



Work Order Life Cycle Playbook



Playbook Process Sections

Document History	6
Version	6
Revision History	6
Playbook Revision Methodology	6
Approvals	6
Plant Accounting	7
Work Order Lifecycle Playbook: Overview	7
Work Order Lifecycle Overview	7
Business Group Descriptions	7
Roles and Descriptions	8
Scope	9
Work Order Creation	9
Work Order Processing and Review	10
Construction	10
Asset In Service	11
Asset Retirement	12
Work Order Lifecycle Overview	13
Work Order Life Cycle Playbook:	14
Work Order Creation	14
Work Order Creation Process	14
Business Group Descriptions	14
Required Fields	15
Terms/Acronyms	18
Roles and Descriptions	18
Scope	19
Work Order Capitalization	19
Preliminary Survey and Investigation Charges	20
Late Charge Wait Period (LCW)	20
Work Order Creation Process Flow	22
Work Order Creation Process Steps	23
Other Affiliated Documents	24
Controls	24
Tools	25



Process Variations.....	25
Dependencies	25
Inputs	25
Outputs	26
Work Order Life Cycle Playbook:	27
Work Order Processing and Review	27
Work Order Processing and Review	27
Niagara Mohawk Variable Pay Allowed Recover Rates	27
Business Group Descriptions	28
Terms and Acronyms	28
Additional Terms.....	30
Roles and Descriptions	33
Work Order Processing.....	33
Work Order Reviews.....	34
Work Order Closing	35
PS&I TO CWIP Process Flow.....	36
PS&I to CWIP Process Steps.....	37
CWIP to CCNC (Non-Unitization) Process Flow	40
CWIP to CCNC (Non-Unitization) Process Steps	41
CCNC to PIS (Unitization) Process Flow	45
CCNC to PIS (Unitization) Process Steps	46
Monthly WO Inactive Review Process Flow	49
Monthly WO Inactive Review Process Steps	50
Other Affiliated Documents.....	54
Controls.....	54
Tools.....	55
Process Variations.....	56
Dependencies	56
Inputs	57
Outputs	57
Templates	58
Notifications	58
Interfaces	58
Required Reports / Queries	59
Required Forms	59



Work Order Life Cycle Playbook:	60
Asset Retirement	60
Asset Retirement.....	60
Business Reasons for Retirement	60
Retirement Methods	60
Business Group Descriptions	62
Terms and Acronyms	62
Roles and Descriptions	62
Scope	63
Specific Considerations.....	63
Required Information	63
Retirement Scenarios	65
Asset Retirement Process Flow	66
Asset Retirement Process Steps	67
Controls.....	72
Tools.....	74
Dependencies	74
Inputs	74
Outputs.....	74
Notifications	75
Interfaces.....	75
Required Reports / Queries	76
Required Forms	76
Direct Purchases of General Equipment and Tools.....	77
Direct Purchases.....	77
Business Group Descriptions	77
Terms and Acronyms	77
Roles and Descriptions	78
Scope	78
Direct Purchases Process Flow	79
Direct Purchases Process Steps	80
Required Fields for Asbuilt.....	82
Controls.....	83
Tools.....	85
Dependencies	85



Inputs	85
Outputs	85
Notifications	86
Interfaces	86
Required Reports / Queries	86
Required Forms	86
Manual Blanket Unitization	87
Manual Blanket Unitization	87
Business Group Descriptions	87
Terms and Acronyms	87
Roles and Descriptions	87
Scope	88
Manual Blanket Unitization Process Flow	89
Manual Blanket Unitization Process Steps	90
Other Process Affiliated Documents	92
Controls.....	92
Tools.....	92
Required Fields for Asbuilt.....	93
Dependencies	93
Inputs.....	94
Outputs.....	94
Notifications	94
Interfaces	94
Required Reports / Queries	94
Required Forms	95
Appendix	96
Future State Work Order Overview	97
System Interfaces: Work Order Lifecycle.....	98
PowerPlanSystem Errors	100
Keyspan.....	100
Legacy National Grid.....	128



Document History

Version

Version:	2.0
Department:	Plant Accounting Center of Excellence (COE)
Owner:	Daniel DeMauro, Director of Balance Sheet Integrity
Repository Location:	TBD
Effective Date:	9/30/2013

Revision History

Version	Date	Summary of Changes	Revised By
1.0	5/21/2012	Created	PwC
2.0	9/30/2013	Updated	KPMG
3.0	3/23/2015	Updated	Dan DeMauro

Playbook Revision Methodology

At a minimum, this document should be reviewed every other year, and the results of the review should be noted in the Revision History, along with the next expected review date. The document should be reviewed shortly after any major business process or system changes.

Approvals

Approver	Title	Playbook Role	Applicable Section(s)	Signature	Date
Daniel DeMauro	Director of Balance Sheet Integrity	Reviewer	All		
Matthew Myles	Plant Accounting Manager	Reviewer	All		
Ryan Powell	Analyst	Owner	PowerPlan Close		
Matthew Myles	Plant Accounting Manager	Owner	SAP Journal Entries		



Plant Accounting Work Order Lifecycle Playbook: Overview

Work Order Lifecycle Overview

The purpose of this playbook is to provide policy guidance and process details on the Work Order Life Cycle used by National Grid's Plant Accounting department in monitoring and recording fixed assets within National Grid's financial records. This overview is intended to assist the user in understanding the overall structure of the individual processes that comprises the Work Order Life Cycle.

The Work Order Life Cycle is critical to National Grid because work orders are the method by which capital charges are tracked and eventually recorded as fixed assets. National Grid's fixed asset rate base is key to the rate case cost recovery and ultimately National Grid's financial performance.

Business Group Descriptions

The primary roles within the Work Order Lifecycle, from a Plant Accounting perspective, are summarized in the table below:

Business Group	Responsibility
Plant Accounting COE	Responsible for accuracy of the Plant Accounting portions of this document throughout the life of the process.
General Accounting	Responsible for providing input of the General Accounting portions of this document throughout the life of the process.
Controls Excellence Team (CET)	Functional group responsible for ensuring compliance with SOX, Data Security, and Records Management. Responsible for providing input on the Controls portions of this document.
IS Personnel – PowerPlan System Support	Functional group responsible for day-today support of PowerPlan: IBM – Joseph Muti: (607) 744 2605 Ira Pal: (607) 744 2905 Steve Sarutto Devendra Singh



Business Group	Responsibility
	IBM Support Supervisor Sekhar Pattim (201) 323-2389

Roles and Descriptions

Title	Responsibility
Plant Accounting Clerk	Plant Accounting Clerk provides input to the overall process steps, manually creating WOs, when required and manually updating work orders based upon field personnel authorization. The Plant Accounting Clerk is also responsible for processing Legacy Keyspan retirement transactions, and remediating WO Unitization Errors and ad hoc reporting and research, when requested.
Plant Accounting Analyst	Plant Accounting Analyst provides input to the overall process and is kept informed throughout the work order creation process as well as posting transactions to the G/L. Responsible for active and non-active WO reviews as well as retirement transactions, Unitization Error handling, when escalated from the Plant Accounting Clerk, regulatory reporting requirements, ad hoc report requests, year-end audit preparation, G/L Account Analysis, G/L Account reconciliations, and research.
Plant Accounting Manager/Lead Analyst	Plant Accounting Manager/Lead Analyst are held accountable for accuracy of WO processing & review, error remediation, retirement transactions, reconciliations, and requests that need additional information from other responsible departments.
Director of Balance Sheet Integrity	Director of Balance Sheet Integrity is consulted for his knowledge to the overall process and kept informed throughout the WO lifecycle process.
IS Personnel	IS Personnel are responsible for the operational management and maintenance of company systems and applicable technologies. They facilitate the processing of certain transactions within company work management (STORMS and MAXIMO) and fixed asset systems (PowerPlan).
Project Management Field Operations Owner Initiator Operations	Authorized, front office personnel are responsible for identifying the need for a job/project, budgeting, scoping, obtaining approvals, gathering all required information, and initiating the work order within the system. Furthermore, front office personnel are responsible for the overall project management of the job associated with a work order/project.



Scope

The Work Order Lifecycle is divided into the following three stages:

- Work Order **Creation**
- Work Order **Processing and Review**
- **Asset Retirement**

Work Order Creation

Work Order Creation applies to activities associated with the creation of all National Grid work orders and capital projects. Work Order Creation is the period prior to construction, when engineering preliminary survey and investigation (AKA FERC 183) costs are incurred on Legacy Grid work orders. The concept of preliminary survey and investigation currently does not exist for Legacy Keyspan work orders. However, proper work order governance and project authorizations are followed and obtained, and capital work orders are established after receiving all required approvals for all work orders according to National Grid’s Delegation of Authority.

Owner	Project owners are responsible for managing the construction of a capital project and accruing capital and general expenses incurred.
Activity	<p>For capital projects, charges that are incurred during this phase are capitalized to the Preliminary Survey and Investigation FERC G/L account 183 (aka PS&I) for Legacy Grid work orders. Once the project is deemed feasible and construction costs are capitalized to the Construction Work in Progress, FERC G/L account 107 (AKA: CWIP) the PS&I charges capitalized to the 183 account are required to be transferred to the 107 account.</p> <p>For Legacy Keyspan capital projects ,costs are capitalized to the Construction Work in Progress, FERC G/L account 107 (AKA: CWIP).</p> <p>AFUDC charges are now capitalized to work orders that have charges in 183 or 107.</p>
Outcome	At the completion of the PowerPlan month-end close, all fixed asset transactions for the period are derived and posted to PowerPlan’s Cost Repository and Settled in SAP. The open month in PowerPlan is closed and the new month in PowerPlan is opened.



Work Order Processing and Review

Work Order Processing and Review activities occur during and after construction, when charges are incurred and assets are placed into service.

Construction

Construction is the process during which the capital project is being constructed. This process includes recording all costs valid for capitalization such as overhead expenses, labor, materials, and AFUDC. It also includes the accounting for any possible capital disallowances, impairments, abandonments, or deferral of projects prior to completion.

Owner	Project owners are responsible for managing the construction of a capital project and accruing capital and general expenses as incurred. This includes the process of reviewing work orders that are deemed to be Inactive (12 months without a charge other than AFUDC) or in Violation (18 months without a charge other than AFUDC)
Activity	Capital costs that are incurred during this phase are capitalized to the Construction Work in Progress FERC G/L account 107 (aka CWIP). Project owners take part in a quarterly review process of their Inactive or Violation work orders.
Outcome	Upon the entry of an In-Service Date into the PowerPlan application the accumulated charges within the FERC G/L account 107 are progressed and transferred by PowerPlan to the Completed Construction Not Classified FERC G/L account 106 (AKA: CCNC) Once a Completion Date is entered the Late Charge Wait (LCW) period begins. Legacy Grid has a PowerPlan default LCW period of 3 months. Legacy Keyspan has a PowerPlan default LCW period of 6 months. Once the LCW has elapsed, PowerPlan will attempt to unitize the work order to Plant in Service FERC G/L account 101 (aka PIS). There is an additional 3 months where the work order is kept open in PowerPlan (originally this additional 3 month LCW period was believed to be in SAP but it is in PowerPlan) to accommodate the posting of any



	<p>stragglers invoices that are received that fall outside of the default LCW's. When this occurs, the PowerPlan application will attempt to perform an auto Minor Add of these charges to Plant In Service g/l account.</p> <p>At the completion of the PowerPlan month-end close, all fixed asset transactions for the period are derived and posted to PowerPlan's Cost Repository and Settled in SAP. The open month in PowerPlan is closed and the new month in PowerPlan is opened.</p> <p>As part of the quarterly review process, project owners are expected to progress their work orders to one of the following three statuses:</p> <ol style="list-style-type: none"> 1. Closed 2. Cancelled 3. Exception (Exceptions are maintained manually outside of PowerPlan and SAP by the Plant Accounting staff)
--	---

Asset In Service

Assets are considered In Service, energized, and placed into service once construction is complete. Once a work order is classified as in-service ongoing accounting activities such as depreciation, impairment assessments, and other types of ongoing adjustments can be made. Entry of an In-Service Date in PowerPlan progresses the work from CWIP to CCNC. Entry of a Completion Date within PowerPlan triggers the Late Charge Wait Period. After the Late Charge Wait Period expires Unitization is attempted, if successful the work order is unitized to Plant in Service FERC g/l account 101. If Unitization fails, a Unitization Error is generated and the work order will remain in CCNC until the Unitization Error is successfully resolved and Unitization is attempted again and is successful.

Owner	Project owners are responsible for providing Plant Accounting with the As-Built information, which signifies the asset has been defined and placed in service. This information is required for timely and accurate unitization of an asset (accounting for an asset as Plant in Service).
Activity	During this process, the focus is on accurately placing assets into service. Capitalized construction costs that were processed from CWIP are now sitting in CCNC, awaiting final As-Built information for further processing. AFUDC is shut off once Capitalized construction costs are moved from CWIP to CCNC. Once the Capitalized construction costs are in CCNC,



	<p>the asset begins depreciating.</p> <p>The quarterly inactive and violation work order review process described in the Construction section above apply during this phase as well.</p>
Outcome	<p>Once PowerPlan receives final As-Built information from a project owner, PowerPlan transfers charges from CCNC into the Plant in Service FERC G/L Account 101 (AKA: PIS).</p> <p>The quarterly inactive and violation work order review process described in the Construction section above apply during this phase as well.</p>

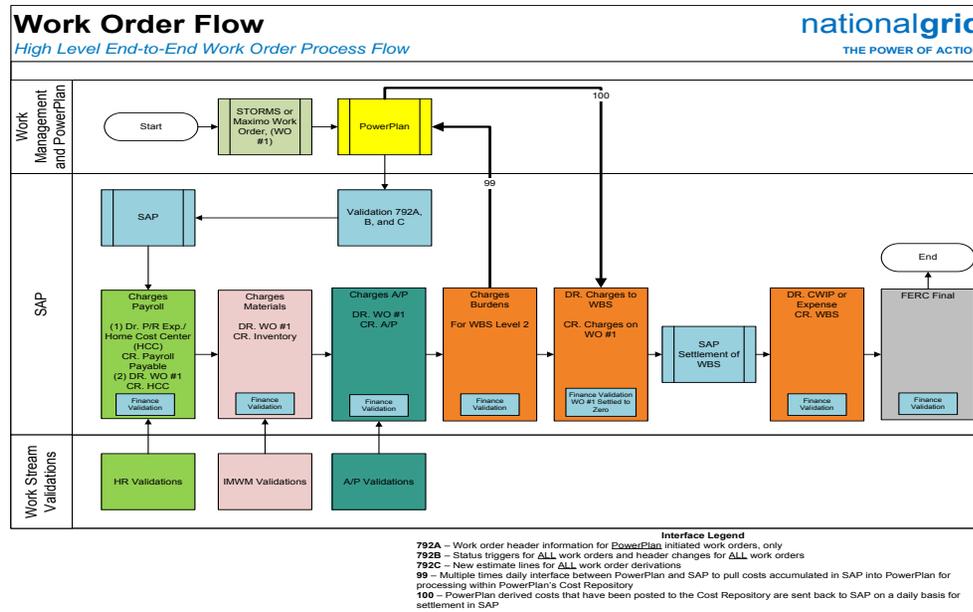
Asset Retirement

Asset Retirement occurs at the end of an asset's useful life and/or at the time an asset is disposed. The Retirement process ensures that assets are retired at the appropriate time, no further depreciation is recorded for disposed assets, and any gain or loss on the retirement of the asset is recorded appropriately (e.g., gain or loss on disposal).

Owner	<p>Authorized retirement requestors are responsible for identifying when an asset is no longer used or useful.</p>
Activity	<p>During this process, the focus is on accurately and timely retirement of an asset from service. Additional costs for removal or sale of an asset may be incurred within the Retirement Work in Progress account (FERC account 108).</p>
Outcome	<p>The original cost of the asset is transferred from FERC account 101 into the RWIP account (FERC account 108). In addition, any applicable installation costs and costs of removal/sale are also transferred/charged to RWIP. When a new work order is placed in-service, the presumption is that there is an existing asset that is being replaced and is required to be retired. As part of the work order creation process Retirement Estimates are required to be entered into PowerPlan. Otherwise, there will be a Unitization Error indicating that there are no Retirement Unit Estimates present on the work order.</p>



Work Order Lifecycle Overview





Work Order Life Cycle Playbook: Work Order Creation

Work Order Creation Process

The Work Order Creation process starts when a work order is created in either:

- STORMS
- Maximo
- PowerPlan only work orders

Once the work order is set-up in STORMS or Maximo the header information is interfaced over to PowerPlan in order to create the work order in PowerPlan. Once the work order is created in PowerPlan, the work order header information is interfaced over to SAP the work order is created in SAP. Once the work order is created in SAP the work order is able to accept charges for the work performed. The process for setting up PowerPlan only work orders is the same as described above except the work order is not set-up in either STORMS or Maximo, it is directly set-up by the user in PowerPlan.

An authorized Work Order Initiator creates a work order after funding for the project and the appropriate governing bodies have determined its prioritization. From there, the Work Order Initiator inputs required data into all applicable work management and financial information systems.

The table outlined below (in *Required Fields*) provides the basis for the creation of all work orders. The Plant Accounting Department requires that all WOs be initiated with complete and accurate information through the lifecycle to facilitate accurate and complete data in the financial records of National Grid.

Work Order Capitalization

Capital work orders are dependent upon the installation, construction, replacement, or removal of a unit of property. Proper classification of work orders as capital is necessary to uphold the integrity of National Grids financial results, and compliance with the FERC accounting guidelines. Work order capitalization is discussed within the Scope section of the Work Order Creation section of this playbook.

Preliminary Survey and Investigation Charges

Preliminary Survey and Investigation Charges are activities related to activities such as preliminary surveys, plans, and investigations performed in order to determine the feasibility of the project under contemplation. These charges are accrued in the FERC 183 g/l account until construction begins and the charges need to be reclassified manually, by Plant Accounting, to the CWIP 107 FERC g/l account or the project is deemed not feasible and the accrued PS&I costs in the 183 g/l account are required to be expensed immediately. Preliminary Survey and Investigation charges are discussed within the Scope section of the Work Order Creation section of this playbook.

Business Group Descriptions

Upon creation of the Work Order, Plant Accounting can begin to facilitate the accurate monitoring, tracking, and management of WOs through their lifecycle and until their ultimate disposition.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 15 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 15 of 167



Business Group	Responsibility
Work Order Owner (Initiator)	Responsible for identifying the need for a job, obtaining approvals and creating WO (Legacy NG and Legacy KS) in MAXIMO/STORMS.
Plant Accounting	Responsible for manually creating WOs on a limited basis primarily to transfer charges from a broken work order to the new work order to get the charges to flow properly within PowerPlan and not for the purpose of work that is to be performed.

Required Fields

The table below outlines all data elements that are required within a Work Order.

Required Field	Field Definition	Business Implications (Risk if missing or incorrect data is provided)
Company Number or Business Segment	<p>Company Number—represents the existing National Grid business units/legal entities</p> <p>Business Segments —represents a business line of a regulated utility within a legal entity</p>	<ul style="list-style-type: none"> Misstated balance sheet accounts Inability to close work orders in a timely manner Inaccuracies in downstream reporting Inability to satisfy regulatory filings Failure to deliver accurate data for rate case filings
Work Order Type	Distinct naming convention that can be used to reference the nature of the project (i.e. Electric Distribution, Gas Distribution, Transmission, Sub-station, etc.)	<ul style="list-style-type: none"> Inability to close work orders in a timely manner and allocation inaccuracies
Department or Cost Center	<p>Represents a responsibility center containing labor costs and other expenses</p> <p>Identifies the specific responsibility / cost center being charged</p>	<ul style="list-style-type: none"> Inability to produce accurate management reporting for management decision making
AFUDC Eligibility	<p>Indicates that a work order qualifies for AFUDC under regulatory guidelines. AFUDC is the amount recorded by an entity for the costs of financing to fund CWIP. The amount is capitalized along with other construction costs and recovered over the life of the asset, through depreciation.</p> <p>Work orders is not eligible for</p>	<ul style="list-style-type: none"> Noncompliance with regulations True cost of asset construction is over or under stated

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 16 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 16 of 167



Required Field	Field Definition	Business Implications (Risk if missing or incorrect data is provided)
	<p>AFUDC:</p> <ul style="list-style-type: none"> On service installations, purchase of equipment and furniture, purchase of vehicles or power operated equipment On purchase and installation of transformers, regulators and meters On a project which has been abandoned On blanket projects. Blanket projects are high volume, low dollar projects that are closed monthly <p>See AFUDC Policy for full details</p>	
Major Location	Jurisdiction in which asset is physically located	<ul style="list-style-type: none"> Incorrect tax district resulting in overpaying or underpaying property taxes Discrepancies between asset facility records and financial record systems
Asset Location	City/town in which the asset is physically located	<ul style="list-style-type: none"> Incorrect tax district resulting in overpaying or underpaying property taxes Discrepancies between asset facility records and financial record systems
Date Initiated	Date work order is created. Utilized to perform project / work order aging analysis	<ul style="list-style-type: none"> Inability to perform project/work order aging analysis Lack of audit trail
ACE Code or Reimbursable Indicator	<p>ACE Code – work code definitions required in MAXIMO</p> <p>Reimbursable Indicator – Required in STORMS for CIAC (contribution in aid of construction) – indicates that a customer will provide reimbursement for a job</p>	<ul style="list-style-type: none"> Lack of audit trail Unable to reconcile the charges associated with a CIAC Inability to bill third parties Noncompliance with tariffs and regulations
Late Charge Wait Period (LCW)	Number of months that work order must remain open after completion date to account for late charges	<ul style="list-style-type: none"> Incorrect assignment of Late Charge Wait Periods results in Unitization delays, which affects the timely recovery of the Company's rate base
Estimated In-Service Date	Estimated date by project initiator as to when assets under construction are ready for their	<ul style="list-style-type: none"> Inability to track, manage, and monitor projects that are past due based on estimated construction timelines

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 17 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 17 of 167



Required Field	Field Definition	Business Implications (Risk if missing or incorrect data is provided)
	intended use	
Initial Estimate	A forecast of the most likely total project cost based on work management system or other engineering standards	<ul style="list-style-type: none"> Low initial estimates could result in dissatisfied customers due to higher billing downstream Potential regulatory fines/penalties if actual costs deviate significantly from estimates
Budget Fields	A high-level estimate of the amount being spent on a given project. This should be broken into Amount of Capital, Removal, and Expense	<ul style="list-style-type: none"> Unable to review actual expenses versus budgeted expenses
Description of Work Performed or Long Description	Free text box allowing for detailed explanation of the project or job	<ul style="list-style-type: none"> Lack of proper description will not allow for proper classification of a work order Unable to track costs related to work order Difficulty in identifying work order related to As-built Difficulties in analyzing project
Job Owner or Responsible Person	Job Owner - Name of person who is the owner of the project Responsible Person - Name of person who is responsible for the work order. Varies based on the STORMS status of the work	<ul style="list-style-type: none"> Unable to communicate with responsible person to manage or analyze CWIP/CCNC
Pool Transmission Facilities Percentage (PTF)	Percentage of transmission asset ownership, used to identify revenue recovery for transmission facilities	<ul style="list-style-type: none"> Unable to determine ownership percentage for transmission assets Unable to accurately track receivables and payables related to these assets Unable to reconcile accounting entries for the transmission facility or facilities
Utility Account	Utility account within a general ledger system, which is posted to based on project work to be performed	<ul style="list-style-type: none"> Error at closeout to wrong utility or FERC account Implications in net utility plant and depreciation expenses Unable to accurately complete regulatory filing requirements
Subaccount	The subaccount rolls up to an account and is used to specify the property where the fixed asset is located, such as highway, private, personal	<ul style="list-style-type: none"> Misclassification of property tax for the company Misclassification of assets on the General Ledger
Bill Pool or Allocation Code	Code used to allocate expenses to a shared asset capitalized on company books	<ul style="list-style-type: none"> Improper allocation of costs and revenues



Terms/Acronyms

Term / Acronym	Definition
Capital Expenditure	Costs incurred from the installation, construction, replacement or removal of an asset representing property, plant or equipment that will: <ul style="list-style-type: none"> Benefit to the company beyond one year Extends the life of the asset Extends the reliability of the asset, or Lowers associated operating costs of an existing asset
Non-Capital Expenditure	Costs relating to general operations, maintenance, or administrative and general expenses, or job order billing.
Project Work Order	System document to collect, track and monitor charges incurred by work order initiators and monitored by Plant Accounting
AFUDC (Allowance for Funds used During Construction)	A noncash item representing the estimated composite interest costs of debt and a return on equity funds used to finance construction. The allowance is included in the property accounts; the contra credit is included in income. This portion of the carrying value of property is included in a utility company's rate base and is recovered through revenues over its useful life.

Roles and Descriptions

Title	Responsibility
Work Order Owner	Authorized work order initiators are required to create a work order within all applicable work order management and financial information systems. At initiation, the authorized initiator must fill out all required details and project information.
Field Operations Personnel	Upon completion of data entry by the Work Order Initiator, the work order is scheduled and released to field operations personnel for construction. Project construction begins and costs are charged to the created work order
Plant Accounting Clerk	In situations where Plant Accounting initiates a work order in PowerPlan on behalf of the business, Plant Accounting is provided all the inputs required to facilitate the creation of a work order. Plant Accounting clerks do not create work orders in STORMS/MAXIMO



Title	Responsibility
Plant Accounting Clerk Manager	Responsible for the oversight and review of activities performed by the Plant Accounting Clerks within the Work Order Creation Process.
Plant Accounting Manager/Lead Analyst	Accountable for the accuracy and review of monthly transactions as well as for requesting additional information from responsible departments and obtaining necessary approvals.
Director of Balance Sheet Integrity	Responsible for the oversight and management of overall critical deliverables of the Plant Accounting function. Consulted for knowledge of the overall process and kept informed throughout the process.

Scope

Work Order Creation is divided into the following sections:

- Work Order Capitalization
- Preliminary Survey and Investigation Charges

Work Order Capitalization

All capital work orders are predicated on the installation, construction, replacement, or removal of a unit of property. If the answer to either of the questions below is "Yes," the work performed or item purchased should generally be classified as a capital asset:

- 1) Does the work performed or item purchased result in property, plant, or equipment that will provide a benefit to the company beyond one year?
- 2) Does the work performed extend the life, enhance the reliability, increase the capacity or output, or lower the associated operating costs of the existing asset?

Factors in Determining Treatment of Project Costs

The following factors also affect the decision whether or not to capitalize project costs:

- Type of work performed
- Construction (addition/replacement) of an existing asset (capital)
- Retirement/removal of an asset (capital)
- Repair/maintenance of an asset (expense)
- Unit of property (retirement unit upon which capitalization decisions are predicated)
- Jurisdiction/rate case (Unit of property catalogs can vary based on past rate proceedings within each utility's jurisdiction)
- Dollar (cost) threshold
- For details on capital versus expense policy, please see Plant Accounting *infonyet* site: <http://us2infonyet/sites/Finance/Pages/PlantAccounting.aspx>

Direct Purchases of General Equipment and Tools

Direct purchases of general equipment and tools are capitalized if the costs of such items are greater than or equal to the thresholds below, all else are expensed:

- Legacy KeySpan – Costs greater than or equal to \$500
- Legacy National Grid – Costs greater than or equal to \$2,500



Preliminary Survey and Investigation Charges

Field Operations create work orders to record and track charges related to Preliminary Survey and Investigation (PS&I) activities such as preliminary surveys, plans, and investigations performed in order to determine the feasibility of the project under contemplation. This activity is specific to electric projects this concept does not exist for gas projects currently.

If the project under contemplation has been determined to be a capital project (i.e. if capital project is sanctioned), Plant Accounting, upon written notice from Field Operations, will transfer PS&I charges to the construction work in progress (CWIP) account. Additionally, on a quarterly basis, Plant Accounting will review the Day 2 Query results in order to identify work orders that have PS&I and CWIP charges concurrently and reclass the PS&I charges that have been accrued to CWIP (183 to 107). If a capital project is deemed not feasible (i.e. not sanctioned), the accrued PS&I charges are written off to expense by Plant Accounting, upon written notice from Field Operations. See table below for summary of PS&I charges and their processing / treatment.

Stage	Example Activities	Pre-Sanctioned Treatment	Capital Project - Sanctioned	Capital Project - Non-Sanctioned
1 - Preliminary analysis and problem finding	<ul style="list-style-type: none"> Agreement on load growth Preliminary diagnostic analysis to identify existing problems Identification of key expansion considerations or assumptions Identification of functional resource needs Development of schedule 	Expense	No change	No change
2 - Plan formulation and analysis	<ul style="list-style-type: none"> Develop alternative plans Identify cost of alternatives Perform reliability performance analysis Screen and refine plans Review preliminary transmission impact Review plans with stakeholders 	Preliminary Survey & Investigation (183)	Transfer charges to CWIP (107)	Transfer charges to Expense
3 - Plan ranking and analysis refinement	<ul style="list-style-type: none"> Refine cost estimates where needed Refine reliability performance review Review environmental Review transmission impact 	Preliminary Survey & Investigation (183)	Transfer charges to CWIP (107)	Transfer charges to Expense
4 - Present recommendations and sanctioning	<ul style="list-style-type: none"> Prepare study report Prepare final presentation Prepare PDS's 	Preliminary Survey & Investigation (183)	Transfer charges to CWIP (107)	Transfer charges to Expense

Late Charge Wait Period (LCW)

All capital work orders will default with a Late Charge Wait Period (LCW) of 90 days for STORMS initiated work orders and 180 days for Maximo initiated work orders. For any work orders that are reimbursable, the LCW period can be extended by 30 days (to a maximum of 120 days). Work orders that require a LCW period beyond 120 days, a valid reason code must be provided to Plant Accounting.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 21 of 167

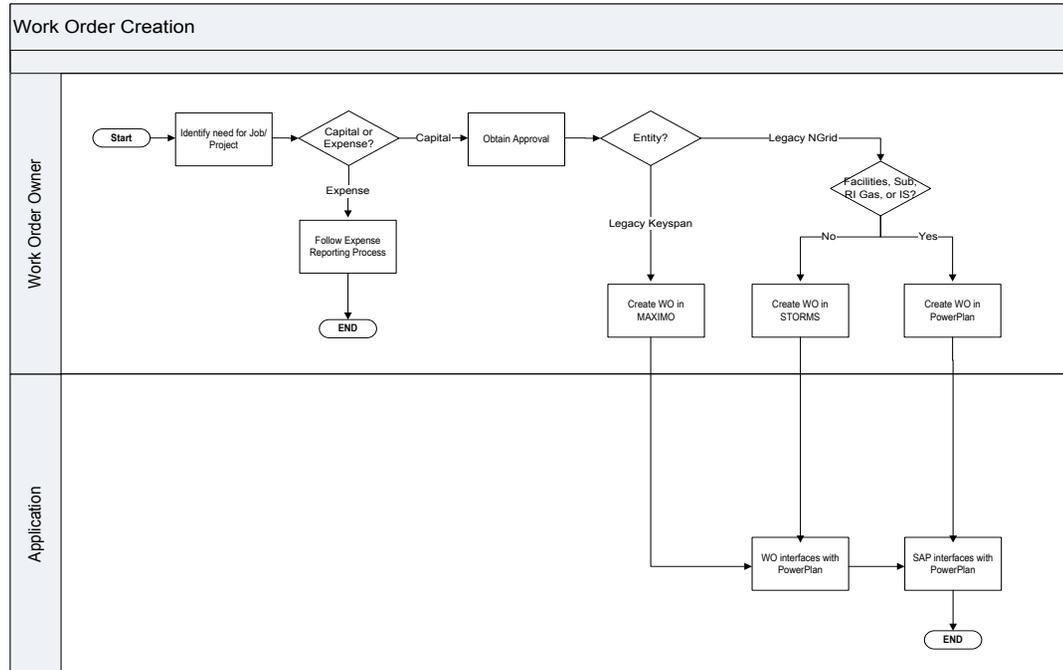
Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 21 of 167



Within PowerPlan, there is an additional 90 day LCW built in to accommodate late and lagging charges that can be auto Minor Added. Originally, this additional 3-month LCW period was believed to be in SAP but it is in PowerPlan.



Work Order Creation Process Flow



The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 23 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 23 of 167



Work Order Creation Process Steps

Description	Responsible Role	Process Detail
Identify need for job/project	WO Owner (Initiator) / Authorized Personnel	Determine the need for a job/project based on the following criteria: Replacement of an existing asset Repair/maintenance of an asset Construction of new asset Removal of an asset
Capital or Expense?	Project Manager (PM)/ WO Owner (Initiator)	Determine if project costs will be capitalized or expensed. Validate with Plant Accounting, if questions arise. If Capital, see step: Obtain approval If Expense, see step: Follow Expense Reporting Process
Follow Expense Reporting Process	WO Owner (Initiator)	For expense reporting refer to Project Management Playbook version 3.1.
Obtain Approval	WO Owner (Initiator)	For the Capital Project Approval Process, refer to Project Management Playbook version 3.1.
Entity?	WO Owner (Initiator)	Decision driven by differences in system functionality and business requirements. If Legacy KeySpan, see step: Create WO in Maximo If Legacy NGrid, see step: Facilities, Sub, RI Gas, or IS? If Service Company, see step: Gather and submit all required information
Create WO in MAXIMO	WO Owner(Initiator)	Create the WO in MAXIMO for all Legacy KeySpan capital projects/work orders. Include initial work order estimate in the work order.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 24 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 24 of 167



Description	Responsible Role	Process Detail
Create WO in STORMS	WO Owner (Initiator)	Create the WO in STORMS for all Legacy National Grid non- facilities, sub-station, RI Gas, or IS-based capital projects/WOs. Include initial WO estimate.
Facilities, Sub, RI Gas, or IS?	WO Owner (Initiator)	Determine if the job belongs to Facilities, Sub-station, RI Gas, or IS. If Yes, see step: Create WO in PowerPlan. If No, see step: Create WO in STORMS
Create WO in PowerPlan	WO Owner (Initiator)	Input data into PowerPlan to generate the WO Include initial WO estimate.
WO interfaces with PowerPlan	System	Work order header information interfaces from STORMS or Maximo into PowerPlan. Once WOs have been successfully created, see step: Process and review WO
WO interfaces with SAP	System	Work order header information interfaces from PowerPlan to SAP. Once WOs have been successfully created, see step: Process and review WO

Other Affiliated Documents

Document Name	Document Type
Project Management Playbook	Playbook
Expense Reporting Process	Visio
Service Company Policy and Process	Playbook

Controls

Control Point #	Applicable Activity #	Control Type	Control Objective	Control Description	Automated / Manual ? (A/M)
N/A	N/A	N/A	N/A	N/A	N/A



Tools

Tool Name	Tool Use
STORMS	Legacy Grid work management system utilized to: <ul style="list-style-type: none"> • Create a work order • Charge, track, monitor, and cancel work order costs
MAXIMO	Legacy KeySpan work management system utilized to: <ul style="list-style-type: none"> • Create a work order • Charge, track, monitor, and cancel work order costs
PowerPlan	National Grid fixed asset sub-ledger application utilized to: <ul style="list-style-type: none"> • Create non-STORMS and Non-Maximo work orders • Charge, track, monitor, and cancel work order costs • Interfaces between STORMS/MAXIMO/SAP
SAP	National Grid's general ledger application

Process Variations

Key process variations from the primary process contained within this Playbook.

Variation Description
N/A

Dependencies

Dependency Description
Dependency: Completion of all required data inputs and supporting documentation
Dependency: Upfront estimates in work management systems for all WMS and PowerPlan initiated work orders. Otherwise, time and materials cannot be charged in SAP to the work orders
Dependency: Accurate classification of capital versus non-capital work orders
Dependency: Elimination of manual input of As-builts by Plant Accounting
Dependency: Work order header information needs to be synchronized between the WMS', PowerPlan, and SAP in order for time and material charges to flow completely and accurately

Inputs

Inputs
Work orders created in STORMS, Maximo, and/or PowerPlan and synchronized with SAP



Inputs
Approval to create capital work orders
Material charges
Invoice charges
Time charges
Burden charges
AFUDC Charges
Depreciation charges
In-service Date
Completion Date
Unit Estimate
Retirement Estimate
As-built
Periodic, updated Maximo work order status
Periodic, updated STORMS work order status
Periodic, updated PowerPlan work order status for PowerPlan initiated work orders

Outputs

Outputs
A capital work order has all of the costs charged to it, accounted for in the correct FERC account, which represents its current state in the work order life cycle
Synchronized work order status across WMS', PowerPlan, and SAP



Work Order Life Cycle Playbook: Work Order Processing and Review

Work Order Processing and Review

This document encompasses the following processes:

- Preliminary Survey and Investigation Charge Processing (PS&I to CWIP)
- Non-Unitization Processing (CWIP to CCNC)
- Unitization Processing (CCNC to PIS)
- Monthly Work Order Active Review
- Monthly Work Order Inactive Review

The lifecycle of a capital work order is broken down into four major stages, which correspond to the accounts through which charges are transferred until the asset is placed into service.

1. **Preliminary Survey and Investigation Charges (FERC Account 183000, PS&I)** - Charges that are incurred during the period prior to construction due to preliminary surveys, plans, and investigations performed in order to determine the feasibility of a capital project. Governance and authorizations are followed and obtained. Once construction of the asset begins the PS&I charges that have been incurred are required to be reclassified to the Construction Work In Progress (CWIP) account, prior to the next month-end close.

Please note that the PS&I concept does not exist for Legacy Keyspan companies and there is no plan to change this practice at this time.

2. **Construction Work In Progress (FERC Account 107000, CWIP)** - Charges that are incurred during the period in which a fixed asset is being constructed are booked to this account. This account includes the costs to construct the asset such as previously incurred PS&I charges, labor, contractor invoices, materials, overhead expenses and Allowance for Funds Used During Construction (AFUDC). Entry of an In-Service Date during the month triggers the reclass of costs accumulated in CWIP to CCNC at the end of the month.
3. **Completed Construction Not Classified (FERC Account 106000, CCNC)** - Account that holds the capital expenditures for a project before unitization within the Plant in Service account. Once charges are reclassified into this account from CWIP, stops the further charging of AFUDC to the work order and starts the depreciation process for the asset. The Late Charge Wait (LCW) period for a work order in CCNC will not begin until a Completion Date is entered into PowerPlan. Until the work order's LCW period expires, the work order will not unitize into Plant in Service (PIS).
4. **Plant in Service (FERC Account 101000, PIS)** - Account that holds the unitized asset costs once a work order's LCW has elapsed and unitization is successful.

Niagara Mohawk Variable Pay Allowed Recover Rates



As a result of the NMPC rate case 12-E-0201 and 12-G-0202, Niagara Mohawk (Company 5210) is allowed to recover from customers all union variable pay and a portion of management variable pay. The recoverable portion of management variable pay is as follows:

- Band A : 0%
- Band B&C : 60% (non-financial)
- Band D -F : 100%

Variable pay related to the recoverable portion per above should follow labor and thus be booked to Capex, Opex and cost of removal (COR).

The Company is calculating the recoverable and non-recoverable portions of variable pay and they develop the NMPC labor burden rates using the recoverable portion of variable pay. The appropriate SAP Costing Sheets should be updated with the appropriate burden rates for Opex, Capex, and COR.

Business Group Descriptions

Business Group	Responsibility
Work Order Owner (Initiator)	Responsible for initiating work orders, purchasing equipment and tracking the costs incurred under the work order for the creation of a capital asset. Also, responsible for completing and inputting work order information, including Unit Estimates, Retirement Estimates, final As-built, In-service Date, and Completion Date. The work order owner is responsible for ensuring the work order and As-built information provided is complete, accurate, and provided in a timely manner.
Plant Accounting	Actively monitor, track, process, and report the status of all capital work orders through the Work Order Lifecycle to ensure WOs are accounted for on an accurate and timely basis. Also, responsible for researching and resolving Unitization Errors on a monthly basis

Terms and Acronyms

Term / Acronym	Definition
Preliminary Survey and Investigation Charges (FERC Account 183000)	Account that holds the capital expenditures incurred before a project has entered the construction phase (<i>To see Gas and Electric specific definitions refer to Additional Terms below</i>).
Construction Work in Progress (CWIP/FERC Account 107000)	Account that holds the capital expenditures that are incurred before a project is complete

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 29 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 29 of 167



Term / Acronym	Definition
	<i>(To see Gas and Electric specific definitions refer to Additional Terms below).</i>
Completed Construction Not Classified (CCNC/FERC Account 106000)	Account that holds the capital expenditures for a project before unitization to the Plant in Service account <i>(To see Gas and Electric specific definitions refer to Work Order Process Review).</i>
Plant in Service (PIS/FERC Account 101000)	Account that holds the capital expenditures from a project that has been unitized and placed into service by National Grid <i>(To see Gas and Electric specific definitions refer to Additional Terms below).</i>
Active work order	A work order that remains open within the Preliminary Survey and Investigation Charges, CWIP, RWIP, or CCNC accounts that has not had a material or labor charge in more than 365 days of the Date Last Charged. The calculation to determine whether a work order is active or inactive specifically excludes AFUDC charges.
Active work order materiality	Any work order, under 365 days old that contains charges over a predetermined dollar value and equate to over 75% of the project budget.
Inactive work order	A work order that remains open within the Preliminary Survey and Investigation Charges, CWIP, RWIP or CCNC account that has not received a material or labor charge in more than 365 days(AKA, Date Last Charged).
Error Remediation Report	Report that contains the Top 40 inactive work orders to be remediated during a given month that is distributed to the Plant Accounting clerks, to resolve by operating company. The report contains Top 40 work orders by operating company and by dollar amount for CWIP and CCNC. This Top 40 Report also contains a listing of the 40 oldest work orders that based on last charge date, by operating company.
Senior Management of project initiators	The party or parties responsible for all work orders and projects within their jurisdiction. These individuals can be (in order of accountability) the Vice President, Director, and/or Project Manager.
Date Last Charged	The last date a work order is charged costs related to overhead, materials, and labor (excluding AFUDC charges).

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 30 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 30 of 167



Term / Acronym	Definition
Exception	An inactive work order that has been determined to have a compelling business reason for the inactivity and should remain open. The reasons are: <ul style="list-style-type: none"> • Future Year Construction • Customer/DOT/3rd Party Delays • Pending Outage (System/Customer) • Pending Permits/Licenses/Litigation • 3rd Party Pole Set • Pending Property/Facilities Transaction • Leak • Other (Detail Required)
Exception Approval	The Exception process requires that an employee who flags a work order with an Exception to have his Manger review and approve the Exception indicated for the work order in question.
Cancellation	A work order that is cancelled and written off to expense.
Violation work order	An inactive work order that has not received a material or labor charge in more than 18 months.
Violation Report	A quarterly report that contains violations to be sent to senior management for review.
Closed work order	For construction work orders, a closed work order is any work order where charges have been fully unitized to Plant In Service.

Additional Terms

Preliminary Survey and Investigation Charges – Legacy Grid Operating Companies

The PS&I – Electric account is charged with all expenditures for preliminary surveys, plans, investigations, etc., made for the purpose of determining the feasibility of utility projects under contemplation. If construction results, the PS&I account is credited and the accumulated costs are reclassified to CWIP. If the work is abandoned, the charge is made to account 426.5, Other Deductions, or to the appropriate operating expense account.

The records supporting the entries to this account are kept within the Plant Accounting Department.

