3m
<p>Project Synopsis</p> <ul style="list-style-type: none"> MEL is requesting funds to update the SCADA systems and provide cyber security. Project was expected to happen in GT17 but was delayed to align with SNIP agent procurement. Request of £2.3m compares to GT17 allowance of £0.9m in GT17. MEL has stated that the increase is due to cyber security obligations. 	
<p>Outputs</p> <ul style="list-style-type: none"> 1 Site providing normal live service to the main control room with a SCADA / Leakfinder service duplicated in “hot” standby mode. 1 Standby SCADA / Leakfinder service must be hosted on servers at a site away from the LIVE servers and with power and communications SCADA servers are required to maintain 99.95% availability. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> Need is clear and GNI (UK) has made a material claim for cyber security measures which would support the MEL position. However, there remains a couple of concerns i.e. <ol style="list-style-type: none"> UR do not yet have a detailed cost breakdown of this project. It is unknown who the new provider will be or the solution to be implemented i.e. physical servers or cloud-based solution. UR do not know how the preferred solution will affect costs. MEL are currently out to procurement and expect contracts to be let in November 2021 (Query 24 part A response). Given this, proposal at the DD is for a holding allowance with the final amount to be determined based on actual contract figures. 	
DD Classification	Category 2
DD Recommendation	Holding allowance (£1.73m)



TSO Consultation Response

In their consultation response, MEL made the following points:

- 1) This project is wider than just SCADA and relates to the SNIP Agent contract which includes among other things:
 - a) 24/7 operational service and control room activities.
 - b) SCADA and Leakfinder telemetry and associated technical services.
 - c) Contract management and business continuity.

2) [REDACTED]

Mobilisation Costs	
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
Total	[REDACTED]

- 3) The costs include updating SCADA and Leakfinder, new telemetry on a cloud-hosted environment, cyber security services, re-training and incident/change management systems.

4) [REDACTED]

UR Final Views

- MEL has provided a detailed breakdown of these costs as requested.
- They have also confirmed via the query log (Query 68) that some of the costs (£[REDACTED]) will be covered in GT17 with the remainder being paid in GT22.
- It is difficult to be definitive on the cost efficiency given the scale (+35%) of the uplift from business plan forecasts.
- It is also hard to benchmark against GNI (UK) as the scope of these costs are wider given the inclusion of SNIP agent costs and SCADA re-platforming.
- However, the activities in terms of cyber security, communications upgrades, incident monitoring etc. are very similar and broadly comparable.
- We also have assurance that the contract has been through an open procurement and savings have been delivered because of the BAFO¹ process.
- Furthermore, MEL has indicated that future costs may be less in the next price control as the proposed cloud solution will remove the need for future, "large hardware refresh or replatforming."
- Consequently, we propose to provide the full project allowance of £[REDACTED] in line with the updated contract costs less the amount to be paid in GT17.
- This equates to a GT22 allowance of **£2.2m**, which is close to the original request.
- Outputs for GT22 monitoring/delivery will be those listed above.

FD Recommendation	Minor disallowance (£2.2m)
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¹ BAFO = Best and Final Offer.



Table 14 – PLC Panel Replacement Analysis

Project Name	PLC Panel Replacement
Amount Requested in GT22	£686k
<p>Project Synopsis</p> <ul style="list-style-type: none"> MEL is requesting funds to replace 5 programmable logic controllers (PLCs). Cost of £827k but some projects commence in 2021-22, hence the lower GT22 request. All work to be undertaken in year 1 and 2 of GT22 and year 5 of GT17. 	
<p>Outputs</p> <ul style="list-style-type: none"> 5 Programmable Logic Controllers. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> Would expect this project given activity undertaken in GT17. No major concerns around need for the activity. Main concern is cost of delivery. MEL indicate that 5 PLCs were delivered in GT17 for around 50% of the GT22 project request at £165k per PLC. Response to Query 44 does not provide a good explanation for why costs have increased, particularly given the recent completion of projects. Given the relevant GT17 cost evidence, recommendation is a reduced allowance of £110k per PLC. 	
DD Classification	Category 2
DD Recommendation	Partial allowance (£456k)
<p>TSO Consultation Response</p> <p>In their consultation response, MEL made the following points:</p> <ol style="list-style-type: none"> During GT17, MEL has actually completed 4 replacements at an average cost of £145k per PLC. These include Knocknagoney, Larne, Ballylumford and Torytown. The business plan submission did not include some of the actual costs incurred in the 2020-21 tariff year. MEL believes that the GT22 request at £165k per PLC is reasonable given that costs are rising and the TSO must pay additional costs (£27k) for access to some of the proposed sites. 	
<p>UR Final Views</p> <ul style="list-style-type: none"> We have taken on board the updated cost information provided by the TSO. We have also reviewed the 2020-21 RIGS submission that reports actual spend of £574k for delivery of 4.4 PLCs. This equates to a unit cost of £129k in GT17. These figures differ slightly from the consultation response. However, we do accept the point about additional cost for access to 3 of the sites. Consequently, we propose a unit cost allowance of £150k for the 5 sites, which represents an uplift from GT17 actuals reported by MEL. Removing the expected spend in GT17, this equates to a provision of £622k representing 91% of the business plan request. Outputs for GT22 monitoring/delivery will be those listed above and the South Cairn kiosk replacement. 	
FD Recommendation	Partial allowance (£622k)