Note: The PS&I concept exists for Legacy Grid operating companies only. The PS&I concept historically did not exist for Legacy Keyspan operating companies. Post SAP go-live Legacy Keyspan has not adopted the PS&I concept and at the time this document is published, there are no plans to adopt this concept.

Construction Work in Progress (CWIP) – Electric

The CWIP – Electric account shall include the total capital costs of the work orders for electric construction projects that are still under construction and have not had an In-Service Date entered into PowerPlan in order to progress the work order to CCNC. The entry of an In-service Date into PowerPlan indicates that the asset is considered to be



“energized,” which means the asset is ready to be used in day-today operations. Capital costs that are accumulating in the CWIP account receive a monthly AFUDC charge automatically until an In-Service Date is entered into PowerPlan.

Accumulated work order costs are progressed from CWIP to CCNC once an In-service Date is entered into PowerPlan. Further, if a project, such as a hydroelectric project or transmission line, is designed with two or more units or circuits that are placed in service at different dates, and have costs that are common to and are used in the operation of the project as a whole are associated with the first unit for accounting purposes. If at some point during the construction phase it is determined that a capital project that is being worked on is deemed no longer feasible or it is determined to abandon the project the affected work order is required to be cancelled and expensed. Any materials issued to a work order can be returned to stock or transferred to another work order that can use the materials.

Construction Work in Progress (CWIP) – Gas

The CWIP – Gas account shall include the total capital costs of the work orders for gas construction projects that are still under construction and have not had an In-Service Date entered into PowerPlan in order to progress the work order to CCNC. The entry of an In-service Date into PowerPlan indicates that the asset is considered to be “energized,” which means the asset is ready to be used in day-today operations. Capital costs that are accumulating in the CWIP account receive a monthly AFUDC charge automatically until an In-Service Date is entered into PowerPlan.

Accumulated work order costs are progressed from CWIP to CCNC once an In-service Date is entered into PowerPlan. Further, if a project, such as a gas production plant, a compressor station, or a transmission line, is designed with two or more units that are placed in service at different dates and have costs that are common to and are used in the operation of the project as a whole are associated with the first unit for accounting purposes.

Completed Construction Not Classified (CCNC)

At the end of each reporting month, the CCNC accounts include the total balance of work orders for electric plant or gas plant, which have an In-service Date in PowerPlan and may have a Completion Date in PowerPlan and may have started their Late Charge Wait Periods in PowerPlan. Regardless of whether there is a Completion Date or not for a particular work order that is in the CCNC account, the balance on each work order residing in CCNC has started depreciating and the accumulation of AFUDC was stopped at the point the work order progressed from the CWIP account to the CCNC account.

The entry of a Completion Date for a work order in PowerPlan starts the Late Charge Wait period countdown in PowerPlan, which means late and lagging charges from contractor invoices can still be posted to a work order, final labor costs, for in-house labor can be charged to a work order, materials requisitioned but not posted to a work order can be charged to an order. The Late Charge Wait period is also used by Front Office personnel to complete the work order’s final As-built, which needs to be entered into PowerPlan in order for Unitization to be successful at the expiration of the Late Charge Wait period. If Unitization is successful, the work order progresses to Plant in Service (PIS). If Unitization fails, the Plant Accounting clerical staff is responsible for researching and resolving the Unitization error(s) in order for the work order to progress to the PIS g/l account.

The Late Charge Wait period, for Legacy Grid work orders, is currently 3 months in PowerPlan. The Late Charge Wait period, for Legacy Grid work orders, is currently 6 months in PowerPlan. The Late Charge Wait period in PowerPlan can be viewed on the Detail or the Completed screens.

Within SAP, there is an additional 3-month Late Charge Wait period that begins after the PowerPlan Late Charge Wait period expires. Any charges that are posted to a work order during this second Late Charge Wait period are



auto Minor Added to the work order and Unitized. In the event auto minor adding does not work, Plant Accounting personnel have access within PowerPlan to perform manual Minor Additions to a work order.

If a work order has an Open Commitment, the work order will not unitize. At the time this document was published, \$0.01 of Open Commitment plus or minus will prevent a work order from Unitizing. There is an effort underway to investigate this situation and develop another more practical solution for Open Commitments

Note: For the purpose of reporting to the FERC, the classification of electric or gas plant in service, by Utility Account is required. Utilities also tentatively report the balance as accurately as possible, according to prescribed account classifications. The purpose of this provision is to avoid any significant omissions in reported amounts of electric plant in service.

Plant in Service – Electric

101.0 Electric Plant in Service:

This account includes the original cost of electric plant, included in accounts 301 to 399, prescribed herein, owned and used by the utility in its electric utility operations, and has a useful life of more than one year.

The cost of additions to and betterments of property leased from others, which are includible in this account, is recorded in subdivisions separate and distinct from those related to owned property.

101.1 Property Under Capital Leases:

This account includes the amounts recorded under capital leases for capital assets leased from others and used by the utility in its utility operations.

The electric property included in this account is classified separately according to the detailed accounts (301 to 399) prescribed for electric plant in service.

Records are maintained with respect to each capital lease reflecting: (1) name of lessor, (2) basic details of the lease, (3) termination date, (4) original cost or fair market value of property leased, (5) future minimum lease payments, (6) executor costs, (7) present value of minimum lease payments, (8) the amount that represents interest and the interest rate used, and (9) expenses paid.

Plant in Service – Gas

101.0 Gas Plant in Service:

This account includes the original cost of gas plant, included in utility accounts 301 to 399 prescribed herein, owned, and used by the utility in its gas operations, and has a useful life of more than one year. Including such property owned by the utility but held by nominees. (See also account 106 for unclassified construction costs of completed plant actually in service.)

The cost of additions to and betterments of property leased from others, which are includible in this account, is recorded in subdivisions separate and distinct from those relating to owned property.

101.1 Property Under Capital Leases



This account includes the amounts recorded under capital leases for capital assets leased from others and used by the utility in its utility operations.

The gas property included in this account is classified separately according to the detailed accounts (301 to 399) prescribed for gas Plant in Service. Records are maintained with respect to each capital lease reflecting: (1) Name of lessor, (2) basic details of lease, (3) termination date, (4) original cost fair market value of property leased, (5) future minimum lease payments, (6) executor costs, (7) present value of minimum lease payments, (8) the amount that represents interest and the interest rate used, and (9) expenses paid.

Roles and Descriptions

Title	Responsibility
Plant Accounting Clerk	Responsible for reviewing and remediating Unitization Errors, various scheduled and ad hoc reporting, and Top 40 Error remediation.
Plant Accounting Manager/Lead Analyst	Identify and distribute a listing of inactive work orders. Review responses received from Plant Accounting clerks to determine level of progress and work to clear obstacles identified by the Plant Accounting clerks and analysts.

Work Order Processing

Closed Work Orders

Post SAP implementation, once a work order is closed, it cannot be reopened, per the current PowerPlan application configuration. If there is a transaction that pre-SAP, would have resulted in the re-opening of a work order, this transaction will now have to be recorded on a separate work order and Unitized to Plant in Service, if a Minor Add cannot be performed in PowerPlan.

Required Fields for Unitization

In order for a work order to unitize, the work order owner must provide all of the following data:

Required Field	Description
Expenditure type	Identifies the use of the expense (addition, removal, or construction)
Unit Estimate	Initial work order estimate, that is established at the work order Operation Level, that determines the work order behavior (i.e. capital, expense, retirement only) and underlying accounting treatment (i.e. GAAP, FERC, etc). The initial work order estimate is typically replaced by multiple revisions during the course of construction. The initial Unit Estimate and subsequent revisions either leads up to or results in a final As-built.
Utility Account	Utility account to be posted based on project work to be performed. Utility accounts include, but are not limited to: Pole Wire Sub-station equipment Transformers Meters Mains



Required Field	Description
	Services Land
Sub Account	Sub-accounts are used identify the type of location where the asset is being constructed, in order to assist in asset taxation. Sub accounts include: Personal Private Highway
Retirement unit <i>(if applicable)</i>	The retirement unit is any unit that is required to be retired as a result of the replacement of an existing asset If a new asset is being constructed and it does not replace an existing asset a retirement unit does not need to be provided since there is nothing to retire
Quantity	Length, weight, or volume of the new or replacement asset
Amount	Dollar value of the asset
Asset Location	City/town in which asset is physically located

[Work Order Reviews](#)

[Inactive Work Order Reviews](#)

Inactive work orders are those that have not incurred material or labor charges within the past 365 days. Inactive work orders are reviewed each quarter by Front Office personnel and is coordinated through the Resource Planning Department. Plant Accounting may be asked to help compile and track certain aspects of the Front Office’s quarterly review but this is on an as needed basis. However, within this quarterly review process, established by the Resource Planning Department, are work orders that have not Unitized yet because they have unresolved Unitization Errors, residual balances un-Unitized, or a work order is late for Unitization for some unknown reason that has to be investigated and resolved. Work orders that are in STORMS status 90, X status, or CNL status are the responsibility of Plant Accounting. Work Orders that are FCOMP status or Cancel status in Maximo are the responsibility of Plant Accounting as well.

On a Monthly basis, a Plant Accounting analyst will distribute to each member of the Plant Accounting clerical staff a listing of their Top 40 Unitization errors, by top dollar amount, for CWIP and CCNC, by jurisdiction. In addition, each Plant Accounting clerk will receive a listing of the Top 40 work orders by Date Last Charged. The expectation is that the Plant Accounting clerk will work to resolve the reason why a work order is not closing within the month the listing is received. If a Plant Accounting clerk is encountering any obstacles that are inhibiting work order closure for the work orders assigned to them the Plant Accounting clerk is expected to escalate the issue to either the Plant Accounting supervisor or Plant Accounting manager, this includes but is not limited to the following:

- Non-responsive work order owners
- Non-responsive Plant Accounting personnel
- Application issues such:
 - Application access
 - Application performance issues
 - Inoperable application functionality

Once the Plant Accounting clerical staff has worked through the work orders assigned to them, the Plant Accounting clerical staff is required to return to the Plant Accounting Analyst the actions they took on the work orders assigned



to them for reporting purposes. It is invalid for the Plant Accounting clerks to simply respond with answers on the spreadsheet. The Plant Accounting clerks are expected to and required to go into the work orders assigned to them and resolve the issue prohibiting work order close out.

Work Order Closing

The responsible work order owner is accountable for providing final AsBuilt information, In-service Dates, Completion Dates, Unit Estimates, Retirement Units, etc. to facilitate Unitization or they should cancel the work order through STORMS or Maximo.

Plant Accounting may not cancel, expense, or close any work order without authorization from the responsible work order owner.

Inactive Work Order Exceptions

Inactive work orders that are requested to be kept open by the responsible work order owner require the following:

- Responsible VP (or designee) approval
- Estimated Completion Date - must be timely and result in a re-review as of the date listed
- Below is the list of current work order Exceptions –that have been defined by Resource Planning:

Exception Reason	Lifespan In Months	Description
Future FY Construction	12	Scheduling holds for future fiscal year construction or bundling
Customer/DOT/3rd Party Delays	12	Work order is being delayed due to a Department of Transportation or other 3rd party need
Pending Outage (System/Customer)	6	Work order is a part of a system or customer outage (including Conversion Projects) that have a long lead or limited window of availability
Pending Permits/Licenses/Litigation	6	Work order is awaiting a licensing litigation or right of way issue
3rd Party Pole Set	6	Work orders awaiting a third party pole installation
Pending Property/Facilities Transaction	6	Pending property or facilities sale or purchase
Leak	12	Program work for leak maintenance or tracking
Other	3	A justifiable business reason, with detail provided



PS&I to CWIP Process Steps

Description	Responsible Role	Process Detail
Complete the WO Creation Process	WO Owner	Refer to the <i>Work Order Creation</i> section to understand the process and required steps.
Incur Preliminary Engineering Charges	WO Owner	Incur charges associated with the planning and preliminary engineering of a project Preliminary engineering costs are charged to FERC Account 183000, Preliminary Survey and Investigation Charges
Sanction project?	WO Owner	Determine if the project should be sanctioned based upon survey results and preliminary engineering activities If Yes , see step: Identify PS& I charges to transfer to CWIP If No , see step: Identify PS&I charges to expense
Identify PS&I charges to expense	WO Owner	Identify the PS&I charges that should be expensed.
Identify PS&I charges to transfer to CWIP	WO Owner	Identify the PS&I charges that should be transferred to CWIP.
Receive PS&I notification from WO Owner	PA Analyst	Receive quarterly notification that identifies which work orders: 1) Should be expensed, and 2) Should be transferred to CWIP
Expense or Transfer?	PA Analyst	If Expense , see step: Create the J/E to expense charges If Transfer , see step: Create the J/E to transfer charges

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 38 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 38 of 167



Description	Responsible Role	Process Detail
Create the J/E to expense PS&I charges	PA Analyst	Manually create the journal entry in PowerPlan to expense costs charged to PS&I. The journal entry appears as follows: Debit: O&M Expense Account...\$XX Credit: Preliminary Survey and Investigation Charges.....\$XX
Create the J/E to transfer PS&I charges	PA Analyst	Manually create the journal entry in PowerPlan to transfer costs charged to PS&I to CWIP. The journal entry appears as follows: Debit: CWIP.....\$XX Credit: Preliminary Survey and Investigation Charges.....\$XX
Post the transactions to the G/L	PA Analyst	Review the transaction within PowerPlan and post it to the General Ledger. Batch processing occurs over night.
Review all WOs with 183 charges	PA Analyst	Review all work orders which contain 183 charges
Determine if the WOs with 183 charges also have 107 charges	PA Analyst	Upon reviewing work orders with 183 charges determine whether the work order also contain 107 charges. Work orders with charges in both 183 and 107 simultaneously, require the reclassing of the 183 charges to the 107 account.
107 and 183 charges?	PA Analyst	If No , see step: Begin project construction If Yes , see step: Transfer the 183 charges to the 107 account
Begin project construction	N/A	Process ends here.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 39 of 167

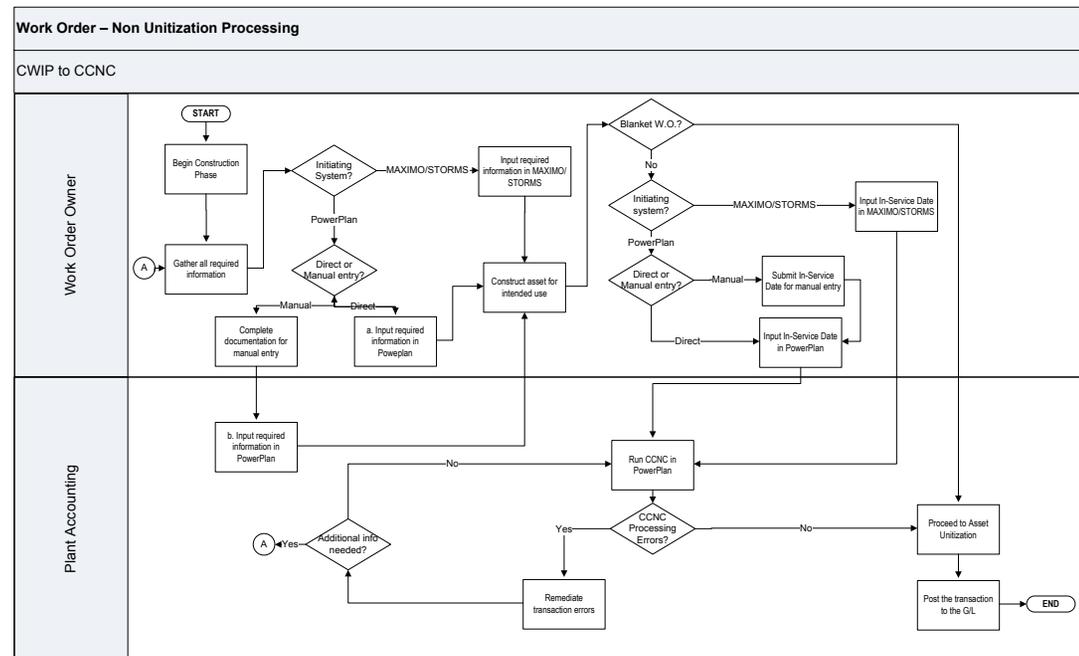
Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 39 of 167



Description	Responsible Role	Process Detail
Transfer the 183 charges to the 107 account	PA Analyst	Work orders containing charges in both the 183 and 107 accounts, must have the 183 charges transferred to the 107 account.



CWIP to CCNC (Non-Unitization) Process Flow





CWIP to CCNC (Non-Unitization) Process Steps

Description	Responsible Role	Process Detail
Begin Construction Phase	WO Owner	Accrue project charges during asset construction through the Construction Works in Progress (CWIP) account. AFUDC charges accrue against the balance of each work order within the CWIP account (blanket work orders excluded).
Gather all required information	WO Owner	Gather all required information as follows: <ul style="list-style-type: none"> • Data to complete all AsBuilt required fields • High level estimates • Estimates include asset utility account, • Unit estimate • Location • Retirement Units • In-service Date • Completion Date
Initiating system?	WO Owner	Determine if the project was initiated in MAXIMO, STORMS, or PowerPlan If MAXIMO or STORMS , see step: Input required information within MAXIMO or STORMS If PowerPlan , see step: Direct or manual entry? The required information for WOs initiated within PowerPlan must be directly input by the work order owner or manually input by the PA Clerk within PowerPlan (data entry completed by the Clerk is based solely upon the information submitted by the WO Owner)
Direct or manual entry?	WO Owner	Determine if the required information will be directly inputted into PowerPlan by the work order owner or manually

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 42 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 42 of 167



Description	Responsible Role	Process Detail
		inputted by the Plant Accounting Clerk. If Direct , see step: Input required information within PowerPlan If Manual , see step: Complete documentation for manual entry
Complete documentation for manual entry	WO Owner	Complete and submit required information to the PA Clerk.
a. Input required information in PowerPlan	WO Owner	Input required info within PowerPlan. The work order owner will directly input the required information within PowerPlan.
b. Input required information in PowerPlan	PA Clerk	Input required info within PowerPlan. The Plant Accounting Clerk will manually input the required information into PowerPlan using the information provided in step Complete Documentation for Manual Entry
Input required information in MAXIMO or STORMS	WO Owner	Input required information directly into MAXIMO or STORMS.
Construct asset for intended use	WO Owner	Continue to construct asset until it is ready for its intended use.
Blanket WO?	System	Determine if the project's costs are charged to a blanket work order. If Yes , see step: Proceed to Asset Unitization If No , see step: Initiating System?
Initiating system?	WO Owner	Determine if the project was initiated in MAXIMO, STORMS, or

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 43 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 43 of 167



Description	Responsible Role	Process Detail
		<p>PowerPlan</p> <p>If MAXIMO or STORMS, see step: Input In-Service Date in MAXIMO/STORMS</p> <p>If PowerPlan, see step: direct or manual entry?</p> <p>The In-Service Date for work orders initiated within PowerPlan must be directly input by the work order owner or manually input by the PA Clerk into PowerPlan.</p> <p>Data entry completed by the Plant Accounting Clerk is based solely upon the information submitted by the work order owner.</p>
Direct or manual entry?	WO Owner	<p>Determine if the In-Service date will be directly inputted by the work order owner or manually inputted by the Plant Accounting Clerk.</p> <p>If Manual, see step: Submit In-Service date for manual entry</p> <p>If Direct, see step: Input In-Service Date in PowerPlan</p>
Submit In-Service Date for manual entry	WO Owner	Identify and submit the In-Service date to the PA Clerk.
Input In-Service date in PowerPlan	WO Owner or PA Clerk	Input the In-Service date in PowerPlan.
Input In-Service date in MAXIMO or STORMS	WO Owner	Input the In-Service date in MAXIMO or STORMS.
Run CCNC process in PowerPlan	PA Analyst	Run the CCNC process in PowerPlan to transfer the charges from CWIP into CCNC.
CCNC Processing Errors?	System	<p>Notify analyst of failed transactions during processing.</p> <p>Common types of transaction</p>

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 44 of 167

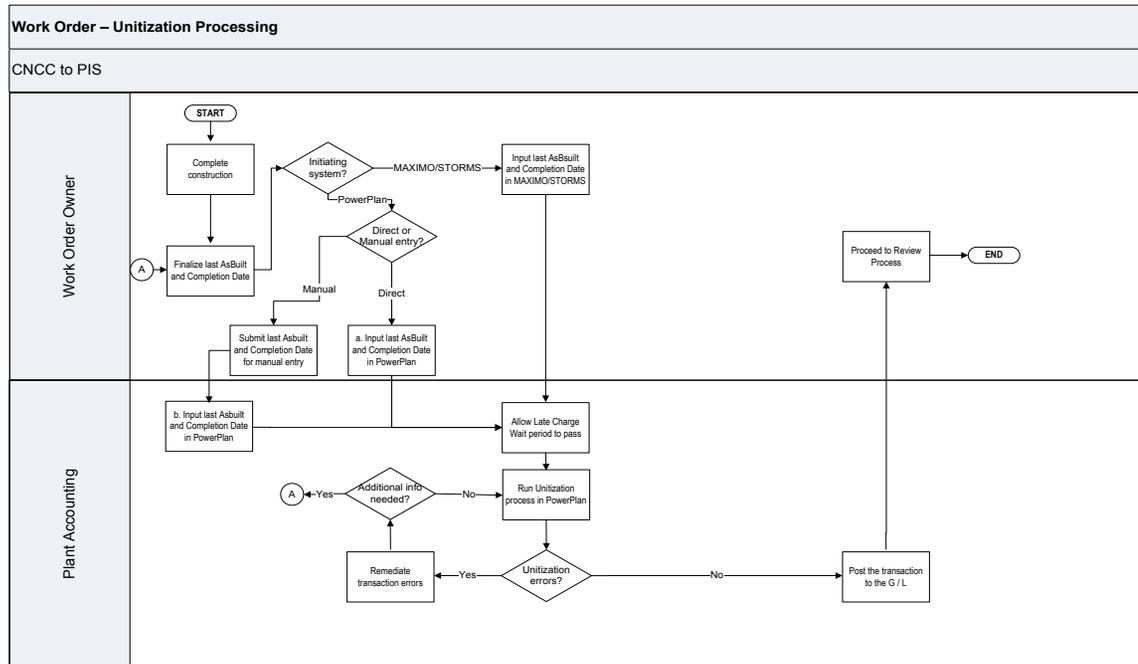
Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 44 of 167



Description	Responsible Role	Process Detail
		errors include: <ol style="list-style-type: none"> 1.) Incorrect GL account or project work order number 2.) Quantity being transferred is non-integer value 3.) Incorrect or missing AsBuilt information <p>If Yes, see step: Remediate transaction errors</p> <p>If No, see step: Post the transaction to the G/L</p>
Remediate transaction errors	PA Clerk	Correct the non-unitization transactions in PowerPlan. PA Manager must approve any journal entry related fixes.
Additional information required ?	PA Clerk	Determine if additional information is required to remediate transaction errors. <p>If Yes, see step: Gather all required info</p> <p>If No, see step: Run CCNC process in PowerPlan</p>
Proceed to Asset Unitization	PA Analyst	Run the Unitization process in PowerPlan.
Post the transaction to the G/L	PA Analyst	Review the transaction within PowerPlan and post it to the General Ledger.



CCNC to PIS (Unitization) Process Flow





CCNC to PIS (Unitization) Process Steps

Description	Responsible Role	Process Detail
Complete construction	WO Owner	Complete the asset construction.
Finalize last AsBuilt and Completion Date	WO Owner	Finalize the last AsBuilt inputs and identify the asset Completion date.
Initiating system?	WO Owner	<p>Determine if the project was initiated in MAXIMO or STORMS or PowerPlan</p> <p>If MAXIMO or STORMS, see step: Input last AsBuilt and Completion Date within MAXIMO or STORMS</p> <p>If PowerPlan, see step: Direct or manual entry?</p> <p>The last AsBuilt and In-Service date for WO initiated within PowerPlan must be directly input by the work order owner or manually input by the PA Clerk within PowerPlan (data entry completed by the PA Clerk is based solely upon the information submitted by the work order owner).</p>
Direct or manual entry?	WO Owner	<p>Determine if the last AsBuilt and Completion date will be directly inputted by the work order owner or manually inputted by the Plant Accounting Clerk.</p> <p>If Direct, see step: Input last AsBuilt and Completion Date n PowerPlan.</p> <p>If Manual, see step: Submit last AsBuilt and Completion date for Manual entry</p>
Submit last AsBuilt and Completion Date for manual entry	WO Owner	Submit the last AsBuilt and Completion date to the PA Clerk.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 47 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 47 of 167



Description	Responsible Role	Process Detail
a. Input last AsBuilt and Completion Date in PowerPlan	WO Owner or PA Clerk	Input required info within PowerPlan. The WO Owner will directly input the last AsBuilt and Completion date within PowerPlan.
b. Input last AsBuilt and Completion Date in PowerPlan	WO Owner or PA Clerk	Input required info within PowerPlan. The PA Clerk will manually input the last AsBuilt and Completion Date within PowerPlan
Input last AsBuilt and Completion Date in MAXIMO or STORMS	WO Owner	Input required information directly within MAXIMO or STORMS.
Allow Late Charge Wait period to pass	PA	Allow the Late Charge Wait period to expire.
Run Unitization process in PowerPlan	PA Analyst	Run the Unitization process in PowerPlan to transfer the charges into PIS.
Unitization errors?	System	Notify PA Analyst of failed transactions during processing. Common types of transaction errors include: <ol style="list-style-type: none"> 1. Incorrect GL account or project work order number 2. Quantity being transferred is non-integer value 3. Incorrect or missing AsBuilt information <p>If Yes, see step: Remediate transaction errors</p> <p>If No, see step: Post the transaction to the G/L</p>
Remediate transaction errors	PA Clerk	Correct the non-unitization transactions in PowerPlan. Plant Accounting Manager must approve any journal entry related fixes.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 48 of 167

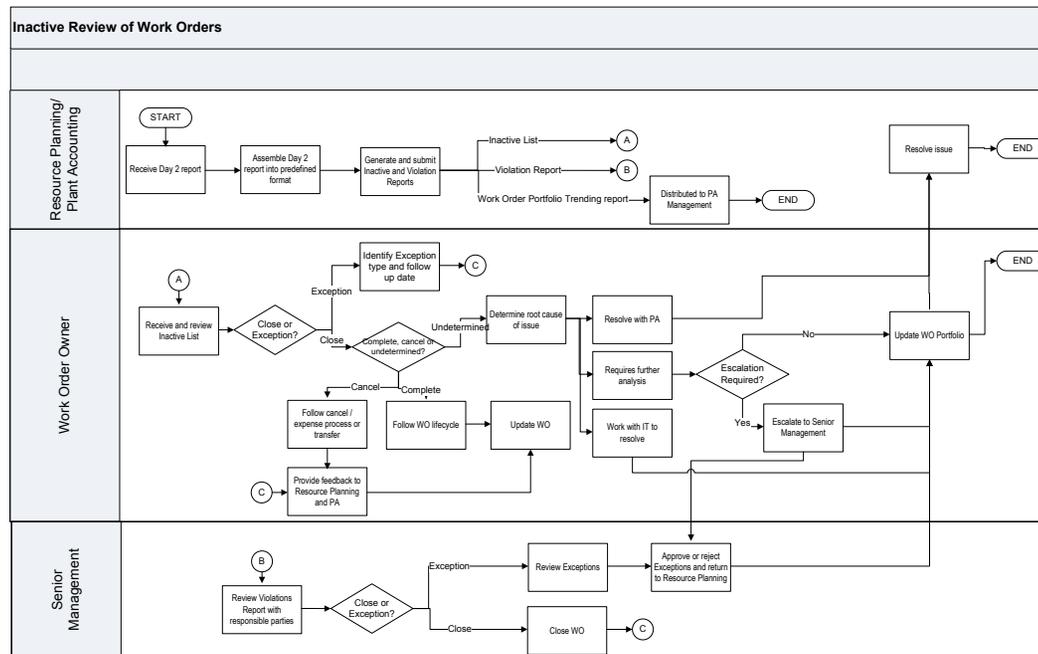
Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 48 of 167



Description	Responsible Role	Process Detail
Additional info needed?	PA Clerk	Determine if additional information is required to remediate transaction errors. If Yes , see step: Finalize last AsBuilt and Completion Date. If No , see step: Run unitization process in PowerPlan.
Post the transaction to the G/L	PA Analyst	Review the transaction within PowerPlan and post it to the General Ledger.
Proceed to Review Processes	WO Owner and PA	Begin active and inactive review process upon completion of work order processing. Process ends here.



Monthly WO Inactive Review Process Flow





Monthly WO Inactive Review Process Steps

Description	Responsible Role	Process Detail
Receive Day 2 Report	Resource Planning/PA Analyst	Receive Day 2 Report from IBM contact
Assemble Day 2 Report into predefined format	Resource Planning/PA Analyst	Assemble the Day 2 Report into predefined format
Generate and Submit Inactive and Violation Reports	Resource Planning/PA Analyst	Generate the Inactive and Violation reports and distribute to the designated work order owners: Inactive List – Work Order Owner Violation Report – Senior Management Work Order Portfolio Trending Report – Plant Accounting Management, prepared by the Plant Accounting Analyst for Plant Accounting Management only
WO Portfolio Trending Report Distributed to PA Management	PA Analyst	The Work Order Portfolio Trending Report is distributed to PA Management for review. The PA Management reviews the WOs processed month over month.
Receive and Review Inactive List	WO Owner	Review the Inactive Work Order Report to determine which WOs should be closed or expensed.
Close or Exception?	Work Order Owner	Determine which work orders should be closed or treated as an Exception. If Close , see step: Complete, cancel or undetermined? If Exception , see step: Identify Exception type and follow-up date



Description	Responsible Role	Process Detail
Identify Exception type and follow-up date	WO Owner	<p>Identify the Exceptions that will remain open in Preliminary Engineering, CWIP and CCNC, transferred from Preliminary Engineering to CWIP, CWIP to CCNC, or CCNC to PIS. If a work order is left open, select the appropriate exception code and follow up date.</p> <p>Exception codes include the following:</p> <ol style="list-style-type: none"> 1. Future FY Construction 2. Customer/DOT/3rd Party Delays 3. Pending Outage (System/Customer) 4. Pending Permits/Licenses/Litigation 5. 3rd Party Pole Set 6. Pending Property/Facilities Transaction 7. LEAK - Program work (e.g. Leaks) 8. Other (Detail Required) <p>Proceed to step: Provide feedback to Resource Planning</p>
Complete, cancel or undetermined?	WO Owner	<p>Determine how to treat the non-exception WOs:</p> <p>If Complete, see step: Follow WO lifecycle</p> <p>If Cancel, see step: Follow cancel/expense process or transfer process</p> <p>If Undetermined, see step: Determine root cause of issue</p>
Follow WO lifecycle	WO Owner	<p>Allow the WO to progress through the WO lifecycle.</p> <p>See <i>Work Order Lifecycle Overview</i> Section for details.</p>



Description	Responsible Role	Process Detail
Update WO Portfolio	WO Owner	<p>Update the Work Order Portfolio to accurately record the following:</p> <ol style="list-style-type: none"> 1. Work order resolution, 2. Follow-up date ,and 3. Work order classification (Exception versus non-exception) <p>Each WO reviewed as a part of this process should be referenced within this portfolio.</p>
Follow cancel/expense or transfer process	WO Owner	<p>Follow the cancel/expense process or transfer from one WO to another (if necessary).</p> <p>Cancel / expense the non-exception work orders within:</p> <ul style="list-style-type: none"> • STORMS • MAXIMO • PowerPlan <p>Proceed to step: Provide feedback to PA through Plant Accounting Mailbox</p>
Provide feedback to Resource Planning and PA	WO Owner	<p>Communicate to PA whether canceling, expensing or transferring the WO through Plant Accounting Mailbox</p> <p>Proceed to step: Update WO Portfolio</p>
Determine root cause of issue	WO Owner	<p>Perform further analysis to determine the root cause of the WO's inactivity.</p> <p>Proceed to one of the following steps:</p> <p>Resolve with PA</p> <p>Requires further analysis</p> <p>Work with IT to resolve</p>

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 53 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 53 of 167



Description	Responsible Role	Process Detail
Resolve with PA	WO Owner	Perform steps required to resolve the work order. Possible resolutions include, but are not limited to: <ul style="list-style-type: none"> - Provide missing work order information such as but not limited to In-service Dates, Completion Dates, As-builts, Retirement Units, etc. - Canceling the work order - Transferring work order charges to the correct FERC account. - Transferring work order charges to another work order
Requires further analysis	WO Owner	Perform steps required to resolve the work order. Possible resolutions include, but are not limited to providing any missing information within the correct feeder system, MAXIMO or STORMS, which flows into PowerPlan and SAP.
Work with IT to resolve	WO Owner	Perform steps required to resolve the WO. Possible resolutions include, but are not limited to: <ul style="list-style-type: none"> - Canceling the work orders within the applicable feeder systems and/or STORMS/MAXIMO (which will then feed PowerPlan) - Transferring WO charges to the correct FERC account.
Escalation required?	WO Owner	If further analysis is required, is escalation required? If Yes, see step: Escalate to Senior Management If No, see step: Update WO Portfolio
Escalate to Senior Management	WO Owner	Escalate unresolved WOs to Senior Management for resolution.
Review Violations Report with responsible parties	Senior Management	Address the Violations with all responsible parties to determine appropriate resolution.



Description	Responsible Role	Process Detail
Close or Exception?	Senior Management	Determine which WOs should be closed or treated as an Exception. If Exception , see step: Review exceptions If Close , see step: Close WO
Close WO	Senior Management	Communicate to Resource Planning that WO has been closed.
Review Exceptions	Senior Management	Review Exceptions identified by the WO owner. Reach out to the WO owner to address any questions or concerns. Proceed to step: Approve and Submit Exceptions to Resource Planning.
Approve or reject Exceptions and return to Resource Planning	Senior Management	Senior Management reviews and makes decision. Approve or reject Exception reason provided by WO Owner Return Exception approval or rejection to Resource Planning Proceed to step: Update WO Portfolio

Other Affiliated Documents

Document Name	Document Type
N/A	N/A

Controls

Control Point #	Applicable Activity #	Control Type	Control Objective	Control Description	Automated / Manual ? (A/M)
FA0306	N/A	Manual	CWIP is closed-out in a timely manner & reclassified to the appropriate fixed asset category so that	1-A Priority Report of the inactive Work Orders in Power Plant is submitted to the Plant Accounting Clerks. Supervisor distributes work orders amongst the team based	M

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 55 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 55 of 167



Control Point #	Applicable Activity #	Control Type	Control Objective	Control Description	Automated / Manual ? (A/M)
			depreciation can commence when the asset is ready for its intended use.	upon materiality and work priorities. The clerks' error resolution activities include investigation, field coordination and communication on disposition and executing corrective action provided by field. Those tasks permit unitization to take place and ensure that CWIP and CCNC are accurately reflected. 2-The Plant Accounting Supervisor tracks status of work orders distributed to the clerks in an Excel log and performs a review to ensure work orders are being cleared and progressed through Power Plant. The Plant Accounting Supervisor maintains the evidence of the review as part of the log. The document is stored on the Plant Accounting shared drive.	
FA0303	N/A	Manual	CWIP is closed-out in a timely manner & reclassified to the appropriate fixed asset category so that depreciation can commence when the asset is ready for its intended use.	On a monthly basis, a Power Plant query of all inactive work orders with the status of Closed, Cancelled, Completed, or Unitized is generated by the Work Order Close Out Team, which is part of Plant Accounting. The list of work orders are reviewed and analyzed for the reasons of related to Word Orders not being closed. Follow up actions are taken with the business to determine if status is accurate or needs adjusted. The monthly control is reviewed and signed off by the Manager of Plant Accounting.	M

Tools

Tool Name	Tool Use
-----------	----------



Tool Name	Tool Use
STORMS	<ul style="list-style-type: none"> Legacy NGrid work management system Track and monitor work order activities and current status Complete or cancel work orders within originating system
MAXIMO	<ul style="list-style-type: none"> Legacy KeySpan work management system Track and monitor work order activities and current status Complete or cancel work orders within originating system
PowerPlan	<ul style="list-style-type: none"> Company fixed asset management system Charge, track, and monitor work order costs Interface between STORMS, MAXIMO and SAP to communicate non-PowerPlan and PowerPlan initiated work order transactions Transfer charges to appropriate FERC Account Post reported journal entries to the General Ledger(s)
SAP	<ul style="list-style-type: none"> Legacy NGrid and Legacy Keyspan company general ledger Sends charges accumulated in SAP to PowerPlan for processing and posting to PowerPlan's Cost Repository Interfaces with PowerPlan to receive work order information that has been processed and posted to the Cost Repository
Access	<ul style="list-style-type: none"> Used in preparing the raw Day 2 query data provided by IT each month
Excel	<ul style="list-style-type: none"> Used in preparing the raw Day 2 query data provided by IT each month
PowerPoint	<ul style="list-style-type: none"> Used in preparing the Work Order Trending Reports each month

Process Variations

Key process variations from the primary process contained within this Playbook.

Variation Description
N/A

Dependencies

Processes, triggers, organizations or pre-requisites that are required for the successful completion of the process.

Dependency Description
Dependency: Proper capital asset classification during the Work Order Creation and ongoing Work Order Life Cycle processes.
Dependency: Accurate and timely completion of the following by the work order owners. <ul style="list-style-type: none"> Monitoring and tracking of project charges by the work order owner



Dependency Description
<p>within National Grid work management (STORMS and MAXIMO) and fixed asset and general ledger systems (PowerPlant and SAP)</p> <ul style="list-style-type: none"> • In-Service reporting • AsBuilt completion • Collaboration and communication between Plant Accounting and work order owners • Organization and recordkeeping of work orders reviewed and documentation obtained

Inputs

All items that come into the process from an outside source.

Work Order Processing Inputs
Costs charged to work orders across each of the aforementioned capital FERC accounts
AsBuilt data
106 and 101 Error Reports input for error resolution process
In-Service Date
Completion Date
Late charge Wait period
Unit Estimates
Retirement Units

Work Order Inactive Review Inputs
Day 2 Query Report

Outputs

All items that are derived from the process and sent to an outside source.

Work Order Processing Outputs
Transfer of capital charges to appropriate FERC Account
Journal entries posted to record all of the work order movements, for the period, to the General Ledger for each of the relevant capital FERC accounts (183, 107, 106, 108, 101, and expense)
Asset unitization
Unitization errors

Work Order and Inactive Review Outputs
Balance of inactive work orders to be written-off
Updated As-Built information for active work orders
Management reports identifying processed active and inactive review results
Work order exceptions identified
In-service Dates provided
Completion Dates provided



Work Order and Inactive Review Outputs
Final charges processed (contractor invoices, materials, and labor)
Inactive Report lists
Violation Report lists
Monthly Work Order Portfolio Trending Report
Monthly Top 40 Error Remediation files

Templates

All standard documents that are used within the process.

Templates
N/A

Notifications

All instances of manual communication or hand-offs occurring within the process.

Notification Sender	Notification Receiver	Notification Description
N/A	N/A	N/A

Interfaces

Interface Name	Inbound/Outbound/Inter-process	Frequency
99	Inbound to PowerPlan	Every two hours from 6AM – 6PM, daily
100	Outbound to PowerPlan	Once daily
792B	PowerPlan (PP) to SAP (Header and Status)	Every 10 minutes
792A	PP to SAP (PP initiated WO's)	Every 10 minutes
792C	PP to SAP (WO Estimates)	Every 10 minutes
794	SAP to PP (Master Data)	Once daily
750	PP to SAP (Funding Projects)	Once daily
3167	Maximo to PP (Header and Status)	Real-time
489	STORMS to PP (Header and Status)	Real-time
200	Maximo Get Work Order	Real-time
487	Storms Get Work Order	Real-time
490	Storms Auto Get Work Order	Real-time
752	Work Order Registry	Real Time



Required Reports / Queries

Reports or Queries that are generated or leveraged as a part of this process.

Report Name	Standard or Customized
Day 2 Query	Customized

Required Forms

SAP forms that are used as a part of this process.

Form Name	Standard or Customized Form	Paper or Online
N/A		



Work Order Life Cycle Playbook: Asset Retirement

Asset Retirement

It is the policy of the Plant Accounting department to retire assets that are no longer "used and useful." It is the responsibility of the Responsible Business Group to provide complete, accurate, and timely asset retirement information to ensure asset retirement data is accurately reflected in the financial records of National Grid. National Grid follows the guidelines listed below for all asset retirements.

Retirements are recorded when an asset is taken out of service and is determined to be no longer "used and useful." The Retirement Overview chart below illustrates the retirement initiation and processing most common to each retirement business reason and asset type.

Business Reasons for Retirement

- **Vintage Asset** – under general equipment amortization rules, assets are retired from Plant In Service (PIS) based on their expected useful life regardless of whether the asset remains in service
- **Sale or Donation** – asset is retired from service and the proceeds are credited to the accumulated reserve for depreciation. A gain or loss is recorded on the P&L for land sales, operating unit sales, or sales related to a non-utility or a non-regulated asset. The Regulatory Department is consulted for proper accounting treatment on any regulated asset sales.
- **Disposal or Abandonment** – asset is retired from Plant In Service (PIS)
- **Theft** – asset is retired from service. This is not a common scenario due to the nature of the assets at National Grid (e.g. large transformers, substations, pipes, mains, buildings, etc.) If a fixed asset is stolen, the retirement transaction will be followed by a replacement transaction.

Retirement Methods

- **Specific method** – asset is individually identified by a retirement initiator for retirement processing. This method should be used in all instances unless the asset cannot be identified within the fixed asset management system. For instances where the specifically identified assets cannot be matched up in the asset repository by company/account and vintage year, the default retirement methodology is then:

IOWA Curve – mass asset retirement method used when the vintage year cannot be identified.

- **FIFO** – (First In, First Out) - because the overhead line transformer asset processing workflow is not compatible with IOWA curve methodology, the FIFO Methodology is being used to retire line transformers. The FIFO Methodology is only used in instances where the specific identification methodology or the IOWA curve methodology cannot be used as in the case of the line transformers. With the FIFO methodology the earliest

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 61 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 61 of 167



asset on record by vintage year is retired first. The FIFO method ensures that the oldest asset(s) and costs will be retired first in a given tax district.

- **Trending** – Trending is used in situations where assets are being sold to a third party and will eventually be retired off the books. The sales price of the asset being retired is valued using its historic cost (i.e., initial capitalized cost) as the basis for retirement. The present cost is then trended by using PowerPlan Handy Whitman rates. The Trending methodology is only used in assets retirements scenarios that involve the sale of facilities.

All assets are retired using the Specific Retirement method where possible.

Any exceptions to using the Specific Retirement method require approval from the Plant Accounting Manager. For example, the alternative methods may be used when the actual asset record cannot be identified within PowerPlan.