Table 15 – Transformer Rectifier Analysis

Project Name	Transformer Rectifier Replacement
Amount Requested in GT22	£301k
Project Synopsis <ul style="list-style-type: none"> MEL is requesting funds to replace the TRs on the SNIP and BTP, which will have been operational for over 25 years. 	
Outputs <ul style="list-style-type: none"> 8 Transformer rectifiers. 	
DD Issues / Summary <ul style="list-style-type: none"> Need and activity seem reasonably certain. Was planned for some activity in GT17 but, “<i>Inspections performed in the period confirmed satisfactory operation with any degradation not sufficient to merit replacement within this period</i>”. However, there a couple of concerns around the cost for instance: <ol style="list-style-type: none"> MEL request in GT22 amounts to £37.6k per TR site. For the same projects in GT17, MEL asked for funds of £21.4k per TR. The Rune report (p10) in GT17 estimated similar projects to cost £14.8k per site after uplifting for inflation. In their response to Query 45, MEL has claimed that the difference between price controls is due to design costs (£11k) which were not included at GT17. This does not seem that likely as design would have been a requirement in GT17. Given the relevant GT17 cost evidence, UR has proposed an allowance of £26k per TR, which would reflect the Rune recommendation plus design costs. This would also represent a c. 20% increase on the GT17 request from MEL. 	
DD Classification	Category 2
DD Recommendation	Partial allowance (£208k)
TSO Consultation Response <ul style="list-style-type: none"> MEL has accepted the allowance as set out in the draft determination. 	
UR Final Views <ul style="list-style-type: none"> No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above, in line with the MEL business plan. 	
FD Recommendation	Partial allowance (£208k)

Table 16 – Lagging Analysis

Project Name	Lagging
Amount Requested in GT22	£30k



Project Synopsis	
<ul style="list-style-type: none"> MEL is requesting funds to replace lagging on heat exchangers at WTP pressure reduction sites. 	
Outputs	
<ul style="list-style-type: none"> Lagging replacement. 	
DD Issues / Summary	
<ul style="list-style-type: none"> Need is unclear as would not have expected to need replacement of these WTP assets at such an early stage. Request is below the £50k threshold and activity should be captured as part of general maintenance. UR recommends no allowance. 	
DD Classification	Category 4
DD Recommendation	No allowance
TSO Consultation Response	
In their consultation response, MEL made the following points:	
<ol style="list-style-type: none"> This should be allowed as a specific project to stay in line with previous allowances and cost allocation. In the past UR has requested that this be separately identified. MEL has followed industry best practice and moved away from fixed style insulation to removable insulation. This insulation has a shorter life than the old, fixed style and is therefore replaced more frequently. 	
UR Final Views	
<ul style="list-style-type: none"> Given that there is no defined outputs and costs are below the materiality threshold, we see no reason to provide a separate allowance for this activity. The fact that the Velcro lagging is replaced more frequently would suggest that this is more appropriately captured under typical maintenance activity. We do not see a need to separately identify this activity, so do not consider that a change is required from the draft determination. 	
FD Recommendation	No allowance

Table 17 – UPS and Battery Replacement Analysis

Project Name	UPS & Battery Replacement
Amount Requested in GT22	£201k
Project Synopsis	
<ul style="list-style-type: none"> MEL is requesting funds to decommission UPS systems at non-critical sites. Plan is to replace the UPS systems with a safer, smaller stored energy 24V battery system on the sites where back up power is essential. Expect costs of £249k but £48k to be spent in year 5 of GT17. 	



<p>Outputs</p> <ul style="list-style-type: none"> • Non-critical sites decommissioned. • 24V battery system installed at critical sites. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> • RIGS details the low cost of UPS and battery replacement in GT17 i.e. £18k in the first four years of GT17 for five UPS systems and three battery-charging units. • Unless there is good reason, the cost of decommissioning sites and new 24V batteries appears more costly than just replacing UPS systems on a regular cycle. • It is unclear how many sites are in view in terms of an output. • For the DD, UR recommend provision of £50k to maintain current replacement cycle. Would ask MEL to justify why their BP proposals are preferable. 	
DD Classification	Category 2
DD Recommendation	Minor Allowance (£50k)
<p>TSO Consultation Response</p> <p>In their consultation response, MEL made the following points:</p> <ol style="list-style-type: none"> 1) Increased costs are due to the move to a different system to mitigate risk of UPS fire and this requires a detailed design to be undertaken. 2) The new system reduces the links in the supply chain, is easy to maintain and improves resilience. 3) Have successfully implemented in the GTTW systems, whereas MEL have had issues with UPS failures. 4) Like-for-like replacement of UPS systems is something that cannot be relied on as manufacturers change and update models, which then require a full design, appraisal and approval before they can be fitted. 5) Change control process is the same as has been detailed for fitting the battery system, and therefore there are no cost benefits staying with UPS. 	
<p>UR Final Views</p> <ul style="list-style-type: none"> • We remain somewhat unconvinced by the TSO arguments. • MEL has successfully updated UPS and battery systems in GT17 for minimal cost. It is not clear why a change is now required. • Whilst MEL cite a higher risk, the GTTW systems are newer and replacement of older UPS systems will inevitably reduce the consequent risk. • The argument against like-for-like UPS replacement due to manufacturer change will also surely apply to the 24kV battery system. • Consequently, we are not minded to change from our draft determination. • Outputs are not clear for this project and will need to be established. 	
FD Recommendation	Minor Allowance (£50k)

Table 18 – Pipework Coating Analysis

Project Name	Pipework Coating
Amount Requested in GT22	£698k



Project Synopsis

- MEL is requesting funds to undertake pipework coating at block valves and AGIs.
- Need is based on industry practice of 5 year maintenance to prevent corrosion.
- Request of **£698k** is significant uplift from **£143k** allowance in GT17.