Business Reason	Typical Asset Types	Retirement Process		Retirement Method (s)	Full vs Partial Allowed
		Initiation	Processing		
Vintage	Copy machines, printers, computer equipment	PowerPlant System	Automatically by PowerPlant System (Auto-Life asset)	Specific	Full
Sales or Donation	Building, Land	Real Estate	Manually by Plant Accounting	Specific	Full or Partial
Disposal, Abandonment, Theft	Meters	Meter Shop	Manually by Plant Accounting or Automatically via MITS system	Specific or IOWA	Full
Disposal, Abandonment, Theft	Inside Plant for Electric or Gas for Substation or Generation Assets (Transformers, Converters, Inductors, etc.)	Operations, Facilities	Manually by Plant Accounting	Specific or Trending	Full or Partial
Disposal, Abandonment, Theft	Outside Plant for Electric (poles, wires, fixtures, etc.)	Operations	Automatically via STORMS or MAXIMO work orders	Specific or IOWA	Full or Partial
Disposal, Abandonment, Theft	Outside Plant for Gas (mains, pipes, etc.)	Operations	Automatically via STORMS or MAXIMO work orders	Specific or IOWA	Full or Partial
Disposal	Software	IT/IS	Auto-Life Retire or Manually by Plant Accounting	Specific	Full
Transformer Retirements	Overhead Line Transformers	Operations	Automatically via STORMS	Specific or FIFO	Full no Partial



Business Group Descriptions

Business Group	Responsibility
Plant Accounting	Responsible for facilitating the Asset Retirements process.
Real Estate	Provides the closing documents of the sale to Plant Accounting
Meter Shop	Responsible for determining the meters to be retired, and notifying Plant Accounting of these meters.
Operations	Responsible for determining non-meter assets that need to be retired.

Terms and Acronyms

Term / Acronym	Definition
Cost of Removal	Actual or estimated costs incurred for the demolishing, dismantling, or removing an asset from Plant in Service. Transportation and handling costs are included as well.
Meter Interface System (MITS)	Legacy NGrid system used by meter shop to manage and track meter assets; system interfaces into PowerPlan.
Conversion Assets	Assets converted into PowerPlan (in 2004 for Legacy NGrid and 2006 for Legacy KeySpan) from prior legacy fixed asset systems that have been decommissioned. Due to the conversion, asset details cannot be broken out by unit of property and thus are grouped into a conversion asset bucket. Conversion assets can include any type of asset such as: poles, wires, transformers, etc.
Unitization	The process by which the capitalized costs for a fixed asset construction project are moved from Completed Construction Not Classified (FERC account 106, CCNC) to Plant in Service (FERC account 101, PIS) after notification of As-Built status is received by the field.

Roles and Descriptions

Title	Responsibility
Plant Accounting Clerk	Plant Accounting is responsible for the processing and posting of the retired asset based on the information provided by the business through the authorized retirement requestor.
Plant Accounting Analyst	Plant Accounting Analyst is responsible for overseeing and facilitating the retirement of assets, processing the retirement



Title	Responsibility
	in PowerPlan, reviewing pending retirement transactions, posting retirement transactions to the records, and the identification and correction of errors.

Scope

The Work Order Retirement process is performed to account for assets that are no longer "used and useful." By completing this process, the National Grid's collective fixed asset registers will be up-to-date, fully supportable and correctly stated for regulatory, tax, and financial statement reporting purposes.

The general retirement process normally consists of the sub-process below:

Component	Component Details	Owner(s)
Identify asset for retirement	Select the correct asset & submit the retirement request to Plant Accounting	Authorized retirement requestor
Collect required data	Identify and include all required data within the retirement request, including work order retirement estimate	Authorized retirement requestor
Process and post retirement	Process and post the retirement transaction within PowerPlan	Plant Accounting

Specific Considerations

Installation Costs

Pre-capitalized assets such as transformers and meters are purchased on blanket work orders and their vintage year is based on the year purchased and placed into storeroom stock. A separate blanket work order is created to capitalize pre-capitalization asset installation costs. Thus, installation costs are recorded separately from the original asset cost.

The retirement transaction for pre-capitalized assets with installation costs should separately account for both the original asset cost and the installation costs.

Partial Retirement

A partial retirement is used when a subset or component of the total asset is removed from service. Partial retirement is not applicable to all National Grid assets. Only specific assets, such as sub-stations or buildings can have a partial retirement. Mass assets such as poles, wires and fixtures, must be retired in full.

Required Information

Plant Accounting requires specific information in order to accurately process a retirement transaction, as listed below.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 64 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 64 of 167



Required Base Information	
<ul style="list-style-type: none"> Type of asset Location of asset Vintage year Work order number (if applicable) Company Number 	<ul style="list-style-type: none"> Quantity to be retired Description of asset Tax district Utility account Number of assets to be retired Dollar value to be retired (if applicable) Dollar value of installation cost (if applicable)

Asset Type	Required Information
T&D Line Assets (both UG and overhead)	<ul style="list-style-type: none"> Type of cable Material (metal vs. non-metal)
T&D Pole assets	<ul style="list-style-type: none"> Type of pole (metal, concrete, wood) Size of pole
Circuit Breakers and Transformers	<ul style="list-style-type: none"> Serial and Ref number Spare or not (install cost should also be retired)
Gas mains and services	<ul style="list-style-type: none"> Diameter of pipe Pipe material Footage required
Facilities	<ul style="list-style-type: none"> Type (Common vs. Electric General and Gas General) Unit of property (type of asset retired e.g. wall v doors)
General Plant Equipment	<ul style="list-style-type: none"> Information required per adjudicated rate order
Meters	<ul style="list-style-type: none"> Type (residential or commercial) Size
Outside Plant	<ul style="list-style-type: none"> Compatible Unit (CU) ID Install sum Remove sum Retirement Unit (RU) name Grid Town Street Public Install Private Install Public Removal Private Removal
Inside Plant	<ul style="list-style-type: none"> Serial reference number Drawing Size Quantity Bank Number (for transformers) Conduit Number (for cable)



For asset sales or donations, the retirement requestor must submit additional information with the retirement request and closing document. This information includes:

- Location of asset
- Sale price of asset
- Closing costs associated with sale of asset

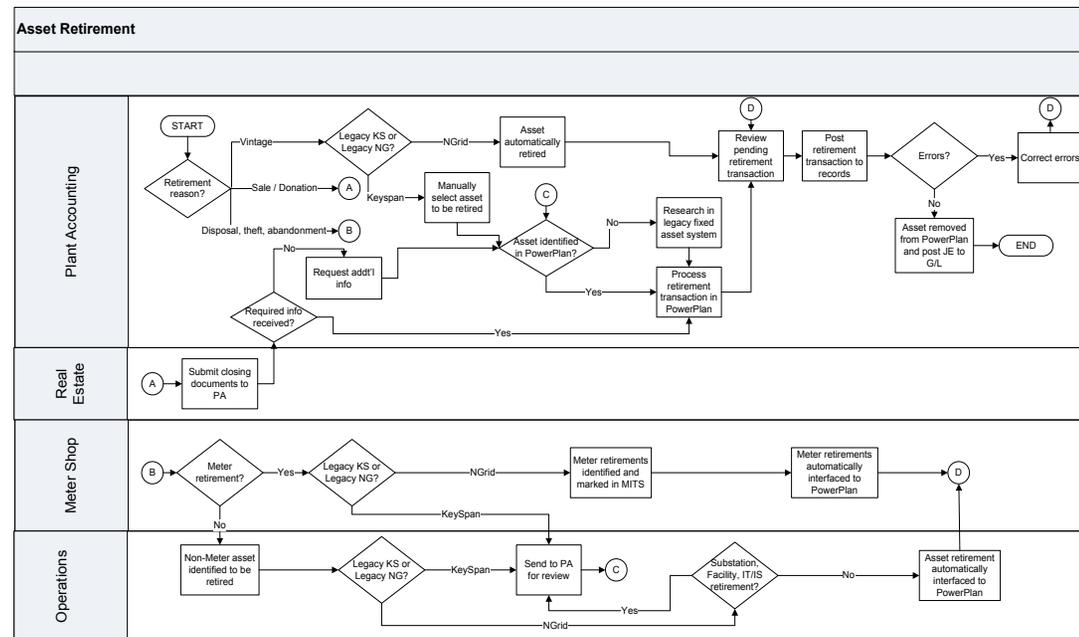
Retirement Scenarios

The process to retire an asset at National Grid differs depending upon the scenario. Example scenarios are as follows:

- **Scenario triggered by Vintage** - Certain assets that are high-volume, low-cost properties (such as office equipment, computer equipment, office furniture, tools, communication equipment, and miscellaneous equipment) go through an automatic vintage retirement process. In other words, these asset retirements are identified based on the year the assets were placed in service and their established useful life. These assets are retired at the end of their useful life regardless of whether the asset has actually been removed from service.
- **Scenario triggered by Sale or Donation** - Asset sales are uncommon at National Grid due to the typical type of assets owned by the company (i.e. transformers, poles, mains, etc). Asset sales of buildings and land may occur from time to time, which would be initiated by Real Estate. Sales of assets utilize the Specific Retirement Method, since a specific asset must be identified to sell to a third party.
- **Scenarios triggered by Disposal/Abandonment/Theft:** Assets that have been disposed of, identified to be abandoned, or have succumbed to theft should be retired.
- **Meters** – Legacy NGrid meter assets are managed through the Meter Interface System (MITS). Therefore, the process to initiate a meter retirement is triggered by the Meter Shop via the MITS system. The MITS system automatically interfaces to PowerPlan at which point Plant Accounting personnel complete the retirement transaction. (This process is completely manual for Legacy KeySpan). Typically, the Specific retirement method is used for meter retirements however, FIFO may be used if a specific asset record cannot be found within PowerPlan.
- **Inside Plant (Gas & Electric: Substations/Generation)** – This process is completely manual for all of National Grid. Retirement initiators submit the necessary paperwork to Plant Accounting, who then process the retirement transaction directly in PowerPlan. The Specific or Trending retirement methods are typically utilized for these types of retirements.
- **Outside Plant** – Legacy NGrid utilizes STORMS (work management system) to initiate retirement transactions via work orders. For Legacy KeySpan, any other scenarios not mentioned above are processed manually (retirement initiators submit paperwork to Plant Accounting to request a retirement transaction in PowerPlan). Specific, FIFO, or IOWA retirement methods are used in this scenario.
- **Software** - This process is completely manual for all of National Grid. Retirement initiators (typically from the IT/IS group) submit the necessary paperwork to Plant Accounting, who then process the retirement transaction directly in PowerPlan. The Specific retirement method is utilized for these types of retirements.



Asset Retirement Process Flow





Asset Retirement Process Steps

Description	Responsible	Process Detail
Retirement reason?	System/PA Analyst	<p>1. Vintage (general equipment amortization)</p> <p>For Legacy KeySpan, system will automatically determine vintage assets for retirement.</p> <p>For Legacy NGrid, the Plant Accounting Analyst determines vintage assets for retirement.</p> <p>If vintage asset retirements, see step: Legacy KS or Legacy NG?</p> <p>2. Sale / Donation</p> <p>The decision to sell an asset comes from Real Estate. While this is an infrequent transaction, this decision can take time to determine whether a sale is feasible.</p> <p>If Sale, see step: Submit closing documents to PA</p> <p>3. Disposal / Abandonment / Theft</p> <p>If disposal, theft of abandonment, see step: Meter retirement?</p>
Legacy KS or Legacy NG?	N/A	<p>If Legacy NGrid, see step: Asset automatically retired</p> <p>If Legacy KeySpan, see step: Manually select asset to be retired</p> <p>Decision driven by difference in system functionality.</p>
Asset automatically retired	PA Analyst (Legacy NGrid)	<p>Execute vintage retirement process within PowerPlan.</p> <p>The Specific Asset is automatically retired by the system based on useful life.</p> <p>On average, the system takes approximately 45 minutes to complete</p>

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 68 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 68 of 167



Description	Responsible	Process Detail
		the job. Proceed to step: Review pending retirement transaction
Manually select asset to be retired	PA Analyst (Legacy Keyspan)	<ol style="list-style-type: none"> 1. Perform an annual review of all vintage assets by company. Select assets to be retired based on annual review of vintage assets at end of life 2. Identify assets in PowerPlan, sort them by vintage year, and calculate remaining life of asset based on useful life. 3. If the asset has exceeded its useful life, manually select that asset to be retired.
Asset identified in PowerPlan?	PA Analyst / Clerk	Identify asset within PowerPlan and selected to be retired. If Yes, see step: Process retirement transaction in PowerPlan If No, see step: Research in legacy fixed asset system
Research in legacy fixed asset system	PA Analyst / Clerk	Research within Legacy Asset records.
Process retirement transaction in PowerPlan	PA Analyst/Clerk	Process the specific asset retirement request using the Specific Retirement Method. Process non-specific assets using the IOWA method. <i>See Asset Retirement Policy for full details on retirement methods.</i>
Review pending retirement transaction	PA Analyst	Review pending transactions for reasonableness of quantity, dollars, type of asset and vintage.
Post retirement transaction to records	PA Analyst	Execute the posting job. System generates the retirement entries. System processing times vary depending on volume of transactions, number of errors, and time of day.
Errors?	System	System notifies user of failed transactions during posting Common types of errors include:

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 69 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 69 of 167



Description	Responsible	Process Detail
		<ol style="list-style-type: none"> 1. Incorrect GL account or project work order number 2. Quantity or dollar value being retired is greater than quantity or dollar value on books 3. Quantity being retired is none integer value 4. Asset being retired does not exist in specified location on the books 5. Incorrect or missing information (type of asset/retirement unit) <p>If Yes, see step: Correct errors</p> <p>If No, see step: Remove Asset from PowerPlan and post JE to G/L</p>
Correct errors	PA Analyst/Clerk	<p>Depending on type of error and company, correct and re-process the retirement transactions in PowerPlan.</p> <p>In order to correct the transactions, additional information may be requested from Operations, Real Estate or Meter Shop. Wait times can vary depending upon how quickly information is returned to Plant Accounting.</p> <p>If requested information is not received in a timely manner, wait until next period to process the corrected transaction.</p> <p>If waiting until the next period is required, see step: Review pending retirement transaction</p>
Remove Asset from PowerPlan and JE posted to G/L	PA Analyst	System removes asset record and interfaces the transaction to the G/L. The G/L is updated overnight with a debit to accumulated depreciation and a credit to the asset account.
Submit closing documents to PA	Real Estate	Submit the closing documents of the sale to Plant Accounting Manager, who initiates the retirement process for Plant Accounting.
Required info received?	PA Analyst	Confirm and validate the information within the retirement request against the fixed asset system.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 70 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 70 of 167



Description	Responsible	Process Detail
		<p>If Yes, see step: Process retirement transaction in PowerPlan</p> <p>If No, see step: Request additional information from Responsible Department</p>
Request additional info	PA Analyst	<p>Request the additional information necessary from responsible party to complete the retirement transaction via email.</p> <p>Once the responsible department has submitted all the necessary information, proceed back to step: Asset identified in PowerPlan</p> <p>If Real Estate department, see step: Submit closing documents to Plant Accounting</p> <p>If Operations department, see step: Sent to PA for review</p>
Meter retirement?	Meter Shop	<p>Determine meters to be retired. This generally includes installation costs associated with the meter to be retired. In some cases, Meter shop may retire only the installation costs (due to meter testing requirements)</p> <p>If Yes, see step: KeySpan or NGrid?</p> <p>If No, see step: Non-Meter Asset identified to be retired</p>
Legacy KS or Legacy NG?	Meter Shop	<p>If Legacy KS, see step: Send to PA for review</p> <p>If Legacy NG, see step: Meter Retirements identified and marked in MITS</p>
Meter retirements identified and marked in MITS	Meter Shop (Legacy NGrid)	Identify specific meters that need to be retired in the MITS system for Legacy NGrid
Meter retirements automatically interfaced to PowerPlan	Meter Shop	MITS system interfaces with PowerPlan and transfers necessary retirement data overnight. The retirement transaction comes into PowerPlan as a pending

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 71 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 71 of 167



Description	Responsible	Process Detail
		transaction. Proceed to step: Review pending retirement transaction
Non-Meter Asset identified to be retired	Operations	Determine assets to be retired. Operations may retire only the installation costs (due to transformer testing requirements).
Legacy KS or Legacy NG?	Meter Shop	If Legacy KS, see step: Send to PA for review If Legacy NG, see step: Substation, Facility, IT/IS retirement?
Substation, IT/IS retirement?	Operations (Legacy NGrid)	If Yes, see step: Send to PA for review If No, see step: Asset retirement automatically interfaced to PowerPlan
Asset retirement automatically interfaced to PowerPlan	Operations (Legacy NGrid)	STORMS system interfaces with PowerPlan and transfers necessary retirement data. Proceed to step: Review pending retirement transaction



Controls

Control Point #	Applicable Activity #	Control Type	Control Objective	Control Description	Automated / Manual? (A/M)
FA0601	N/A	Asset Retirement	Ensuring any retired assets are removed from fixed assets register timely and the carrying values of fixed assets are recorded accurately	Asset retirement decisions are made by business asset owners/project managers, as they own or maintain the assets on behalf of the Operating Jurisdiction Presidents. Monthly asset retirement batch process is executed in Power Plant for all active companies as a part of the monthly closing process by PA analyst. PA analyst validates job is executed to completion without errors as part of the monthly closing process. Asset retirement errors (if exist) are generated on a Power Plant report and followed up with by the appropriate PA staff. The retirements report is reviewed and approved by the Plant Accounting Manager.	M
FA0001	N/A	Segregation of Duties	Ensure that appropriate Segregation of Duties (SoD) is applied to fixed assets functions.	The following roles & responsibilities are segregated with respect to Fixed Assets end-to-end process: 1. (Unitization, Depreciation & Asset Retirement) The access to post automated and manual unitization, Completed Construction Not Classified, asset transfer / adjustment transactions, asset retirements, month end Allowance for Funds Used During Construction (AFUDC) and depreciations is restricted to Plant Accounting Administrator in order to guarantee appropriate Segregation of Duty. 2. (Month End Close) Manual Journal Entries (JEs) cannot be entered and posted by the same employee in Power Plant.	A



Control Point #	Applicable Activity #	Control Type	Control Objective	Control Description	Automated / Manual? (A/M)
FA0305	N/A	CWIP Monitoring	CWIP is closed-out in a timely manner & reclassified to the appropriate fixed asset category so that depreciation can commence when the asset is ready for its intended use.	On a semi-annual basis, Director of Plant Accounting prepares an inactive work order risk exposure report and presents an executive summary to financial services leads. The report providing information about reserves movement and adequacy will be reviewed and discussed with the VP/Controller and a consultation provided to SVP of Financial Services and CFO. The review focuses on the disposition of the inactive work orders and the explanations justifying the need for reserves. If applicable, any action is allocated to the responsible manager and follow-up status will be addressed at the next Financial Services Leader meeting.	M

Tools

Tool Name	Tool Use
SAP	National Grid General Ledger
PowerPlan	Automatically retires vintage assets (general equipment amortization) for Legacy KeySpan (as opposed to a manual process for Legacy NGrid)
PA Shared Drive	Plant Accounting's internal document repository
Excel	Microsoft spreadsheet application.
MITS	Automatically interface Legacy NGrid meter retirements into PowerPlan (as opposed to a manual process for Legacy KeySpan)
STORMS	Automatically interfaces Legacy NGrid asset retirements into PowerPlan (for all assets other than Substation and Facilities, as opposed to a manual process for Legacy KeySpan)
MAXIMO	Automatically interfaces Legacy KeySpan asset retirements into PowerPlan (for all assets other than Substation and Facilities, as opposed to a manual process for Legacy KeySpan). Currently retirements are not flowing into PowerPlan automatically (this section will need to be updated upon this being fixed).

Dependencies

Processes, triggers, organizations or pre-requisites that are required for the successful completion of the process.

Dependency Description
Dependency: Accurate data inputs containing complete information and supporting documentation
Dependency: Timely response from the retirement requestors
Dependency: Completeness of data being interfaced into the fixed asset system

Inputs

All items that come into the process from an outside source.

Inputs
Closing documents from Real Estate to Plant Accounting
Completion Documents
Final As-builts

Outputs

All items that are derived from the process and sent to an outside source.

Outputs
Transaction posted to the fixed asset system removing retired asset from property records
Journal entry posted to the General Ledger documenting the asset retirement accounting

Notifications

All instances of manual communication or hand-offs occurring within the process.

Notification Sender	Notification Receiver	Notification Description
Real Estate	Plant Accounting Manager	Submit the closing documents of the sale to Plant Accounting Manager, who initiates the retirement process for Plant Accounting.
PA Analyst	Real Estate Department or Operations Department	Request the additional information necessary from responsible party to complete the retirement transaction via email. Once the responsible department has submitted all the necessary information, proceed back to step: Asset identified in PowerPlan

Interfaces

Interfaces contained within the process flow.

Interface Name	Inbound/Outbound/Inter-process	Frequency
PowerPlan / MITS	Automatically interface Legacy NGrid meter retirements into PowerPlan	As necessary, per retirement
PowerPlan / STORMS	Automatically interfaces Legacy NGrid asset retirements into PowerPlan (for all assets other than Substation and Facilities, as opposed to a manual process for Legacy KeySpan)	As necessary, per retirement
PowerPlan/ MAXIMO	Automatically interfaces Legacy KeySpan asset retirements into PowerPlan (for all assets other than Substation and Facilities, as opposed to a manual process for Legacy KeySpan)	As necessary, per retirement

Required Reports / Queries

Reports or Queries that are generated or leveraged as a part of this process.

Report Name	Standard or Customized
N/A	N/A

Required Forms

SAP forms that are used as a part of this process.

Form Name	Standard or Customized Form	Paper or Online
N/A	N/A	N/A

Work Order Life Cycle: Direct Purchases of General Equipment and Tools

Direct Purchases

This process should ensure that direct purchases of general equipment and tools are accounted for in an accurate and timely manner throughout the work order lifecycle. The Direct Purchases process facilitates the transfer and/or expense of charges across the following accounts:

- Construction Work In Progress (FERC Account 107000, CWIP)
- Plant in Service (FERC Account 101000, PIS)
- Operating Maintenance (OM) accounts

Business Group Descriptions

The primary business groups involved with the Work Order Lifecycle Playbook – Direct Purchases Process are summarized in the table below:

Business Group	Responsibility
Plant Accounting	Responsible for a significant portion of the Direct Purchase process: reviewing, processing, and approving Direct Purchases.
Work Order Owner	Responsible for purchasing the asset and kicking off the Direct Purchase process.
Budget Analyst	Responsible for reviewing and confirming proper charging of the purchase. The Budget Analyst is also responsible for sending the Direct Purchase charge treatment to Plant Accounting.

Terms and Acronyms

Term / Acronym	Definition
Direct Purchase (DP)	Tools, equipment, or other items purchased directly by National Grid employees

Roles and Descriptions

Title	Responsibility
Plant Accounting Clerk	Performs the processing of the Direct Purchases
Plant Accounting Analyst	Responsible for reviewing Direct Purchases processed by the PA Clerk
Work Order Owner	Responsible for purchasing the asset and kicking off the Direct Purchase process.
Budget Analyst	Responsible for reviewing and confirming proper charging of the purchase. The Budget Analyst is also responsible for sending the Direct Purchase charge treatment to Plant Accounting.

Scope

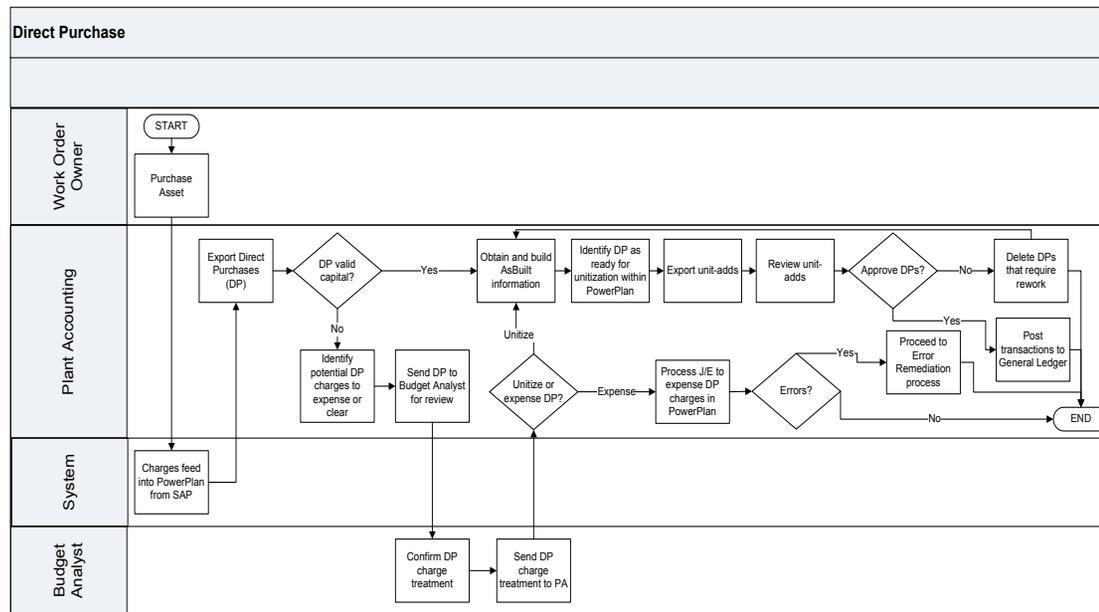
The Direct Purchase of General Equipment and Tools section is an extension of the Work Order Creation Section. Direct purchases of general equipment and tools include but are not limited to:

- Transmission Equipment
- Hydraulic Wrench Hoses
- Saws
- Hammer Kits
- Shelves
- Desks
- Wrenches

Direct purchases of general equipment and tools are capitalized, if the costs of such items are greater than or equal to the thresholds below, all else are expensed:

- Legacy KeySpan – Costs greater than or equal to \$500
- Legacy National Grid – Costs greater than or equal to \$2,500

Direct Purchases Process Flow



Direct Purchases Process Steps

Step	Responsible Role	Description
Purchase asset	WO Owner	Make a Direct Purchase (DP) by buying a capital asset. Asset costs are charged to a Direct Purchase work order.
Charges feed into PowerPlan from SAP	System	Interface costs charged within SAP to PowerPlan.
Export Direct Purchases (DPs)	PA Clerk	Export DP charges from SAP into an Excel file. See "SAP PO KT Plant Accounting" desktop procedure on how to identify purchase orders and the information necessary for this process
DP valid capital?	PA Clerk	Review the direct purchases listed within the Excel file and identify whether or not the charges are valid capital. <i>Refer to the Work Order Capitalization section for Capitalization Criteria.</i> If Yes, see step: Obtain and build AsBuilt information If No, see step: ID potential DP charges to expense or clear
Identify potential DP charges to expense or clear	PA Clerk	Highlight all DPs where capitalization is questioned within the Excel file.
Send DP to Budget Analyst for review	PA Clerk	Submit the Excel file with the DPs in question to the Budget Analyst for review.
Confirm DP charge treatment	Budget Analyst	Review the Excel file and confirm the treatment of the highlighted DPs. Charges are expensed or unitized.
Send DP charge treatment to PA	Budget Analyst	Submit the Excel file containing DP charge treatment to the Plant Accounting Clerk.
Unitize or expense DP?	PA Clerk	Unitize or expense each direct purchase. If Unitize, see step: Obtain and build AsBuilt information If Expense, see step: Process J/E to expense DP charges in PowerPlan
Process J/E to expense DP charges in	PA Clerk	Process the J/E to expense DP charges within PowerPlan by using the list submitted by the Budget Analyst.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 81 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 81 of 167

Step	Responsible Role	Description
PowerPlan		
Obtain and build AsBuilt information	PA Clerk	<p>Obtain all information required to complete the AsBuilt for each DP. See Required Fields sections below</p> <p>Use the Excel file exported from PowerPlan along with SAP to obtain this information. Use the information to manually complete the AsBuilt for the DP directly within PowerPlan.</p> <p>Reach out to the Budget Analyst to obtain additional information as required.</p>
Identify DP as ready for unitization within PowerPlan	PA Clerk	<p>Identify the DP as ready for unitization within PowerPlan.</p> <p>Each identified DP is labeled as a unit-add within PowerPlan when processed manually.</p>
Export unit-adds	PA Analyst	<p>Export the list of unit-adds from PowerPlan to Excel</p> <p>Submit this list of unit-adds to the PA Clerk for input.</p>
Review unit-adds	PA Clerk	<p>PA Clerk to review the list of unit-adds within Excel and identifies any incorrect DP transactions.</p>
Approve DPs?	PA Clerk	<p>If Yes, see step: Post transactions to General Ledger.</p> <p>If No, see step: Delete DPs that require rework</p>
Delete DPs that require rework	PA Analyst	<p>Delete the incorrect DPs from the current unit-add list in PowerPlan.</p> <p>Process ends here.</p>
Post transaction to the General Ledger	PA Analyst	<p>Review the transaction within PowerPlan and post it to the General Ledger.</p> <p>Process ends here.</p>
Errors?	PA Analyst	<p>If Yes, see step: Proceed to Error Remediation Process</p> <p>If No, see step: END</p>
Proceed to Error Remediation Process	PA Clerk	<p>Complete the error remediation process.</p> <p><i>Refer to the Error Remediation Process for details.</i></p> <p>Process ends here.</p>

Required Fields for Asbuilt

Required Field	Description
Expenditure type	Identifies the use of the expense (addition, removal, or construction)
Unit Estimate	Initial work order estimate, that is established at the work order Operation Level, that determines the work order behavior (i.e. capital, expense, retirement only) and underlying accounting treatment (i.e. GAAP, FERC, etc). The initial work order estimate is typically replaced by multiple revisions during the course of construction. The initial Unit Estimate and subsequent revisions either leads up to or results in a final As built.
Utility Account	Utility account to be posted based on project work to be performed. Utility accounts include, but are not limited to: <ul style="list-style-type: none"> • Pole • Wire • Sub-station equipment • Transformers • Meters • Mains • Services • Land
Sub Account	Sub-accounts are used identify the type of location where the asset is being constructed, in order to assist in asset taxation. Sub accounts include: <ul style="list-style-type: none"> • Personal • Private • Highway
Retirement unit (if applicable)	The retirement unit is any unit that is required to be retired as a result of a new asset being constructed or an asset being replaced.
Quantity	Length, weight or volume of the new or replacement asset.
Amount	Dollar value of the asset
Asset Location	City/town in which asset is physically located

Controls

Control Point #	Applicable Activity #	Control Type	Control Objective	Control Description	Automated / Manual? (A/M)
FA0001	N/A	Segregation of Duties	Ensure that appropriate Segregation of Duties (SoD) is applied to fixed assets functions.	<p>The following roles & responsibilities are segregated with respect to Fixed Assets end-to-end process:</p> <ol style="list-style-type: none"> (Project Approvals) Members of the US Sanctioning Committee ("USSC") cannot approve projects in Power Plant (FA Sub ledger) (Project Approvals) Power Plant users cannot approve projects for which they have the approver and funding administrator role. (Work Order Management & Construction Work in Progress "CWIP") In order to ensure segregation of duties the Project Manager must send the change requests with financial statement impacts to Plant Accounting for review and approval of the Compatible Unit (CU) or Macro Unit (MU) change. 	A
FA0203	N/A	Work Order Management	Changes to system configurations are appropriate & authorized to ensure that costs are appropriately accounted for (i.e., Capital vs. expense)	Any request for a new or change to an existing Compatible Unit (CU) & Macro Unit (MU) with financial statement impact requires review and approval from the MAXIMO Administrator and the Plant Accounting Lead Analyst. The review consists of a plausibility check by the MAXIMO Administrator of the expenses to be capitalized from an operational perspective, based on the description provided in the request. If approved the request is provided to Plant Accounting Lead Analyst for an additional review from an accounting perspective. If approved the Plant Accounting Lead Analyst updates Power Plant accordingly and forwards the approval to the MAXIMO administrator who provides the the request to IT to perform	M

Control Point #	Applicable Activity #	Control Type	Control Objective	Control Description	Automated / Manual? (A/M)
				<p>the creation/ changes in MAXIMO.</p> <p>Note 1: Applicable for Gas Business only.</p> <p>Note 2: Occurs only rarely. The last instance happened in 2009.</p>	
FA0204	N/A	Work Order Management	Changes to system configurations are appropriate & authorized to ensure that costs are appropriately accounted for (i.e. Capital vs. expense)	<p>1. Senior IT Lead Analyst in Plant Accounting reviews and approves Compatible Units (CU's) that impact Plant Accounting. Requests for changes on CU's are submitted via SharePoint Site, routed via workflow to Senior IT Lead analyst who reviews and approves changes. The review consists in a plausibility check of the description, the dollar amount, date of effectiveness, responsible manager and the name of the person who submitted the request. Request on documentation is stored on SharePoint as a tracking and approval flow.</p> <p>2. In order to ensure SOD the change to the CU is subsequently executed in Storms by a System Admin CU User.</p>	M

Tools

Tool Name	Tool Use
SAP	National Grid General Ledger
PowerPlan	Company Fixed Asset Management system; Charge, track and monitor Work Order costs
STORMS	Track and monitor Work Order activities (Legacy NGrid)
MAXIMO	Track and monitor Work Order Activities (Legacy KeySpan)
Excel	Microsoft spreadsheet application.

**Work order completion or cancelation originating systems include, but are not limited to: MAXIMO, GIS, CSS, ONYX, PCON, CAS, CRIS.

Dependencies

Processes, triggers, organizations or pre-requisites that are required for the successful completion of the process.

Dependency Description
Dependency: Proper asset classification during the Work Order Creation process
Dependency: Identification of the correct capital, expense and /or clearing accounts
Dependency: Accurate and timely completion of the following: Monitoring and tracking of project charges by the work order owner within National Grid work management (STORMS and MAXIMO) and fixed asset and general ledger systems (PowerPlan and Oracle/PeopleSoft) In-service Dates Completion Dates AsBuilt completion Collaboration and communication between Plant Accounting , budget analysts and work order owners Organization and recordkeeping of work orders reviewed and documentation obtained

Inputs

All items that come into the process from an outside source.

Inputs
Assets purchased by National Grid
Costs incurred on a work order from the direct purchase of an asset
AsBuilt Data

Outputs

All items that are derived from the process and sent to an outside source.

Outputs
Transfer or expense of charges to correct capital or expense account if the criteria for asset capitalization or expensing are met (<i>refer to the Work Order Capitalization section for Capitalization Criteria</i>).
Journal entry posted to the General Ledger documenting the account balance for each of the aforementioned accounts

Derived PowerPlan Cost Repository data sent from PowerPlan to SAP
Creation of a new capital asset

Notifications

All instances of manual communication or hand-offs occurring within the process.

Notification Sender	Notification Receiver	Notification Description
PA Clerk	Budget Analyst	Send Excel file containing DPs in question for review by the Budget Analyst
Budget Analyst	PA Clerk	Budget Analyst reviews Excel file to confirm treatment of the highlighted DPs. Once review is complete, submit to PA Clerk
PA Clerk	Budget Analyst	Contact the Budget Analyst to obtain additional AsBuilt information.

Interfaces

Interfaces contained within the process flow.

Interface Name	Inbound/Outbound/Inter-process	Frequency
99 A/B	Source of charges that feed into PowerPlan	Multiple times daily
100	Charges feed into PowerPlan from SAP. DP charges are exported from PowerPlan into an Excel file.	Multiple times daily

Required Reports / Queries

Reports or Queries that are generated or leveraged as a part of this process.

Report Name	Standard or Customized
N/A	N/A

Required Forms

SAP forms that are used as a part of this process.

Form Name	Standard or Customized Form	Paper or Online
KOB1	Standard	Online

Work Order Life Cycle:

Manual Blanket Unitization

Manual Blanket Unitization

This process facilitates the manual unitization of blanket work order charges across the following accounts:

- Construction Work In Progress (FERC Account 107000, CWIP)
- Plant in Service (FERC Account 101000, PIS)
- Retirement Work In Progress (FERC Account 108000, RWIP)

The purpose of the Manual Blanket Unitization process is to efficiently process blanket work order capital charges and facilitate accurate and timely accounting throughout the work order lifecycle.

Business Group Descriptions

The primary business groups involved with the Manual Blanket Unitization Process are summarized in the table below:

Business Group	Responsibility
Plant Accounting	Responsible for the accurate and timely processing of the Manual Blanket Unitization
Work Order Owner (Initiator)	Initiates the Manual Blanket Unitization process by charging to manual blankets

Terms and Acronyms

Term / Acronym	Definition
Manual Blanket	Utilized by National Grid to unitize assets on blanket work orders. This prevents the individual processing of certain high frequency items

Roles and Descriptions

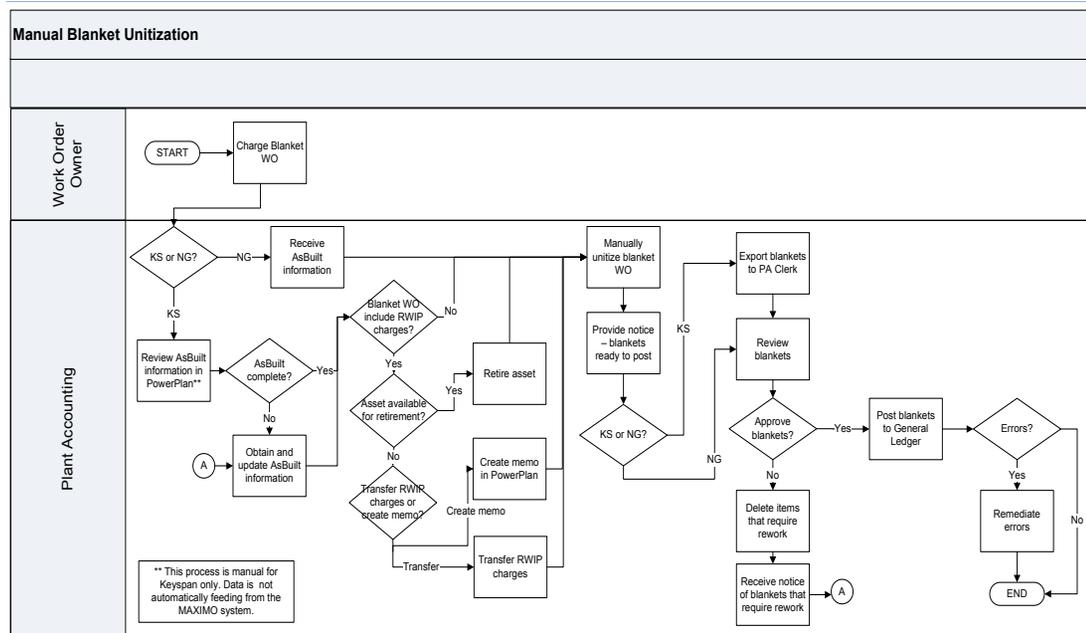
Title	Responsibility
Work Order Owner	Work Order Owners are the initiators of the manual blanket process.
Plant Accounting Analyst	Plant Accounting Analyst are responsible for the review and approval of manual blankets within PowerPlan. Once manual blankets have been properly unitized by the Plant Accounting Clerk, the Analyst will post the activity to the general ledger.
Plant Accounting Clerk	Plant Accounting Clerks are responsible for the majority of the manual blanket process. Reviewing all blankets and determining if any require retirement. Upon manually unitizing blanket work orders, the Plant Accounting Clerk is to notify the Analyst that the blankets are ready for posting to the general ledger.

Scope

Manual Blanket Unitization is utilized to process high volume transactions, which move through the project phases quickly, and therefore do not require individual processing. This process facilitates the manual unitization of blanket work order charges across the following accounts:

- Construction Work In Progress (FERC Account 107000, CWIP)
- Plant in Service (FERC Account 101000, PIS)
- Retirement Work In Progress (FERC Account 108000, RWIP)

Manual Blanket Unitization Process Flow



Manual Blanket Unitization Process Steps

Description	Responsible Role	Process Detail
Charge blanket WO	WO Owner	Charge capital construction costs to blanket work order. <i>Refer to Work Order Capitalization section.</i>
KS or NG?	PA	If KS, see step: Review AsBuilt information in PowerPlan If NG, see step: Receive AsBuilt information
Review AsBuilt information in PowerPlan	PA Clerk (KS)	Review the AsBuilt information for each blanket WO in PowerPlan to identify any missing or additional information needed to proceed with process.
AsBuilt complete?	PA Clerk (KS)	If yes, see step: Blanket WO includes RWIP charges? If no, see step: Obtain and update AsBuilt information
Obtain and update AsBuilt information	PA Clerk (KS)	Obtain all information required to complete the AsBuilt for manual blanket processing and manually complete the AsBuilt for each blanket transaction directly within PowerPlan. Reach out to the Budget Analyst to obtain additional information as required. <i>Refer to Work Order Processing and Review Policy for AsBuilt requirements. Also seen below</i>
Receive AsBuilt information	PA Clerk	Receive AsBuilt information to process blanket WOs for RI Gas.
Blanket WO include RWIP charges?	PA Clerk (KS)	Review blanket work orders within PowerPlan and identify those charged with retirement work in progress costs (RWIP). If Yes, see step: Asset available for retirement? If No, see step: Manually unitize blanket WO
Asset available for retirement?	PA Clerk (KS)	Identify if the RWIP charges are associated with an asset ready for retirement. Use the blanket WO information and PowerPlan to identify if there are specific asset(s) for which the RWIP charges should be applied. If Yes, see step: Retire asset. If No, see step: Transfer RWIP charges or create memo?
Retire asset	PA Clerk (KS)	Go through the retirement process.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 91 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 91 of 167

Description	Responsible Role	Process Detail
		See <i>Asset Retirement</i> Section for details. Once completed , see step: Manually unitize blanket WO
Transfer RWIP charges or create memo?	PA Clerk (KS)	Use work order description to determine if charges should be transferred or a retirement memo created within PowerPlan. If Transfer , see step: Transfer RWIP charges If Create memo , see step: Create memo in PowerPlan
Transfer RWIP charges	PA Clerk (KS)	Transfer RWIP charges to CWIP within PowerPlan. Once completed , see step: Manually unitize blanket WO
Create memo in PowerPlan	PA Clerk (KS)	Create a memo within PowerPlan to create a temporary retirement for which RWIP charges are applied. Memo retirement will exist until actual retirement is created within subsequent processing period. Once completed , see step: Manually unitize blanket WO
Manually unitize blanket WO	PA Clerk	Identify the blankets as ready for unitization within PowerPlan. Each identified blanket work order is labeled as a unit-add within PowerPlan when processed manually.
Provide notice – blankets ready to post	PA Clerk	Notify the PA Analyst via email that the blanket work orders are ready for unitization posting.
KS or NG?	PA Analyst	If KS , see step: Export blankets to PA Clerk If NG , see step: Review blankets
Export blankets to PA Clerk	PA Analyst	Export and review the list of unit-adds created in step “ <i>Manually unitize blanket WO</i> ” Submit this list of unit-adds to the PA Analyst for review.
Review blankets	PA Analyst	Review the list of unit-adds within Excel and identify any incorrect blanket transactions.
Approve blankets?	PA Analyst	If Yes , see step: Post blankets to General Ledger If No , see step: Delete items that require work
Delete items that require	PA Analyst	Delete the incorrect blanket transactions from the current unit-add list within PowerPlan.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 92 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 92 of 167

Description	Responsible Role	Process Detail
rework		
Receive notice of blankets that require rework	PA Analyst	Receive email notification containing the blanket transactions that require revision.
Post blankets to General Ledger	PA Analyst	Review the transaction within PowerPlan and post it to the General Ledger.
Errors?	PA Analyst	If Yes , see step: Remediate errors If No , see step: END
Remediate errors	PA Clerk	Complete the error remediation process. See <i>Error Remediation</i> section for details

Other Process Affiliated Documents

Document Name	Document Type
N/A	N/A

Controls

Control Point #	Applicable Activity #	Control Type	Control Objective	Control Description	Automated / Manual? (A/M)
FA0206	N/A	Work Order Management	Changes to system configurations are appropriate & authorized to ensure that costs are appropriately accounted for (i.e. Capital vs. expense)	Analyst from Business Process Support selects a monthly sample (10%) of Compatible Units & Macro Units and reviews for appropriateness & accuracy by ensuring that that the data in Storms is identical to approved request form. Senior Analyst from Business Process Support reviews and authorizes the 10% sample reviewed by the analyst. Any errors noted by the reviewer are corrected immediately.	M

Tools

Tool Name	Tool Use
SAP	National Grid General Ledger
PowerPlan	National Grid Fixed Assets Sub-Ledger
PA Shared Drive	Plant Accounting's internal document repository
Excel	Microsoft spreadsheet application.
STORMS	Track and monitor work order activities (Legacy NGrid)

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 93 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 93 of 167

Tool Name	Tool Use
MAXIMO	Track and monitor work order activities (Legacy KeySpan)

**Work order completion or cancelation originating systems include, but are not limited to STORMS, MAXIMO, GIS, CSS, ONYX, PCON, and CRIS

Required Fields for Asbuilt

Required Field	Description
Expenditure type	Identifies the use of the expense (addition, removal, or construction)
Unit Estimate	Initial work order estimate, that is established at the work order Operation Level, that determines the work order behavior (i.e. capital, expense, retirement only) and underlying accounting treatment (i.e. GAAP, FERC, etc). The initial work order estimate is typically replaced by multiple revisions during the course of construction. The initial Unit Estimate and subsequent revisions either leads up to or results in a final As built.
Utility Account	Utility account to be posted based on project work to be performed. Utility accounts include, but are not limited to: <ul style="list-style-type: none"> • Pole • Wire • Sub-station equipment • Transformers • Meters • Mains • Services • Land
Sub Account	Sub-accounts are used identify the type of location where the asset is being constructed, in order to assist in asset taxation. Sub accounts include: <ul style="list-style-type: none"> • Personal • Private • Highway
Retirement unit (if applicable)	The retirement unit is any unit that is required to be retired as a result of a new asset being constructed or an asset being replaced.
Quantity	Length, weight or volume of the new or replacement asset.
Amount	Dollar value of the asset
Asset Location	City/town in which asset is physically located

Dependencies

Processes, triggers, organizations, or pre-requisites that are required for the successful completion of the process.

Dependency Description
Dependency: Use of the correct blanket work order when charging capital construction costs
Dependency: Accurate and timely completion of the following: <ul style="list-style-type: none"> • Monitoring and tracking of project charges by the work order owner within National Grid work management (STORMS and MAXIMO) and fixed asset and general ledger systems (PowerPlan and SAP) • AsBuilt completion • Collaboration and communication between Plant Accounting, budget analysts and work order owners

Dependency Description
<ul style="list-style-type: none"> Organization and recordkeeping of work orders reviewed and documentation obtained

Inputs

All items that come into the process from an outside source.

Inputs
Blanket work order initiated in work management systems or fixed asset system
<ul style="list-style-type: none"> Capital costs charged to blanket work orders AsBuilt data (See the Work Order Processing and Review section for base requirements)

Outputs

All items that are derived from the process and sent to an outside source.

Outputs
Unitized Assets
Journal entry posted to the General Ledger documenting the account balance for each of the aforementioned accounts

Notifications

All instances of manual communication or hand-offs occurring within the process.

Notification Sender	Notification Receiver	Notification Description
PA Clerk	Budget Analyst	Contact Budget Analyst to obtain additional information as required
PA Clerk	PA Analyst	Notify PA Analyst via email that blanket WOs are ready for unitization posting
PA Clerk or PA Analyst	Front Office Personnel	E-mail or phone call from the PA Clerk or the PA Analyst requesting additional information from the front office work order owner

Interfaces

Interfaces contained within the process flow.

Interface Name	Inbound/Outbound/Inter-process	Frequency
Adapter Interface 99	SAP to PowerPlan	Nightly and on-demand
Adapter Interface 100	PowerPlan to SAP	Nightly and on-demand

Required Reports / Queries

Reports or Queries that are generated or leveraged as a part of this process.

Report Name	Standard or Customized
FBV3 Parked Journal Entries Query	SAP Standard Query
FB03 Posted Journal Entries Query	SAP Standard Query

FB03 variant PA Monthly JE	SAP Customized Query
----------------------------	----------------------

[Required Forms](#)

Please list all SAP forms that are used as a part of this process.

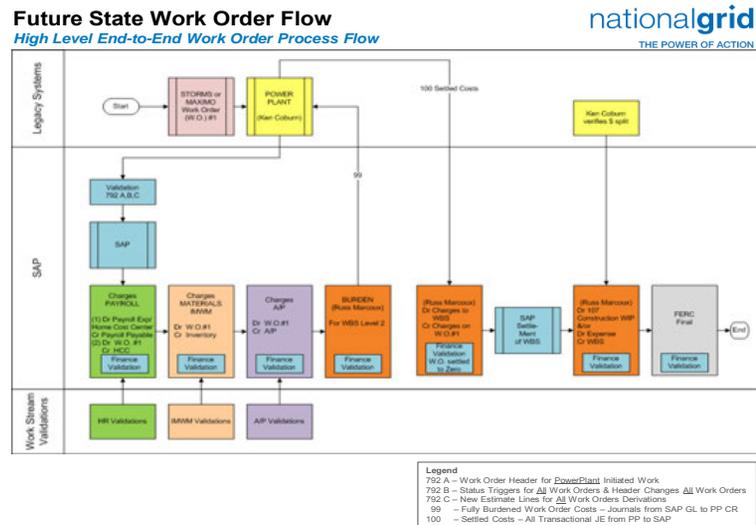
Form Name	Standard or Customized Form	Paper or Online
N/A	N/A	N/A

Appendix

Sections

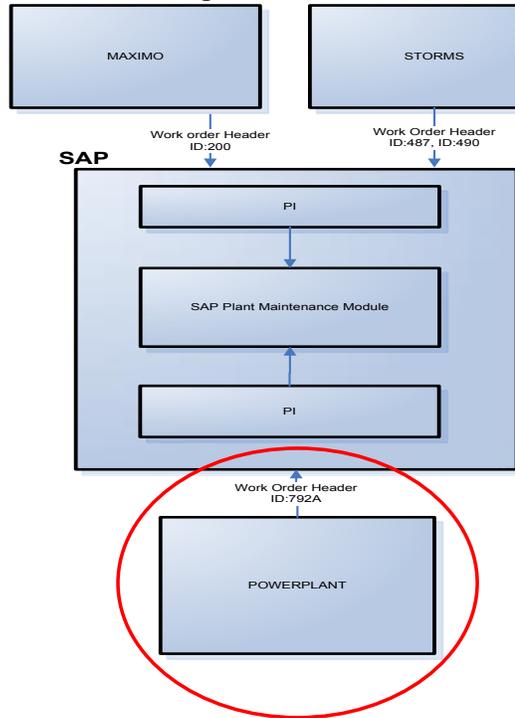
- A. Future State Work Order Overview
- B. System Interfaces: Work Order Lifecycle
- C. System Errors
 - I. C1. KeySpan
 - II. C2. Legacy National Grid

Future State Work Order Overview

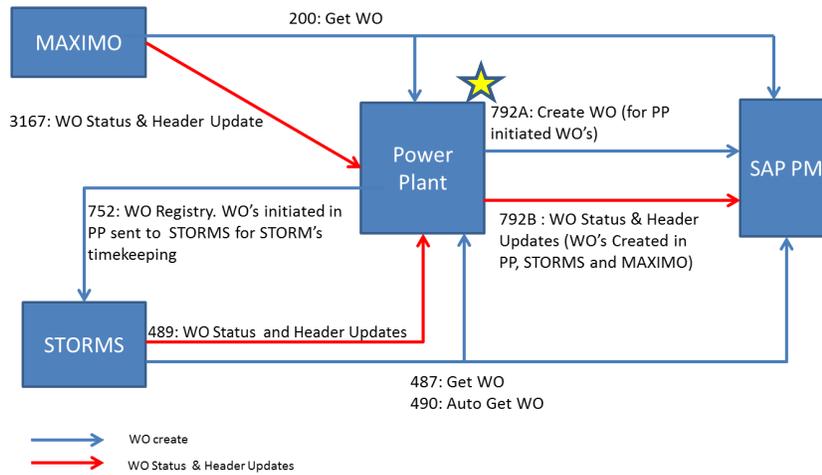


System Interfaces: Work Order Lifecycle

Process Flow Diagram – Work Order Header Creation



The diagram below shows all WO header related interfaces (header creation and header / status updates).





PowerPlanSystem Errors

Keyspan

The below table lists out all of the Legacy Keyspan Unitization Errors

ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
1	Unitization 100	Unitization 100: Error in uf_unallocate: deleting from charge_group_control	Unitization 100: Error in uf_unallocate: deleting from charge_group_control	Unitization 100: Call PPC
2	Unitization 101	Unitization 101: Error in uf_unallocate: updating charge_group_control	Unitization 101: Error in uf_unallocate: updating charge_group_control	Unitization 101: Call PPC
3	Unitization 102	Unitization 102: Error in uf_unallocate: Updating unitized_work_order (1)	Unitization 102: Error in uf_unallocate: Updating unitized_work_order (1)	Unitization 102: Call PPC
4	Unitization 103	Unitization 103: Error in uf_unallocate: Updating unitized_work_order (2)	Unitization 103: Error in uf_unallocate: Updating unitized_work_order (2)	Unitization 103: Call PPC
5	Unitization 104	Unitization 104: uf_unitize: dw Find syntax error on the unit item	Unitization 104: uf_unitize: dw Find syntax error on the unit item	Unitization 104: call PPC
6	Unitization 105	Unitization 105: uf_unitize: Cannot find the unit item	Unitization 105: uf_unitize: Cannot find the unit item	Unitization 105:Call PPC
7	Unitization 106	Unitization 106: uf_unitize: dw Find syntax error on the charge	Unitization 106: uf_unitize: dw Find syntax error on the charge	Unitization 106: Call PPC
8	Unitization 107	Unitization 107: uf_unitize: Cannot find the charge	Unitization 107: uf_unitize: Cannot find the charge	Unitization 107: Call PPC
9	Unitization 108	Unitization 108: uf_unitize: Cannot unitize an EXPENSE or JOBBING charge	Unitization 108: uf_unitize: Cannot unitize an EXPENSE or JOBBING charge	Unitization 108: Do not unitize an EXPENSE or JOBBING charge
10	Unitization 109	Unitization 109: uf_unitize: Cannot unitize this RETIREMENT charge to an ADDITION unit item	Unitization 109: uf_unitize: Cannot unitize this RETIREMENT charge to an ADDITION unit item	Unitization 109: Do not unitize this RETIREMENT charge to an ADDITION unit item
11	Unitization 110	Unitization 110: uf_unitize: Cannot unitize this ADDITION charge to a RETIREMENT unit item	Unitization 110: uf_unitize: Cannot unitize this ADDITION charge to a RETIREMENT unit item	Unitization 110: Do not unitize this ADDITION charge to a RETIREMENT unit item
12	Unitization 111	Unitization 111: uf_unitize: Cannot unitize a charge from Account ... to Account ...	Unitization 111: uf_unitize: Cannot unitize a charge from Account ... to Account ...	Unitization 111: Do not unitize a charge from Account ... to Account ...
13	Unitization 112	Unitization 112: uf_unitize: Cannot unitize a charge from Account ... to Account ... No allocations can be performed.	Unitization 112: uf_unitize: Cannot unitize a charge from Account ... to Account ... No allocations can be performed.	Unitization 112: Do not unitize a charge from Account ... to Account ...

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 101 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 101 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
14	Unitization 113	Unitization 113: uf_unitize: Error updating charge_group_control.	Unitization 113: uf_unitize: Error updating charge_group_control.	Unitization 113: Call PPC
15	Unitization 114	Unitization 114: uf_unitize: Error updating unitized_work_order	Unitization 114: uf_unitize: Error updating unitized_work_order	Unitization 114: Call PPC
16	Unitization 115	Unitization 115: Cannot create pending transactions. Some charges have not been unitized	Unitization 115: Cannot create pending transactions. Some charges have not been unitized	Unitization 115: Call PPC
17	Unitization 116	Unitization 116: Cannot create pending transactions without In Service and Completion dates.	Unitization 116: Cannot create pending transactions without In Service and Completion dates.	Unitization 116: Add In Service and Completion dates.
18	Unitization 117	Unitization 117: Cannot create pending transactions without an asset location	Unitization 117: Cannot create pending transactions without an asset location	Unitization 117: Add asset location
19	Unitization 118	Unitization 118: Cannot create pending transactions, Company Id from the transactions does not match the company being processed	Unitization 118: Cannot create pending transactions, Company Id from the transactions does not match the company being processed	Unitization 118: Call PPC
20	Unitization 119	Unitization 119: Cannot create a unitization ADD transaction to the NON-UNITIZED retirement unit.	Unitization 119: Cannot create a unitization ADD transaction to the NON-UNITIZED retirement unit.	Unitization 119: Do not unitize to the NON-UNITIZED retirement unit.
21	Unitization 120	Unitization 120: Cannot create pending transactions for COR/Salvage ... No assets were found on the CPR for this Retire. Unit/Bus. Segment/Util. Account/Sub Account/GL Account Company/Location combination. company_id = ..., gl_account_id = ..., utility_account_id = ..., sub_account_id = ..., bus_segment_id = ..., gl_account_id = ..., utility_account_id = ..., sub_account_id = ..., bus_segment_id = ..., asset_location_id = " + string(location)	Unitization 120: Cannot create pending transactions for COR/Salvage ... No assets were found on the CPR for this Retire. Unit/Bus. Segment/Util. Account/Sub Account/GL Account Company/Location combination. company_id = ..., gl_account_id = ..., utility_account_id = ..., sub_account_id = ..., bus_segment_id = ..., gl_account_id = ..., utility_account_id = ..., sub_account_id = ..., bus_segment_id = ..., asset_location_id = " + string(location)	Unitization 120: When unitizing COR/SLVG an asset must exist on the CPR matching the information provided so the correct depr group can be determined for closing the RWIP to the final reserve. Correct the data on the WO.
22	Unitization 121	Unitization 121: Cannot create Pending Transactions ... The charge_type table is not filled in properly.	Unitization 121: Cannot create Pending Transactions ... The charge_type table is not filled in properly.	Unitization 121: Call PPC
23	Unitization 122	Unitization 122: Cannot create pending transactions ... Class Codes ... Error adding where clause	Unitization 122: Cannot create pending transactions ... Class Codes ... Error adding where clause	Unitization 122: Call PPC
24	Unitization 123	Unitization 123: Cannot create Pending Transactions ... ERROR: inserting into	Unitization 123: Cannot create Pending Transactions ... ERROR:	Unitization 123: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 102 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 102 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		wo_unit_item_pend_trans: ...	inserting into wo_unit_item_pend_trans: ...	
25	Unitization 124	Unitization 124: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Unitization 124: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Unitization 124: Call PPC
26	Unitization 125	Unitization 125: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Unitization 125: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Unitization 125: Call PPC
27	Unitization 126	Unitization 126: Pending Transaction Posting Amount ... does not balance with Pend Transaction Basis ...; transactions were not created. Please contact PowerPlant Support	Unitization 126: Pending Transaction Posting Amount ... does not balance with Pend Transaction Basis ...; transactions were not created. Please contact PowerPlant Support	Unitization 126: Call PPC
28	Unitization 127	Unitization 127: Pending Transactions and Pend Transaction Basis do not line up; transactions were not created. Please contact PowerPlant Support	Unitization 127: Pending Transactions and Pend Transaction Basis do not line up; transactions were not created. Please contact PowerPlant Support	Unitization 127: Call PPC
29	Unitization 128	Unitization 128: 101 Pending Transactions Basis Amount ... does not balance with Cwip 107/106 charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 128: 101 Pending Transactions Basis Amount ... does not balance with Cwip 107/106 charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 128: Call PPC
30	Unitization 129	Unitization 129: Cor/salvage Pending Transactions Amount ... does not balance with Cwip Cor/salvage charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 129: Cor/salvage Pending Transactions Amount ... does not balance with Cwip Cor/salvage charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 129: Call PPC
31	Unitization 130	Unitization 130: Retire Pending Transactions Amount ... does not balance with Cwip retirement charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 130: Retire Pending Transactions Amount ... does not balance with Cwip retirement charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 130: Call PPC
32	Unitization 131	Unitization 131: uf_pend_trans: Error updating pend_transaction ...	Unitization 131: uf_pend_trans: Error updating pend_transaction ...	Unitization 131: Call PPC
33	Unitization 132	Unitization 132: uf_pend_trans: Error updating pend_basis ...	Unitization 132: uf_pend_trans: Error updating pend_basis ...	Unitization 132: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 103 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 103 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
34	Unitization 133	Unitization 133: uf_pend_trans: Error updating class_code_pending_trans	Unitization 133: uf_pend_trans: Error updating class_code_pending_trans	Unitization 133: Call PPC
35	Unitization 134	Unitization 134: uf_allocate: Allocation Type: ... Cannot allocate based on estimates ... The estimates do not match the unit items.	Unitization 134: uf_allocate: Allocation Type: ... Cannot allocate based on estimates ... The estimates do not match the unit items.	Unitization 134: The estimates do not match the unit items and the WO is intended to allocate via estimates. Perhaps the unitize by account is on and you have a charge to 364 but no estimate for 364. You need to examine the WO estimates and the unit items in the manual unitization window and to determine and correct the problem. Again, the problem may be with COR/SLVG or CWIP and neither will unitize until both can.
36	Unitization 135	Unitization 135: uf_allocate: No basis to perform allocation for ..., priority = ..., account = ...	Unitization 135: uf_allocate: No basis to perform allocation for ..., priority = ..., account = ...	Unitization 135: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
37	Unitization 136	Unitization 136: uf_allocate: No basis to perform allocation for ..., priority = ...	Unitization 136: uf_allocate: No basis to perform allocation for ..., priority = ...	Unitization 136: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
38	Unitization 137	Unitization 137: Negative dollar amounts exist in the estimates that are greater than the tolerance of ... percent of the positive dollar amounts. Cannot allocate remaining charges.	Unitization 137: Negative dollar amounts exist in the estimates that are greater than the tolerance of ... percent of the positive dollar amounts. Cannot allocate remaining charges.	Unitization 137: The system control 'TOLERANCE FOR ESTIMATES' determines the tolerance of negatives to positives for allocation. If none is specified .1 is used. Either change the tolerance, correct charges on the WO possibly, or manually unitize the WO in question.
39	Unitization 138	Unitization 138: Cannot allocate Charge Type: ... because a charge being allocated: ... exceeds the allocation limit of: ... Cannot allocate remaining charges.	Unitization 138: Cannot allocate Charge Type: ... because a charge being allocated: ... exceeds the allocation limit of: ... Cannot allocate remaining	Unitization 138: In the allocation maintenance, there is an automatic allocation limit specified for each charge type. Correct the limits, the charges or manually unitize.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 104 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 104 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
			charges.	
40	Unitization 139	Unitization 139: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 139: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 139: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
41	Unitization 140	Unitization 140: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 140: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 140: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
42	Unitization 141	Unitization 141: uf_allocate: Cannot allocate based on 0.00 standard hours: ..., priority = ..., account = ...	Unitization 141: uf_allocate: Cannot allocate based on 0.00 standard hours: ..., priority = ..., account = ...	Unitization 141: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
43	Unitization 143	Unitization 143: uf_allocate: Cannot allocate based on 0.00 standard COR hours: ..., priority = ..., account = ...	Unitization 143: uf_allocate: Cannot allocate based on 0.00 standard COR hours: ..., priority = ..., account = ...	Unitization 143: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate...
44	Unitization 144	Unitization 144: uf_allocate: dw Find syntax error on the Allocation charge group	Unitization 144: uf_allocate: dw Find syntax error on the Allocation charge group	Unitization 144: Call PPC
45	Unitization 145	Unitization 145: uf_allocate: No basis to perform allocation for ..., priority = ..., account = ... There are no charges in the basis or they sum to zero.	Unitization 145: uf_allocate: No basis to perform allocation for ..., priority = ..., account = ... There are no charges in the basis or they sum to zero.	Unitization 145: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
46	Unitization 146	Unitization 146: uf_allocate: uf_unitize error	Unitization 146: uf_allocate: uf_unitize error	Unitization 146: Call PPC
47	Unitization 147	Unitization 147: No Work Orders are eligible for Automatic Unitization.	Unitization 147: No Work Orders are eligible for Automatic Unitization.	Unitization 147: No Work Orders are eligible for Automatic Unitization.
48	Unitization 148	Unitization 148: Could not run - No gl_je_code exists in gl_je_control for AUTOMATIC 101.	Unitization 148: Could not run - No gl_je_code exists in gl_je_control for AUTOMATIC 101.	Unitization 148: Check if gl_je_code exists in gl_je_control for AUTOMATIC 101.
50	Unitization 150	Unitization 150: ... non-unitized addition pending transaction(s) found. This work order cannot be	Unitization 150: ... non-unitized addition pending transaction(s) found.	Unitization 150: . Post or Delete the pending transactions

National Grid

Page 104 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 105 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 105 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		unitized until they are posted or deleted.	This work order cannot be unitized until they are posted or deleted.	
51	Unitization 142	Unitization 142: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 142: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 142: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize the WO or change the allocation method being used if appropriate.
52	Unitization 151	Unitization 151: This work order will not be unitized because it is a joint child work order.	Unitization 151: This work order will not be unitized because it is a joint child work order.	Unitization 151: This work order will not be unitized because it is a joint child work order.
53	Unitization 152	Unitization 152: This work order will not be unitized because it is a joint child work order.	Unitization 152: This work order will not be unitized because it is a joint child work order.	Unitization 152: This work order will not be unitized because it is a joint child work order.
54	Unitization 153	Unitization 153: The automatic unitization is terminating due to an error in the f_unitization_audit function !!!	Unitization 153: The automatic unitization is terminating due to an error in the f_unitization_audit function !!!	Unitization 153: Check the custom f_unitization_audit function
55	Unitization 154	Unitization 154: Error in the f_wo_audit_tax function. ...	Unitization 154: Error in the f_wo_audit_tax function. ...	Unitization 154: Check the custom f_wo_audit_tax function. ...
56	Unitization 155	Unitization 155: Error updating charge_group_control. ...	Unitization 155: Error updating charge_group_control. ...	Unitization 155: Call PPC
57	Unitization 156	Unitization 156: Error updating work_order_charge_group	Unitization 156: Error updating work_order_charge_group	Unitization 156: Call PPC
58	Unitization 157	Unitization 157: There are no valid asset locations for this work order's major location ... This work order cannot be unitized.	Unitization 157: There are no valid asset locations for this work order's major location ... This work order cannot be unitized.	Unitization 157: Add valid asset locations for this work order's major location ...
59	Unitization 158	Unitization 158: ERROR: updating asset_location_id in wo_estimate: ... This work order cannot be unitized.	Unitization 158: ERROR: updating asset_location_id in wo_estimate: ... This work order cannot be unitized.	Unitization 158: Call PPC
60	Unitization 159	Unitization 159: ERROR: updating bus_segment_id in wo_estimate: ... This work order cannot be unitized.	Unitization 159: ERROR: updating bus_segment_id in wo_estimate: ... This work order cannot be unitized.	Unitization 159: Call PPC
61	Unitization 160	Unitization 160: The work order header has no asset location ... Cannot unitize.	Unitization 160: The work order header has no asset location ... Cannot unitize.	Unitization 160: The work order header has no asset location
62	Unitization 161	Unitization 161: Cannot create unit item: Invalid RU/UA/BS combination: ... / ... / ... Ret Unit : ... Util Acct : ... Bus Seg : ...	Unitization 161: Cannot create unit item: Invalid RU/UA/BS combination: ... / ... / ... Ret Unit : ... Util Acct : ... Bus Seg : ...	Unitization 161: Check your Property Unit Catalog as the property unit for the retirement unit specified has not been related to the Utility account and business segment specified. Alternatively, bad data on the WO may need to be corrected if the unitization information given is wrong, e.g. turbine should really not be in

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 106 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 106 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				account 364.
63	Unitization 162	Unitization 162: No sub account exists for Util Account ID ...: ... and Bus Segment ID: ...	Unitization 162: No sub account exists for Util Account ID ...: ... and Bus Segment ID: ...	Unitization 162: Create sub account
64	Unitization 163	Unitization 163: No valid property groups found for RU = ..., Func. Class Id= ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP ... Cannot unitize.	Unitization 163: No valid property groups found for RU = ..., Func. Class Id= ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP ... Cannot unitize.	Unitization 163: A property group must be related to both the property unit of the retirement unit, and the function class of the utility account. Either add the missing property group relationship(s) or correct the WO data. Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP
65	Unitization 164	Unitization 164: The work order header has no asset location ... Cannot unitize.	Unitization 164: The work order header has no asset location ... Cannot unitize.	Unitization 164: Add asset location
66	Unitization 165	Unitization 165: This work order does not pass the ... unitization tolerance. This work order cannot be unitized	Unitization 165: This work order does not pass the ... unitization tolerance. This work order cannot be unitized	Unitization 165: Tolerances can be used to make sure the amount of the WO is within a specified percentage of the estimate. If it falls outside the limits define, this error will result. Correct estimates or charges or tolerance.
67	Unitization 166	Unitization 166: Cannot create unit item: Invalid RU/UA/BS combination: .../.../... Ret Unit : ...Util Acct : ... Bus Seg : ...	Unitization 166: Cannot create unit item: Invalid RU/UA/BS combination: .../.../... Ret Unit : ...Util Acct : ... Bus Seg : ...	Unitization 166: Check your Property Unit Catalog as the property unit for the retirement unit specified has not been related to the Utility account and business segment specified. Alternatively, bad data on the WO may need to be corrected if the unitization information given is wrong, e.g turbine should really not be in account 364.
68	Unitization 167	Unitization 167: Cannot create unit item: Invalid RU/PG combination: .../.../... Ret Unit : ...Prop Group : ...	Unitization 167: Cannot create unit item: Invalid RU/PG combination: .../.../... Ret Unit : ...Prop Group : ...	Unitization 167: Check Property Unit/Property group combinations in Table maintenance
69	Unitization 168	Unitization 168: ERROR: Updating property_group_id on wo_estimate: ...	Unitization 168: ERROR: Updating property_group_id on wo_estimate: ...	Unitization 168: Call PPC
70	Unitization 169	Unitization 169: No valid property groups found for RU = ..., Func. Class Id= ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP ... Cannot unitize.	Unitization 169: No valid property groups found for RU = ..., Func. Class Id= ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP ... Cannot unitize.	Unitization 169: A property group must be related to both the property unit of the retirement unit, and the function class of the utility account. Either add the missing property group relationship(s) or correct the WO data. Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP
71	Unitization 170	Unitization 170: No sub account exists for Util Account ID: ... and Bus Segment ID: ...	Unitization 170: No sub account exists for Util Account ID: ... and Bus Segment ID: ...	Unitization 170: Create sub account .

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 107 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 107 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
72	Unitization 171	Unitization 171: Error creating unit items ...	Unitization 171: Error creating unit items ...	Unitization 171: Call PPC
73	Unitization 172	Unitization 172: Late Charge Unitization: No Asset Addition Activities Found to Create Minor Adds, Manual Unitization Required	Unitization 172: Late Charge Unitization: No Asset Addition Activities Found to Create Minor Adds, Manual Unitization Required	Unitization 172: Late Charge Unitization: No Asset Addition Activities Found to Create Minor Adds, Manual Unitization Required
74	Unitization 173	Unitization 173: Late Charge Unitization: No Retire Activities Found to Create Unit Items, in Retirement Transactions or CPR Activity, Manual Unitization Required	Unitization 173: Late Charge Unitization: No Retire Activities Found to Create Unit Items, in Retirement Transactions or CPR Activity, Manual Unitization Required	Unitization 173: Late Charge Unitization: No Retire Activities Found to Create Unit Items, in Retirement Transactions or CPR Activity, Manual Unitization Required
75	Unitization 174	Unitization 174: This work order does not pass the ... unitization LATE charge tolerance. This work order cannot be unitized.	Unitization 174: This work order does not pass the ... unitization LATE charge tolerance. This work order cannot be unitized.	Unitization 174: Tolerances can be used to make sure the amount of the WO is within a specified percentage of the estimate. If it falls outside the limits define, this error will result. Correct estimates or charges or tolerance.
76	Unitization 175	Unitization 175: Error inserting into unit_item_class_code: ...	Unitization 175: Error inserting into unit_item_class_code: ...	Unitization 175: Call PPC
77	Unitization 176	Unitization 176: Unable to create unit items from either charges or estimates	Unitization 176: Unable to create unit items from either charges or estimates	Unitization 176: There is incomplete unitization information available for the WO, or there are no charges to be unitized (monthly close-type may get this frequently). Be aware that the problem may be for COR/SLVG or CWIP charges and the other side may be OK. You will need to inspect the WO to see where the exact problem is. Often times, it may prove easier to determine by going to the manual unitization window and trying to Allocate Remaining Charges (essentially, this is what Auto 101 does).
78	Unitization 177	Unitization 177: Error directly assigning charges	Unitization 177: Error directly assigning charges	Unitization 177: Call PPC
79	Unitization 178	Unitization 178: Error allocating charges	Unitization 178: Error allocating charges	Unitization 178: Call PPC
80	Unitization 179	Unitization 179: Unit Item: ... Just before uf_pend_trans: Invalid Company/Asset Location combination! (... ..) Cannot create pending transactions.	Unitization 179: Unit Item: ... Just before uf_pend_trans: Invalid Company/Asset Location combination! (... ..) Cannot create pending transactions.	Unitization 179: The Major Location for the given asset location has not been related to the company given. Correct through Location maintenance or correct the data on the WO.
81	Unitization 180	Unitization 180: Unit Item: ... Just before uf_pend_trans: Invalid Company/Work Order combination! (... ..) Cannot create pending transactions.	Unitization 180: Unit Item: ... Just before uf_pend_trans: Invalid Company/Work Order combination! (... ..) Cannot create pending transactions.	Unitization 180: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 108 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 108 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
82	Unitization 181	Unitization 181: Unit Item: ... Just before uf_pend_trans: Invalid Utility Account/Asset Location combination: (.../... for ... Because of Invalid Func Class/Loc Type Combination: .../...). Cannot create pending transactions.	transactions. Unitization 181: Unit Item: ... Just before uf_pend_trans: Invalid Utility Account/Asset Location combination: (.../... for ... Because of Invalid Func Class/Loc Type Combination: .../...). Cannot create pending transactions.	Unitization 181: The major location for the given asset location is assigned a Location Type, which must be valid for the Functional Class of the Utility Account given. Update the Function Class/Location Type table via table maintenance, or correct the WO data.
83	Unitization 182	Unitization 182: Cannot create pending transactions. The charge group dollars ... do not balance to the unit item dollars ...	Unitization 182: Cannot create pending transactions. The charge group dollars ... do not balance to the unit item dollars ...	Unitization 182: There can be rounding errors between the book and tax basis buckets if the allocation priorities are not set up properly (tax only charge types must get their own distinct allocation priority). The allocation priorities need to be reviewed/updated and the unitization tables reset for the WO.
84	Unitization 183	Unitization 183: Cannot create pending transactions. This work order has subledger retirement units and must be unitized manually	Unitization 183: Cannot create pending transactions. This work order has subledger retirement units and must be unitized manually	Unitization 183: This work order has subledger retirement units and must be unitized manually
85	Unitization 184	Unitization 184: Error creating pending transactions	Unitization 184: Error creating pending transactions	Unitization 184: Call PPC
86	Unitization 185	Unitization 185: Error updating wo_status_id, pending transactions WERE committed: ...	Unitization 185: Error updating wo_status_id, pending transactions WERE committed: ...	Unitization 185: Call PPC
88	Manual Unitization 200	Manual Unitization 200: dw Find syntax error on the charge.	Manual Unitization 200: dw Find syntax error on the charge.	Manual Unitization 200: Call PPC
89	Manual Unitization 201	Manual Unitization 201: Cannot find the charge.	Manual Unitization 201: Cannot find the charge.	Manual Unitization 201: Call PPC
90	Manual Unitization 202	Manual Unitization 202: dw Find syntax error on the charge group.	Manual Unitization 202: dw Find syntax error on the charge group.	Manual Unitization 202: Call PPC
91	Manual Unitization 203	Manual Unitization 203: Cannot find the charge group.	Manual Unitization 203: Cannot find the charge group.	Manual Unitization 203: Call PPC
92	Manual Unitization 204	Manual Unitization 204: Error updating the charge group table.	Manual Unitization 204: Error updating the charge group table.	Manual Unitization 204: Call PPC
93	Manual Unitization 205	Manual Unitization 205: Error updating the work order charge group table.	Manual Unitization 205: Error updating the work order charge group table.	Manual Unitization 205: Call PPC
94	Manual Unitization 206	Manual Unitization 206: Error updating the charge group table.	Manual Unitization 206: Error updating the charge group table.	Manual Unitization 206: Call PPC
95	Manual Unitization 207	Manual Unitization 207: Error updating the charge group table.	Manual Unitization 207: Error updating the charge group table.	Manual Unitization 207: Call PPC
96	Manual Unitization 208	Manual Unitization 208: dw Find syntax error on the unit item.	Manual Unitization 208: dw Find syntax error on the unit item.	Manual Unitization 208: call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 109 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 109 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
97	Manual Unitization 209	Manual Unitization 209: Cannot find the unit item.	Manual Unitization 209: Cannot find the unit item.	Manual Unitization 209: Call PPC
98	Manual Unitization 211	Manual Unitization 211: dw Find syntax error on the charge.	Manual Unitization 211: dw Find syntax error on the charge.	Manual Unitization 211: Call PPC
99	Manual Unitization 210	Manual Unitization 210: The Original Cost Retirement charge has not yet been posted. It can not be un-unitized, it must be deleted from the Work Order Retirements window.	Manual Unitization 210: The Original Cost Retirement charge has not yet been posted. It can not be un-unitized, it must be deleted from the Work Order Retirements window.	Manual Unitization 210: Deleted from the Work Order Retirements window.
100	Manual Unitization 212	Manual Unitization 212: Error updating the Charge Group table.	Manual Unitization 212: Error updating the Charge Group table.	Manual Unitization 212: Call PPC
101	Manual Unitization 213	Manual Unitization 213: Error updating the Unit Item table.	Manual Unitization 213: Error updating the Unit Item table.	Manual Unitization 213: Call PPC
102	Manual Unitization 214	Manual Unitization 214: Error un-allocating charges.	Manual Unitization 214: Error un-allocating charges.	Manual Unitization 214: Call PPC
103	Manual Unitization 215	Manual Unitization 215: Error un-allocating charges.	Manual Unitization 215: Error un-allocating charges.	Manual Unitization 215: Call PPC
104	Manual Unitization 216	Manual Unitization 216: Error un-allocating charges.	Manual Unitization 216: Error un-allocating charges.	Manual Unitization 216: Call PPC
105	Manual Unitization 217	Manual Unitization 217: Error un-unitizing targeted charges.	Manual Unitization 217: Error un-unitizing targeted charges.	Manual Unitization 217: Call PPC
106	Manual Unitization 218	Manual Unitization 218: Error un-unitizing targeted charges.	Manual Unitization 218: Error un-unitizing targeted charges.	Manual Unitization 218: Call PPC
107	Manual Unitization 219	Manual Unitization 219: Error un-unitizing targeted charges.	Manual Unitization 219: Error un-unitizing targeted charges.	Manual Unitization 219: Call PPC
108	Manual Unitization 220	Manual Unitization 220: Error un-unitizing targeted charges.	Manual Unitization 220: Error un-unitizing targeted charges.	Manual Unitization 220: Call PPC
109	Manual Unitization 221	Manual Unitization 221: Error un-unitizing targeted charges.	Manual Unitization 221: Error un-unitizing targeted charges.	Manual Unitization 221: Call PPC
110	Manual Unitization 222	Manual Unitization 222: You cannot split a ... charge to a ... unit item.	Manual Unitization 222: You cannot split a ... charge to a ... unit item.	Manual Unitization 222: Do not split a ... charge to a ... unit item.
111	Manual Unitization 223	Manual Unitization 223: dw Find syntax error on the unit item.	Manual Unitization 223: dw Find syntax error on the unit item.	Manual Unitization 223: Call PPC
112	Manual Unitization 224	Manual Unitization 224: Cannot find the unit item.	Manual Unitization 224: Cannot find the unit item.	Manual Unitization 224: Call PPC
113	Manual Unitization 225	Manual Unitization 225: Cannot unitize an EXPENSE or JOBBING charge.	Manual Unitization 225: Cannot unitize an EXPENSE or JOBBING charge.	Manual Unitization 225: Do not unitize an EXPENSE or JOBBING charge.
114	Manual Unitization 226	Manual Unitization 226: Cannot unitize this RETIREMENT charge to an ADDITION unit item.	Manual Unitization 226: Cannot unitize this RETIREMENT charge to an ADDITION unit item.	Manual Unitization 226: Do not unitize this RETIREMENT charge to an ADDITION unit item.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 110 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 110 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
115	Manual Unitization 227	Manual Unitization 227: Cannot unitize this ADDITION charge to a RETIREMENT unit item.	Manual Unitization 227: Cannot unitize this ADDITION charge to a RETIREMENT unit item.	Manual Unitization 227: Do Not unitize this ADDITION charge to a RETIREMENT unit item.
116	Manual Unitization 228	Manual Unitization 228: Cannot unitize a charge from Account ... to Account ... This charge will not be unitized.	Manual Unitization 228: Cannot unitize a charge from Account ... to Account ... This charge will not be unitized.	Manual Unitization 228: Do not unitize a charge from Account ... to Account ...
117	Manual Unitization 229	Manual Unitization 229: Cannot unitize a charge from Account ... to Account ... No allocations can be performed.	Manual Unitization 229: Cannot unitize a charge from Account ... to Account ... No allocations can be performed.	Manual Unitization 229: Do not unitize a charge from Account ... to Account ... No allocations can be performed.
118	Manual Unitization 230	Manual Unitization 230: Cannot group a charge which has already been unitized.	Manual Unitization 230: Cannot group a charge which has already been unitized.	Manual Unitization 230: Call PPC.
119	Manual Unitization 231	Manual Unitization 231: Cannot group a charge which has already been unitized.	Manual Unitization 231: Cannot group a charge which has already been unitized.	Manual Unitization 231: Call PPC
120	Manual Unitization 232	Manual Unitization 232: Cannot group charges with different charge types.	Manual Unitization 232: Cannot group charges with different charge types.	Manual Unitization 232: Call PPC
121	Manual Unitization 233	Manual Unitization 233: ERROR: deleting from cpr_act_month: the gain/loss will not be computed properly.	Manual Unitization 233: ERROR: deleting from cpr_act_month: the gain/loss will not be computed properly.	Manual Unitization 233: Call PPC
122	Manual Unitization 234	Manual Unitization 234: ERROR: inserting into cpr_act_month: the gain/loss will not be computed properly.	Manual Unitization 234: ERROR: inserting into cpr_act_month: the gain/loss will not be computed properly.	Manual Unitization 234: Call PPC
123	Manual Unitization 235	Manual Unitization 235: ERROR: deleting from temp_asset: the gain/loss will not be computed properly.	Manual Unitization 235: ERROR: deleting from temp_asset: the gain/loss will not be computed properly.	Manual Unitization 235: Call PPC
124	Manual Unitization 236	Manual Unitization 236: ERROR: inserting into temp_asset: the gain/loss will not be computed properly.	Manual Unitization 236: ERROR: inserting into temp_asset: the gain/loss will not be computed properly.	Manual Unitization 236: Call PPC
125	Manual Unitization 237	Manual Unitization 237: ERROR: selecting depr group for the asset: the gain/loss will not be computed properly.	Manual Unitization 237: ERROR: selecting depr group for the asset: the gain/loss will not be computed properly.	Manual Unitization 237: Call PPC
126	Manual Unitization 238	Manual Unitization 238: ERROR: check for reserve failed: the gain/loss will not be computed properly. (asset_id = ... depr_group_id = ... open_month = ...).	Manual Unitization 238: ERROR: check for reserve failed: the gain/loss will not be computed properly. (asset_id = ... depr_group_id = ...)	Manual Unitization 238: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 111 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 111 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
127	Manual Unitization 239	Manual Unitization 239: The total of the subledger amounts: ... does not balance to the amount: that was unitized to this unit item (unit_item_id = ...). Cannot create pending transactions.	open_month = ...). Manual Unitization 239: The total of the subledger amounts: ... does not balance to the amount: that was unitized to this unit item (unit_item_id = ...). Cannot create pending transactions.	Manual Unitization 239: Call PPC
128	Manual Unitization 240	Manual Unitization 240: The total of the subledger salvage and COR: ... does not balance to the amount: ... that was unitized to this unit item (unit_item_id = ...). Cannot create pending transactions.	Manual Unitization 240: The total of the subledger salvage and COR: ... does not balance to the amount: ... that was unitized to this unit item (unit_item_id = ...). Cannot create pending transactions.	Manual Unitization 240: Call PPC
129	Manual Unitization 241	Manual Unitization 241: Multiple In-service, SQL Error :	Manual Unitization 241: Multiple In-service, SQL Error :	Manual Unitization 241: Call PPC
130	Manual Unitization 242	Manual Unitization 242: Multiple In-service, Could not determine charge group type	Manual Unitization 242: Multiple In-service, Could not determine charge group type	Manual Unitization 242Call PPC
131	Manual Unitization 243	Manual Unitization 243: Allocation Type: ... Cannot allocate based on estimates ... The estimates do not match the unit items.	Manual Unitization 243: Allocation Type: ... Cannot allocate based on estimates ... The estimates do not match the unit items.	Manual Unitization 243: The estimates do not match the unit items and the WO is intended to allocate via estimates. Perhaps the unitize by account is on and you have a charge to 364 but no estimate for 364. You need to examine the WO estimates and the unit items in the manual unitization window and to determine and correct the problem. Again, the problem may be with COR/SLVG or CWIP and neither will unitize until both can.
132	Manual Unitization 244	Manual Unitization 244: No basis to perform allocation for ..., priority = ..., account = ...	Manual Unitization 244: No basis to perform allocation for ..., priority = ..., account = ...	Manual Unitization 244: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
133	Manual Unitization 245	Manual Unitization 245: No basis to perform allocation for ..., priority = ...	Manual Unitization 245: No basis to perform allocation for ..., priority = ...	Manual Unitization 245: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 112 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 112 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
134	Manual Unitization 246	Manual Unitization 246: Negative dollar amounts exist in the estimates that are greater than the tolerance of ... percent of the positive dollar amounts. Cannot allocate remaining charges.	Manual Unitization 246: Negative dollar amounts exist in the estimates that are greater than the tolerance of ... percent of the positive dollar amounts. Cannot allocate remaining charges.	Manual Unitization 246: The system control 'TOLERANCE FOR ESTIMATES' determines the tolerance of negatives to positives for allocation. If none is specified .1 is used. Either change the tolerance, correct charges on the WO possibly, or manually unitize the WO in question.
135	Manual Unitization 247	Manual Unitization 247: Cannot allocate Charge Type: ... because a charge group being allocated: \$... exceeds the allocation limit of: \$... Cannot allocate remaining charges.	Manual Unitization 247: Cannot allocate Charge Type: ... because a charge group being allocated: \$... exceeds the allocation limit of: \$... Cannot allocate remaining charges.	Manual Unitization 247: In the allocation maintenance, there is an automatic allocation limit specified for each charge type. Correct the limits, the charges or manually unitize.
136	Manual Unitization 247	Manual Unitization 247: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 247: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 247: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
137	Manual Unitization 248	Manual Unitization 248: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 248: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 248: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
138	Manual Unitization 249	Manual Unitization 249: Cannot allocate based on 0.00 standard hours: ..., priority = ..., account = ...	Manual Unitization 249: Cannot allocate based on 0.00 standard hours: ..., priority = ..., account = ...	Manual Unitization 249: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
139	Manual Unitization 250	Manual Unitization 250: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 250: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 250: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
140	Manual Unitization 251	Manual Unitization 251: Cannot allocate based on 0.00 standard COR hours: ..., priority = ..., account = ...	Manual Unitization 251: Cannot allocate based on 0.00 standard COR hours: ..., priority = ..., account = ...	Manual Unitization 251: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
141	Manual	Manual Unitization 252: dw Find syntax error	Manual Unitization 252: dw Find	Manual Unitization 252: Call PPC