Outputs

- 4 block valves painted.
- 14 AGIs / Pressure Reduction Stations painted.

DD Issues / Summary

- MEL has requested a material uplift on the GT17 allowance, but this would be expected to some extent given addition of WTL assets.
- Need for some activity is clear but costs at the end of the price control are somewhat uncertain. This conclusion is based on the fact that;
 - a) Certain AGIs have had a longer repainting interval in the past e.g. Ballylumford incurred costs in 2014-15 but is not due for a refresh until 2021-22 (7 years).
 - b) MEL recognise that a significant element of the work is supervision rather than purely timetabled activity.
 - c) GNI (UK) only begun a material pipework coating programme in GT17, over 10 years after network construction.
- Need for work on the WTL assets is somewhat unclear given GNI (UK) precedent.
- UR recommend allowance for PTL assets in year 1 of GT22.
- Have proposed a relevant item for the other AGIs in question where the need is somewhat uncertain.

DD Classification	Category 2 / 3
DD Recommendation	Partial Allowance (£118k)

TSO Consultation Response

In their consultation response, MEL make the following points:

- 1) Recognise that the schedule can flex based on condition monitoring.
- 2) Have updated the cost request to only account for painting all PTL, BGTL and the Maydown AGI. Propose to suspend painting of other WTL sites until after GT22. Revised request would amount to **c. £416k**.
- 3) Vital that all PTL and BGTL sites are painted, as it has been six years since last treatment.
- 4) Cannot compare with GNI (UK) due to large arrangements of outside pipework.



UR Final Views

- We have various concerns with the consultation response.
- MEL has stated that the BGTL assets must be done in GT22 due to a six-year gap. However, the business plan submission indicates that these sites are due to be undertaken in the last year of GT17. The same issue applies to Maydown AGI.
- Whilst large arrangements of outside pipework may impact on the costs of painting, it is not clear how it would impact on timings.
- Significant elements of the programme are scheduled for the last year of the GT22 price control, which MEL indicated can flex depending on condition monitoring.
- CCNI has further stated that, *“the UR should take a view over whether it is realistic to expect that they will all be delivered within the timeframe or whether it is likely that some will actually not be completed until GT27. In either case, the repex allowance for that expenditure should be held over until the next regulatory review”*.
- Given these concerns, we are not minded to adjust the draft determination position.
- Outputs for GT22 monitoring/delivery include 4 block valves and South Cairn. A relevant item will be retained for further requests should the need arise.

FD Recommendation

Partial Allowance (**£118k**)

Table 19 – Meter Replacement Analysis

Project Name	Meter Replacement
Amount Requested in GT22	£1.49m
<p>Project Synopsis</p> <ul style="list-style-type: none"> • MEL proposes to spend almost £1.5m on meter replacement. • Need is largely based on age and other issues i.e. Larne operating outside capacity. 	
<p>Outputs</p> <ul style="list-style-type: none"> • 4 Ultrasonic meters – Knocknagoney, Torytown, Ballylumford and Larne. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> • The need seems fairly clear given age and other issues. • However there are a number of material concerns regarding the cost request: <ol style="list-style-type: none"> a) GNI (UK) are proposing a much larger meter replacement programme for c. 30% less cost. b) Cost of the Larne meter was planned for GT17 where MEL made a cost request for £152k for this project. The GT22 project request for Larne is £296k, approximately 94% more expensive. c) Response to Query 43 did not provide a satisfactory response to this forecasted uplift in costs. d) Looking at the cost breakdown, some of the elements appear questionable i.e. project management costs as well as site supervision fees etc. • UR recommends a much lower provision of 50% for DD. Despite the detailed breakdown in costs, it is not evident that the level of expenditure is well justified. 	
DD Classification	Category 2
DD Recommendation	Partial allowance (£744k)



TSO Consultation Response

In their consultation response, MEL make the following points:

- 1) UR cannot compare costs to GNI (UK) or against GT17 as MEL are proposing an entire meter system replacement, not just meter component replacement.
- 2) Replacement is necessary due to the large turn down ratios required because of low summer flows and growing winter peaks, which are not compatible with the existing metering systems.
- 3) Originally, the TSO felt that using a different meter size could allow the pipework and flow computer to be reused. However, recent review has shown that there is a need to move to ultrasonic meters, along with pipework, cabling and flow computation replacement in order to accurately measure the flows now expected.
- 4) Have had to work with PNG and incur cost to make estimates where flows have been below the minimum readable level for meter readings.
- 5) Costs are based on the replacement of the meter system at Twynholm.

UR Final Views

- We accept the need for the project and the rationale behind additional costs for meter system replacement.
- However, there remains concern about the cost request. For instance, it is not clear how the costs have been derived from the Twynholm example.
- It is not obvious why SNIP costs for SCADA reconfiguration are needed, particularly since the new SNIP contract includes a change management service.
- There also remains a concern around the scale of difference compared to the GNI (UK) programme, even though it is accepted that scope differences exist.
- Given concerns, we propose a 20% reduction in the final allowance.
- Outputs for GT22 monitoring/delivery will be those listed above, in line with the business plan.

FD Recommendation

Partial allowance **(1.2m)**

Table 20 – Boiler House Analysis

Project Name	Larne Boiler House & Control Panel
Amount Requested in GT22	£395k
Project Synopsis	
<ul style="list-style-type: none"> • MEL is requesting funds to replace the Larne boilers and pre-heat system. • These assets are now 23 years old with a life expectancy of 15-20 years but have been extended using spares from Torytown and Knocknagoney. 	
Outputs	
<ul style="list-style-type: none"> • Replacement of Larne boiler house and pre-heat systems. 	



DD Issues / Summary	
<ul style="list-style-type: none"> • Need for the project is clear. • GT22 costs are actually slightly less than the GT17 request (£460k) for the same project. • Costs of c. £400k per boiler package is on a par with the average unit cost requested by GNI (UK) at their two proposed AGIs. • UR recommend full allowance. 	
DD Classification	Category 1
DD Recommendation	Full allowance (£395k)
TSO Consultation Response	
<ul style="list-style-type: none"> • Not applicable. 	
UR Final Views	
<ul style="list-style-type: none"> • No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above, in line with the business plan request. 	
FD Recommendation	Approve in full

Table 21 – Larne Inlet Analysis

Project Name	Larne Inlet
Amount Requested in GT22	£296k
Project Synopsis	
<ul style="list-style-type: none"> • MEL is requesting funds to replace a safety valve on the Larne inlet bypass. • Costs are based on assumption of diversion on a 'live' pipeline. 	
Outputs	
<ul style="list-style-type: none"> • Replacement of Larne inlet valve. 	
DD Issues / Summary	
<ul style="list-style-type: none"> • Need appears clear in this instance. • Have no comparable benchmark for cost certainty. • Looking at the costs, some of the elements appear unclear i.e. project management costs as well as site supervision. • UR has however recommended full allowance given the project need. 	
DD Classification	Category 1
DD Recommendation	Full Allowance (£296k)
TSO Consultation Response	
<ul style="list-style-type: none"> • Not applicable. 	



UR Final Views

- No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above, in line with the business plan.

FD Recommendation

Approve in full

Table 22 – Electrical Systems Analysis

Project Name	Electrical System Upgrades
Amount Requested in GT22	£494k
<p>Project Synopsis</p> <ul style="list-style-type: none"> • MEL proposes to replace ATEX lighting, general lighting and distribution boards at the PTL and BGTL AGIs. • Project is similar to the GNI (UK) electrical request. • Cost of the 6 AGIs is £556k but some spend is anticipated in GT17, resulting in a lower request for GT22. 	
<p>Outputs</p> <ul style="list-style-type: none"> • Replacement of lights and distribution boards at 6 AGIs. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> • Need is clear. MEL provided an electrical maintenance report for Knocknagoney supporting the work request. • GNI (UK) are also requesting similar work despite a younger network than MEL's. • Main concern is cost. Despite very similar activities, the MEL sites are expected to cost £93k per AGI on average. This compares to the GNI (UK) request at £66k per site, which also includes the replacement of 5 generators. • There can be variability in cost depending on size of site. On the assumption that MEL's AGI's are larger on average, UR propose an allowance of £70k per AGI. • Removing the GT17 spend would result in allowance of £277k for GT22. 	
DD Classification	Category 2
DD Recommendation	Partial allowance (£277k)
<p>TSO Consultation Response</p> <p>In their consultation response, MEL make the following points:</p> <ol style="list-style-type: none"> 1) MEL sites are not comparable to GNI (UK) as they are larger with more assets (such as lighting, cables, junction boxes) to replace. 2) MEL's assets are also older therefore more assets will need replaced i.e. MEL have a more invasive and therefore more expensive replacement. 3) Costs for sites are based on quotes received from suppliers. 	



UR Final Views

- We do not see a reason to materially change from the draft determination position.
- Whilst MEL sites may be larger, GNI (UK) work includes offsetting scope factors such as generator replacement, which is not part of the MEL request.
- Even though there may be more assets such as cables and junction boxes, these are a relatively small element of the MEL cost breakdown.
- We have also taken account of the bigger site by uplifting the benchmark rate.
- The business plan claim for Ballylumford is **c. 39%** above the contractor quote provided, which should cover most of the costs. The difference is not explained.
- Removing the unexplained cost percentage across all sites would give comparable unit rates to benchmarked figures.
- Our view is that the efficient costs have been revealed by both benchmarking and the contractor quote provided by MEL. This aligns with the draft allowance.
- We have however provided an uplift of £37k to a final allowance of **£314k** to include the generator replacement for Ballylumford requested under 'Other Items'.
- Outputs for GT22 monitoring/delivery will be those listed above, in line with the MEL business plan and one generator at Ballylumford.

FD Recommendation

Partial allowance (**£314k**)

Table 23 – Actuator Analysis

Project Name	Actuators
Amount Requested in GT22	£372k
Project Synopsis	
<ul style="list-style-type: none"> • MEL proposes to replace 37 actuators due to DSEAR compliance requirements. 	
Outputs	
<ul style="list-style-type: none"> • Replacement of 37 actuators. 	
DD Issues / Summary	
<ul style="list-style-type: none"> • Need is not totally certain, as MEL may be pursuing the option of an exemption. • Response to Query 51 does indicate that the probability of exemption is low. • GNI (UK) are proposing similar work. • MEL unit cost at £10.1k is less than the GNI (UK) costs at £13k per actuator. • UR recommend full allowance. 	
DD Classification	Category 1
DD Recommendation	Full allowance
TSO Consultation Response	
<ul style="list-style-type: none"> • Not applicable. 	