National Grid

Page 112 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 113 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 113 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
	Unitization 252	on the Allocation charge group.	syntax error on the Allocation charge group.	
142	Manual Unitization 253	Manual Unitization 253: No basis to perform allocation for ..., priority = ..., account = ... There are no charges in the basis or they sum to zero.	Manual Unitization 253: No basis to perform allocation for ..., priority = ..., account = ... There are no charges in the basis or they sum to zero.	Manual Unitization 253: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
143	Manual Unitization 254	Manual Unitization 254: Cannot create pending transactions. Some charges have not been unitized.	Manual Unitization 254: Cannot create pending transactions. Some charges have not been unitized.	Manual Unitization 254: Call PPC
144	Manual Unitization 255	Manual Unitization 255: Cannot create pending transactions without In Service and Completion dates.	Manual Unitization 255: Cannot create pending transactions without In Service and Completion dates.	Manual Unitization 255: Must have In Service and Completion dates.
145	Manual Unitization 256	Manual Unitization 256: Cannot create a unitization ADD transaction to the NON-UNITIZED retirement unit.	Manual Unitization 256: Cannot create a unitization ADD transaction to the NON-UNITIZED retirement unit.	Manual Unitization 256: Do not unitize to the NON-UNITIZED retirement unit.
146	Manual Unitization 257	Manual Unitization 257: Cannot create pending transactions for COR/Salvage ... No assets were found on the CPR for this Retire. Unit/Bus. Segment/Util. Account/Sub Account/GL Account Company/Location combination. company_id = ... gl_account_id = ... utility_account_id = ... sub_account_id = ... bus_segment_id = ... asset_location_id = ...	Manual Unitization 257: Cannot create pending transactions for COR/Salvage ... No assets were found on the CPR for this Retire. Unit/Bus. Segment/Util. Account/Sub Account/GL Account Company/Location combination. company_id = ... gl_account_id = ... utility_account_id = ... sub_account_id = ... bus_segment_id = ... asset_location_id = ...	Manual Unitization 257: When unitizing COR/SLVG an asset must exist on the CPR matching the information provided so the correct depr group can be determined for closing the RWIP to the final reserve. Correct the data on the WO.
147	Manual Unitization 258	Manual Unitization 258: Cannot create Pending Transactions ... The charge_type table is not filled in properly.	Manual Unitization 258: Cannot create Pending Transactions ... The charge_type table is not filled in properly.	Manual Unitization 258: Call PPC
148	Manual Unitization 259	Manual Unitization 259: Cannot create pending transactions with missing reserve data.	Manual Unitization 259: Cannot create pending transactions with missing reserve data.	Manual Unitization 259: Call PPC
149	Manual Unitization 260	Manual Unitization 260: Cannot create Pending Transactions ... ERROR: inserting into pend_transaction_memo: ...	Manual Unitization 260: Cannot create Pending Transactions ... ERROR: inserting into pend_transaction_memo: ...	Manual Unitization 260: Call PPC
150	Manual	Manual Unitization 261: Cannot create	Manual Unitization 261: Cannot	Manual Unitization 261: Call PPC

National Grid

Page 113 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 114 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 114 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
	Unitization 261	Pending Transactions ... ERROR: inserting into wo_unit_item_pend_trans: ...	create Pending Transactions ... ERROR: inserting into wo_unit_item_pend_trans: ...	
151	Manual Unitization 262	Manual Unitization 262: Multiple Inservice Processing Failed, Pending Transactions Not Created	Manual Unitization 262: Multiple Inservice Processing Failed, Pending Transactions Not Created	Manual Unitization 262: Call PPC
152	Manual Unitization 263	Manual Unitization 263: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Manual Unitization 263: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Manual Unitization 263: Call PPC
153	Manual Unitization 264	Manual Unitization 264: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Manual Unitization 264: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Manual Unitization 264: Call PPC
154	Manual Unitization 265	Manual Unitization 265: This work order cannot be unitized due to an error in the f_unitization_audit function !!!	Manual Unitization 265: This work order cannot be unitized due to an error in the f_unitization_audit function !!!	Manual Unitization 265: Check the custom f_unitization_audit function
155	Manual Unitization 266	Manual Unitization 266: This work order cannot be unitized due to an error in the f_wo_audit_tax function: ...	Manual Unitization 266: This work order cannot be unitized due to an error in the f_wo_audit_tax function: ...	Manual Unitization 266: Check the custom f_wo_audit_tax function: ...
156	Manual Unitization 267	Manual Unitization 267: This Joint Work Order has Children with Gain/Loss Retirements. Gain/Loss Retirements cannot be processed in Joint Work Order. These work orders will have to be unrelated and unitized seperately	Manual Unitization 267: This Joint Work Order has Children with Gain/Loss Retirements. Gain/Loss Retirements cannot be processed in Joint Work Order. These work orders will have to be unrelated and unitized seperately	Manual Unitization 267: These work orders will have to be unrelated and unitized seperately
157	Manual Unitization 268	Manual Unitization 268: There are no valid asset locations for this work order's major location. This work order cannot be unitized.	Manual Unitization 268: There are no valid asset locations for this work order's major location. This work order cannot be unitized.	Manual Unitization 268: Create valid valid asset locations for this work order's major location.
158	Manual Unitization 269	Manual Unitization 269: WARNING: Cannot create unit item: Invalid RU/UA/BS combination: .../.../... The retirement unit is: ...	Manual Unitization 269: WARNING: Cannot create unit item: Invalid RU/UA/BS combination: .../.../... The retirement unit is: ...	Manual Unitization 269: Check your Property Unit Catalog as the property unit for the retirement unit specified has not been related to the Utility account and business segment specified. Alternatively, bad data on the WO may need to be corrected if the unitization information given is wrong, e.g. turbine should really not be in account 364.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 115 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 115 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
159	Manual Unitization 270	Manual Unitization 270: WARNING: No valid property groups found for RU = ..., Func. Class = ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP	Manual Unitization 270: WARNING: No valid property groups found for RU = ..., Func. Class = ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP	Manual Unitization 270: A property group must be related to both the property unit of the retirement unit, and the function class of the utility account. Either add the missing property group relationship(s) or correct the WO data. Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP
160	Manual Unitization 271	Manual Unitization 271: This work order does not pass the ... unitization tolerance. This work order cannot be unitized.	Manual Unitization 271: This work order does not pass the ... unitization tolerance. This work order cannot be unitized.	Manual Unitization 271: Tolerances can be used to make sure the amount of the WO is within a specified percentage of the estimate. If it falls outside the limits define, this error will result. Correct estimates or charges or tolerance.
161	Manual Unitization 272	Manual Unitization 272: WARNING: Cannot create unit item: ... Invalid RU/UA/BS combination: .../.../... The retirement unit is: ...	Manual Unitization 272: WARNING: Cannot create unit item: ... Invalid RU/UA/BS combination: .../.../... The retirement unit is: ...	Manual Unitization 272: Check your Property Unit Catalog as the property unit for the retirement unit specified has not been related to the Utility account and business segment specified. Alternatively, bad data on the WO may need to be corrected if the unitization information given is wrong, e.g. turbine should really not be in account 364.
162	Manual Unitization 273	Manual Unitization 273: Cannot create unit item: Invalid RU/PG combination: .../.../... Ret Unit : ... Prop Group : ...	Manual Unitization 273: Cannot create unit item: Invalid RU/PG combination: .../.../... Ret Unit : ... Prop Group : ...	Manual Unitization 273: Check the property group/property unit combinations in table maintenance.
163	Manual Unitization 274	Manual Unitization 274: WARNING: No valid property groups found for RU = ..., Func. Class = ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP	Manual Unitization 274: WARNING: No valid property groups found for RU = ..., Func. Class = ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP	Manual Unitization 274: A property group must be related to both the property unit of the retirement unit, and the function class of the utility account. Either add the missing property group relationship(s) or correct the WO data. Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP
164	Automatic Non-Unitized 300	Automatic Non-Unitized 300: Work order cannot be non-unitized due to an error in the f_non_unitization_audit function: ...	Automatic Non-Unitized 300: Work order cannot be non-unitized due to an error in the f_non_unitization_audit function: ...	Automatic Non-Unitized 300: Check custom f_non_unitization_audit function
165	Automatic Non-Unitized 301	Automatic Non-Unitized 301: Work order cannot be processed due to an error in the f_wo_audit_tax function ...	Automatic Non-Unitized 301: Work order cannot be processed due to an error in the f_wo_audit_tax function ...	Automatic Non-Unitized 301: Check custom function f_wo_audit_tax function
166	Automatic Non-Unitized	Automatic Non-Unitized 302: Work Order not processed because there are already 101 or 106	Automatic Non-Unitized 302: Work Order not processed because	Automatic Non-Unitized 302: post or delete the transactions

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 116 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 116 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
	302	Pending transaction additions. They must be posted or deleted	there are already 101 or 106 Pending transaction additions. They must be posted or deleted	
167	Automatic Non-Unitized 303	Automatic Non-Unitized 303: Work Order not processed: the Non Unitized Account can not be the same as the unitized account	Automatic Non-Unitized 303: Work Order not processed the Non Unitized Account can not be the same as the unitized account	Automatic Non-Unitized 303: Fix the work order accounts
168	Automatic Non-Unitized 304	Automatic Non-Unitized 304: No charges have a utility account, there are no 106 records on the CPR and no estimates have a utility account	Automatic Non-Unitized 304: No charges have a utility account, there are no 106 records on the CPR and no estimates have a utility account	Automatic Non-Unitized 304: add a utility account to one or more records in the estimates
169	Automatic Non-Unitized 305	Automatic Non-Unitized 305: There are no estimates	Automatic Non-Unitized 305: There are no estimates	Automatic Non-Unitized 305: Add estimates
170	Automatic Non-Unitized 306	Automatic Non-Unitized 306: Cannot create pending transactions ... Work Order ... The Cwip 107 amount ... does not equal the pending basis amount ...	Automatic Non-Unitized 306: Cannot create pending transactions ... Work Order ... The Cwip 107 amount ... does not equal the pending basis amount ...	Automatic Non-Unitized 306: Call PPC
171	Automatic Non-Unitized 307	Automatic Non-Unitized 307: Cannot create pending transactions ... Work Order ... No sub account exists for Utility Account ID ...: ... and Bus Segment ID: ...	Automatic Non-Unitized 307: Cannot create pending transactions ... Work Order ... No sub account exists for Utility Account ID ...: ... and Bus Segment ID: ...	Automatic Non-Unitized 307: add a sub account to the sub account table
172	Automatic Non-Unitized 308	Automatic Non-Unitized 308: Cannot create pending transactions ... Work Order ... No Prop Group found for Ret Unit ID ...: ... and Func Class Id ...: ... Check the Prop Group/Prop Unit and the Func Class/Prop Group tables	Automatic Non-Unitized 308: Cannot create pending transactions ... Work Order ... No Prop Group found for Ret Unit ID ...: ... and Func Class Id ...: ... Check the Prop Group/Prop Unit and the Func Class/Prop Group tables	Automatic Non-Unitized 308: Check the 'Prop Group/Prop Unit' and the 'Func Class/Prop Group' tables
173	Automatic Non-Unitized 309	Automatic Non-Unitized 309: Cannot create pending transactions ... Work Order ... No Asset Location exists for Major Location ID ...: ...	Automatic Non-Unitized 309: Cannot create pending transactions ... Work Order ... No Asset Location exists for Major Location ID ...: ...	Automatic Non-Unitized 309: add Asset Location to the Major Location
174	Automatic Non-Unitized 310	Automatic Non-Unitized 310: Class Codes - ... Error adding where clause	Automatic Non-Unitized 310: Class Codes - ... Error adding where clause	Automatic Non-Unitized 310: Call PPC
175	Automatic Non-Unitized 311	Automatic Non-Unitized 311: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Automatic Non-Unitized 311: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Automatic Non-Unitized 311: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 117 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 117 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
			Support	
176	Automatic Non-Unitized 312	Automatic Non-Unitized 312: Pending Transactions and Pending Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Automatic Non-Unitized 312: Pending Transactions and Pending Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Automatic Non-Unitized 312: call PPC
177	Automatic Non-Unitized 313	Automatic Non-Unitized 313: Error updating pending_transaction.	Automatic Non-Unitized 313: Error updating pending_transaction.	Automatic Non-Unitized 313: call PPC
178	Automatic Non-Unitized 314	Automatic Non-Unitized 314: Error updating pending_basis.	Automatic Non-Unitized 314: Error updating pending_basis.	Automatic Non-Unitized 314: call PPC
179	Automatic Non-Unitized 315	Automatic Non-Unitized 315: Error updating class_code_pending_trans.	Automatic Non-Unitized 315: Error updating class_code_pending_trans.	Automatic Non-Unitized 315: Call PPC
201	POST 231	POST 231: 106 reversal amount from cpr_ledger is not equal to the balance from the individual depreciation table cpr_depr ... ,	POST 231: ERROR 106 reversal amount from cpr_ledger ... is not equal to balance from cpr_depr ... ,	POST 231: Call PPC
202	POST 232	POST 232: invalid activity type in pending transaction	POST 232: ERROR invalid activity type in cpr_depr transaction	POST 232: Call PPC
203	POST 233	POST 233: Default life is zero or NULL in utility account	POST 233: Default life is zero or NULL in utility account	POST 233: Check the Utility Account in Table Maintenance
204	POST 234	POST 234: Default life is null or zero in company account curves table	POST 234: Default life is null or zero in company account curves table	POST 234: Check Company Account Curves data in table maintenance
205	POST 235	POST 235: Default life is Null or zero in property unit	POST 235: Default life is Null or zero in property unit	POST 235: Check property unit in table maintenance
206	POST 236	POST 236: Default life is null or zero in company account curves or utility account	POST 236: Default life is null or zero in company account curves or utility account	POST 236: Check data in Table maintenance
207	POST 237	POST 237: Error: Cannot Post to an individually depreciated asset after Depreciation has been approved for the month	POST 237: Error: Cannot Post to an individual depr asset after Depreciation has been approved for the month	POST 237: Defer or delete and reprocess later
208	POST 238	POST 238: Error: Cannot Post to a subledger after Depreciation has been approved for the month	POST 238: Error: Cannot Post to a subledger after Depreciation has been approved for the month	POST 238: Defer or delete and process later
209	POST 239	POST 239: cannot find major location from the asset location	POST 239: ERROR cannot find major location	POST 239: Check the location tables
210	POST 240	POST 240: cannot find the location type for the major location	POST 240: ERROR cannot find location type	POST 240: Check the location tables
211	POST 241	POST 241: Not enough info to determine depr group from depr_group_control or depr	POST 241: Not enough info to determine depr group from	POST 241: Check the depr group control table. Also make sure the depr group is valid

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 118 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 118 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		group is invalid	depr_group_control or depr group is invalid	
213	POST 243	POST 243: Depr Group Business Segment is NULL	POST 243: ERROR Depr Group Business Segment is NULL ...	POST 243: Assign a Business Segment to the Depr Group
214	POST 244	POST 244: The Asset's Business Segment is not equal to the Depr Group's Business Segment ...	POST 244: ERROR Asset Business Segment ... <-> Depr Group Business Segment ...	POST 244: The business segment for the asset and the business segment for the depr group must be equal
215	POST 245	POST 245: Cannot Post to an individually depreciated asset after Depreciation has been approved for the month	POST 245: Error: Cannot Post to an individual depr asset after Depreciation has been approved for the month	POST 245: Defer or delete the transaction and process it later
216	POST 246	POST 246: Cannot Post to a subledger after Depreciation has been approved for the month	POST 246: Error: Cannot Post to a subledger after Depreciation has been approved for the month	POST 246: Defer or delete the transaction and process it later
217	POST 247	POST 247: The subledger type for the Depr Group is not equal to the subledger type in the transaction	POST 247: Error: Depr Group subledger type is not equal to the transaction subledger type	POST 247: Check the depreciation group subledger indicator
218	POST 249	POST 249: Cannot find the company number from the company table	POST 249: ERROR Cannot find the company number	POST 249: Check the Company table
219	POST 250	POST 250: Cannot find the work order Id for the work order number and company in the transaction	POST 250: ERROR Cannot find the work order Id	POST 250: Call PPC
220	POST 251	POST 251: Reserve Debit Account not Found in the depreciation group	POST 251: Error: Reserve Debit Account not Found	POST 251: Check depr group
221	POST 252	POST 252: Error: Retirement Debit Account not Found in the depreciation group	POST 252: Error: Retirement Debit Account not Found	POST 252: Check depr group
222	POST 253	POST 253: Error: Retirement Credit Account not Found in the depreciation group	POST 253: Error: Retirement Credit Account not Found	POST 253: check the depreciation group
223	POST 254	POST 254: Reserve Debit Account not Found in the depreciation group	POST 254: Error: Reserve Debit Account not Found	POST 254: check the depreciation group
224	POST 255	POST 255: Credit Account for cost of removal not Found in the depreciation group	POST 255: Error: Credit Account for cost of removal not Found	POST 255: Check the depreciation group
225	POST 256	POST 256: Debit Account for cost of removal not Found in the depreciation group	POST 256: Error: Debit Account for cost of removal not Found	POST 256: check the depreciation group
226	POST 257	POST 257: Credit Account for cost of removal not Found in the depreciation group	POST 257: Error: Credit Account for cost of removal not Found	POST 257: check the depreciation group
227	POST 258	POST 258: salvage Debit Account not Found in the depreciation group	POST 258: Error: salvage Debit Account not Found	POST 258: check the depreciation group
228	POST 259	POST 259: Credit Account for salvage not Found in the depreciation group	POST 259: Error: Credit Account for salvage not Found	POST 259: check the depreciation group
229	POST 260	POST 260: salvage Debit Account not Found in the depreciation group	POST 260: Error: salvage Debit Account not Found	POST 260: check the depreciation group

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 119 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 119 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
230	POST 261	POST 261: salvage Credit Account not Found in the depreciation group	POST 261: Error: salvage Credit Account not Found	POST 261: check the depreciation group
231	POST 262	POST 262: gain/loss Debit Account not Found in the depreciation group	POST 262: Error: gain/loss Debit Account not Found	POST 262: check the depreciation group
232	POST 263	POST 263: Credit Account for gain/loss not Found in the depreciation group	POST 263: Error: Credit Account for gain/loss not Found	POST 263: check the depreciation group
233	POST 264	POST 264: gain/loss Debit Account not Found in the depreciation group	POST 264: Error: gain/loss Debit Account not Found	POST 264: check the depreciation group
234	POST 265	POST 265: gain/loss Credit Account not Found in the depreciation group	POST 265: Error: gain/loss Credit Account not Found	POST 265: check the depreciation group
235	POST 266	POST 266: Cannot find the 'FROM' company number in the company table	POST 266: ERROR Cannot find the 'FROM' company number	POST 266: check the company table
236	POST 267	POST 267: Cannot find the 'TO' company number in the company table	POST 267: ERROR Cannot find the 'TO' company number	POST 267: check the company table
237	POST 268	POST 268: GL Je code missing from the transaction	POST 268: Error: GL Je code missing from transaction	POST 268: Call PPC
238	POST 269	POST 269: Cannot Find Receivable GL account in the GL account table	POST 269: Error: Cannot Find Receivable GL account	POST 269: check the GL account table
239	POST 270	POST 270: Cannot Find Payable GL account in the GL account table	POST 270: Error: Cannot Find Payable GL account	POST 270: check the GL account table
240	POST 271	POST 271: Transfer_to Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1010	POST 271: Error: Transfer_to Debit Account not Found	POST 271: Check the Oracle customized stored procedure pp_gl_transaction entry 1010
241	POST 272	POST 272: Transfer_from Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1011	POST 272: Error: Transfer_from Credit Account not Found	POST 272: Check the Oracle customized stored procedure pp_gl_transaction entry 1011
242	POST 273	POST 273: Transfer_to life reserve Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1018	POST 273: Error: Transfer_to life reserve Debit Account not Found	POST 273: Check the Oracle customized stored procedure pp_gl_transaction entry 1018
243	POST 274	POST 274: Transfer_to life reserve credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1019	POST 274: Error: Transfer_to life reserve credit Account not Found	POST 274: Check the Oracle customized stored procedure pp_gl_transaction entry 1019
244	POST 275	POST 275: Transfer_from cor reserve Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1020	POST 275: Error: Transfer_from cor reserve Debit Account not Found	POST 275: Check the Oracle customized stored procedure pp_gl_transaction entry 1020
245	POST 276	POST 276: Transfer_from cor reserve Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1021	POST 276: Error: Transfer_from cor reserve Credit Account not Found	POST 276: Check the Oracle customized stored procedure pp_gl_transaction entry 1021

National Grid

Page 119 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 120 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 120 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
246	POST 277	POST 277: Intercompany Transfer_to Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1014	POST 277: Error: Intercompany Transfer_to Debit Account not Found	POST 277: Check the Oracle customized stored procedure pp_gl_transaction entry 1014
247	POST 278	POST 278: Intercompany Transfer_from Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1015	POST 278: Error: Intercompany Transfer_from Credit Account not Found	POST 278: Check the Oracle customized stored procedure pp_gl_transaction entry 1015
248	POST 279	POST 279: ARO book summary not found	POST 279: Error: ARO book summary not found	POST 279: Check book summary
249	POST 280	POST 280: cwip_gl_account Credit Account Code not Found in work order account	POST 280: Error: Credit Account Code not Found	POST 280: Check work order account
250	POST 281	POST 281: ARO Credit Account Code not Found	POST 281: Error: ARO Credit Account Code not Found	POST 281: Check GL accounts
251	POST 282	POST 282: Addition Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1000	POST 282: Error: Addition Debit Account Code not Found	POST 282: Check the Oracle customized stored procedure pp_gl_transaction entry 1000
252	POST 283	POST 283: Addition Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1001	POST 283: Error: Addition Credit Account Code not Found	POST 283: Check the Oracle customized stored procedure pp_gl_transaction entry 1001
253	POST 284	POST 284: Addition ARO Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction2 for entry 1016	POST 284: Error: Addition ARO Debit Account Code not Found	POST 284: Check the Oracle customized stored procedure pp_gl_transaction2 entry 1016
254	POST 285	POST 285: Addition ARO credit Account not Found in the Oracle customized stored procedure pp_gl_transaction2 for entry 1017	POST 285: Error: Addition ARO credit Account Code not Found	POST 285: Check the Oracle customized stored procedure pp_gl_transaction2 entry 1017
255	POST 230	POST 230: Work order number cannot be null in the pending transactions	POST 230: Error: Work order number cannot be null	POST 230: Call PPC
256	POST 286	POST 286: External Credit Account Code is NULL	POST 286: Error: External Credit Account Code is NULL	POST 286: Check the Oracle customized stored procedure pp_gl_transaction or pp_gl_transaction2
257	POST 288	POST 288: External Debit Account Code is NULL	POST 288: Error: External Debit Account Code is NULL	POST 288: Check the Oracle customized stored procedure pp_gl_transaction or pp_gl_transaction2
258	POST 300	POST 300: Error produced directly in the customized stored procedure pp_gl_transaction or pp_gl_transaction2	POST 300: Error from Customized Oracle procedure	POST 300: Check the Oracle customized stored procedure pp_gl_transaction and pp_gl_transaction2
259	POST 289	POST 289: Cannot find the work order Id for this company and work order number	POST 289: ERROR Cannot find the work order Id for this company	POST 289: Call PPC
260	POST 290	POST 290: Cannot find special code for the work order lookup	POST 290: ERROR Cannot find special code for the work order lookup	POST 290: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 121 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 121 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
261	POST 291	POST 291: Credit Account Missing in Adjust Pending Transaction	POST 291: Error: Credit Account Missing in Adjust Pending Transaction	POST 291: Choose a credit account when making the adjustment transaction
262	POST 292	POST 292: Adjust Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1012	POST 292: Error: Adjust Debit Account Code not Found	POST 292: Check the Oracle customized stored procedure pp_gl_transaction entry 1012
263	POST 293	POST 293: Adjust Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1013	POST 293: Error: Adjust Credit Account Code not Found	POST 203: Check the Oracle customized stored procedure pp_gl_transaction entry 1013
264	POST 301	POST 301: The posting quantity cannot make the asset quantity negative	POST 301: Error: The posting quantity cannot make the asset quantity negative	POST 301: Check the system control 'POST NEGATIVE QUANTITY'
265	POST 302	POST 302: The posting amount cannot make the asset amount negative	POST 302: Error: The posting amount cannot make the asset amount negative	POST 302: check the system control 'POST NEGATIVE AMOUNT'
266	POST 303	POST 303: The posting amount cannot over retire or over transfer	POST 303: Error: The posting amount cannot over retire or over transfer	POST 303: Check the system control 'OVER RETIRE'
267	POST 305	POST 305: mortality rate is null	POST 305: ERROR mortality rate is null	POST 305: Call PPC
268	POST 306	POST 306: mortality rate is zero	POST 306: ERROR mortality rate is zero	POST 306: Recalculate mortality memory from the CPR control window
269	POST 308	POST 308: The replacement amount needs to be given as a positive number in pend_transaction	POST 308: ERROR : The replacement amount needs to be given as a positive number in pend_transaction	POST 308: Check the replacement amount in the work order estimate
270	POST 309	POST 309: No valid mass headers can be found to retire from. (The cost or quantities may be zero.	POST 309: ERROR : No valid mass headers can be found to retire from. (The cost or quantities may be zero.	POST 309: Check the CPR assets being retired. Other transactions being psoted may have an effect
271	POST 310	POST 310: Mortality Memory Table record missing for asset .	POST 310: Error: Mortality Memory Table record missing for asset ...,asset	POST 310: Recalculate mortality memory from the CPR control window
272	POST 311	POST 311: Cannot find hw factor for asset.	POST 311: ERROR : Cannot find hw factor for asset.	POST 311: Recalculate mortality memory from the CPR control window
273	POST 312	POST 312: Cannot find hw factor for asset.	POST 312: ERROR : Cannot find hw factor for asset.	POST 312: Recalculate mortality memory from the CPR control window
274	POST 313	POST 313: Cannot find hw factor for asset.	POST 313: ERROR : Cannot find hw factor for asset.	POST 313: Recalculate mortality memory from the CPR control window
275	POST 314	POST 314: Cannot find hw factor for asset.	POST 314: ERROR : Cannot find hw factor for asset.	POST 314: Recalculate mortality memory from the CPR control window
276	POST 315	POST 315: Mortality Memory Table record missing for asset	POST 315: Error: Mortality Memory Table record missing for asset ...,asset	POST 315: Recalculate mortality memory from the CPR control window

National Grid

Page 121 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 122 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 122 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
277	POST 316	POST 316: projected mortality is NULL or negative	POST 316: Error: projected mortality is NULL or negative	POST 316: Recalculate mortality memory from the CPR control window
278	POST 317	POST 317: current mortality is NULL or negative	POST 317: Error: current mortality is NULL or negative	POST 317: Recalculate mortality memory from the CPR control window
279	POST 318	POST 318: mortality rate is NULL	POST 318: Error: mortality rate is NULL	POST Recalculate mortality memory from the CPR control window
280	POST 319	POST 319: retirement quantity is greater than total quantity remaining	POST 319: ERROR: retirement quantity ... is greater than total quantity remaining ...	POST 319: call PPC
281	POST 320	POST 320: retirement quantity ... is greater than total quantity remaining ...	POST 320: ERROR: retirement quantity ... is greater than total quantity remaining ...	POST 320: Call PPC
282	POST 321	POST 321: Too many passes on final iteration to determine retirement quantities	POST 321: ERROR: Too many passes on final iteration to determine retirement quantities	POST 321: call PPC
283	POST 322	POST 322: total_projected_mortality is zero	POST 322: ERROR: total_projected_mortality is zero	POST 322: Recalculate mortality memory from the CPR control window
284	POST 323	POST 323: The projected mortality only allows ... items to be retired.The remaining ... items need a specific retirement.,	POST 323: Error: The projected mortality only allows ... items to be retired.The remaining ... items need a specific retirement.,	POST 323: Recalculate mortality memory from the CPR control window or switch to a specific retirement
285	POST 324	POST 324: Internal Error: sum of vintaged quantities is not equal to posting quantity	POST 324: Internal Error: sum of vintaged quantities ... is not equal to posting quantity ...	POST 324: Call PPC
286	POST 325	POST 325: hw_factors[] is zero	POST 325: ERROR: hw_factors[] is zero	POST 325: Recalculate mortality memory from the CPR control window
287	POST 326	POST 326: Remaining amount ... = ... - ... is negative,	POST 326: ERROR : Remaining amount ... = ... - ... is negative,	POST 326: Call PPC
288	POST 327	POST 327: ERROR : Remaining quantity ... = ... - ... is negative,	POST 327: ERROR : Remaining quantity ... = ... - ... is negative,	POST 327:call PPC
289	POST 328	POST 328: The posting quantity cannot make the asset quantity negative	POST 328: Error: The posting quantity cannot make the asset quantity negative	POST 328: See system control 'POST NEGATIVE QUANTITY'
290	POST 329	POST 329: The posting amount cannot make the asset amount negative	POST 329: Error: The posting amount cannot make the asset amount negative	POST 329: See system control 'POST NEGATIVE AMOUNT'
291	POST 330	POST 330: First set of books amount does not equal retirement amount	POST 330: ERROR : First set of books amount ... does not equal retirement amount ... ,	POST 330: Call PPC,
292	POST 335	POST 335: number of retirements must be negative for Mass retirement processing	POST 335: ERROR : number of retirements must be negative	POST 335: Check interface logic if transactions come from an interface. If not, call PPC

National Grid

Page 122 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 123 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 123 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
293	POST 336	POST 336: Cannot determine the retirement method from the property unit	POST 336: ERROR : Cannot determine the retirement method	POST 336: Check the property unit
294	POST 337	POST 337: Cannot do Mass Retirements for Curve Auto or Life Auto Retire Methods	POST 337: ERROR : Cannot do Mass Retirements for Curve Auto or Life Auto Retire Methods	POST 337: Check the retirement method for the property unit
295	POST 338	POST 338: Posting amount, if given, must be negative for specific retirement against a mass asset	POST 338: ERROR : Posting amount, if given, must be negative for specific retirement	POST 338: Check interface logic if transaction comes from an interface.If not ,call PPC
296	POST 339	POST 339: Asset given for the transactions is not a CPR asset	POST 339: Error: Asset ... not found for a specific Mass Retirement , ldg_asset_id	POST 339: Check the interface if the transaction comes from an interface. If not, call PPC
297	POST 340	POST 340: No valid mass headers can be found to retire from. (The cost or quantities may be zero.	POST 340: ERROR : No valid mass headers can be found to retire from. (The cost or quantities may be zero.	POST 340: Check the CPR assets being retired. Other transactions being spoted may have an effect
298	POST 341	POST 341: Asset Id for this specific retirement is not found in the CPR Ledger	POST 341: Error: Asset Id can not be found for this specific retirement	POST 341: Check interface code if transaction comes from an interface. If not, call PPC
299	POST 342	POST 342: Asset Id for this specific retirement is not found in the CPR Ledger	POST 342: Error: Asset ... not found ,ldg_asset_id	POST 342: Check interface code if transaction comes from an interface. If not, call PPC
300	POST 343	POST 343: Mortality Memory Table record is missing for this asset	POST 343: Error: Mortality Memory Table record is missing for this asset	POST 343: Recalculate mortality memory from the CPR control window
301	POST 344	POST 344: Mortality Memory Table record missing for asset	POST 344: Error: Mortality Memory Table record missing for asset ...,asset	POST 344: Recalculate mortality memory from the CPR control window
302	POST 345	POST 345: projected mortality is NULL or negative	POST 345: Error: projected mortality is NULL or negative	POST 345: Recalculate mortality memory from the CPR control window
303	POST 346	POST 346: current mortality is NULL or negative	POST 346: Error: current mortality is NULL or negative	POST 346: Recalculate mortality memory from the CPR control window
304	POST 347	POST 347: mortality rate is NULL	POST 347: Error: mortality rate is NULL	POST 347: Recalculate mortality memory from the CPR control window
305	POST 348	POST 348: Cannot Find CPR Assets to FIFO	POST 348: Error: Cannot Read Assets to FIFO	POST 348: Check the CPR records
306	POST 349	POST 349: retirement quantity is greater than total quantity remaining	POST 349: ERROR: retirement quantity ... is greater than total quantity remaining ...	POST 349: call PPC
307	POST 350	POST 350: retirement quantity is greater than total quantity remaining	POST 350: ERROR: retirement quantity ... is greater than total quantity remaining ...	POST 350: call PPC
308	POST 351	POST 351: retirement quantity is greater than total quantity remaining	POST 351: ERROR: retirement quantity ... is greater than total	POST 351: call PPC

National Grid

Page 123 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 124 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 124 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
			quantity remaining ...,	
309	POST 352	POST 352: Too many passes on final iteration to determine retirement quantities	POST 352: ERROR: Too many passes on final iteration to determine retirement quantities	POST 352: call PPC
310	POST 353	POST 353: total_projected_mortality is zero	POST 353: ERROR: total_projected_mortality is zero	POST 353: Recalculate mortality memory from the CPR control window
311	POST 354	POST 354: The projected mortality only allows ... Items to be retired.The remaining ... items need a specific retirement.,	POST 354: Error: The projected mortality only allows ... items to be retired.The remaining ... items need a specific retirement.,	POST 354: Recalculate mortality memory from the CPR control window or switch to a specific retirement
312	POST 355	POST 355: Internal Error: sum of vintaged quantities is not equal to posting quantity	POST 355: Internal Error: sum of vintaged quantities ... is not equal to posting quantity ...,	POST 355: call PPC
313	POST 356	POST 356: Remaining amount ... = ... - ... is negative,	POST 356: ERROR : Remaining amount ... = ... - ... is negative,	POST 356:call PPC
314	POST 357	POST 357: Remaining quantity ... = ... - ... is negative,	POST 357: ERROR : Remaining quantity ... = ... - ... is negative,	POST 357: call PPC
315	POST 358	POST 358: The posting quantity cannot make the asset quantity negative	POST 358: Error: The posting quantity cannot make the asset quantity negative	POST 358: See system control 'POST NEGATIVE QUANTITY'
316	POST 359	POST 359: The posting amount cannot make the asset amount negative	POST 359: Error: The posting amount cannot make the asset amount negative	POST 359: See system control 'POST NEGATIVE AMOUNT'
317	POST 360	POST 360 : The posting amount cannot over retire	POST 360: Error: The posting amount cannot over retire	POST 360: See system control 'Over Retire'
318	POST 361	POST 361: First set of books amount does not equal retirem amount	POST 361: ERROR : First set of books amount ... does not equal retirem amount ... ,	POST 361: Call PPC
319	POST 362	POST 362: cannot Determine reserve factor for asset	POST 362: Error: cannot Determine reserve factor for asset ..., asset	POST 362: Call PPC
320	POST 363	POST 363: cannot Determine reserve factor for asset	POST 363: Error: cannot Determine reserve factor for asset ..., asset	POST 363: Call PPC
321	POST 364	POST 364: total_cost is zero	POST 364: ERROR: total_cost is zero	POST 364: Call PPC
322	POST 365	POST 365: Cannot retire from the parent related asset. The retire ratio is negative or more than 1 because the sum of the children related assets is ...,	POST 365: Error: Cannot retire from the parent related asset. The retire ratio is negative or more than 1 because the sum of the children related assets is ...,	POST 365: call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 125 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 125 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
323	POST 366	POST 366: Cannot determine the automatic close work order for the related asset from the company table	POST 366: Error: cannot determine the automatic close work order for the related asset ... related_asset	POST 366: Check the company table
324	POST 367	POST 367: mortality_curve_id or expected life not found from utility_account table	POST 367: ERROR : mortality_curve_id or expected life not found from utility_account table	POST 367: Check Utility Account table and check system control 'MORTALITY CURVE ACCOUNT LOOKUP'
325	POST 368	POST 368: mortality_curve_id or expected life not found from company_account_curves	POST 368: ERROR : mortality_curve_id or expected life not found from company_account_curves	POST 368: Check company_account_curves table and check system control 'MORTALITY CURVE ACCOUNT LOOKUP'
326	POST 369	POST 369: mortality_curve_id or expected life not found from retirement unit	POST 369: ERROR : mortality_curve_id or expected life not found from retirement unit	POST 369: Check retirement unit table and check system control 'MORTALITY CURVE ACCOUNT LOOKUP'
327	POST 370	POST 370: expected_life is zero	POST 370: ERROR: expected_life is zero	POST 370: check system control 'MORTALITY CURVE ACCOUNT LOOKUP' and then check the table being referenced
328	POST 371	POST 371: (after_point1 - before_point1 is zero	POST 371: ERROR: (after_point1 - before_point1 is zero	POST 371: Call PPC
329	POST 372	POST 372: projected mortality is negative	POST 372: ERROR : projected mortality is negative	POST 372: Recalculate mortality memory from the CPR control window
330	POST 100	POST 100: The Work Order number in the pend_transaction table cannot be null	POST 100: Error: Work Order number cannot be null in pend_transaction	POST 100: Call PPC. There is an error in the PowerPlant base code or in a customized interface that produces the pend_transaction.
331	POST 108	POST 108: The Post code has an internal version number that does not match the database post_version column in the pp_version table	POST 108: Post Code ... does not match DB Post ...	POST 108: Call PPC. The version of the post program being executed does not correspond to the database setting. Either you are running an incorrect post program, or the database setting must be changed.
333	POST 102	POST 102: There is more than one Work Order id in the work_order_control table for this Work Order Number and Company	POST 102: Error: There is more than one Work Order id for this Work Order and Company	POST 102: Call PPC. A work Order Number must correspond to a unique work_order_id for a given company
335	POST 104	POST 104: This Work Order does not exist in the work_order_control table for the company in the pending transaction	POST 104: Error: Cannot find work_order_id for this company for Work Order	POST 104: Call PPC. For a Work Order to be posted it must exist in the work_order_control table
336	POST 105	POST 105: The asset id in the Idg_asset_id column in the pend_transaction table is not a CPR asset	POST 105: Error: asset ... from pend_transaction ... is not on CPR.	POST 105: Call PPC. If an asset id is given in the pend_transaction table, it must exist in the CPR
337	POST 106	POST 106: A specific retirement or transfer transaction must have an asset id	POST 106: Error: asset id not given for Transaction trans id = ...	POST 106: Call PPC. A specific retirement or transfer transaction must have an asset id
338	POST 110	POST 110: Either the CPR cost is zero for this asset, or other transactions in the set of transactions being posted may have decreased	POST 110: ERROR Cannot Retire:Asset Cost is zero. Other retirements in this batch may have	POST 110: Check the CPR Ledger Cost. If it is not zero, check the other transactions being posted. One or more of them may affect the

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 126 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 126 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		the asset cost already	retired the asset already	same asset.
339	POST 107	POST 107: There is no pend_basis record for the retirement, but the system flag 'Input Retirement Basis' is set to True	POST 107: ERROR Missing pend_basis record, but system flag - Input Retirement Basis - is True	POST 107: Call PPC. If the system flag 'Input Retirement Basis' is set to True, the retirement transaction has to have a pend_basis record
340	POST 109	POST 109: The transaction requires a pend_basis record.	POST 109: ERROR Missing pend_basis record	POST 109: Call PPC. There must be a pend_basis record for this transaction
341	POST 111	POST 111: Pend Basis record is Zero but the system control 'Input Retirement Basis' is set to true	POST 111: ERROR Input Basis is Zero but Input Retirement Basis Flag is true	POST 111: Call PPC. Pend Basis record is Zero but the system control 'Input Retirement Basis' is set to true
342	POST 112	POST 112: The sum of the book basis amounts in pend_basis does not equal the posting amount in pend_transaction	POST 112: ERROR: Input Basis ... does not equal the posting amount ...	POST 112: Call PPC. The sum of the book basis amounts in pend_basismust equal the posting amount in pend_transaction
343	POST 113	POST 113: If the gain_loss column in pend_transaction is NULL and Post needs to compute the gain_loss for the first set of books, then the salvage_returns, salvage_cash, cost_of_removal or reserve_credits in pend_transaction cannot be NULL	POST 113: Error: Cannot compute gain/loss for the first set of books since salvage_returns, salvage_cash, or cost_of_removal is null or reserve_credits is null	POST 113: Call PPC.
344	POST 114	POST 114: POST 113: If Post needs to compute the gain_loss for another set of books, then the salvage_returns, salvage_cash, cost_of_removal or reserve_credits in pend_transaction cannot be NULL	POST 114: Error: Cannot compute gain/loss for other set of books since salvage_returns, salvage_cash, or cost_of_removal or reserve_credits is null	POST 114: Call PPC
345	POST 115	POST 115: A subledger retirement transaction must have a specific retirement method	POST 115: Error: A subledger retirement must have a specific retirement method	POST 115: Check the asset accounting method and the retirement method for the property unit
346	POST 116	POST 116: Estimated Retirements cannot be processed for Subledger or Individually Depreciated Assets	POST 116: Error: Estimated Retirements cannot be processed for Subledger or Individually Depreciated Assets	POST 116: Call PPC
347	POST 117	POST 117: Missing depr group Id for 'TO' transfer transaction. Both the 'FROM' and the 'TO' transfer transaction must have a depr group id.	POST 117: Error: Missing depr group Id for 'TO' transaction	POST 117: Call PPC
348	POST 118	POST 118: Missing asset Id for subledger item-to-item transfer	POST 118: Error: Missing asset Id for subledger item-to-item transfer	POST 118: Call PPC
349	POST 119	POST 119: Cannot transfer an asset to itself.	POST 119: Error: Cannot transfer an asset to itself	POST 119: Either this is minor transfer where the 'TO' asset is the same as the 'FROM' asset, or this is a transfer of a MASS asset back to itself
350	POST 120	POST 120: The depr group in the 'TO' Pend transaction is not equal to the 'TO' depr group	POST 120: Error: The to depr group ... in Pend transaction is not equal to	POST 120: The 'TO' depr group is determined when the transaction is created. If