UR Final Views	
<ul style="list-style-type: none"> No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above. 	
FD Recommendation	Approve in full

Table 24 – Throttle Flow Analysis

Project Name	Throttle Flow at Block Valve
Amount Requested in GT22	£116k
Project Synopsis	
<ul style="list-style-type: none"> MEL proposes installing valve arrangement at the BV sites on the WTP, which would allow the flow to be throttled in the event of an emergency, rather than switched off. 	
Outputs	
<ul style="list-style-type: none"> 4 Throttle flow valves at Moss Road, Loughans Road, Tullybroom and Dungannon. 	
DD Issues / Summary	
<ul style="list-style-type: none"> No particular concern with this project. UR propose full allowance. 	
DD Classification	Category 1
DD Recommendation	Full allowance
TSO Consultation Response	
<ul style="list-style-type: none"> Not applicable. 	
UR Final Views	
<ul style="list-style-type: none"> No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above. 	
FD Recommendation	Approve in full

Table 25 – Chromatograph Analysis

Project Name	Gas Chromatograph
Amount Requested in GT22	£259k
Project Synopsis	
<ul style="list-style-type: none"> MEL wish to replace the chromatograph at Ballylumford. Need is largely based on Asset Health Model which has identified that the gas chromatograph is approaching end of life. 	



<p>Outputs</p> <ul style="list-style-type: none"> 1 Gas chromatograph system at Ballylumford. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> Need is not totally certain in GT22 as asset is not due to be replaced until year 5 i.e. 2026-27. Business plan also refers to spares and back-up from other parts of the system. Cost appears inflated compared to GNI (UK) request of £99k per unit and MEL request for the same project in GT17 at £110k. UR propose project be deferred until GT27 or treated as a relevant item. 	
DD Classification	Category 3
DD Recommendation	No allowance
<p>TSO Consultation Response</p> <p>In their consultation response, MEL make the following points:</p> <ol style="list-style-type: none"> 1) Need is now certain as model will no longer be supported and spares are not available from 2022 onward. 2) Project timing has been brought forward to 2023-24 tariff year given criticality as the output from this chromatograph is fed across PTL and BGTL sites. 3) Cost comparison may not be relevant in that the system in place at Ballylumford is of an old design that is considerably different to the modern systems. 4) Have provided a quote for works to support design/installation cost forecasts. 	
<p>UR Final Views</p> <ul style="list-style-type: none"> Given the revised information, we are inclined to support this project. However, concerns remain about the level of the cost request. The forecast for the chromatograph purchase is significantly in excess of benchmarked rates or indeed MEL's own detail provided for Twynholm costs. Response to our query on this issue stated that the costs included kiosk expenses and provided quotes to support this. It did not however provide a rationale for the expense associated with the asset. The uplift from the GT17 request is also not fully explained. We are minded to accept the kiosk costs but provide an overall allowance of £180k. This represents a significant uplift from GT17 request and a more appropriate chromatograph purchase cost. We have also revised the timing of the funding to 2023-24 in line with the new forecast timetable for project delivery. Outputs for GT22 monitoring/delivery will be those listed above. 	
FD Recommendation	Partial Allowance (£180k)

Table 26 – Remote Operated Valve (ROV) Analysis

Project Name	Reactivate ROVs
Amount Requested in GT22	£61k



Project Synopsis	
<ul style="list-style-type: none"> MEL wish to reactivate ROVs at 5 sites. Cost is £89k but some activity will occur in GT17. 	
Outputs	
<ul style="list-style-type: none"> 5 ROVs at Ballylumford, South Cairn, Torytown, Portadown, Dungannon Tee. 	
DD Issues / Summary	
<ul style="list-style-type: none"> Need is not yet completely certain as MEL has yet to undertake a risk assessment balancing the risk between needing fast closure and spurious closure. ROVs were deactivated following two such spurious events. Given the materiality, UR recommend full allowance as it would seem that MEL expect the remote operation to be re-instated. 	
DD Classification	Category 1
DD Recommendation	Full allowance
TSO Consultation Response	
<ul style="list-style-type: none"> Not applicable. 	
UR Final Views	
<ul style="list-style-type: none"> No change required from draft determination. Outputs for GT22 monitoring/delivery will be those listed above, in line with the business plan request. 	
FD Recommendation	Approve in full

Table 27 – Civils Analysis

Project Name	Civils Works
Amount Requested in GT22	£224k
Project Synopsis	
<ul style="list-style-type: none"> MEL has requested £224k to undertake general civils work at PTL and BGTL sites. 	
Outputs	
<ul style="list-style-type: none"> 3 kiosk roof repairs/replacements (Ballylumford, Torytown & Knocknagoney). 1 entire kiosk replacement at Ballylumford. Other ad hoc work. 	
DD Issues / Summary	
<ul style="list-style-type: none"> Expect some general costs to be incurred but not much specificity on outputs. Costs at £45k p.a. represent a substantial uplift from the GT17 period of £15k p.a. but might expect to see some increase in this area over time. Given the ad hoc nature of the work, it is not clear why this activity is not part of general maintenance. UR propose no repex allowance but some uplift (£125k) to AGI maintenance. 	