National Grid

Page 126 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 127 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 127 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		recalculated by POST.	the to computed depr group ...,	the depr group control table is changed before the transaction is posted, the depr group to be assigned to the asset may now be different. You may need to delete and recreate the transfer
351	POST 121	POST 121:if the system control 'POST BALANCE DEPR TRANSFERS' is set to true, POST will balance ALL the book transfers in and book transfers out in depr ledger for the transfer companies.	POST 121: Error: Depr Ledger book transfers in ... not equal transfers out ... for the transfer companies ,	POST 121: Run the Balancing Alerts between depr ledger and cpr ledger to see if there is a problem independently of these transactions. If there is a problem but you still want to post this transfer, turn off the system switch
353	POST 123	POST 123: The FROM TRANSFER Transaction is missing when the 'TO' transfer is being processed.	POST 123: Error: Missing FROM TRANSFER Transaction	POST 123: Call PPC. Both the 'FROM' and the 'TO' transaction must be present when either is being posted.
354	POST 124	POST 124: The depr group cannot be determined perhaps because of the subledger indicator setting in the depr group	POST 124: Error: The depr group cannot be determined. It's either ... or Check the subledger indicator in usage.,	POST 124: Check the depr group control settings and the depr group settings for the subledger indicator
355	POST 125	POST 125: If the system control 'POST BALANCE CWIP 106' is set to true, the CWIP 106 balance must equal the CPR 106 balance for this work order.	POST 125: Error: CWIP 106 ... not equal to CPR 106 ... ,	POST 125: Call PPC. This may be a conversion problem
356	POST 126	POST 126: If the replacement_amount column in pend_transaction is not zero, the retirement method needs to be HW - Fifo or HW - Curve	POST 126: Error: The retirement method needs to be HW - Fifo or HW - Curve	POST 126: Check the retirement method for the retirement unit if the replacement amount is set in the estimate.
357	POST 127	POST 127: A mass retirement requires that all eligible mass assets to retire from have a record in the mortality memory table.	POST 127: Error: No mortality memory record found	POST 127: Rebuild the mortality memory table from the cpr control window. If this fails to fix the problem call PPC.
358	POST 128	POST 128: Cannot add a new mortality memory record. Min mortality_rate is zero	POST 128: Error: Cannot add a new mortality memory record. Min mortality_rate is zero	POST 128: Rebuild the mortality memory table from the cpr control window. If this fails to fix the problem call PPC.
359	POST 130	POST 130: The depr group cannot be determined perhaps because of the subledger indicator setting in the depr group		



Legacy National Grid

The below table lists out all of the Legacy Grid Unitization Errors

ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
1	Unitization 100	Unitization 100: Error in uf_unallocate: deleting from charge_group_control	Unitization 100: Error in uf_unallocate: deleting from charge_group_control	Unitization 100: Call PPC
2	Unitization 101	Unitization 101: Error in uf_unallocate: updating charge_group_control	Unitization 101: Error in uf_unallocate: updating charge_group_control	Unitization 101: Call PPC
3	Unitization 102	Unitization 102: Error in uf_unallocate: Updating unitized_work_order (1)	Unitization 102: Error in uf_unallocate: Updating unitized_work_order (1)	Unitization 102: Call PPC
4	Unitization 103	Unitization 103: Error in uf_unallocate: Updating unitized_work_order (2)	Unitization 103: Error in uf_unallocate: Updating unitized_work_order (2)	Unitization 103: Call PPC
5	Unitization 104	Unitization 104: uf_unitize: dw Find syntax error on the unit item	Unitization 104: uf_unitize: dw Find syntax error on the unit item	Unitization 104: call PPC
6	Unitization 105	Unitization 105: uf_unitize: Cannot find the unit item	Unitization 105: uf_unitize: Cannot find the unit item	Unitization 105: Call PPC
7	Unitization 106	Unitization 106: uf_unitize: dw Find syntax error on the charge	Unitization 106: uf_unitize: dw Find syntax error on the charge	Unitization 106: Call PPC
8	Unitization 107	Unitization 107: uf_unitize: Cannot find the charge	Unitization 107: uf_unitize: Cannot find the charge	Unitization 107: Call PPC
9	Unitization 108	Unitization 108: uf_unitize: Cannot unitize an EXPENSE or JOBBING charge	Unitization 108: uf_unitize: Cannot unitize an EXPENSE or JOBBING charge	Unitization 108: Do not unitize an EXPENSE or JOBBING charge
10	Unitization 109	Unitization 109: uf_unitize: Cannot unitize this RETIREMENT charge to an ADDITION unit item	Unitization 109: uf_unitize: Cannot unitize this RETIREMENT charge to an ADDITION unit item	Unitization 109: Do not unitize this RETIREMENT charge to an ADDITION unit item
11	Unitization 110	Unitization 110: uf_unitize: Cannot unitize this ADDITION charge to a RETIREMENT unit item	Unitization 110: uf_unitize: Cannot unitize this ADDITION charge to a RETIREMENT unit item	Unitization 110: Do not unitize this ADDITION charge to a RETIREMENT unit item
12	Unitization 111	Unitization 111: uf_unitize: Cannot unitize a charge from Account ... to Account ...	Unitization 111: uf_unitize: Cannot unitize a charge from Account ... to Account ...	Unitization 111: Do not unitize a charge from Account ... to Account ...
13	Unitization 112	Unitization 112: uf_unitize: Cannot unitize a charge from Account ... to Account ... No allocations can be performed.	Unitization 112: uf_unitize: Cannot unitize a charge from Account ... to Account ... No allocations can be performed.	Unitization 112: Do not unitize a charge from Account ... to Account ...
14	Unitization 113	Unitization 113: uf_unitize: Error updating charge_group_control.	Unitization 113: uf_unitize: Error updating charge_group_control.	Unitization 113: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 129 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 129 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
15	Unitization 114	Unitization 114: uf_unitize: Error updating unitized_work_order	Unitization 114: uf_unitize: Error updating unitized_work_order	Unitization 114: Call PPC
16	Unitization 115	Unitization 115: Cannot create pending transactions. Some charges have not been unitized	Unitization 115: Cannot create pending transactions. Some charges have not been unitized	Unitization 115: Call PPC
17	Unitization 116	Unitization 116: Cannot create pending transactions without In Service and Completion dates.	Unitization 116: Cannot create pending transactions without In Service and Completion dates.	Unitization 116: Add In Service and Completion dates.
18	Unitization 117	Unitization 117: Cannot create pending transactions without an asset location	Unitization 117: Cannot create pending transactions without an asset location	Unitization 117: Add asset location
19	Unitization 118	Unitization 118: Cannot create pending transactions, Company Id from the transactions does not match the company being processed	Unitization 118: Cannot create pending transactions, Company Id from the transactions does not match the company being processed	Unitization 118: Call PPC
20	Unitization 119	Unitization 119: Cannot create a unitization ADD transaction to the NON-UNITIZED retirement unit.	Unitization 119: Cannot create a unitization ADD transaction to the NON-UNITIZED retirement unit.	Unitization 119: Do not unitize to the NON-UNITIZED retirement unit.
21	Unitization 120	Unitization 120: Cannot create pending transactions for COR/Salvage ... No assets were found on the CPR for this Retire. Unit/Bus. Segment/Util. Account/Sub Account/GL Account Company/Location combination. company_id = ..., gl_account_id = ..., utility_account_id = ..., sub_account_id = ..., bus_segment_id = ..., gl_account_id = ..., utility_account_id = ..., sub_account_id = ..., bus_segment_id = ..., asset_location_id = " + string(location)	Unitization 120: Cannot create pending transactions for COR/Salvage ... No assets were found on the CPR for this Retire. Unit/Bus. Segment/Util. Account/Sub Account/GL Account Company/Location combination. company_id = ..., gl_account_id = ..., utility_account_id = ..., sub_account_id = ..., bus_segment_id = ..., gl_account_id = ..., utility_account_id = ..., sub_account_id = ..., bus_segment_id = ..., asset_location_id = " + string(location)	Unitization 120: When unitizing COR/SLVG an asset must exist on the CPR matching the information provided so the correct depr group can be determined for closing the RWIP to the final reserve. Correct the data on the WO.
22	Unitization 121	Unitization 121: Cannot create Pending Transactions ... The charge_type table is not filled in properly.	Unitization 121: Cannot create Pending Transactions ... The charge_type table is not filled in properly.	Unitization 121: Call PPC
23	Unitization 122	Unitization 122: Cannot create pending transactions ... Class Codes ... Error adding where clause	Unitization 122: Cannot create pending transactions ... Class Codes ... Error adding where clause	Unitization 122: Call PPC
24	Unitization 123	Unitization 123: Cannot create Pending Transactions ... ERROR: inserting into wo_unit_item_pend_trans: ...	Unitization 123: Cannot create Pending Transactions ... ERROR: inserting into wo_unit_item_pend_trans: ...	Unitization 123: Call PPC
25	Unitization 124	Unitization 124: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created.	Unitization 124: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were	Unitization 124: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 130 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 130 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		Please contact PowerPlant Support	not created. Please contact PowerPlant Support	
26	Unitization 125	Unitization 125: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Unitization 125: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Unitization 125: Call PPC
27	Unitization 126	Unitization 126: Pending Transaction Posting Amount ... does not balance with Pend Transaction Basis ...; transactions were not created. Please contact PowerPlant Support	Unitization 126: Pending Transaction Posting Amount ... does not balance with Pend Transaction Basis ...; transactions were not created. Please contact PowerPlant Support	Unitization 126: Call PPC
28	Unitization 127	Unitization 127: Pending Transactions and Pend Transaction Basis do not line up; transactions were not created. Please contact PowerPlant Support	Unitization 127: Pending Transactions and Pend Transaction Basis do not line up; transactions were not created. Please contact PowerPlant Support	Unitization 127: Call PPC
29	Unitization 128	Unitization 128: 101 Pending Transactions Basis Amount ... does not balance with Cwip 107/106 charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 128: 101 Pending Transactions Basis Amount ... does not balance with Cwip 107/106 charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 128: Call PPC
30	Unitization 129	Unitization 129: Cor/salvage Pending Transactions Amount ... does not balance with Cwip Cor/salvage charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 129: Cor/salvage Pending Transactions Amount ... does not balance with Cwip Cor/salvage charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 129: Call PPC
31	Unitization 130	Unitization 130: Retire Pending Transactions Amount ... does not balance with Cwip retirement charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 130: Retire Pending Transactions Amount ... does not balance with Cwip retirement charges ...; transactions were not created. Please contact PowerPlant Support	Unitization 130: Call PPC
32	Unitization 131	Unitization 131: uf_pend_trans: Error updating pend_transaction ...	Unitization 131: uf_pend_trans: Error updating pend_transaction ...	Unitization 131: Call PPC
33	Unitization 132	Unitization 132: uf_pend_trans: Error updating pend_basis ...	Unitization 132: uf_pend_trans: Error updating pend_basis ...	Unitization 132: Call PPC
34	Unitization 133	Unitization 133: uf_pend_trans: Error updating class_code_pending_trans	Unitization 133: uf_pend_trans: Error updating class_code_pending_trans	Unitization 133: Call PPC
35	Unitization 134	Unitization 134: uf_allocate: Allocation Type: ... Cannot allocate based on estimates ... The estimates do not match the unit items.	Unitization 134: uf_allocate: Allocation Type: ... Cannot allocate based on estimates ... The estimates do not match the unit items.	Unitization 134: The estimates do not match the unit items and the WO is intended to allocate via estimates. Perhaps the unitize by account is on and you have a charge to 364 but no



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				estimate for 364. You need to examine the WO estimates and the unit items in the manual unitization window and to determine and correct the problem. Again, the problem may be with COR/SLVG or CWIP and neither will unitize until both can.
36	Unitization 135	Unitization 135: uf_allocate: No basis to perform allocation for ..., priority = ..., account = ...	Unitization 135: uf_allocate: No basis to perform allocation for ..., priority = ..., account = ...	Unitization 135: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
37	Unitization 136	Unitization 136: uf_allocate: No basis to perform allocation for ..., priority = ...	Unitization 136: uf_allocate: No basis to perform allocation for ..., priority = ...	Unitization 136: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
38	Unitization 137	Unitization 137: Negative dollar amounts exist in the estimates that are greater than the tolerance of ... percent of the positive dollar amounts. Cannot allocate remaining charges.	Unitization 137: Negative dollar amounts exist in the estimates that are greater than the tolerance of ... percent of the positive dollar amounts. Cannot allocate remaining charges.	Unitization 137: The system control 'TOLERANCE FOR ESTIMATES' determines the tolerance of negatives to positives for allocation. If none is specified .1 is used. Either change the tolerance, correct

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 132 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 132 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				charges on the WO possibly, or manually unitize the WO in question.
39	Unitization 138	Unitization 138: Cannot allocate Charge Type: ... because a charge being allocated: ... exceeds the allocation limit of: ... Cannot allocate remaining charges.	Unitization 138: Cannot allocate Charge Type: ... because a charge being allocated: ... exceeds the allocation limit of: ... Cannot allocate remaining charges.	Unitization 138: In the allocation maintenance, there is an automatic allocation limit specified for each charge type. Correct the limits, the charges or manually unitize.
40	Unitization 139	Unitization 139: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 139: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 139: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
41	Unitization 140	Unitization 140: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 140: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 140: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
42	Unitization 141	Unitization 141: uf_allocate: Cannot allocate based on 0.00 standard hours: ..., priority = ..., account = ...	Unitization 141: uf_allocate: Cannot allocate based on 0.00 standard hours: ..., priority = ..., account = ...	Unitization 141: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
43	Unitization 143	Unitization 143: uf_allocate: Cannot allocate based on 0.00 standard COR hours: ..., priority = ..., account = ...	Unitization 143: uf_allocate: Cannot allocate based on 0.00 standard COR hours: ..., priority = ..., account = ...	Unitization 143: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate...
44	Unitization	Unitization 144: uf_allocate: dw Find syntax	Unitization 144: uf_allocate: dw Find	Unitization 144: Call PPC

National Grid

Page 132 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 133 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 133 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
	144	error on the Allocation charge group	syntax error on the Allocation charge group	
45	Unitization 145	Unitization 145: uf_allocate: No basis to perform allocation for ..., priority = ..., account = ... There are no charges in the basis or they sum to zero.	Unitization 145: uf_allocate: No basis to perform allocation for ..., priority = ..., account = ... There are no charges in the basis or they sum to zero.	Unitization 145: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
46	Unitization 146	Unitization 146: uf_allocate: uf_unitize error	Unitization 146: uf_allocate: uf_unitize error	Unitization 146: Call PPC
47	Unitization 147	Unitization 147: No Work Orders are eligible for Automatic Unitization.	Unitization 147: No Work Orders are eligible for Automatic Unitization.	Unitization 147: No Work Orders are eligible for Automatic Unitization.
48	Unitization 148	Unitization 148: Could not run - No gl_je_code exists in gl_je_control for AUTOMATIC 101.	Unitization 148: Could not run - No gl_je_code exists in gl_je_control for AUTOMATIC 101.	Unitization 148: Check if gl_je_code exists in gl_je_control for AUTOMATIC 101.
50	Unitization 150	Unitization 150: ... non-unitized addition pending transaction(s) found. This work order cannot be unitized until they are posted or deleted.	Unitization 150: ... non-unitized addition pending transaction(s) found. This work order cannot be unitized until they are posted or deleted.	Unitization 150: . Post or Delete the pending transactions
51	Unitization 142	Unitization 142: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 142: uf_allocate: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Unitization 142: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
52	Unitization 151	Unitization 151: This work order will not be unitized because it is a joint child work order.	Unitization 151: This work order will not be unitized because it is a joint child work order.	Unitization 151: This work order will not be unitized because it is a joint child work order.
53	Unitization 152	Unitization 152: This work order will not be unitized because it is a joint child work order.	Unitization 152: This work order will not be unitized because it is a joint child work order.	Unitization 152: This work order will not be unitized because it is a joint child work order.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 134 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 134 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
54	Unitization 153	Unitization 153: The automatic unitization is terminating due to an error in the f_unitization_audit function !!!	Unitization 153: The automatic unitization is terminating due to an error in the f_unitization_audit function !!!	Unitization 153: Check the custom f_unitization_audit function
55	Unitization 154	Unitization 154: Error in the f_wo_audit_tax function. ...	Unitization 154: Error in the f_wo_audit_tax function. ...	Unitization 154: Check the custom f_wo_audit_tax function. ...
56	Unitization 155	Unitization 155: Error updating charge_group_control. ...	Unitization 155: Error updating charge_group_control. ...	Unitization 155: Call PPC
57	Unitization 156	Unitization 156: Error updating work_order_charge_group	Unitization 156: Error updating work_order_charge_group	Unitization 156: Call PPC
58	Unitization 157	Unitization 157: There are no valid asset locations for this work order's major location ... This work order cannot be unitized.	Unitization 157: There are no valid asset locations for this work order's major location ... This work order cannot be unitized.	Unitization 157: Add valid asset locations for this work order's major location ...
59	Unitization 158	Unitization 158: ERROR: updating asset_location_id in wo_estimate: ... This work order cannot be unitized.	Unitization 158: ERROR: updating asset_location_id in wo_estimate: ... This work order cannot be unitized.	Unitization 158: Call PPC
60	Unitization 159	Unitization 159: ERROR: updating bus_segment_id in wo_estimate: ... This work order cannot be unitized.	Unitization 159: ERROR: updating bus_segment_id in wo_estimate: ... This work order cannot be unitized.	Unitization 159: Call PPC
61	Unitization 160	Unitization 160: The work order header has no asset location ... Cannot unitize.	Unitization 160: The work order header has no asset location ... Cannot unitize.	Unitization 160: The work order header has no asset location
62	Unitization 161	Unitization 161: Cannot create unit item: Invalid RU/UA/BS combination: ... / ... / ... Ret Unit : ... Util Acct : ... Bus Seg : ...	Unitization 161: Cannot create unit item: Invalid RU/UA/BS combination: ... / ... / ... Ret Unit : ... Util Acct : ... Bus Seg : ...	Unitization 161: Check your Property Unit Catalog as the property unit for the retirement unit specified has not been related to the Utility account and business segment specified. Alternatively, bad data on the WO may need to be corrected if the unitization information given is wrong, e.g. turbine should really not be in account 364.
63	Unitization 162	Unitization 162: No sub account exists for Util Account ID ...: ... and Bus Segment ID: ...	Unitization 162: No sub account exists for Util Account ID ...: ... and Bus Segment ID: ...	Unitization 162: Create sub account
64	Unitization 163	Unitization 163: No valid property groups found for RU = ..., Func. Class Id= ... Check tables PROP_GROUP/PROP_UNIT and FUNC_CLASS/PROP_GROUP ... Cannot unitize.	Unitization 163: No valid property groups found for RU = ..., Func. Class Id= ... Check tables PROP_GROUP/PROP_UNIT and FUNC_CLASS/PROP_GROUP ... Cannot unitize.	Unitization 163: A property group must be related to both the property unit of the retirement unit, and the function class of the utility account.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 135 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 135 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				Either add the missing property group relationship(s) or correct the WO data. Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP
65	Unitization 164	Unitization 164: The work order header has no asset location ... Cannot unitize.	Unitization 164: The work order header has no asset location ... Cannot unitize.	Unitization 164: Add asset location
66	Unitization 165	Unitization 165: This work order does not pass the ... unitization tolerance. This work order cannot be unitized	Unitization 165: This work order does not pass the ... unitization tolerance. This work order cannot be unitized	Unitization 165: Tolerances can be used to make sure the amount of the WO is within a specified percentage of the estimate. If it falls outside the limits define, this error will result. Correct estimates or charges or tolerance.
67	Unitization 166	Unitization 166: Cannot create unit item: Invalid RU/UA/BS combination: .../.../... Ret Unit : ...Util Acct : ... Bus Seg : ...	Unitization 166: Cannot create unit item: Invalid RU/UA/BS combination: .../.../... Ret Unit : ...Util Acct : ... Bus Seg : ...	Unitization 166: Check your Property Unit Catalog as the property unit for the retirement unit specified has not been related to the Utility account and business segment specified. Alternatively, bad data on the WO may need to be corrected if the unitization information given is wrong, e.g. turbine should really not be in account 364.
68	Unitization 167	Unitization 167: Cannot create unit item: Invalid RU/PG combination: .../.../... Ret Unit : ...Prop Group : ...	Unitization 167: Cannot create unit item: Invalid RU/PG combination: .../.../... Ret Unit : ...Prop Group : ...	Unitization 167: Check Property Unit/Property group combinations in Table maintenance
69	Unitization 168	Unitization 168: ERROR: Updating property_group_id on wo_estimate: ...	Unitization 168: ERROR: Updating property_group_id on wo_estimate: ...	Unitization 168: Call PPC
70	Unitization 169	Unitization 169: No valid property groups found for RU = ..., Func. Class Id= ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP ... Cannot unitize.	Unitization 169: No valid property groups found for RU = ..., Func. Class Id= ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP ... Cannot unitize.	Unitization 169: A property group must be related to both the property unit of the retirement unit, and the function class of the utility account. Either add the missing property group relationship(s) or correct the WO data. Check tables PROP GROUP/PROP_UNIT and FUNC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 136 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 136 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				CLASS/PROP GROUP
71	Unitization 170	Unitization 170: No sub account exists for Util Account ID: ... and Bus Segment ID: ...	Unitization 170: No sub account exists for Util Account ID: ... and Bus Segment ID: ...	Unitization 170: Create sub account .
72	Unitization 171	Unitization 171: Error creating unit items ...	Unitization 171: Error creating unit items ...	Unitization 171: Call PPC
73	Unitization 172	Unitization 172: Late Charge Unitization: No Asset Addition Activities Found to Create Minor Adds, Manual Unitization Required	Unitization 172: Late Charge Unitization: No Asset Addition Activities Found to Create Minor Adds, Manual Unitization Required	Unitization 172: Late Charge Unitization: No Asset Addition Activities Found to Create Minor Adds, Manual Unitization Required
74	Unitization 173	Unitization 173: Late Charge Unitization: No Retire Activities Found to Create Unit Items, in Retirement Transactions or CPR Activity, Manual Unitization Required	Unitization 173: Late Charge Unitization: No Retire Activities Found to Create Unit Items, in Retirement Transactions or CPR Activity, Manual Unitization Required	Unitization 173: Late Charge Unitization: No Retire Activities Found to Create Unit Items, in Retirement Transactions or CPR Activity, Manual Unitization Required
75	Unitization 174	Unitization 174: This work order does not pass the ... unitization LATE charge tolerance. This work order cannot be unitized.	Unitization 174: This work order does not pass the ... unitization LATE charge tolerance. This work order cannot be unitized.	Unitization 174: Tolerances can be used to make sure the amount of the WO is within a specified percentage of the estimate. If it falls outside the limits define, this error will result. Correct estimates or charges or tolerance.
76	Unitization 175	Unitization 175: Error inserting into unit_item_class_code: ...	Unitization 175: Error inserting into unit_item_class_code: ...	Unitization 175: Call PPC
77	Unitization 176	Unitization 176: Unable to create unit items from either charges or estimates	Unitization 176: Unable to create unit items from either charges or estimates	Unitization 176: There is incomplete unitization information available for the WO, or there are no charges to be unitized (monthly close-type may get this frequently). Be aware that the problem may be for COR/SLVG or CWIP charges and the other side may be OK. You will need to inspect the WO to see where the exact problem is. Often times, it may prove easier to determine by going to the manual unitization window and trying to Allocate

National Grid

Page 136 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 137 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 137 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				Remaining Charges (essentially, this is what Auto 101 does).
78	Unitization 177	Unitization 177: Error directly assigning charges	Unitization 177: Error directly assigning charges	Unitization 177: Call PPC
79	Unitization 178	Unitization 178: Error allocating charges	Unitization 178: Error allocating charges	Unitization 178: Call PPC
80	Unitization 179	Unitization 179: Unit Item: ... Just before uf_pend_trans: Invalid Company/Asset Location combination! (...,...) Cannot create pending transactions.	Unitization 179: Unit Item: ... Just before uf_pend_trans: Invalid Company/Asset Location combination! (...,...) Cannot create pending transactions.	Unitization 179: The Major Location for the given asset location has not been related to the company given. Correct through Location maintenance or correct the data on the WO.
81	Unitization 180	Unitization 180: Unit Item: ... Just before uf_pend_trans: Invalid Company/Work Order combination! (...) Cannot create pending transactions.	Unitization 180: Unit Item: ... Just before uf_pend_trans: Invalid Company/Work Order combination! (...) Cannot create pending transactions.	Unitization 180: Call PPC
82	Unitization 181	Unitization 181: Unit Item: ... Just before uf_pend_trans: Invalid Utility Account/Asset Location combination: (.../... for ... Because of Invalid Func Class/Loc Type Combination: .../...). Cannot create pending transactions.	Unitization 181: Unit Item: ... Just before uf_pend_trans: Invalid Utility Account/Asset Location combination: (.../... for ... Because of Invalid Func Class/Loc Type Combination: .../...). Cannot create pending transactions.	Unitization 181: The major location for the given asset location is assigned a Location Type, which must be valid for the Functional Class of the Utility Account given. Update the Function Class/Location Type table via table maintenance, or correct the WO data.
83	Unitization 182	Unitization 182: Cannot create pending transactions. The charge group dollars ... do not balance to the unit item dollars ...	Unitization 182: Cannot create pending transactions. The charge group dollars ... do not balance to the unit item dollars ...	Unitization 182: There can be rounding errors between the book and tax basis buckets if the allocation priorities are not set up properly (tax only charge types must get their own distinct allocation priority). The allocation priorities need to be reviewed/updated and the unitization tables reset for the WO.
84	Unitization 183	Unitization 183: Cannot create pending transactions. This work order has subledger retirement units and must be unitized manually	Unitization 183: Cannot create pending transactions. This work order has subledger retirement units and must be unitized manually	Unitization 183: This work order has subledger retirement units and must be unitized manually
85	Unitization 184	Unitization 184: Error creating pending transactions	Unitization 184: Error creating pending transactions	Unitization 184: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 138 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 138 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
86	Unitization 185	Unitization 185: Error updating wo_status_id, pending transactions WERE committed: ...	Unitization 185: Error updating wo_status_id, pending transactions WERE committed: ...	Unitization 185: Call PPC
88	Manual Unitization 200	Manual Unitization 200: dw Find syntax error on the charge.	Manual Unitization 200: dw Find syntax error on the charge.	Manual Unitization 200: Call PPC
89	Manual Unitization 201	Manual Unitization 201: Cannot find the charge.	Manual Unitization 201: Cannot find the charge.	Manual Unitization 201: Call PPC
90	Manual Unitization 202	Manual Unitization 202: dw Find syntax error on the charge group.	Manual Unitization 202: dw Find syntax error on the charge group.	Manual Unitization 202: Call PPC
91	Manual Unitization 203	Manual Unitization 203: Cannot find the charge group.	Manual Unitization 203: Cannot find the charge group.	Manual Unitization 203: Call PPC
92	Manual Unitization 204	Manual Unitization 204: Error updating the charge group table.	Manual Unitization 204: Error updating the charge group table.	Manual Unitization 204: Call PPC
93	Manual Unitization 205	Manual Unitization 205: Error updating the work order charge group table.	Manual Unitization 205: Error updating the work order charge group table.	Manual Unitization 205: Call PPC
94	Manual Unitization 206	Manual Unitization 206: Error updating the charge group table.	Manual Unitization 206: Error updating the charge group table.	Manual Unitization 206: Call PPC
95	Manual Unitization 207	Manual Unitization 207: Error updating the charge group table.	Manual Unitization 207: Error updating the charge group table.	Manual Unitization 207: Call PPC
96	Manual Unitization 208	Manual Unitization 208: dw Find syntax error on the unit item.	Manual Unitization 208: dw Find syntax error on the unit item.	Manual Unitization 208: call PPC
97	Manual Unitization 209	Manual Unitization 209: Cannot find the unit item.	Manual Unitization 209: Cannot find the unit item.	Manual Unitization 209: Call PPC
98	Manual Unitization 211	Manual Unitization 211: dw Find syntax error on the charge.	Manual Unitization 211: dw Find syntax error on the charge.	Manual Unitization 211: Call PPC
99	Manual Unitization 210	Manual Unitization 210: The Original Cost Retirement charge has not yet been posted. It can not be un-unitized, it must be deleted from the Work Order Retirements window.	Manual Unitization 210: The Original Cost Retirement charge has not yet been posted. It can not be un-unitized, it must be deleted from the Work Order Retirements window.	Manual Unitization 210: Deleted from the Work Order Retirements window.
100	Manual Unitization 212	Manual Unitization 212: Error updating the Charge Group table.	Manual Unitization 212: Error updating the Charge Group table.	Manual Unitization 212: Call PPC
101	Manual Unitization 213	Manual Unitization 213: Error updating the Unit Item table.	Manual Unitization 213: Error updating the Unit Item table.	Manual Unitization 213: Call PPC
102	Manual Unitization 214	Manual Unitization 214: Error un-allocating charges.	Manual Unitization 214: Error un-allocating charges.	Manual Unitization 214: Call PPC
103	Manual Unitization 215	Manual Unitization 215: Error un-allocating charges.	Manual Unitization 215: Error un-allocating charges.	Manual Unitization 215: Call PPC
104	Manual Unitization 216	Manual Unitization 216: Error un-allocating charges.	Manual Unitization 216: Error un-allocating charges.	Manual Unitization 216: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 139 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 139 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
105	Manual Unitization 217	Manual Unitization 217: Error un-unitizing targeted charges.	Manual Unitization 217: Error un-unitizing targeted charges.	Manual Unitization 217: Call PPC
106	Manual Unitization 218	Manual Unitization 218: Error un-unitizing targeted charges.	Manual Unitization 218: Error un-unitizing targeted charges.	Manual Unitization 218: Call PPC
107	Manual Unitization 219	Manual Unitization 219: Error un-unitizing targeted charges.	Manual Unitization 219: Error un-unitizing targeted charges.	Manual Unitization 219: Call PPC
108	Manual Unitization 220	Manual Unitization 220: Error un-unitizing targeted charges.	Manual Unitization 220: Error un-unitizing targeted charges.	Manual Unitization 220: Call PPC
109	Manual Unitization 221	Manual Unitization 221: Error un-unitizing targeted charges.	Manual Unitization 221: Error un-unitizing targeted charges.	Manual Unitization 221: Call PPC
110	Manual Unitization 222	Manual Unitization 222: You cannot split a ... charge to a ... unit item.	Manual Unitization 222: You cannot split a ... charge to a ... unit item.	Manual Unitization 222: Do not split a ... charge to a ... unit item.
111	Manual Unitization 223	Manual Unitization 223: dw Find syntax error on the unit item.	Manual Unitization 223: dw Find syntax error on the unit item.	Manual Unitization 223: Call PPC
112	Manual Unitization 224	Manual Unitization 224: Cannot find the unit item.	Manual Unitization 224: Cannot find the unit item.	Manual Unitization 224: Call PPC
113	Manual Unitization 225	Manual Unitization 225: Cannot unitize an EXPENSE or JOBBING charge.	Manual Unitization 225: Cannot unitize an EXPENSE or JOBBING charge.	Manual Unitization 225: Do not unitize an EXPENSE or JOBBING charge.
114	Manual Unitization 226	Manual Unitization 226: Cannot unitize this RETIREMENT charge to an ADDITION unit item.	Manual Unitization 226: Cannot unitize this RETIREMENT charge to an ADDITION unit item.	Manual Unitization 226: Do not unitize this RETIREMENT charge to an ADDITION unit item.
115	Manual Unitization 227	Manual Unitization 227: Cannot unitize this ADDITION charge to a RETIREMENT unit item.	Manual Unitization 227: Cannot unitize this ADDITION charge to a RETIREMENT unit item.	Manual Unitization 227: Do not unitize this ADDITION charge to a RETIREMENT unit item.
116	Manual Unitization 228	Manual Unitization 228: Cannot unitize a charge from Account ... to Account ... This charge will not be unitized.	Manual Unitization 228: Cannot unitize a charge from Account ... to Account ... This charge will not be unitized.	Manual Unitization 228: Do not unitize a charge from Account ... to Account ...
117	Manual Unitization 229	Manual Unitization 229: Cannot unitize a charge from Account ... to Account ... No allocations can be performed.	Manual Unitization 229: Cannot unitize a charge from Account ... to Account ... No allocations can be performed.	Manual Unitization 229: Do not unitize a charge from Account ... to Account ... No allocations can be performed.
118	Manual Unitization 230	Manual Unitization 230: Cannot group a charge which has already been unitized.	Manual Unitization 230: Cannot group a charge which has already been unitized.	Manual Unitization 230: Call PPC.
119	Manual Unitization 231	Manual Unitization 231: Cannot group a charge which has already been unitized.	Manual Unitization 231: Cannot group a charge which has already been unitized.	Manual Unitization 231: Call PPC
120	Manual Unitization 232	Manual Unitization 232: Cannot group charges with different charge types.	Manual Unitization 232: Cannot group charges with different charge types.	Manual Unitization 232: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 140 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 140 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
121	Manual Unitization 233	Manual Unitization 233: ERROR: deleting from cpr_act_month: the gain/loss will not be computed properly.	Manual Unitization 233: ERROR: deleting from cpr_act_month: the gain/loss will not be computed properly.	Manual Unitization 233: Call PPC
122	Manual Unitization 234	Manual Unitization 234: ERROR: inserting into cpr_act_month: the gain/loss will not be computed properly.	Manual Unitization 234: ERROR: inserting into cpr_act_month: the gain/loss will not be computed properly.	Manual Unitization 234: Call PPC
123	Manual Unitization 235	Manual Unitization 235: ERROR: deleting from temp_asset: the gain/loss will not be computed properly.	Manual Unitization 235: ERROR: deleting from temp_asset: the gain/loss will not be computed properly.	Manual Unitization 235: Call PPC
124	Manual Unitization 236	Manual Unitization 236: ERROR: inserting into temp_asset: the gain/loss will not be computed properly.	Manual Unitization 236: ERROR: inserting into temp_asset: the gain/loss will not be computed properly.	Manual Unitization 236: Call PPC
125	Manual Unitization 237	Manual Unitization 237: ERROR: selecting depr group for the asset: the gain/loss will not be computed properly.	Manual Unitization 237: ERROR: selecting depr group for the asset: the gain/loss will not be computed properly.	Manual Unitization 237: Call PPC
126	Manual Unitization 238	Manual Unitization 238: ERROR: check for reserve failed: the gain/loss will not be computed properly. (asset_id = ... depr_group_id = ... open_month = ...).	Manual Unitization 238: ERROR: check for reserve failed: the gain/loss will not be computed properly. (asset_id = ... depr_group_id = ... open_month = ...).	Manual Unitization 238: Call PPC
127	Manual Unitization 239	Manual Unitization 239: The total of the subledger amounts: ... does not balance to the amount: that was unitized to this unit item (unit_item_id = ...). Cannot create pending transactions.	Manual Unitization 239: The total of the subledger amounts: ... does not balance to the amount: that was unitized to this unit item (unit_item_id = ...). Cannot create pending transactions.	Manual Unitization 239: Call PPC
128	Manual Unitization 240	Manual Unitization 240: The total of the subledger salvage and COR: ... does not balance to the amount: ... that was unitized to this unit item (unit_item_id = ...). Cannot create pending transactions.	Manual Unitization 240: The total of the subledger salvage and COR: ... does not balance to the amount: ... that was unitized to this unit item (unit_item_id = ...). Cannot create pending transactions.	Manual Unitization 240: Call PPC
129	Manual Unitization 241	Manual Unitization 241: Multiple In-service, SQL Error :	Manual Unitization 241: Multiple In-service, SQL Error :	Manual Unitization 241: Call PPC
130	Manual Unitization 242	Manual Unitization 242: Multiple In-service, Could not determine charge group type	Manual Unitization 242: Multiple In-service, Could not determine charge group type	Manual Unitization 242: Call PPC
131	Manual Unitization 243	Manual Unitization 243: Allocation Type: ... Cannot allocate based on estimates ... The estimates do not match the unit items.	Manual Unitization 243: Allocation Type: ... Cannot allocate based on estimates ... The estimates do not match the unit items.	Manual Unitization 243: The estimates do not match the unit items and the WO is intended to allocate via estimates. Perhaps the unitize by account is on and you have a charge to 364 but no estimate for 364. You need to examine

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 141 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 141 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				the WO estimates and the unit items in the manual unitization window and to determine and correct the problem. Again, the problem may be with COR/SLVG or CWIP and neither will unitize until both can.
132	Manual Unitization 244	Manual Unitization 244: No basis to perform allocation for ..., priority = ..., account = ...	Manual Unitization 244: No basis to perform allocation for ..., priority = ..., account = ...	Manual Unitization 244: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
133	Manual Unitization 245	Manual Unitization 245: No basis to perform allocation for ..., priority = ...	Manual Unitization 245: No basis to perform allocation for ..., priority = ...	Manual Unitization 245: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
134	Manual Unitization 246	Manual Unitization 246: Negative dollar amounts exist in the estimates that are greater than the tolerance of ... percent of the positive dollar amounts. Cannot allocate remaining charges.	Manual Unitization 246: Negative dollar amounts exist in the estimates that are greater than the tolerance of ... percent of the positive dollar amounts. Cannot allocate remaining charges.	Manual Unitization 246: The system control 'TOLERANCE FOR ESTIMATES' determines the tolerance of negatives to positives for allocation. If none is specified .1 is used. Either change the tolerance, correct charges on the WO possibly, or manually unitize the WO in

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 142 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 142 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
135	Manual Unitization 247	Manual Unitization 247: Cannot allocate Charge Type: ... because a charge group being allocated: \$... exceeds the allocation limit of: \$... Cannot allocate remaining charges.	Manual Unitization 247: Cannot allocate Charge Type: ... because a charge group being allocated: \$... exceeds the allocation limit of: \$... Cannot allocate remaining charges.	question. Manual Unitization 247: In the allocation maintenance, there is an automatic allocation limit specified for each charge type. Correct the limits, the charges or manually unitize.
136	Manual Unitization 247	Manual Unitization 247: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 247: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 247: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
137	Manual Unitization 248	Manual Unitization 248: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 248: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 248: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
138	Manual Unitization 249	Manual Unitization 249: Cannot allocate based on 0.00 standard hours: ..., priority = ..., account = ...	Manual Unitization 249: Cannot allocate based on 0.00 standard hours: ..., priority = ..., account = ...	Manual Unitization 249: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
139	Manual Unitization 250	Manual Unitization 250: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 250: Cannot allocate based on 0.00 standard cost: ..., priority = ..., account = ...	Manual Unitization 250: The appropriate standard cost information is missing and needs to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
140	Manual Unitization 251	Manual Unitization 251: Cannot allocate based on 0.00 standard COR hours: ..., priority = ..., account = ...	Manual Unitization 251: Cannot allocate based on 0.00 standard COR hours: ..., priority = ..., account = ...	Manual Unitization 251: The appropriate standard cost information is missing and needs

National Grid

Page 142 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 143 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 143 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				to be corrected. Alternatively, you could manually unitize theWO or change the allocation method being used if appropriate.
141	Manual Unitization 252	Manual Unitization 252: dw Find syntax error on the Allocation charge group.	Manual Unitization 252: dw Find syntax error on the Allocation charge group.	Manual Unitization 252: Call PPC
142	Manual Unitization 253	Manual Unitization 253: No basis to perform allocation for ..., priority = ..., account = ... There are no charges in the basis or they sum to zero.	Manual Unitization 253: No basis to perform allocation for ..., priority = ..., account = ... There are no charges in the basis or they sum to zero.	Manual Unitization 253: This will most commonly occur when the user is adhering to utility_account and have not directly assigned at least one charge to each of the accounts, or when the user is allocating based on standards and the retirement unit does not have a record in the retire_unit_std table or the user has a charge with a utility account but no estimate,etc. for that account.
143	Manual Unitization 254	Manual Unitization 254: Cannot create pending transactions. Some charges have not been unitized.	Manual Unitization 254: Cannot create pending transactions. Some charges have not been unitized.	Manual Unitization 254: Call PPC
144	Manual Unitization 255	Manual Unitization 255: Cannot create pending transactions without In Service and Completion dates.	Manual Unitization 255: Cannot create pending transactions without In Service and Completion dates.	Manual Unitization 255: Must have In Service and Completion dates.
145	Manual Unitization 256	Manual Unitization 256: Cannot create a unitization ADD transaction to the NON-UNITIZED retirement unit.	Manual Unitization 256: Cannot create a unitization ADD transaction to the NON-UNITIZED retirement unit.	Manual Unitization 256: Do not unitize to the NON-UNITIZED retirement unit.
146	Manual Unitization 257	Manual Unitization 257: Cannot create pending transactions for COR/Salvage ... No assets were found on the CPR for this Retire. Unit/Bus. Segment/Util. Account/Sub Account/GL Account Company/Location combination. company_id = ... gl_account_id = ... utility_account_id = ... sub_account_id = ... bus_segment_id = ... asset_location_id = ...	Manual Unitization 257: Cannot create pending transactions for COR/Salvage ... No assets were found on the CPR for this Retire. Unit/Bus. Segment/Util. Account/Sub Account/GL Account Company/Location combination. company_id = ... gl_account_id = ... utility_account_id = ... sub_account_id = ... bus_segment_id = ... asset_location_id = ...	Manual Unitization 257: When unitizing COR/SLVG an asset must exist on the CPR matching the information provided so the correct depr group can be determined for closing the RWIP to the final reserve. Correct the data on the WO.
147	Manual Unitization 258	Manual Unitization 258: Cannot create Pending Transactions ... The charge_type table is not filled in properly.	Manual Unitization 258: Cannot create Pending Transactions ... The charge_type table is not filled in properly.	Manual Unitization 258: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 144 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 144 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
148	Manual Unitization 259	Manual Unitization 259: Cannot create pending transactions with missing reserve data.	Manual Unitization 259: Cannot create pending transactions with missing reserve data.	Manual Unitization 259: Call PPC
149	Manual Unitization 260	Manual Unitization 260: Cannot create Pending Transactions ... ERROR: inserting into pend_transaction_memo: ...	Manual Unitization 260: Cannot create Pending Transactions ... ERROR: inserting into pend_transaction_memo: ...	Manual Unitization 260: Call PPC
150	Manual Unitization 261	Manual Unitization 261: Cannot create Pending Transactions ... ERROR: inserting into wo_unit_item_pend_trans: ...	Manual Unitization 261: Cannot create Pending Transactions ... ERROR: inserting into wo_unit_item_pend_trans: ...	Manual Unitization 261: Call PPC
151	Manual Unitization 262	Manual Unitization 262: Multiple Inservice Processing Failed, Pending Transactions Not Created	Manual Unitization 262: Multiple Inservice Processing Failed, Pending Transactions Not Created	Manual Unitization 262: Call PPC
152	Manual Unitization 263	Manual Unitization 263: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Manual Unitization 263: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Manual Unitization 263: Call PPC
153	Manual Unitization 264	Manual Unitization 264: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Manual Unitization 264: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Manual Unitization 264: Call PPC
154	Manual Unitization 265	Manual Unitization 265: This work order cannot be unitized due to an error in the f_unitization_audit function !!!	Manual Unitization 265: This work order cannot be unitized due to an error in the f_unitization_audit function !!!	Manual Unitization 265: Check the custom f_unitization_audit function
155	Manual Unitization 266	Manual Unitization 266: This work order cannot be unitized due to an error in the f_wo_audit_tax function: ...	Manual Unitization 266: This work order cannot be unitized due to an error in the f_wo_audit_tax function: ...	Manual Unitization 266: Check the custom f_wo_audit_tax function: ...
156	Manual Unitization 267	Manual Unitization 267: This Joint Work Order has Children with Gain/Loss Retirements. Gain/Loss Retirements cannot be processed in Joint Work Order. These work orders will have to be unrelated and unitized seperately	Manual Unitization 267: This Joint Work Order has Children with Gain/Loss Retirements. Gain/Loss Retirements cannot be processed in Joint Work Order. These work orders will have to be unrelated and unitized seperately	Manual Unitization 267: These work orders will have to be unrelated and unitized seperately
157	Manual Unitization 268	Manual Unitization 268: There are no valid asset locations for this work order's major location. This work order cannot be unitized.	Manual Unitization 268: There are no valid asset locations for this work order's major location. This work order cannot be unitized.	Manual Unitization 268: Create valid valid asset locations for this work order's major location.
158	Manual Unitization 269	Manual Unitization 269: WARNING: Cannot create unit item: Invalid RU/UA/BS combination: .../.../... The retirement unit is: ...	Manual Unitization 269: WARNING: Cannot create unit item: Invalid RU/UA/BS combination: .../.../... The retirement unit is: ...	Manual Unitization 269: Check your Property Unit Catalog as the property unit for the retirement unit specified has not been related to the Utility