DD Classification	Category 3 / 4
DD Recommendation	No allowance
<p>TSO Consultation Response</p> <p>In their consultation response, MEL make the following points:</p> <ol style="list-style-type: none"> 1) Agree that most of the projects in this category can be moved to maintenance and accept the maintenance budget uplift of £125k. 2) However, the poor condition of the South Cairn kiosk was flagged for imminent replacement, which was confirmed as necessary by HSE. 3) Want the South Cairn kiosk replacement costs of £141k to be funded via repex. 4) These costs are based on a quote, which also covers other work at the kiosk. 	
<p>UR Final Views</p> <ul style="list-style-type: none"> • We are broadly supportive of the work given the confirmed need. • However, the new cost request of £141k plus the £125k maintenance uplift would actually take the request to £266k, which is above the business plan. • It is our view that the kiosk cost request should be much lower (£76k) as MERC expenses are already funded via the PLC project. • It is not clear why this cannot be addressed via the maintenance programme. • Given the project need and scale, we have revised the maintenance allowance to £150k over the price control period. • Output includes replacement of the South Cairn kiosk. This will be monitored as part of the PLC work. 	
FD Recommendation	No allowance

Table 28 – Metering Consistency Analysis

Project Name	Metering Consistency
Amount Requested in GT22	£159k
<p>Project Synopsis</p> <ul style="list-style-type: none"> • MEL wish to study metering consistency to ensure compliance with the network code and the latest ISO: 6976 standard. 	
<p>Outputs</p> <ul style="list-style-type: none"> • Metering consistency study. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> • Need is not clear as the ISO standard was published in 2016. • GNI (UK) has not requested such activity and the driver for the study is uncertain. • UR do not propose any allowance subject to further detail being provided by MEL. 	
DD Classification	Category 4
DD Recommendation	No allowance



TSO Consultation Response

In their consultation response, MEL make the following points:

- 1) This work needs completed before installation of new meters in order to be better informed for the design process. Do not wish to install new meters that are not compliant with BS EN6976 (2016).
- 2) This should be a joint submission with MEL and GNI to review and check consistencies with each other and the network code.
- 3) National Grid are rolling out the new standard. This is forcing other users to adopt a similar position.

UR Final Views

- The justification for this project is not fully complete.
- It is not clear why this should be funded given the spend proposed on meter replacement which will include testing, compliance and approval.
- MEL has argued that the work needs to be done before meter installation for design purposes. However, the business plan has the profile spend to be completed in year 3, by which time much of the meter spend has been forecast to be incurred.
- MEL have pointed out that the work should be done in conjunction with GNI (UK). Given the TSO metering work proposed in GT22, we agree with this assertion.
- The issue of metering consistency seems like a good candidate for joint working going forward. We would propose that the TSOs address this issue in conjunction with each other.
- Consequently, we are not minded to change from the draft determination position.
- MEL and GNI (UK) should work in collaboration to decide what action is to be taken on metering consistency.

FD Recommendation

No allowance

Table 29 – Security Analysis

Project Name	System Security
Amount Requested in GT22	£56k
Project Synopsis	
<ul style="list-style-type: none"> • MEL are requesting funds to upgrade security assets with 5-10 year asset life. 	
Outputs	
<ul style="list-style-type: none"> • None listed. 	
DD Issues / Summary	
<ul style="list-style-type: none"> • Outputs are not clear. However, GNI (UK) are requesting similar activity on younger assets so would expect some spend. • Request is not material and given security priority, UR recommend full provision. 	
DD Classification	Category 1
DD Recommendation	Full allowance



TSO Consultation Response	
<ul style="list-style-type: none"> Not applicable. 	
UR Final Views	
<ul style="list-style-type: none"> Whilst full allowance was provided at draft stage, we raised a query on the outputs for this project and the differentiation between this spend and security costs incurred in maintenance budgets. MEL replied that this spend is related to replacement of security assets whereas the maintenance spend is for ongoing monitoring and management services. MEL has failed to detail specific outputs associated with this spend. It is also the case that we have made provision for full opex security costs, which represent a material uplift (31%) from expected spend in GT17. We are therefore of the view that these activities can be funded via maintenance. We would not propose any allowance for the final determination. No output monitoring is required. 	
FD Recommendation	No allowance

Table 30 – Legacy Project Analysis

Project Name	Legacy Projects
Amount Requested in GT22	£13k
Project Synopsis	
<ul style="list-style-type: none"> MEL are requesting funds to close out GT17 projects. 	
Outputs	
<ul style="list-style-type: none"> None listed. 	
DD Issues / Summary	
<ul style="list-style-type: none"> Need is not clear, neither are outputs. Costs are below threshold. UR recommend no allowance. 	
DD Classification	Category 4
DD Recommendation	No allowance
TSO Consultation Response	
<ul style="list-style-type: none"> Not applicable. 	
UR Final Views	
<ul style="list-style-type: none"> No change required from draft determination. No output monitoring required. 	
FD Recommendation	No allowance



Table 31 – Other Items Analysis

Project Name	Other Items
Amount Requested in GT22	£1.01m
<p>Project Synopsis</p> <ul style="list-style-type: none"> MEL are requesting funds for a variety of smaller projects. 	
<p>Outputs</p> <ul style="list-style-type: none"> Instrumentation upgrades such as degraded cables. Abriox units' replacement. Ballylumford generator. Unknown risks that might occur. Various other small items such as toilets, internet, cage bottles etc. 	
<p>DD Issues / Summary</p> <ul style="list-style-type: none"> Need is not always clear, neither are outputs. Many of the projects are small in nature and might be expected to be addressed via normal maintenance processes. Some of the projects have material costs without any associated outputs i.e. instrumentation upgrades (£523k) and ARR / RAR unknown actions (£321k). UR recommend no allowance given that most costs have no outputs and other projects have poor cost justification and could be considered as maintenance. 	
DD Classification	Category 4
DD Recommendation	No allowance
<p>TSO Consultation Response</p> <p>In their consultation response, MEL make the following points:</p> <ol style="list-style-type: none"> Agree that the majority of costs can be moved to maintenance activity. Still want a repex allowance for generator replacement and instrumentation upgrades that amounts to £80k. Request that £405k be uplifted to the maintenance allowance to account for other projects and risks. 	
<p>UR Final Views</p> <ul style="list-style-type: none"> We have provided the Ballylumford generator costs under the electrical instrumentation upgrade project. We do not think there is good support for the other costs or clear outputs. This is borne out by the material reduction in the instrumentation cost request between the business plan and DD consultation response. Other smaller costs can be addressed via the maintenance budget. We also note that a material component of the request is to address unknown risk. We understand this rationale, but do not think an upfront allowance is required as costs may outturn higher or lower than budget. If higher, MEL always have recourse to request a BCO² uplift where justified. No output monitoring required. 	
FD Recommendation	No allowance

² BCO = Budgeted Controllable Opex.



MEL Repex Conclusions

3.2 The pre-efficiency repex request and allowances are set out below:

Table 32 – MEL Repex Request vs Allowance (Pre-Efficiency)

Project Name	MEL Request	UR DD Allowance	UR FD Allowance	FD Decision
SCADA Refresh ³	£2.31m	£1.73m	£2.20m	Category 2 – Near full allowance
PLC Panel Replacement	£0.69m	£0.46m	£0.62m	Cat. 2 - £150k per PLC
Transformer Rectifier Replacement	£0.30m	£0.21m	£0.21m	Cat. 2 - £26k per TR allowed
Lagging Replacement	£0.03m	-	-	Cat.4 - No allowance
UPS and UPS Battery Replacement	£0.20m	£0.05m	£0.05m	Cat.2 - £50k provision for UPS
Pipework Coating	£0.70m	£0.12m	£0.12m	Cat.2/3 - Material disallowance
Site Meters	£1.49m	£0.74m	£1.19m	Cat.2/3 - 80% allowance
Larne Boiler House	£0.39m	£0.39m	£0.39m	Cat.1 - Full allowance
Larne Inlet	£0.30m	£0.30m	£0.30m	Cat.1 - Full allowance
Electrical System Upgrades	£0.49m	£0.28m	£0.31m	Cat.2 - Material disallowance
Actuator Replacement	£0.37m	£0.37m	£0.37m	Cat.1 - Full allowance
Throttle Flow at Block Valves	£0.12m	£0.12m	£0.12m	Cat.1 - Full allowance
Gas Chromatograph	£0.26m	-	£0.18m	Cat.3 - £180k allowance
ROVs	£0.06m	£0.06m	£0.06m	Cat.1 - Full allowance
Civil - Kiosks, Roads & Site General	£0.22m	-	-	Cat. 3/4 - No repex allowance
Metering Consistency	£0.16m	-	-	Cat. 4 - No allowance
Security System Upgrades	£0.06m	£0.06m	-	Cat.1 - No allowance
Legacy Projects	£0.01m	-	-	Cat. 4 - No allowance
Other items	£1.01m	-	-	Cat. 4 No allowance
Total Cost	£9.17m	£4.88m	£6.12m	

3.3 The final determination has uplifted allowances by £1.2m, which represents 67% of the request. This increase is mostly related to SCADA/SNIP costs, PLC replacements and site meter / chromatograph funding.

3.4 We are also proposing a relevant item for the pipework coating project where further cost requests may be expected throughout the GT22 period. MEL should also consider the metering consistency project alongside GNI (UK). This may increase the overall repex allowance for the period.

³ Request amended from business plan due to uplifted contract costs.



4. Repex Conclusions

Summary

4.1 The graphs below detail the repex allowances against requests after accounting for efficiency. They also provide the context of GT17 actual and forecast spend.

Figure 1 – GNI (UK) Repex Request vs Allowance (Post Efficiency)