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 145 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 145 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				account and business segment specified. Alternatively, bad data on the WO may need to be corrected if the unitization information given is wrong, e.g. turbine should really not be in account 364.
159	Manual Unitization 270	Manual Unitization 270: WARNING: No valid property groups found for RU = ..., Func. Class = ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP	Manual Unitization 270: WARNING: No valid property groups found for RU = ..., Func. Class = ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP	Manual Unitization 270: A property group must be related to both the property unit of the retirement unit, and the function class of the utility account. Either add the missing property group relationship(s) or correct the WO data. Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP
160	Manual Unitization 271	Manual Unitization 271: This work order does not pass the ... unitization tolerance. This work order cannot be unitized.	Manual Unitization 271: This work order does not pass the ... unitization tolerance. This work order cannot be unitized.	Manual Unitization 271: Tolerances can be used to make sure the amount of the WO is within a specified percentage of the estimate. If it falls outside the limits define, this error will result. Correct estimates or charges or tolerance.
161	Manual Unitization 272	Manual Unitization 272: WARNING: Cannot create unit item: ... Invalid RU/UA/BS combination: .../.../... The retirement unit is: ...	Manual Unitization 272: WARNING: Cannot create unit item: ... Invalid RU/UA/BS combination: .../.../... The retirement unit is: ...	Manual Unitization 272: Check your Property Unit Catalog as the property unit for the retirement unit specified has not been related to the Utility account and business segment specified. Alternatively, bad data on the WO may need to be corrected if the unitization information given is wrong, e.g. turbine should really not be in account 364.
162	Manual Unitization 273	Manual Unitization 273: Cannot create unit item: Invalid RU/PG combination: .../.../... Ret Unit : ... Prop Group : ...	Manual Unitization 273: Cannot create unit item: Invalid RU/PG combination: .../.../... Ret Unit : ... Prop Group : ...	Manual Unitization 273: Check the property group/property unit combinations in table maintenance.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 146 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 146 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
163	Manual Unitization 274	Manual Unitization 274: WARNING: No valid property groups found for RU = ..., Func. Class = ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP	Manual Unitization 274: WARNING: No valid property groups found for RU = ..., Func. Class = ... Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP	Manual Unitization 274: A property group must be related to both the property unit of the retirement unit, and the function class of the utility account. Either add the missing property group relationship(s) or correct the WO data. Check tables PROP GROUP/PROP_UNIT and FUNC CLASS/PROP GROUP
164	Automatic Non-Unitized 300	Automatic Non-Unitized 300: Work order cannot be non-unitized due to an error in the f_non_unitization_audit function: ...	Automatic Non-Unitized 300: Work order cannot be non-unitized due to an error in the f_non_unitization_audit function: ...	Automatic Non-Unitized 300: Check custom f_non_unitization_audit function
165	Automatic Non-Unitized 301	Automatic Non-Unitized 301: Work order cannot be processed due to an error in the f_wo_audit_tax function ...	Automatic Non-Unitized 301: Work order cannot be processed due to an error in the f_wo_audit_tax function ...	Automatic Non-Unitized 301: Check custom function f_wo_audit_tax function
166	Automatic Non-Unitized 302	Automatic Non-Unitized 302: Work Order not processed because there are already 101 or 106 Pending transaction additions. They must be posted or deleted	Automatic Non-Unitized 302: Work Order not processed because there are already 101 or 106 Pending transaction additions. They must be posted or deleted	Automatic Non-Unitized 302: post or delete the transactions
167	Automatic Non-Unitized 303	Automatic Non-Unitized 303: Work Order not processed: the Non Unitized Account can not be the same as the unitized account	Automatic Non-Unitized 303: Work Order not processed the Non Unitized Account can not be the same as the unitized account	Automatic Non-Unitized 303: Fix the work order accounts
168	Automatic Non-Unitized 304	Automatic Non-Unitized 304: No charges have a utility account, there are no 106 records on the CPR and no estimates have a utility account	Automatic Non-Unitized 304: No charges have a utility account, there are no 106 records on the CPR and no estimates have a utility account	Automatic Non-Unitized 304: add a utility account to one or more records in the estimates
169	Automatic Non-Unitized 305	Automatic Non-Unitized 305: There are no estimates	Automatic Non-Unitized 305: There are no estimates	Automatic Non-Unitized 305: Add estimates
170	Automatic Non-Unitized 306	Automatic Non-Unitized 306: Cannot create pending transactions ... Work Order ... The Cwip 107 amount ... does not equal the pending basis amount ...	Automatic Non-Unitized 306: Cannot create pending transactions ... Work Order ... The Cwip 107 amount ... does not equal the pending basis amount ...	Automatic Non-Unitized 306: Call PPC
171	Automatic Non-Unitized 307	Automatic Non-Unitized 307: Cannot create pending transactions ... Work Order ... No sub account exists for Utility Account ID ... and Bus Segment ID: ...	Automatic Non-Unitized 307: Cannot create pending transactions ... Work Order ... No sub account exists for Utility Account ID ... and Bus Segment ID: ...	Automatic Non-Unitized 307: add a sub account to the sub account table
172	Automatic Non-Unitized 308	Automatic Non-Unitized 308: Cannot create pending transactions ... Work Order ... No Prop Group found for Ret Unit ID ... and Func Class Id	Automatic Non-Unitized 308: Cannot create pending transactions ... Work Order ... No Prop Group found for Ret Unit ID ...	Automatic Non-Unitized 308: Check the 'Prop Group/Prop Unit' and the 'Func

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 147 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 147 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		...: Check the Prop Group/Prop Unit and the Func Class/Prop Group tables	... and Func Class Id ...: Check the Prop Group/Prop Unit and the Func Class/Prop Group tables	Class/Prop Group' tables
173	Automatic Non-Unitized 309	Automatic Non-Unitized 309: Cannot create pending transactions ... Work Order ... No Asset Location exists for Major Location ID ...:	Automatic Non-Unitized 309: Cannot create pending transactions ... Work Order ... No Asset Location exists for Major Location ID ...:	Automatic Non-Unitized 309: add Asset Location to the Major Location
174	Automatic Non-Unitized 310	Automatic Non-Unitized 310: Class Codes - ... Error adding where clause	Automatic Non-Unitized 310: Class Codes - ... Error adding where clause	Automatic Non-Unitized 310: Call PPC
175	Automatic Non-Unitized 311	Automatic Non-Unitized 311: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Automatic Non-Unitized 311: Pending Transaction Posting Amount does not balance with your Pend Transaction Basis, transactions were not created. Please contact PowerPlant Support	Automatic Non-Unitized 311: Call PPC
176	Automatic Non-Unitized 312	Automatic Non-Unitized 312: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Automatic Non-Unitized 312: Pending Transactions and Pend Transaction Basis do not line up, transactions were not created. Please contact PowerPlant Support	Automatic Non-Unitized 312: call PPC
177	Automatic Non-Unitized 313	Automatic Non-Unitized 313: Error updating pending transaction.	Automatic Non-Unitized 313: Error updating pending transaction.	Automatic Non-Unitized 313: call PPC
178	Automatic Non-Unitized 314	Automatic Non-Unitized 314: Error updating pending basis.	Automatic Non-Unitized 314: Error updating pending basis.	Automatic Non-Unitized 314: call PPC
179	Automatic Non-Unitized 315	Automatic Non-Unitized 315: Error updating class_code_pending_trans.	Automatic Non-Unitized 315: Error updating class_code_pending_trans.	Automatic Non-Unitized 315: Call PPC
201	POST 231	POST 231: 106 reversal amount from cpr_ledger is not equal to the balance from the individual depreciation table cpr_depr ... ,	POST 231: ERROR 106 reversal amount from cpr_ledger ... is not equal to balance from cpr_depr ... ,	POST 231: Call PPC
202	POST 232	POST 232: invalid activity type in pending transaction	POST 232: ERROR invalid activity type in cpr_depr transaction	POST 232: Call PPC
203	POST 233	POST 233: Default life is zero or NULL in utility account	POST 233: Default life is zero or NULL in utility account	POST 233: Check the Utility Account in Table Maintenance
204	POST 234	POST 234: Default life is null or zero in company account curves table	POST 234: Default life is null or zero in company account curves table	POST 234: Check Company Account Curves data in table maintenance
205	POST 235	POST 235: Default life is Null or zero in property unit	POST 235: Default life is Null or zero in property unit	POST 235: Check property unit in table maintenance
206	POST 236	POST 236: Default life is null or zero in company account curves or utility account	POST 236: Default life is null or zero in company account curves or utility account	POST 236: Check data in Table maintenance
207	POST 237	POST 237: Error: Cannot Post to an individually depreciated asset after Depreciation has been approved for the month	POST 237: Error: Cannot Post to an individual depr asset after Depreciation has been approved for the month	POST 237: Defer or delete and reprocess later

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 148 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 148 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
208	POST 238	POST 238: Error: Cannot Post to a subledger after Depreciation has been approved for the month	POST 238: Error: Cannot Post to a subledger after Depreciation has been approved for the month	POST 238: Defer or delete and process later
209	POST 239	POST 239: cannot find major location from the asset location	POST 239: ERROR cannot find major location	POST 239: Check the location tables
210	POST 240	POST 240: cannot find the location type for the major location	POST 240: ERROR cannot find location type	POST 240: Check the location tables
211	POST 241	POST 241: Not enough info to determine depr group from depr_group_control or depr group is invalid	POST 241: Not enough info to determine depr group from depr_group_control or depr group is invalid	POST 241: Check the depr group control table. Also make sure the depr group is valid
213	POST 243	POST 243: Depr Group Business Segment is NULL	POST 243: ERROR Depr Group Business Segment is NULL...	POST 243: Assign a Business Segment to the Depr Group
214	POST 244	POST 244: The Asset's Business Segment is not equal to the Depr Group's Business Segment ...	POST 244: ERROR Asset Business Segment ... <> Depr Group Business Segment ...	POST 244: The business segment for the asset and the business segment for the depr group must be equal
215	POST 245	POST 245: Cannot Post to an individually depreciated asset after Depreciation has been approved for the month	POST 245: Error: Cannot Post to an individual depr asset after Depreciation has been approved for the month	POST 245: Defer or delete the transaction and process it later
216	POST 246	POST 246: Cannot Post to a subledger after Depreciation has been approved for the month	POST 246: Error: Cannot Post to a subledger after Depreciation has been approved for the month	POST 246: Defer or delete the transaction and process it later
217	POST 247	POST 247: The subledger type for the Depr Group is not equal to the subledger type in the transaction	POST 247: Error: Depr Group subledger type is not equal to the transaction subledger type	POST 247: Check the depreciation group subledger indicator
218	POST 249	POST 249: Cannot find the company number from the company table	POST 249: ERROR Cannot find the company number	POST 249: Check the Company table
219	POST 250	POST 250: Cannot find the work order Id for the work order number and company in the transaction	POST 250: ERROR Cannot find the work order id	POST 250: Call PPC
220	POST 251	POST 251: Reserve Debit Account not Found in the depreciation group	POST 251: Error: Reserve Debit Account not Found	POST 251: Check depr group
221	POST 252	POST 252: Error: Retirement Debit Account not Found in the depreciation group	POST 252: Error: Retirement Debit Account not Found	POST 252: Check depr group
222	POST 253	POST 253: Error: Retirement Credit Account not Found in the depreciation group	POST 253: Error: Retirement Credit Account not Found	POST 253: check the depreciation group
223	POST 254	POST 254: Reserve Debit Account not Found in the depreciation group	POST 254: Error: Reserve Debit Account not Found	POST 254: check the depreciation group
224	POST 255	POST 255: Credit Account for cost of removal not Found in the depreciation group	POST 255: Error: Credit Account for cost of removal not Found	POST 255: Check the depreciation group
225	POST 256	POST 256: Debit Account for cost of removal not Found in the depreciation group	POST 256: Error: Debit Account for cost of removal not Found	POST 256: check the depreciation group

National Grid

Page 148 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 149 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 149 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
226	POST 257	POST 257: Credit Account for cost of removal not Found in the depreciation group	POST 257: Error: Credit Account for cost of removal not Found	POST 257: check the depreciation group
227	POST 258	POST 258: salvage Debit Account not Found in the depreciation group	POST 258: Error: salvage Debit Account not Found	POST 258: check the depreciation group
228	POST 259	POST 259: Credit Account for salvage not Found in the depreciation group	POST 259: Error: Credit Account for salvage not Found	POST 259: check the depreciation group
229	POST 260	POST 260: salvage Debit Account not Found in the depreciation group	POST 260: Error: salvage Debit Account not Found	POST 260: check the depreciation group
230	POST 261	POST 261: salvage Credit Account not Found in the depreciation group	POST 261: Error: salvage Credit Account not Found	POST 261: check the depreciation group
231	POST 262	POST 262: gain/loss Debit Account not Found in the depreciation group	POST 262: Error: gain/loss Debit Account not Found	POST 262: check the depreciation group
232	POST 263	POST 263: Credit Account for gain/loss not Found in the depreciation group	POST 263: Error: Credit Account for gain/loss not Found	POST 263: check the depreciation group
233	POST 264	POST 264: gain/loss Debit Account not Found in the depreciation group	POST 264: Error: gain/loss Debit Account not Found	POST 264: check the depreciation group
234	POST 265	POST 265: gain/loss Credit Account not Found in the depreciation group	POST 265: Error: gain/loss Credit Account not Found	POST 265: check the depreciation group
235	POST 266	POST 266: Cannot find the 'FROM' company number in the company table	POST 266: ERROR Cannot find the 'FROM' company number	POST 266: check the company table
236	POST 267	POST 267: Cannot find the 'TO' company number in the company table	POST 267: ERROR Cannot find the 'TO' company number	POST 267: check the company table
237	POST 268	POST 268: GL Je code missing from the transaction	POST 268: Error: GL Je code missing from transaction	POST 268: Call PPC
238	POST 269	POST 269: Cannot Find Receivable GL account in the GL account table	POST 269: Error: Cannot Find Receivable GL account	POST 269: check the GL account table
239	POST 270	POST 270: Cannot Find Payable GL account in the GL account table	POST 270: Error: Cannot Find Payable GL account	POST 270: check the GL account table
240	POST 271	POST 271: Transfer_to Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1010	POST 271: Error: Transfer_to Debit Account not Found	POST 271: Check the Oracle customized stored procedure pp_gl_transaction entry 1010
241	POST 272	POST 272: Transfer_from Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1011	POST 272: Error: Transfer_from Credit Account not Found	POST 272: Check the Oracle customized stored procedure pp_gl_transaction entry 1011
242	POST 273	POST 273: Transfer_to life reserve Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1018	POST 273: Error: Transfer_to life reserve Debit Account not Found	POST 273: Check the Oracle customized stored procedure pp_gl_transaction entry 1018
243	POST 274	POST 274: Transfer_to life reserve credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1019	POST 274: Error: Transfer_to life reserve credit Account not Found	POST 274: Check the Oracle customized stored procedure pp_gl_transaction entry 1019
244	POST 275	POST 275: Transfer_from cor reserve Debit Account not Found in the Oracle customized	POST 275: Error: Transfer_from cor reserve Debit Account not Found	POST 275: Check the Oracle customized stored procedure

National Grid

Page 149 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 150 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 150 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		stored procedure pp_gl_transaction for entry 1020		pp_gl_transaction entry 1020
245	POST 276	POST 276: Transfer_from cor reserve Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1021	POST 276: Error: Transfer_from cor reserve Credit Account not Found	POST 276: Check the Oracle customized stored procedure pp_gl_transaction entry 1021
246	POST 277	POST 277: Intercompany Transfer_to Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1014	POST 277: Error: Intercompany Transfer_to Debit Account not Found	POST 277: Check the Oracle customized stored procedure pp_gl_transaction entry 1014
247	POST 278	POST 278: Intercompany Transfer_from Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1015	POST 278: Error: Intercompany Transfer_from Credit Account not Found	POST 278: Check the Oracle customized stored procedure pp_gl_transaction entry 1015
248	POST 279	POST 279: ARO book summary not found	POST 279: Error: ARO book summary not found	POST 279: Check book summary
249	POST 280	POST 280: cwip_gl_account Credit Account Code not Found in work order account	POST 280: Error: Credit Account Code not Found	POST 280: Check work order account
250	POST 281	POST 281: ARO Credit Account Code not Found	POST 281: Error: ARO Credit Account Code not Found	POST 281: Check GL accounts
251	POST 282	POST 282: Addition Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1000	POST 282: Error: Addition Debit Account Code not Found	POST 282: Check the Oracle customized stored procedure pp_gl_transaction entry 1000
252	POST 283	POST 283: Addition Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1001	POST 283: Error: Addition Credit Account Code not Found	POST 283: Check the Oracle customized stored procedure pp_gl_transaction entry 1001
253	POST 284	POST 284: Addition ARO Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction2 for entry 1016	POST 284: Error: Addition ARO Debit Account Code not Found	POST 284: Check the Oracle customized stored procedure pp_gl_transaction2 entry 1016
254	POST 285	POST 285: Addition ARO credit Account not Found in the Oracle customized stored procedure pp_gl_transaction2 for entry 1017	POST 285: Error: Addition ARO credit Account Code not Found	POST 285: Check the Oracle customized stored procedure pp_gl_transaction2 entry 1017
255	POST 230	POST 230: Work order number cannot be null in the pending transactions	POST 230: Error: Work order number cannot be null	POST 230: Call PPC
256	POST 286	POST 286: External Credit Account Code is NULL	POST 286: Error: External Credit Account Code is NULL	POST 286: Check the Oracle customized stored procedure pp_gl_transaction or pp_gl_transaction2
257	POST 288	POST 288: External Debit Account Code is NULL	POST 288: Error: External Debit Account Code is NULL	POST 288: Check the Oracle customized stored procedure pp_gl_transaction or pp_gl_transaction2
258	POST 300	POST 300: Error produced directly in the customized stored procedure pp_gl_transaction or pp_gl_transaction2	POST 300: Error from Customized Oracle procedure	POST 300: Check the Oracle customized stored procedure pp_gl_transaction and

National Grid

Page 150 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 151 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 151 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				pp_gl_transaction2
259	POST 289	POST 289: Cannot find the work order Id for this company and work order number	POST 289: ERROR Cannot find the work order Id for this company	POST 289: Call PPC
260	POST 290	POST 290: Cannot find special code for the work order lookup	POST 290: ERROR Cannot find special code for the work order lookup	POST 290: Call PPC
261	POST 291	POST 291: Credit Account Missing in Adjust Pending Transaction	POST 291: Error: Credit Account Missing in Adjust Pending Transaction	POST 291: Choose a credit account when making the adjustment transaction
262	POST 292	POST 292: Adjust Debit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1012	POST 292: Error: Adjust Debit Account Code not Found	POST 292: Check the Oracle customized stored procedure pp_gl_transaction entry 1012
263	POST 293	POST 293: Adjust Credit Account not Found in the Oracle customized stored procedure pp_gl_transaction for entry 1013	POST 293: Error: Adjust Credit Account Code not Found	POST 203: Check the Oracle customized stored procedure pp_gl_transaction entry 1013
264	POST 301	POST 301: The posting quantity cannot make the asset quantity negative	POST 301: Error: The posting quantity cannot make the asset quantity negative	POST 301: Check the system control 'POST NEGATIVE QUANTITY'
265	POST 302	POST 302: The posting amount cannot make the asset amount negative	POST 302: Error: The posting amount cannot make the asset amount negative	POST 302: check the system control 'POST NEGATIVE AMOUNT'
266	POST 303	POST 303: The posting amount cannot over retire or over transfer	POST 303: Error: The posting amount cannot over retire or over transfer	POST 303: Check the system control 'OVER RETIRE'
267	POST 305	POST 305: mortality rate is null	POST 305: ERROR mortality rate is null	POST 305: Call PPC
268	POST 306	POST 306: mortality rate is zero	POST 306: ERROR mortality rate is zero	POST 306: Recalculate mortality memory from the CPR control window
269	POST 308	POST 308: The replacement amount needs to be given as a positive number in pend_transaction	POST 308: ERROR : The replacement amount needs to be given as a positive number in pend_transaction	POST 308: Check the replacement amount in the work order estimate
270	POST 309	POST 309: No valid mass headers can be found to retire from. (The cost or quantities may be zero.	POST 309: ERROR : No valid mass headers can be found to retire from. (The cost or quantities may be zero.	POST 309: Check the CPR assets being retired. Other transactions being posted may have an effect
271	POST 310	POST 310: Mortality Memory Table record missing for asset .	POST 310: Error: Mortality Memory Table record missing for asset ...,asset	POST 310: Recalculate mortality memory from the CPR control window
272	POST 311	POST 311: Cannot find hw factor for asset.	POST 311: ERROR : Cannot find hw factor for asset.	POST 311: Recalculate mortality memory from the CPR control window
273	POST 312	POST 312: Cannot find hw factor for asset.	POST 312: ERROR : Cannot find hw	POST 312: Recalculate

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 152 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 152 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
			factor for asset.	mortality memory from the CPR control window
274	POST 313	POST 313: Cannot find hw factor for asset.	POST 313: ERROR : Cannot find hw factor for asset.	POST 313: Recalculate mortality memory from the CPR control window
275	POST 314	POST 314: Cannot find hw factor for asset.	POST 314: ERROR : Cannot find hw factor for asset.	POST 314: Recalculate mortality memory from the CPR control window
276	POST 315	POST 315: Mortality Memory Table record missing for asset	POST 315: Error: Mortality Memory Table record missing for asset ...,asset	POST 315: Recalculate mortality memory from the CPR control window
277	POST 316	POST 316: projected mortality is NULL or negative	POST 316: Error: projected mortality is NULL or negative	POST 316: Recalculate mortality memory from the CPR control window
278	POST 317	POST 317: current mortality is NULL or negative	POST 317: Error: current mortality is NULL or negative	POST 317: Recalculate mortality memory from the CPR control window
279	POST 318	POST 318: mortality rate is NULL	POST 318: Error: mortality rate is NULL	POST Recalculate mortality memory from the CPR control window
280	POST 319	POST 319: retirement quantity is greater than total quantity remaining ...	POST 319: ERROR: retirement quantity ... is greater than total quantity remaining ...	POST 319: call PPC
281	POST 320	POST 320: retirement quantity ... is greater than total quantity remaining ...	POST 320: ERROR: retirement quantity ... is greater than total quantity remaining ...	POST 320: Call PPC
282	POST 321	POST 321: Too many passes on final iteration to determine retirement quantities	POST 321: ERROR: Too many passes on final iteration to determine retirement quantities	POST 321: call PPC
283	POST 322	POST 322: total_projected_mortality is zero	POST 322: ERROR: total_projected_mortality is zero	POST 322: Recalculate mortality memory from the CPR control window
284	POST 323	POST 323: The projected mortality only allows ... items to be retired.The remaining ... items need a specific retirement.,	POST 323: Error: The projected mortality only allows ... items to be retired.The remaining ... items need a specific retirement.,	POST 323: Recalculate mortality memory from the CPR control window or switch to a specific retirement
285	POST 324	POST 324: Internal Error: sum of vintaged quantities is not equal to posting quantity	POST 324: Internal Error: sum of vintaged quantities ... is not equal to posting quantity ...	POST 324: Call PPC
286	POST 325	POST 325: hw_factors[i] is zero	POST 325: ERROR: hw_factors[i] is zero	POST 325: Recalculate mortality memory from the CPR control window

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 153 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 153 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
287	POST 326	POST 326: Remaining amount ... = ... - ... is negative,	POST 326: ERROR : Remaining amount ... = ... - ... is negative,	POST 326: Call PPC
288	POST 327	POST 327: ERROR : Remaining quantity ... = ... - ... is negative,	POST 327: ERROR : Remaining quantity ... = ... - ... is negative,	POST 327:call PPC
289	POST 328	POST 328: The posting quantity cannot make the asset quantity negative	POST 328: Error: The posting quantity cannot make the asset quantity negative	POST 328: See system control 'POST NEGATIVE QUANTITY'
290	POST 329	POST 329: The posting amount cannot make the asset amount negative	POST 329: Error: The posting amount cannot make the asset amount negative	POST 329: See system control 'POST NEGATIVE AMOUNT'
291	POST 330	POST 330: First set of books amount does not equal retirement amount	POST 330: ERROR : First set of books amount ... does not equal retirement amount ... ,	POST 330: Call PPC,
292	POST 335	POST 335: number of retirements must be negative for Mass retirement processing	POST 335: ERROR : number of retirements must be negative	POST 335: Check interface logic if transactions come from an interface. If not, call PPC
293	POST 336	POST 336: Cannot determine the retirement method from the property unit	POST 336: ERROR : Cannot determine the retirement method	POST 336: Check the property unit
294	POST 337	POST 337: Cannot do Mass Retirements for Curve Auto or Life Auto Retire Methods	POST 337: ERROR : Cannot do Mass Retirements for Curve Auto or Life Auto Retire Methods	POST 337: Check the retirement method for the property unit
295	POST 338	POST 338: Posting amount, if given, must be negative for specific retirement against a mass asset	POST 338: ERROR : Posting amount, if given, must be negative for specific retirement	POST 338: Check interface logic if transaction comes from an interface. If not, call PPC
296	POST 339	POST 339: Asset given for the transactions is not a CPR asset	POST 339: Error: Asset ... not found for a specific Mass Retirement , ldg_asset_id	POST 339: Check the interface if the transaction comes from an interface. If not, call PPC
297	POST 340	POST 340: No valid mass headers can be found to retire from. (The cost or quantities may be zero.	POST 340: ERROR : No valid mass headers can be found to retire from. (The cost or quantities may be zero.	POST 340: Check the CPR assets being retired. Other transactions being psoted may have an effect
298	POST 341	POST 341: Asset Id for this specific retirement is not found in the CPR Ledger	POST 341: Error: Asset Id can not be found for this specific retirement	POST 341: Check interface code if transaction comes from an interface. If not, call PPC
299	POST 342	POST 342: Asset Id for this specific retirement is not found in the CPR Ledger	POST 342: Error: Asset ... not found , ldg_asset_id	POST 342: Check interface code if transaction comes from an interface. If not, call PPC
300	POST 343	POST 343: Mortality Memory Table record is missing for this asset	POST 343: Error: Mortality Memory Table record is missing for this asset	POST 343: Recalculate mortality memory from the CPR control window
301	POST 344	POST 344: Mortality Memory Table record	POST 344: Error: Mortality Memory	POST 344: Recalculate

National Grid

Page 153 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 154 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 154 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		missing for asset	Table record missing for asset ...,asset	mortality memory from the CPR control window
302	POST 345	POST 345: projected mortality is NULL or negative	POST 345: Error: projected mortality is NULL or negative	POST 345: Recalculate mortality memory from the CPR control window
303	POST 346	POST 346: current mortality is NULL or negative	POST 346: Error: current mortality is NULL or negative	POST 346: Recalculate mortality memory from the CPR control window
304	POST 347	POST 347: mortality rate is NULL	POST 347: Error: mortality rate is NULL	POST 347: Recalculate mortality memory from the CPR control window
305	POST 348	POST 348: Cannot Find CPR Assets to FIFO	POST 348: Error: Cannot Read Assets to FIFO	POST 348: Check the CPR records
306	POST 349	POST 349: retirement quantity is greater than total quantity remaining	POST 349: ERROR: retirement quantity ... is greater than total quantity remaining ...	POST 349: call PPC
307	POST 350	POST 350: retirement quantity is greater than total quantity remaining	POST 350: ERROR: retirement quantity ... is greater than total quantity remaining ...	POST 350: call PPC
308	POST 351	POST 351: retirement quantity is greater than total quantity remaining	POST 351: ERROR: retirement quantity ... is greater than total quantity remaining ...	POST 351: call PPC
309	POST 352	POST 352: Too many passes on final iteration to determine retirement quantities	POST 352: ERROR: Too many passes on final iteration to determine retirement quantities	POST 352: call PPC
310	POST 353	POST 353: total_projected_mortality is zero	POST 353: ERROR: total_projected_mortality is zero	POST 353: Recalculate mortality memory from the CPR control window
311	POST 354	POST 354: The projected mortality only allows ... items to be retired.The remaining ... items need a specific retirement.,	POST 354: Error: The projected mortality only allows ... items to be retired.The remaining ... items need a specific retirement.,	POST 354: Recalculate mortality memory from the CPR control window or switch to a specific retirement
312	POST 355	POST 355: Internal Error: sum of vintaged quantities is not equal to posting quantity	POST 355: Internal Error: sum of vintaged quantities ... is not equal to posting quantity ...	POST 355: call PPC
313	POST 356	POST 356: Remaining amount ... = ... - ... is negative,	POST 356: ERROR : Remaining amount ... = ... - ... is negative,	POST 356:call PPC
314	POST 357	POST 357: Remaining quantity ... = ... - ... is negative,	POST 357: ERROR : Remaining quantity ... = ... - ... is negative,	POST 357: call PPC
315	POST 358	POST 358: The posting quantity cannot make the asset quantity negative	POST 358: Error: The posting quantity cannot make the asset quantity negative	POST 358: See system control 'POST NEGATIVE QUANTITY'

National Grid

Page 154 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 155 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 155 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
316	POST 359	POST 359: The posting amount cannot make the asset amount negative	POST 359: Error: The posting amount cannot make the asset amount negative	POST 359: See system control 'POST NEGATIVE AMOUNT'
317	POST 360	POST 360: The posting amount cannot over retire	POST 360: Error: The posting amount cannot over retire	POST 360: See system control 'Over Retire'
318	POST 361	POST 361: First set of books amount does not equal retire amount	POST 361: ERROR : First set of books amount ... does not equal retire amount ...	POST 361: Call PPC
319	POST 362	POST 362: cannot Determine reserve factor for asset	POST 362: Error: cannot Determine reserve factor for asset ..., asset	POST 362: Call PPC
320	POST 363	POST 363: cannot Determine reserve factor for asset	POST 363: Error: cannot Determine reserve factor for asset ..., asset	POST 363: Call PPC
321	POST 364	POST 364: total_cost is zero	POST 364: ERROR: total_cost is zero	POST 364: Call PPC
322	POST 365	POST 365: Cannot retire from the parent related asset. The retire ratio is negative or more than 1 because the sum of the children related assets is ...	POST 365: Error: Cannot retire from the parent related asset. The retire ratio is negative or more than 1 because the sum of the children related assets is ...	POST 365: call PPC
323	POST 366	POST 366: Cannot determine the automatic close work order for the related asset from the company table	POST 366: Error: cannot determine the automatic close work order for the related asset ..., related_asset	POST 366: Check the company table
324	POST 367	POST 367: mortality_curve_id or expected life not found from utility_account table	POST 367: ERROR : mortality_curve_id or expected life not found from utility_account table	POST 367: Check Utility Account table and check system control 'MORTALITY CURVE ACCOUNT LOOKUP'
325	POST 368	POST 368: mortality_curve_id or expected life not found from company_account_curves	POST 368: ERROR : mortality_curve_id or expected life not found from company_account_curves	POST 368: Check company_account_curves table and check system control 'MORTALITY CURVE ACCOUNT LOOKUP'
326	POST 369	POST 369: mortality_curve_id or expected life not found from retirement unit	POST 369: ERROR : mortality_curve_id or expected life not found from retirement unit	POST 369: Check retirement unit table and check system control 'MORTALITY CURVE ACCOUNT LOOKUP'
327	POST 370	POST 370: expected_life is zero	POST 370: ERROR: expected_life is zero	POST 370: check system control 'MORTALITY CURVE ACCOUNT LOOKUP' and then check the table being referenced
328	POST 371	POST 371: (after_point1 - before_point1) is zero	POST 371: ERROR: (after_point1 - before_point1) is zero	POST 371: Call PPC
329	POST 372	POST 372: projected mortality is negative	POST 372: ERROR : projected mortality is negative	POST 372: Recalculate mortality memory from the CPR control window

National Grid

Page 155 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 156 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 156 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
330	POST 100	POST 100: The Work Order number in the pend_transaction table cannot be null	POST 100: Error: Work Order number cannot be null in pend_transaction	POST 100: Call PPC. There is an error in the PowerPlant base code or in a customized interface that produces the pend_transaction.
331	POST 108	POST 108: The Post code has an internal version number that does not match the database post_version column in the pp_version table	POST 108: Post Code ... does not match DB Post ...	POST 108: Call PPC. The version of the post program being executed does not correspond to the database setting. Either you are running an incorrect post program, or the database setting must be changed.
333	POST 102	POST 102: There is more than one Work Order Id in the work_order_control table for this Work Order Number and Company	POST 102: Error: There is more than one Work Order Id for this Work Order and Company	POST 102: Call PPC. A work Order Number must correspond to a unique work_order_id for a given company
335	POST 104	POST 104: This Work Order does not exist in the work_order_control table for the company in the pending transaction	POST 104: Error: Cannot find work_order_id for this company for Work Order	POST 104: Call PPC. For a Work Order to be posted it must exist in the work_order_control table
336	POST 105	POST 105: The asset id in the Idg_asset_id column in the pend_transaction table is not a CPR asset	POST 105: Error: asset ... from pend_transaction ... is not on CPR,	POST 105: Call PPC. If an asset id is given in the pend_transaction table, it must exist in the CPR
337	POST 106	POST 106: A specific retirement or transfer transaction must have an asset id	POST 106: Error: asset id not given for Transaction trans id = ...	POST 106: Call PPC. A specific retirement or transfer transaction must have an asset id
338	POST 110	POST 110: Either the CPR cost is zero for this asset, or other transactions in the set of transactions being posted may have decreased the asset cost already	POST 110: ERROR Cannot Retire:Asset Cost is zero. Other retirements in this batch may have retired the asset already	POST 110: Check the CPR Ledger Cost. If it is not zero, check the other transactions being posted. One or more of them may affect the same asset.
339	POST 107	POST 107: There is no pend_basis record for the retirement, but the system flag 'Input retirement Basis' is set to True	POST 107: ERROR Missing pend_basis record, but system flag - Input retirement Basis - is True	POST 107: Call PPC. If the system flag 'Input retirement Basis' is set to True, the retirement transaction has to have a pend_basis record
340	POST 109	POST 109: The transaction requires a pend_basis record.	POST 109: ERROR Missing pend_basis record	POST 109: Call PPC. There must be a pend_basis record for this transaction
341	POST 111	POST 111: Pend Basis record is Zero but the	POST 111: ERROR Input Basis is Zero	POST 111: Call PPC. Pend

National Grid

Page 156 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 157 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 157 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		system control 'Input Retirement Basis' is set to true	but Input Retirement Basis Flag is true	Basis record is Zero but the system control 'Input Retirement Basis' is set to true
342	POST 112	POST 112: The sum of the book basis amounts in pend_basis does not equal the posting amount in pend_transaction	POST 112: ERROR: Input Basis ... does not equal the posting amount ...	POST 112: Call PPC. The sum of the book basis amounts in pend_basis must equal the posting amount in pend_transaction
343	POST 113	POST 113: If the gain_loss column in pend_transaction is NULL and Post needs to compute the gain_loss for the first set of books, then the salvage_returns, salvage_cash, cost_of_removal or reserve_credits in pend_transaction cannot be NULL	POST 113: Error: Cannot compute gain/loss for the first set of books since salvage_returns, salvage_cash, or cost_of_removal is null or reserve_credits is null	POST 113: Call PPC.
344	POST 114	POST 114: POST 113: If Post needs to compute the gain_loss for another set of books, then the salvage_returns, salvage_cash, cost_of_removal or reserve_credits in pend_transaction cannot be NULL	POST 114: Error: Cannot compute gain/loss for other set of books since salvage_returns, salvage_cash, or cost_of_removal or reserve_credits is null	POST 114: Call PPC
345	POST 115	POST 115: A subledger retirement transaction must have a specific retirement method	POST 115: Error: A subledger retirement must have a specific retirement method	POST 115: Check the asset accounting method and the retirement method for the property unit
346	POST 116	POST 116: Estimated Retirements cannot be processed for Subledger or Individually Depreciated Assets	POST 116: Error: Estimated Retirements cannot be processed for Subledger or Individually Depreciated Assets	POST 116: Call PPC
347	POST 117	POST 117: Missing depr group Id for 'TO' transfer transaction. Both the 'FROM' and the 'TO' transfer transaction must have a depr group id.	POST 117: Error: Missing depr group Id for 'TO' transaction	POST 117: Call PPC
348	POST 118	POST 118: Missing asset Id for subledger item-to-item transfer	POST 118: Error: Missing asset Id for subledger item-to-item transfer	POST 118: Call PPC
349	POST 119	POST 119: Cannot transfer an asset to itself.	POST 119: Error: Cannot transfer an asset to itself	POST 119: Either this is minor transfer where the 'TO' asset is the same as the 'FROM' asset, or this is a transfer of a MASS asset back to itself
350	POST 120	POST 120: The depr group in the 'TO' Pend transaction is not equal to the 'TO' depr group recalculated by POST.	POST 120: Error: The to depr group ... in Pend transaction is not equal to the to computed depr group ...	POST 120: The 'TO' depr group is determined when the transaction is created. If the depr group control table is changed before the transaction is posted,

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 158 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 158 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				the depr group to be assigned to the asset may now be different. You may need to delete and recreate the transfer
351	POST 121	POST 121: If the system control 'POST BALANCE DEPR TRANSFERS' is set to true, POST will balance ALL the book transfers in and book transfers out in depr ledger for the transfer companies.	POST 121: Error: Depr Ledger book transfers in ... not equal transfers out ... for the transfer companies ,	POST 121: Run the Balancing Alerts between depr ledger and depr ledger to see if there is a problem independently of these transactions. If there is a problem but you still want to post this transfer, turn off the system switch
353	POST 123	POST 123: The FROM TRANSFER Transaction is missing when the 'TO' transfer is being processed.	POST 123: Error: Missing FROM TRANSFER Transaction	POST 123: Call PPC. Both the 'FROM' and the 'TO' transaction must be present when either is being posted.
354	POST 124	POST 124: The depr group cannot be determined perhaps because of the subledger indicator setting in the depr group	POST 124: Error: The depr group cannot be determined. It's either ... or Check the subledger indicator in usage.,	POST 124: Check the depr group control settings and the depr group settings for the subledger indicator
355	POST 125	POST 125: If the system control 'POST BALANCE CWIP 106' is set to true, the CWIP 106 balance must equal the CPR 106 balance for this work order.	POST 125: Error: CWIP 106 ... not equal to CPR 106 ... ,	POST 125: Call PPC. This may be a conversion problem
356	POST 126	POST 126: If the replacement_amount column in pend_transaction is not zero, the retirement method needs to be HW - Fifo or HW - Curve	POST 126: Error: The retirement method needs to be HW - Fifo or HW - Curve	POST 126: Check the retirement method for the retirement unit if the replacement amount is set in the estimate.
357	POST 127	POST 127: A mass retirement requires that all eligible mass assets to retire from have a record in the mortality memory table.	POST 127: Error: No mortality memory record found	POST 127: Rebuild the mortality memory table from the depr control window. If this fails to fix the problem call PPC.
358	POST 128	POST 128: Cannot add a new mortality memory record. Min mortality_rate is zero	POST 128: Error: Cannot add a new mortality memory record. Min mortality_rate is zero	POST 128: Rebuild the mortality memory table from the depr control window. If this fails to fix the problem call PPC.
359	POST 130	POST 130: The depr group cannot be determined perhaps because of the subledger indicator setting in the depr group	POST 130: Error: The depr group cannot be determined. It's either ... or Check the subledger indicator in usage.,	POST 130: Check the depr group control settings and the depr group settings for the subledger indicator
360	POST 131	POST 131: Cannot process an MADD (mass	POST 131: Cannot process an MADD	POST 131: Check the asset

National Grid

Page 158 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 159 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 159 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		add) for an individually depreciated asset	for a cpr depr asset	accounting method for the property unit. It must be specific
361	POST 132	POST 132: If the system control 'POST BALANCE CWIP 106' is set to true, the CWIP 106 balance must equal the CPR 106 balance for this work order.	POST 132: Error: CWIP 106 ... not equal to CPR 106 ...	POST 132: Call PPC. This may be a conversion problem
362	POST 133	POST 133: Since a replacement amount is given to generate a retirement transaction for this addition, the retirement method needs to be HW - Fifo or HW - Curve	POST 133: Error: Since a replacement amount is given to generate a retirement transaction for this addition, the retirement method needs to be HW - Fifo or HW - Curve	POST 133: Check the retirement method for the retirement unit if the replacement amount is set in the estimate.
363	POST 134	POST 134: A Mass retirement cannot be a 106 Mass retirement. Mass retirements only apply to 101 assets	POST 134: ERROR A Mass retirement cannot be a 106 Mass retirement	POST Check the retirement method for the retirement unit .
364	POST 135	POST 135: 101 Mass retirement found an amount of ... for 106 retirements, A mass ADD should have retired them already	POST 135: ERROR Mass retirement found an amount of ... for 106 retirements,	POST Call PPC
365	POST 136	POST 136: Unknown activity type in the pending transaction. The only activities allowed are in the activity_code table	POST 136: ERROR unknown activity type in transaction	POST 136: Call PPC
366	POST 137	POST 137: Cannot find the cwip non-unitized gl account for the work order	POST 137: Error: Cannot find the cwip non_unitized gl account for wo	POST 137: Add the non-unitized account to the work order
367	POST 138	POST 138: Work Order has no charges in charge group control. This table hold the unutilization details	POST 138: Error: Work Order has no charges in charge group control	POST 138: Call PPC
368	POST 139	POST 139: There are charges in cwip_charge dated past the current accounting month that were uninitialized	POST 139: Error: cannot unutilize future charges	POST 139: Delete the pending transactions and unutilize them later
369	POST 140	POST 140: There are GL accounts in the charges that do not match the GL accounts for the work order	POST 140: Error: Invalid GL account ... has ... in charges being uninitialized,	POST 140: Delete the pending transactions , fix the accounts and reutilize
370	POST 141	POST 141: Some charges going in service have future dates past the accounting month	POST 141: Error: Some charges going in service have future dates	POST 141: Delete the pending transactions and let them go in service later
371	POST 142	POST 142: There are GL accounts in the charges that do not match the GL accounts for the work order	POST 142: Error: Invalid GL account ... has ... in charges being non-unitized,	POST 142: Delete the pending transactions , fix the accounts and reutilize
372	POST 143	POST 143: Work Order has no charges in the table charge group control	POST 143: Error: Work Order has no charges in charge group control	POST 143: Call PPC
373	POST 144	POST 144: There are charges in cwip_charge dated past the current accounting month	POST 144: Error: cannot post future charges	POST 144: 139: Delete the pending transactions and process