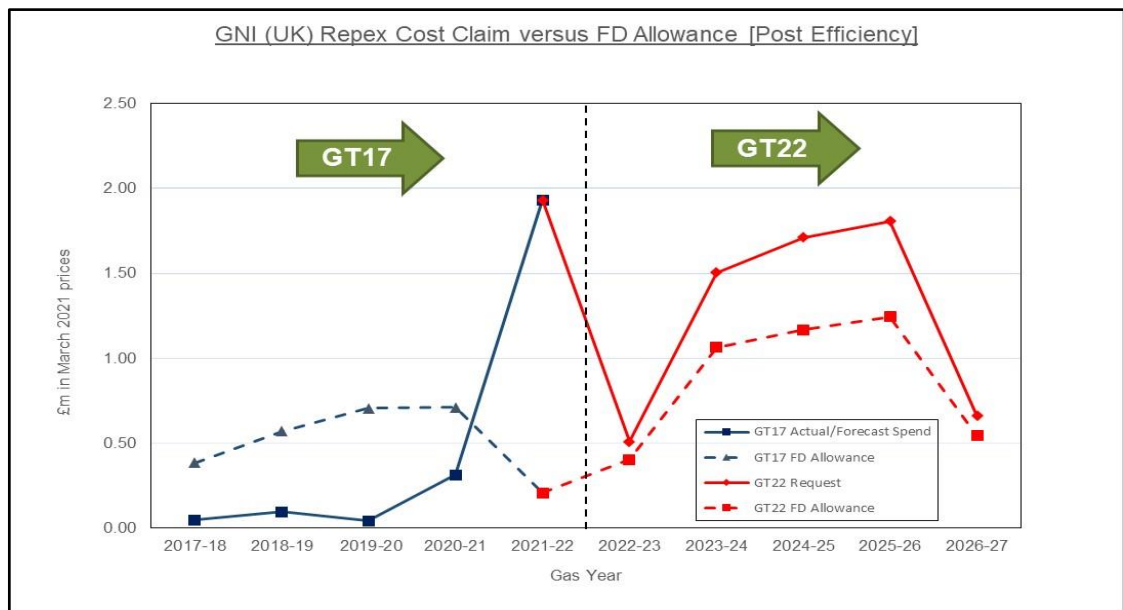
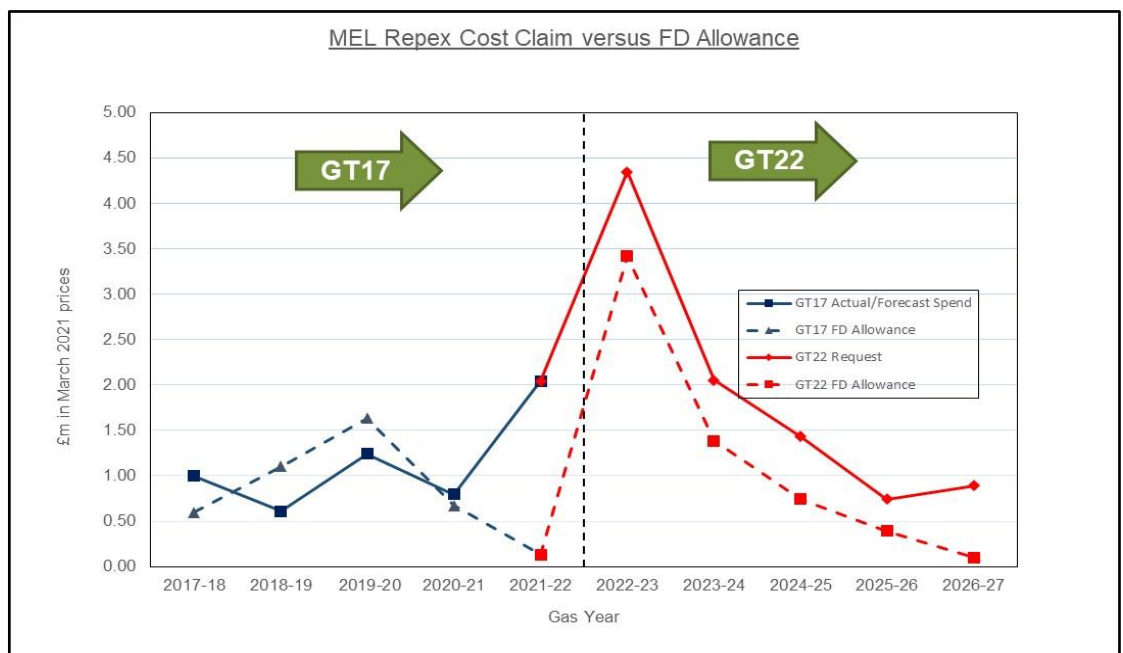


Figure 2 – MEL Repex Request vs Allowance (Post Efficiency)





4.2 For GNI (UK), the table below evidences the material uplifts in request from the GT17 allowances. Whilst the allowance has been uplifted, there is still some material disallowance. However, the final decision still represents a circa 70% increase from the GT17 allowance for the repex programme.

Table 33 – GNI (UK) Allowances (Post Efficiency)

GT17 Forecast Spend	GT17 Allowance	GT22 Request	GT22 DD Allowance	GT22 FD Allowance	% Change in Request from GT17 Allowance	GT22 % Change in Allowance
£2.8m	£2.6m	£6.2m	£4.0m	£4.4m	+140%	+70%

4.3 For MEL, the table below evidences the material uplifts in request from the GT17 allowances and spend. The position has changed between draft and final determination, in major part due to SCADA costs becoming known. UR proposals represent a 46% increase from the GT17 allowance for the repex programme.

Table 34 – MEL Allowances (Post Efficiency)

GT17 Forecast Spend	GT17 Allowance	GT22 Request	GT22 DD Allowance	GT22 FD Allowance	% Change in Request from GT17 Allowance	GT22 % Change in Allowance
£6.0m	£4.1m	£9.5m	£4.9m	£6.0m	+129%	+46%

4.4 The allowances for both GNI (UK) and MEL may increase when relevant items are considered. For GNI (UK) these include cyber security and metering activity, whilst MEL can make requests for pipework painting costs.