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 160 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 160 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				them later
374	POST 145	POST 145: There are GL accounts in the charges that do not match the GL accounts for the work order	POST 145: Error: Invalid GL account ... has ... in retirement charges being unitized,	POST 145: Delete the pending transactions , fix the accounts and reunitize
375	POST 146	POST 146: Functional Class Id is NULL in the pending transaction	POST 146: Error:Functional Class Id is NULL	POST 146: Call PPC
376	POST 147	POST 147: Company Id is NULL in the pending transaction	POST 147: Error: Company Id is NULL	POST 147: Call PPC
377	POST 148	POST 148: Utility Account Id is NULL	POST 148: Error: Utility Account Id is NULL	POST 148: Call PPC
378	POST 149	POST 149: GI Account Id is NULL	POST 149: Error:GI Account Id is NULL	POST 149: Call PPC
379	POST 150	POST 150: Asset Location Id is NULL	POST 150: Error:Asset Location Id is NULL	POST 150: Call PPC
380	POST 151	POST 151: In Service Year is NULL	POST 151: Error:In Service Year is NULL	POST 151: Call PPC
381	POST 152	POST 152: Sub Account Id is NULL	POST 152: Error: Sub Account Id is NULL	POST 152: Call PPC
382	POST 153	POST 153: Description column is NULL in the pending transaction	POST 153: Error:Description is NULL	POST 153: Call PPC
383	POST 154	POST 154: FERC Activity Code is NULL	POST 154: Error:FERC Activity Code is NULL	POST 154: Call PPC
384	POST 155	POST 155: The pend transaction posting amount not equal the sum of the item dollars in the pend_subledger_entry table	POST 155: Error: pend transaction posting amount ... not equal to item dollars ... ,	POST 155: Call PPC
385	POST 156	POST 156: The pend transaction salvage amount not equal the sum of the item salvage dollars in the pend_subledger_entry table	POST 156: Error: pend transaction salvage ... not equal to item salvage ... ,	POST 156: Call PPC
386	POST 157	POST 157: The pend transaction gain/loss amount not equal the sum of the item gain/loss dollars in the pend_subledger_entry table	POST 157: Error: pend transaction gain/loss ... not equal to item gain/loss ... ,	POST 157: Call PPC
387	POST 158	POST 158: The pend transaction COR amount not equal the sum of the item COR dollars in the pend_subledger_entry table	POST 158: Error: pend transaction cor ... not equal to item cor ... ,	POST 158: Call PPC
388	POST 159	POST 159: Error: Posting Quantity is NULL	POST 159: Error: Posting Quantity is NULL	POST 159:call PPC
389	POST 160	POST 160: Posting Amount is NULL	POST 160: Error:Posting Amount is NULL	POST 160: Call PPC
390	POST 161	POST 161: Property Group Id is NULL	POST 161: Error:Property Group Id is NULL	POST 161: call PPC
391	POST 162	POST 162: Subledger Indicator Id is NULL	POST 162: Error:Subledger Indicator Id is NULL	POST 162: Call PPC

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 161 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 161 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
392	POST 163	POST 163: Business Segment Id is NULL	POST 163: Error:Business Segment Id is NULL	POST 163: Call PPC
393	POST 164	POST 164: GI Posting Month is NULL	POST 164: Error: GI Posting Month is NULL	POST 164: Call PPC
394	POST 165	POST 165: Posting Status Id is NULL	POST 165: Error:Posting Status Id is NULL	POST 165: Call PPC
395	POST 166	POST 166: Asset Accounting Method is NULL	POST 166: Error:Asset Accounting Method is NULL	POST 166: Call PPC
396	POST 167	POST 167: Accounting Method/Retire Method Combination is Invalid	POST 167: Error: Accounting Method/Retire Method Combination is Invalid	POST 167: Check the property unit settings
397	POST 168	POST 168: Accounting Method/Retire Method Combination is Invalid	POST 168: Error: Accounting Method/Retire Method Combination is Invalid	POST 168: Check the property unit settings
398	POST 169	POST 169: Accounting Method/Retire Method Combination is Invalid	POST 169: Error: Accounting Method/Retire Method Combination is Invalid	POST 169: Check the property unit settings
399	POST 170	POST 170: Accounting Method/Activity Code Combination Invalid	POST 170: Error: Accounting Method/Activity Code Combination Invalid	POST 170: call PPC
400	POST 171	POST 171: Transaction subledger indicator does not match property unit	POST 171: Error: Transaction subledger indicator does not match property unit	POST 171: Check the property unit settings
401	POST 172	POST 172: Cannot Find the month to post in cpr_control	POST 172: Error: Cannot Find the month to post in cpr_control	POST 172: Call PPC
402	POST 173	POST 173: Error: Cannot Post to a Closed Month. CPR processing is closed for the accounting month in the transaction	POST 173: Error: Cannot Post to a Closed Month	POST 173: Defer the transaction or delete it and process it later
403	POST 174	POST 174: Cannot Post if the previous accounting month is still 'powerplant open' in CWIP	POST 174: Error: Cannot Post if the previous month is still 'powerplant open' in CWIP	POST 174: Defer the transaction or delete it and process it later
404	POST 175	POST 175: Cannot Find the previous accounting month in wo_process_control	POST 175: Error: Cannot Find the previous month in wo_process_control	POST 175: Call PPC
405	POST 176	POST 176: Cannot Post if the previous month is still open in CWIP	POST 176: Error: Cannot Post if the previous month is still open in CWIP	POST 176: Close the month in CWIP
406	POST 177	POST 177: Cannot find the current month in wo_process_control	POST 177: Error: Cannot Find the current month in wo_process_control	POST 177: Call PPC
407	POST 178	POST 178: Cannot Post if the current month is closed in CWIP	POST 178: Error: Cannot Post if the current month is closed in CWIP	POST 178: Defer or delete the transaction and process it later
408	POST 179	POST 179: Pending Transaction values do not agree with the values in the CPR for the asset being processed	POST 179: Error: Pending Transaction values do not agree with asset values	POST 179: Call PPC

National Grid

Page 161 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 162 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 162 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
409	POST 180	POST 180:There is no 'Transfer To' record	POST 180: Error:There is no 'Transfer To' record	POST 180: Call PPC
410	POST 181	POST 181: Cannot find the Transfer TO transaction or it may not be approved to Post	POST 181: Error: Cannot find the Transfer TO transaction or it may not be approved to Post	POST 181: Transfers transactions must have the 'FROM' and the 'TO' transactions approved to post at the same time
411	POST 182	POST 182: The depr group found by Post is not the same as the depr group assigned when the 'TO' transaction was created	POST 182: Error: The depr group ... found is not the same as the depr group ... in the 'TO' transaction,	POST 182: Check the depr group control settings
412	POST 183	POST 183: Cannot change books schema on a transfer	POST 183: Error: Cannot change books schema on a transfer	POST 183: Delete and recreate the transfer
413	POST 184	POST 184: Cannot determine the asset accounting method on a transfer	POST 184: Error: Cannot determine asset type on a transfer	POST 184: Check the property group setting
414	POST 185	POST 185: Cannot Update the retire transactions table	POST 185: Error: Cannot Update the retire transactions table	POST 185: Call PPC
415	POST 186	POST 186: Cannot determine the reserve allocation factor for the asset from the depr_res_allo_factors table	POST 186: Error: cannot Determine reserve factor for asset ..., asset	POST 186: If this is a new asset, it cannot be transferred during the same month because the reserve allocation factor is computed when the month is closed. If this is not a new asset, call PPC
416	POST 187	POST 187: Cannot determine the reserve allocation factor for the asset from the depr_res_allo_factors table	POST 187: Error: cannot Determine reserve factor for asset ..., asset	POST 187: If this is a new asset, it cannot be transferred during the same month because the reserve allocation factor is computed when the month is closed. If this is not a new asset, call PPC
417	POST 188	POST 188: Cannot retire from the parent related asset. The retire ratio is negative or more than 1 .	POST 188: Error: Cannot retire from the parent related asset. The retire ratio is negative or more than 1 because the sum of the children related assets is ...,	POST 188: Call PPC
418	POST 189	POST 189: Cannot Determine the automatic close work order for the related asset	POST 189: Error: cannot Determine the automatic close work order for the related asset ..., related_asset	POST 189: Call PPC
419	POST 190	POST 190: Cannot Determine the automatic close work order for the related asset	POST 190: Error: cannot Determine the automatic close work order for the related asset ..., related_asset	POST 190: Call PPC
420	POST 191	POST 191: Other transactions being posted at the same time may affect the CPR balance	POST 191: Error : Cannot Retire if cpr balance is zero	POST 191: Check the CPR balance and other transactions

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 163 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 163 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
				against the same asset being posted together
421	POST 192	POST 192: Cannot Unretire if the CPR asset basis is zero	POST 192: Error: Cannot Unretire if the basis is zero	POST 192: Check the CPR basis and also other transactions against the same asset
422	POST 193	POST 193: Post recalculated the retirement amount against the retirement basis and they are not the same.	POST 193: Error: Recalc Retire Basis ... not equal to retire amount ...	POST 193: Call PPC
423	POST 194	POST 194: Retire roundoff error too large in the calculations	POST 194: Retire roundoff error too large: Retire Amt: ... Basis : ...	POST Call PPC
424	POST 196	POST 196: Could not update the table mortality history	POST 196: Could not update mortality history	106: Call PPC
425	POST 197	POST 197: The error is coming from the processing of a related asset, not from the original retirement	POST 197: Error: Related asset ... error: ,ldg_asset_id	POST 197: Check the related asset relationships
426	POST 198	POST 198: The error is coming from the processing of a related asset, not from the original retirement	POST 198: Error: Mass Related asset ... ;, retire_asset_id	POST 198: Check the related asset relationships
427	POST 437	POST 437: Error is from the original related asset, not from a related Mass asset	POST 437: Error: Mass asset ... :	POST 437: Check CPR ledger
428	POST 199	POST 199: Internal processing memory buffer is too small	POST 199: Error: Buffer is too small	POST 199: Call PPC
429	POST 200	POST 200: The sum of the subledger basis does not equal the subledger amount	POST 200: Internal Error: asset ... subledger cost ... <> subledger basis ...	POST 200: Call PPC
431	POST 202	POST 202: The posting amount recomputed by POST does not equal the transaction posting amount	POST 202: Internal Error: posting amount ... <> original amount ...	POST 202: Call PPC,
432	POST 203	POST 203: The posting quantity recomputed by POST does not equal the transaction posting quantity	POST 203: Internal Error: posting quantity ... <> original quantity ...	POST 203: Call PPC
433	POST 204	POST 204: The posting amount does not equal the sum of the transaction book basis	POST 204: Internal Error: asset ... ledger cost ... <> ledger basis ...	POST 204: Call PPC
442	POST 213	POST 213: no non-zero assets found for FIFO retirements.	POST 213: ERROR : no non-zero assets found for FIFO.	POST 213: Check the CPR and also other pending transactions against the same set of assets
443	POST 214	POST 214: Total CPR Accum cost is less than retire amount during FIFO processing	POST 214: ERROR : Total Accum cost ... is less than retire amount ...	POST 214: Call PPC
444	POST 215	POST 215: The replacement amount needs to be given as a positive number in pend_transaction	POST 215: ERROR : The replacement amount needs to be given as a positive number in pend_transaction	POST 215: Check the work order estimate settings

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 164 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 164 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
445	POST 216	POST 216: no non-zero assets found for FIFO-HW.	POST 216: ERROR : no non-zero assets found for FIFO-HW.	POST 216: Check the CPR and also other pending transactions against the same set of assets
446	POST 217	POST 217: Cannot handy Whitman factor for asset.	POST 217: ERROR : Cannot find hw factor for asset.	POST 217: Rerun the HW mortality memory calculation from the CPR monthly window
447	POST 218	POST 218: Cannot handy Whitman factor for asset.	POST 218: ERROR : Cannot find hw factor for asset.	POST 218: Rerun the HW mortality memory calculation from the CPR monthly window
448	POST 219	POST 219: All assets processed but total indexed cost retired <> replacement_amount	POST 219: ERROR : All assets processed but total indexed cost retired ... <> replacement_amount ... ,	POST 219: Call PPC
449	POST 220	POST 220: Amount to retire is more than the layer amounts	POST 220: Error: Amount to retire is more than the layer amounts	POST 220: Call PPC
450	POST 380	POST 380: Cannot update the reserve transfer out amount in depr_ledger	POST 380: Error: Cannot update the reserve transfer out amount in depr_ledger	POST 380: Call PPC
451	POST 381	POST 381: Cannot update the reserve transfer in amount in depr_ledger	POST 381: Error: Cannot update the reserve transfer in amount in depr_ledger	POST 381: call PPC
452	POST 382	POST 382: Book Schema has not been determined	POST 382: Error: Book Schema has not been determined	POST 382: Call PPC
453	POST 383	POST 383: Cannot find depr group from cpr_act_depr_group for asset	POST 383: Error: Cannot find depr group from cpr_act_depr_group for asset ...,ldg_asset_id	POST 383: The cpr_act_depr_group table contains a pairing of a CPR asset id with all depr groups the asset has been related to. This table contains no entry. Call PPC
454	POST 384	POST 384: Cannot read reserve amount for some set of books. There may not be an entry in the depr_res_allo_factor table for the depreciation group and vintage of this asset for the current accounting month	POST 384: Error: Cannot read reserve amount for some set of books. There may not be a depr_res_allo_factor entry	POST 384: If the asset was just created this month, the reserve allocation factors have not been created yet, so the transaction has to be deferred.
455	POST 385	POST 385: books: ... depr reserve <> life reserve + cor reserve ,	POST 385: Error: books: ... depr reserve <> life reserve + cor reserve ,	POST 385: Call PPC
456	POST 386	POST 386: books: ... depr reserve <> life reserve + cor reserve ,	POST 386: Error: books: ... depr reserve <> life reserve + cor reserve ,	POST 386: Call PPC
457	POST 387	POST 387: Reserve must be given on pend transaction for subledger transfers	POST 387: Error: Reserve must be given on pend transaction for subledger transfers	POST 387: call PPC
458	POST 388	POST 388: Cannot read reserve amount for	POST 388: Error: Cannot read reserve	POST 388: Call PPC

National Grid

Page 164 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 165 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 165 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
		some set of books from cpr_depr table for this month for this individually depreciated asset	amount from cpr_depr table for this month for some set of books	
459	POST 389	POST 389: Cannot update the reserve transfer out amount in depr_ledger	POST 389: Error: Cannot update the reserve transfer out amount in depr_ledger	POST 389: call PPC
460	POST 390	POST 390: Cannot update the reserve transfer in amount in depr_ledger	POST 390: Error: Cannot update the reserve transfer in amount in depr_ledger	POST 390: call PPC
464	POST 394	POST 394: There are no records in pend_subledger_entry table for this subledger transaction	POST 394: Error: There are no pend_subledger_entries	POST 394: Call PPC
465	POST 395	POST 395: Pend transaction additions do not equal pend_subledger_entry additions	POST 395: Error: Pend transaction additions ... not equal pend_subledger_entry additions ... ,	POST 395: Call PPC
466	POST 396	POST 396: Cannot find default life from property unit	POST 396: Cannot find default life from property unit	POST 396: Check property unit table
467	POST 397	POST 397: asset dollars can not be null in pend_subledger_entry	POST 397: asset dollars can not be null	POST 397: Call PPC
472	POST 402	POST 402: Cannot Read basis amounts from pend_subledger_basis	POST 402: Error: Cannot Read basis amounts from pend_subledger_basis	POST 402: Call PPC
475	POST 405	POST 405: Cannot update the subledger accum cost	POST 405: Error: Cannot update the subledger accum cost	POST 405: Call PPC
476	POST 408	POST 408: There are no pend_subledger_entries	POST 408: Error: There are no pend_subledger_entries	POST 408: Call PPC
477	POST 409	POST 409: Pend transaction adjustments not equal pend_subledger_entry adjustments	POST 409: Error: Pend transaction adjustments ... not equal pend_subledger_entry adjustments ... ,	POST 409: Call PPC
478	POST 410	POST 410: There are no pending subledger records	POST 410: Error: There are no pending subledger records	POST 410: Call PPC
479	POST 411	POST 411: The retire ratio cannot be null	POST 411: Error: The retire ratio cannot be null	POST 411: Call PPC
480	POST 412	POST 412: Error: Pend transaction retirements do not equal pend_subledger_entry retirements	POST 412: Error: Pend transaction retirements ... not equal pend_subledger_entry retirements ... ,	POST 412: call PPC
481	POST 413	POST 413: Error: Missing Subledger Depr record for this asset item	POST 413: Error: Missing Subledger Depr record for this asset item	POST 413: Call PPC
482	POST 414	POST 414: Cannot Read the subledger balance	POST 414: Error: Cannot Read the subledger balance	POST 414: call PPC
483	POST 415	POST 415: gain/loss from pend_transaction does not equal gain/loss from pend_subledger_entry	POST 415: Error: gain/loss from pend_transaction ... not equal to gain/loss from pend_subledger_entry ... ,	POST 415: call PPC
484	POST 416	POST 416: Cost of removal from pend_transaction does not equal Cost of removal from pend_subledger_entry	POST 416: Error: Cost of removal from pend_transaction ... not equal to Cost of removal from pend_subledger_entry ... ,	POST 416: call PPC

National Grid

Page 165 of 167

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-147
Page 166 of 167

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment DPU-NG 12-6-1
Page 166 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
485	POST 417	POST 417: Salvage from pend_transaction does not equal salvage from pend_subledger_entry	POST 417: Error: Salvage from pend_transaction ... not equal to salvage from pend_subledger_entry ... ,	POST 417: Call PPC
486	POST 418	POST 418: Retirements from pend_transaction does not equal Retirements from pend_subledger_entry	POST 418: Error: Retirements from pend_transaction ... not equal to Retirements from pend_subledger_entry ... ,	POST 418: Call PPC,
487	POST 419	POST 419: Missing depr subledger record	POST 419: Error: Missing depr subledger record for ... , , , ,	POST 419: Call PPC
488	POST 420	POST 420: Missing Subledger Basis record for this asset item	POST 420: Error: Missing Subledger Basis record for this asset item	POST 420: call PPC
489	POST 421	POST 421: Updating a subledger basis entry older than the current one	POST 421: Updating a subledger basis entry older than the current one	POST 421: call PPC
490	POST 422	POST 422: Cannot read current subledger basis record	POST 422: Error: Cannot read current subledger basis record	POST 422: call PPC
491	POST 423	POST 423: Cannot Update Pend Basis	POST 423: Error: Cannot Update Pend Basis	POST 423: Call PPC
492	POST 430	POST 430: Missing Pend subledger entry for 'FROM' asset	POST 430: Missing Pend subledger entry for 'FROM' asset	POST 430: Call PPC
493	POST 431	POST 431: Missing Pend subledger entry for 'TO' asset	POST 431: Missing Pend subledger entry for 'TO' asset	POST 431: Call PPC
494	POST 432	POST 432: Cannot transfer info item to another item	POST 432: Error: Cannot transfer info item to another item	POST 432: Delete and rebuild the transfer
495	POST 433	POST 433: Pend transaction transfer does not equal pend_subledger_entry transfer	POST 433: Error: Pend transaction transfer ... not equal pend_subledger_entry transfer ... ,	POST 433: call PPC
496	POST 434	POST 434: Pend transaction reserve transfer does not equal pend_subledger_entry reserve transfer	POST 434: Error: Pend transaction reserve transfer ... not equal pend_subledger_entry reserve transfer ... ,	POST 434: Call PPC
497	POST 435	POST 435: Pend transaction transfer does not equal pend_subledger_entry transfer	POST 435: Error: Pend transaction transfer ... not equal pend_subledger_entry transfer ... ,	POST 435: Call PPC
498	POST 436	POST 436: Pend transaction reserve transfer does not equal pend_subledger_entry reserve transfer	POST 436: Error: Pend transaction reserve transfer ... not equal pend_subledger_entry reserve transfer ... ,	POST 436: Call PPC
499	POST 143	POST 143: There are no unitization entries in charge group control and this is not a joint parent work order	POST 143: There are no unitization entries in charge group control and this is not a joint parent work order	A unitized transaction is being posted but there are no records in the charge group control table. This can only happen if this is a joint work order whose children are unitized. Contact PPC

National Grid

Page 166 of 167



ERROR_ID	DESCRIPTION	LONG_DESCRIPTION	ERROR_REPORTED	ACTION
500	POST 438	POST 438: Set of books 1 not defined in COMPANY_SET_OF_BOOKS table for this company	POST 438: Set of books 1 not defined in COMPANY_SET_OF_BOOKS table for this company	Please enter data COMPANY_SET_OF_BOOKS
501	Unitization 186	Unitization 186: Error Fast Grouping Charges	Unitization 186: Error Fast Grouping Charges	The changes can not be pregrouped for unitization. Contact PPC
502	POST 439	POST 439: ERROR : number of retirements must be an integer	POST 439: ERROR : number of retirements must be an integer	Number of retirements must be an integer

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request DPU-NG-12-8
March 20, 2018
H.O. Pieper
Page 1 of 1

Information Request DPU-NG-12-8

Request:

Refer to the prefiled testimony of the Gas Business Enablement Panel, NG-GBE-1, at 32, line 2, and the Companies' response to information request DPU-NG 1-6, at 4. Please explain whether field workers/crews include only National Grid employees or include other contractors hired to perform field work on behalf of National Grid.

Response:

The Gas Business Enablement Program will be built on a modern platform that enables improvements in gas safety and compliance, customer satisfaction and that will drive operational effectiveness. The benefits of seamlessly integrated systems, a reduced reliance on paper-based operations, and the use of mobile devices as a primary tool of National Grid field workers will enhance the effectiveness and efficiency of the Company's operations. It is planned that the capabilities will also be extended to contractors performing field work on behalf of National Grid.

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request DPU-NG-12-9
March 20, 2018
H.O. Pieper
Page 1 of 2

Information Request DPU-NG-12-9

Request:

Refer to the prefiled testimony of the Gas Business Enablement Panel, NG-GBE-1, at 22, and the Companies' response to information request DPU-NG 1-6 & Att. Please explain whether, and by how much, GBE Program investments will reduce the costs that the Companies seek recovery of through their Gas System Enhancement Plans.

Response:

The Gas System Enhancement Plan supports safety and reliability goals through the accelerated replacement of the portions of the Company's gas distribution system that contain leak-prone pipe. Accordingly, there is no direct correlation with the Massachusetts Gas System Enhancement Plan and the Gas Business Enablement Program in relation to the investments and the costs the Company will seek to recover through the Gas System Enhancement Plan.

The Gas Business Enablement Program will deliver future capabilities and benefits that should improve the delivery of the overall capital investment plan.

For asset management, the Gas Business Enablement solution will deploy an enterprise asset management system (Maximo) and GIS application to provide a spatial view of the assets that will be integrated with an integrity risk management software tool to score asset risk based on asset health and condition. This software utilizes industry accepted modeling techniques to evaluate both likelihood and consequence of asset failure by leveraging asset information, prior maintenance history and geospatial location data contained in our work management and GIS solutions. The output of this module will provide a risk value which may be compared across asset classes (Transmission, Distribution, and Pressure Regulation Assets) in order to measure total risk, and aid in the development of maintenance and replacement programs.

Additionally, the Asset Investment Planning Application (Copperleaf C55) utilizes the asset risk scores (provided by the Risk Management Tool), along with project costs, resource constraints, and other Company and regulatory based prioritizations to develop an optimized annual and multiyear investment portfolio. The Copperleaf software will also be integrated with our financial systems (FY 2021) to track completion of inflight programs and projects against targets to enable in-year adjustment to the work plan as needed. This integration of the asset investment planning and management application with the Gas Business Enablement solution will enable improved metrics to report the value of the projects initiated against the risk reduced.

Prepared by or under the supervision of: Anthony H. Johnston and Reihaneh Irani-Famili

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request DPU-NG-12-9
March 20, 2018
H.O. Pieper
Page 2 of 2

In the area of work management, the Gas Business Enablement solution will deploy an enterprise work management system (Salesforce Field Service Lightning) integrated with the asset management and GIS systems to allow improved operational efficiency to deliver the overall capital investment plan. This will support the execution of the Gas System Enhancement Plan. Through the delivery of electronic work packages, graphic work design, improved asset and customer premise data availability, the benefit of real-time work status will drive better planning and scheduling of field activities to realize improvements in capital delivery efficiency. These efficiencies are captured in the benefits for the Gas Business Enablement Program delivery.

In summary, there is no direct connection between the Gas Business Enablement Program and the Gas System Enhancement Plan. Though the Company expects that the processes and systems that will be implemented by Gas Business Enablement will facilitate the delivery of the capital investment plan, including the Gas System Enhancement Plan and other gas business activities, it is impossible at this time assess whether there will be a reduction in costs and what that reduction might be for the Gas System Enhancement Plan.

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request DPU-NG-1-10 Corrected
March 20, 2018
H.O. Pieper
Page 1 of 2

Information Request DPU-NG-1-10 Corrected

Request:

Refer to the prefiled testimony of the Gas Business Enablement Panel, NG-GBE-1, at 45, lines 3-4 and 10-12. Please explain how the Companies calculate the customer cost causation allocator, and provide complete and detailed documentation supporting the determination that 24 percent of overall GBE costs will be allocated to Massachusetts operating affiliates.

Initial Response:

The customer cost causation allocators are calculated based on the number of retail customers for the respective distribution companies. As shown in Attachment DPU-NG 1-10-1, the allocation codes used for GBE costs are based on workstream and "Portfolio Anchor". Depending on the work stream for which the costs are incurred, the costs will be allocated either using the C-210 code for all US gas distribution companies (number of customers), the C-175 code for all US gas and electric distribution companies (number of customers) or the G-012 code, which uses a general three-point allocator based on a weighting of each company's (1) net plant, (2) net margin, and (3) net operations and maintenance expense for all US gas and electric distribution companies.

The 24 percent referenced in NG-GBE-1, at 45, lines 10-12 was a high-level estimate of the overall GBE cost allocation among the jurisdictions. Please see Attachment DPU-NG 1-10-1 for the detailed allocations of the GBE costs among the jurisdictions and Massachusetts operating affiliates.

This attachment provides a breakdown of the \$478.3 million Gas Business Enablement investment by its capitalized and non-capitalized components. The capitalized components are further broken down by workstream and "Portfolio Anchor" designation. The timing of the implementation of each workstream/portfolio anchor designation by jurisdiction is shown on Page 5 of the attachment. The costs that are not eligible to be capitalized in accordance with generally accepted accounting principles are detailed on Lines 26 through 45 on Page 1 of the attachment. In addition, the breakdown of the \$478.3 million Gas Business Enablement investment and the components described above by jurisdiction is provided on Pages 2 through 4 of the attachment. The distribution of these costs by jurisdiction will be spread by the use of allocation codes. The percentages shown on the attachment are the current percentages in effect for Fiscal Year 2018. These allocation percentages are updated each fiscal year.

Prepared by or under the supervision of: Anthony H. Johnston and Reihaneh Irani-Famili

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request DPU-NG-1-10 Corrected
March 20, 2018
H.O. Pieper
Page 2 of 2

Corrected Response:

The Company has identified that one of the key project implementation dates provided on page 5 of Attachment DPU-NG-1-10-1 was incorrect. Specifically, on Line 15: PA1-3 WM-SDM, the implementation date should be Apr-18 not Oct-18 for The Narragansett Electric Company (Electric) and The Narragansett Electric Company (Gas). Additionally, the Company has since moved the implementation date on Line 3: PA1-3 Work Management (Maximo) from Mar-18 to Apr-18 for The Narragansett Electric Company (Electric) and The Narragansett Electric Company (Gas). This date was moved to avoid an overlap between implementation and year end close activities. Please see Attachment DPU-NG-1-10-1-Corrected.

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request DPU-NG-4-13
February 8, 2018
H.O. Pieper
Page 1 of 2

Information Request DPU-NG-4-13

Request:

Refer to DPU-NG 1-5. Please provide the requested information as projected for the next three years.

Response:

The Company's response to Information Request DPU-NG-1-5 relates to a different subject matter, so the Company is providing the requested information in reference to its response to Information Request DPU-NG-4-12.

For the purposes of this response, the Company has summarized capital spending for fiscal years (FY) 2018 to 2020 using the same categories provided in the Company's response to Information Request DPU-NG-4-12. For illustrative purposes, this response assumes that capital spending is equal to plant in-service and that all costs are effectively in-service as of the beginning of each fiscal year. The method of calculation was based on composite rates for each category as derived from the Company's response to Information Request DPU-NG-4-12. These composite rates are based on current approved rates. Actual composite rates for each category will vary based on actual costs placed in-service by utility account.

Forecasted Capital Spending						
Company	Category	Type		FY 2018	FY 2019	FY 2020
Boston Gas	Growth	Spending		\$ 77,658,000	\$ 61,977,000	\$ 58,368,000
Colonial Gas	Growth	Spending		\$ 11,874,000	\$ 12,111,000	\$ 12,354,000
Total Growth		Spending		\$ 89,532,000	\$ 74,088,000	\$ 70,722,000
Boston Gas	GSEP/TIRF	Spending		\$ 206,969,986	\$ 231,494,157	\$ 250,711,874
Colonial Gas	GSEP/TIRF	Spending		\$ 43,003,100	\$ 43,194,516	\$ 43,982,724
Total GSEP		Spending		\$ 249,973,086	\$ 274,688,673	\$ 294,694,598
Boston Gas	Non-growth / Non-GSEP	Spending		\$ 272,579,938	\$ 272,948,342	\$ 208,281,907
Colonial Gas	Non-growth / Non-GSEP	Spending		\$ 78,800,482	\$ 82,368,527	\$ 44,202,181
Total Non-Growth/Non-GSEP		Spending		\$ 351,380,421	\$ 355,316,868	\$ 252,484,088
Total Spending	Boston Gas			\$ 557,207,924	\$ 566,419,499	\$ 517,361,781
Total Spending	Colonial Gas			\$ 133,677,582	\$ 137,674,042	\$ 100,538,905
Total Spending	MA Gas			\$ 690,885,507	\$ 704,093,541	\$ 617,900,686

Prepared by or under the supervision of: Ross W. Turrini, Amy S. Smith and John B. Currie

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-151
Page 2 of 2

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request DPU-NG-4-13
February 8, 2018
H.O. Pieper
Page 2 of 2

Capital Spending - Depreciation Expense							
Company	Category	Type	FY 2018	FY 2019	FY 2020	Total	Average
Boston Gas	Growth	Dep Expense	\$ 4,019,600	\$ 3,310,107	\$ 3,156,252	\$ 10,485,959	\$ 3,495,320
Colonial Gas	Growth	Dep Expense	\$ 400,700	\$ 421,985	\$ 401,805	\$ 1,224,489	\$ 408,163
Total Growth		Dep Expense (a)	\$ 4,420,299	\$ 3,732,092	\$ 3,558,057	\$ 11,710,448	\$ 3,903,483
Boston Gas	GSEP/TIRF	Dep Expense	\$ 5,724,800	\$ 8,037,469	\$ 8,485,242	\$ 22,247,511	\$ 7,415,837
Colonial Gas	GSEP/TIRF	Dep Expense	\$ 1,303,684	\$ 1,324,774	\$ 1,333,721	\$ 3,962,179	\$ 1,320,726
Total GSEP		Dep Expense (b)	\$ 7,028,484	\$ 9,362,243	\$ 9,818,963	\$ 26,209,690	\$ 8,736,563
Boston Gas	Non-growth / Non-GSEP	Dep Expense	\$ 9,547,269	\$ 8,033,150	\$ 5,719,462	\$ 23,299,881	\$ 7,766,627
Colonial Gas	Non-growth / Non-GSEP	Dep Expense	\$ 2,791,437	\$ 2,469,496	\$ 1,395,041	\$ 6,655,974	\$ 2,218,658
Total Non-Growth/Non-GSEP		Dep Expense (c)	\$ 12,338,706	\$ 10,502,646	\$ 7,114,503	\$ 29,955,855	\$ 9,985,285
Total Additions - Dep Exp	Boston Gas		\$ 19,291,668	\$ 19,380,726	\$ 17,360,956	\$ 56,033,351	\$ 18,677,784
Total Additions - Dep Exp	Colonial Gas		\$ 4,495,821	\$ 4,216,255	\$ 3,130,567	\$ 11,842,643	\$ 3,947,548
Total Additions - Dep Exp	MA Gas	(d)	\$ 23,787,489	\$ 23,596,981	\$ 20,491,524	\$ 67,875,994	\$ 22,625,331

Prepared by or under the supervision of: Ross W. Turrini, Amy S. Smith and John B. Currie

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request AG-21-51
March 15, 2018
H.O. Pieper
Page 1 of 1

Information Request AG-21-51

Request:

Please provide an itemization and quantification of the annual operating and maintenance expenses associated with the GBE program. Please also provide the workpapers, calculations, formulas, assumptions, and other supporting documentation used to determine the amount of the total expected operating and maintenance expenses that are expected to be charged to each of the Companies in Massachusetts.

Response:

Please refer to the response to Information Request AG-21-13 and Attachment AG-21-13-1 CONFIDENTIAL page 3 “Total Opex by Workstream (Roll Up)” which shows total projected expenditures by fiscal year for FY17-23 by work stream and cost type. The section under the heading “Total OpEx by Work Stream (Roll Up)” presents a fiscal year total by work stream. The section under the heading “Total OpEx by Work Stream by Cost Type (Roll Up)” presents a further work stream breakdown by cost type.

Please refer Attachments DPU-NG 1-12-1 GBE Boston Opex tab and DPU-NG 1-13-1 GBE Colonial Opex tab for the allocators utilized for each workstream, which is how the projected operating and maintenance costs are expected to be charged to each of the Massachusetts operating companies.

Please note that the costs for the Gas Business Enablement program were developed on a total cost basis and then allocated to capital and operating and maintenance expenditure based on the Company’s accounting policy which was developed in accordance with US GAAP ASC 350.

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 1 of 10

National Grid - Gas Business Enablement
IR Response: AG 21-13

TOTEX by Work Stream (Roll Up)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
AFUDC	\$ -	\$ 1,649,301	\$ 3,390,985	\$ 2,529,755	\$ 1,364,623	\$ 432,325	\$ 16,145	\$ 9,383,134
Asset Management (AM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Change Leadership & Development (CLD)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Change Management Office (CMO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Customer Engagement (CE)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Data Management (DM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Data Migration / Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Geographic Information Systems (GIS)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hardware	\$ -	\$ 1,745,000	\$ 2,816,400	\$ 716,400	\$ 2,100,000	\$ -	\$ -	\$ 7,377,800
Hardware - Infrastructure as a Service (IaaS)	\$ -	\$ -	\$ 1,883,600	\$ 1,883,600	\$ -	\$ -	\$ -	\$ 3,767,200
Information Services Enabling (ISE)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Legacy Interfaces & Development	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operating Model (OM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Phase 1 OpEx	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Portfolio Office (PO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PowerPlan Enhancements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,830,952
Software	\$ -	\$ 6,759,000	\$ 1,185,000	\$ -	\$ -	\$ -	\$ -	\$ 7,944,000
Software - Software as a Service (SaaS)	\$ -	\$ 2,090,088	\$ 7,396,204	\$ 3,265,581	\$ 557,200	\$ 557,200	\$ -	\$ 13,868,273
Solution SMEs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Supply Chain (SC)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Technical Training (TT)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Value Assurance (VA)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Work Management - Maximo (WM(M))	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Work Management - Scheduling, Dispatch & Mobility (WM-SDM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TOTEX by Work Stream by Cost Type

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
AFUDC	\$ -	\$ 1,649,301	\$ 3,390,985	\$ 2,529,755	\$ 1,364,623	\$ 432,325	\$ 16,145	\$ 9,383,134
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 1,649,301	\$ 3,390,985	\$ 2,529,755	\$ 1,364,623	\$ 432,325	\$ 16,145	\$ 9,383,134

Asset Management (AM)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$ -	\$ -	\$ 225,900	\$ 227,700	\$ -	\$ -	\$ -	\$ 453,600
NG Labor (Base)	\$ -	\$ 510,000	\$ 758,124	\$ 871,507	\$ 798,293	\$ 311,683	\$ -	\$ 3,249,607
NG Labor (Burdens)	\$ -	\$ 323,919	\$ 591,337	\$ 679,776	\$ 622,868	\$ 243,113	\$ -	\$ 2,460,812
NG Labor (Emp. Exp.)	\$ -	\$ 53,074	\$ 75,812	\$ 87,151	\$ 79,829	\$ 31,168	\$ -	\$ 327,035
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 886,993	\$ 1,671,173	\$ 1,886,134	\$ 1,501,990	\$ 622,674	\$ -	\$ 5,978,114

Change Leadership & Development (CLD)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$ -	\$ 381,735	\$ 494,765	\$ 372,951	\$ 220,407	\$ 225,917	\$ 81,912	\$ 1,777,687
NG Labor (Burdens)	\$ -	\$ 241,740	\$ 385,917	\$ 290,902	\$ 171,917	\$ 176,215	\$ 63,891	\$ 1,330,582
NG Labor (Emp. Exp.)	\$ -	\$ 39,129	\$ 49,477	\$ 37,295	\$ 22,041	\$ 22,592	\$ 8,191	\$ 176,724
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 662,604	\$ 929,159	\$ 681,148	\$ 414,365	\$ 424,724	\$ 153,994	\$ 3,363,096

Change Management Office (CMO)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 2 of 10

Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
NG Labor (Base)	\$	-	\$	775,091	\$	2,369,631	\$	2,187,242	\$	2,102,778	\$	908,109	\$	220,140	\$	6,562,992				
NG Labor (Burdens)	\$	-	\$	474,337	\$	1,848,312	\$	1,706,049	\$	1,640,167	\$	708,325	\$	171,709	\$	6,548,899				
NG Labor (Emp. Exp.)	\$	-	\$	79,031	\$	236,963	\$	218,724	\$	210,278	\$	90,811	\$	22,014	\$	857,821				
Systems Integrators	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-				
Total	\$	-	\$	1,328,459	\$	4,454,906	\$	4,112,725	\$	3,953,122	\$	1,727,245	\$	413,873	\$	14,488,612				

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$	-	\$	-	\$	-	\$	-
NG Labor (Base)	\$	-	\$	326,888	\$	673,422	\$	701,234
NG Labor (Burdens)	\$	-	\$	208,031	\$	525,270	\$	546,963
NG Labor (Emp. Exp.)	\$	-	\$	34,352	\$	67,342	\$	70,123
Systems Integrators	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	673,422	\$	1,206,766	\$	1,318,320

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$	-	\$	-	\$	-	\$	-
NG Labor (Base)	\$	-	\$	417,257	\$	846,734	\$	1,141,175
NG Labor (Burdens)	\$	-	\$	265,129	\$	680,453	\$	890,117
NG Labor (Emp. Exp.)	\$	-	\$	43,500	\$	84,673	\$	114,118
Systems Integrators	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	725,886	\$	1,611,974	\$	2,145,400

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Consultants - Other	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$	-	\$	-	\$	-	\$	-
NG Labor (Base)	\$	-	\$	187,997	\$	192,697	\$	128,746
NG Labor (Burdens)	\$	-	\$	146,638	\$	150,304	\$	100,422
NG Labor (Emp. Exp.)	\$	-	\$	18,800	\$	19,270	\$	12,875
Systems Integrators	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	353,435	\$	362,267	\$	242,043

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Hardware	\$	-	\$	1,745,000	\$	2,816,400	\$	716,400
Total	\$	-	\$	1,745,000	\$	2,816,400	\$	716,400

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Hardware	\$	-	\$	-	\$	1,883,600	\$	-
Total	\$	-	\$	-	\$	1,883,600	\$	-

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$	-	\$	267,064	\$	-	\$	-
NG Labor (Base)	\$	-	\$	1,091,231	\$	2,746,912	\$	2,973,032
NG Labor (Burdens)	\$	-	\$	692,162	\$	2,142,591	\$	2,318,965
NG Labor (Emp. Exp.)	\$	-	\$	112,748	\$	274,691	\$	297,303
Systems Integrators	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	2,163,205	\$	5,161,500	\$	5,278,900

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Consultants - Other	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 3 of 10

Operating Model (OM)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$	-	\$ 88,750	\$ 187,997	\$ 157,539	\$ -	\$ -	\$ -	\$ 434,287
NG Labor (Burdens)	\$	-	\$ 56,238	\$ 146,638	\$ 122,881	\$ -	\$ -	\$ -	\$ 325,756
NG Labor (Emp. Exp.)	\$	-	\$ 9,095	\$ 18,800	\$ 15,754	\$ -	\$ -	\$ -	\$ 43,648
Systems Integrators	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$	-	\$	\$	\$	\$	\$	\$	\$

Phase 1 OpEx		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Consultants	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contractors	\$	688,050	\$ 111,051	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 799,101
NG Labor (Base)	\$	2,479,029	\$ 1,614,085	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,093,114
NG Labor (Burdens)	\$	1,693,691	\$ 1,043,894	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,737,585
NG Labor (Emp. Exp.)	\$	667,156	\$ 173,254	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 840,410
Other Expenses	\$	305,310	\$ 164,911	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 470,221
Software	\$	-	\$ 201,004	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 201,004
Total	\$	6,133,136	\$ 3,103,145	\$ -	\$ 9,236,281				

Portfolio Office (PO)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$	-	\$ 820,251	\$ 1,460,678	\$ 1,357,928	\$ 1,135,256	\$ 546,000	\$ 113,400	\$ 5,433,513
NG Labor (Base)	\$	-	\$ 1,109,968	\$ 2,420,349	\$ 2,662,833	\$ 2,443,183	\$ 777,099	\$ -	\$ 9,413,432
NG Labor (Burdens)	\$	-	\$ 704,526	\$ 1,887,872	\$ 2,077,010	\$ 1,905,683	\$ 606,137	\$ -	\$ 7,181,228
NG Labor (Emp. Exp.)	\$	-	\$ 115,207	\$ 242,035	\$ 266,283	\$ 244,318	\$ 77,710	\$ -	\$ 945,553
Other	\$	-	\$ 890,213	\$ 1,182,596	\$ 1,101,633	\$ 729,098	\$ 479,603	\$ 278,083	\$ 4,661,225
Systems Integrators	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$	-	\$ 3,539,955	\$ 6,193,539	\$ 7,405,684	\$ 6,618,378	\$ 1,812,740	\$ 391,483.00	\$ 26,323,153

PowerPlan Enhancements		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Consultants - Other	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$	-	\$ -						

Software		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Software	\$	-	\$ 6,759,000	\$ 1,185,000	\$ -	\$ -	\$ -	\$ -	\$ 7,944,000
Total	\$	-	\$ 6,759,000	\$ 1,185,000	\$ -	\$ -	\$ -	\$ -	\$ 7,944,000

Software - Software as a Service (SaaS)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Software	\$	-	\$ 2,090,088	\$ 7,398,204	\$ 3,265,581	\$ 557,200	\$ 557,200	\$ -	\$ 13,868,273
Total	\$	-	\$ 2,090,088	\$ 7,398,204	\$ 3,265,581	\$ 557,200	\$ 557,200	\$ -	\$ 13,868,273

Solution SMEs		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Consultants - Other	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$	-	\$ -						

Supply Chain (SC)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$	-	\$ -	\$ 286,820	\$ 293,991	\$ -	\$ -	\$ -	\$ 580,811
NG Labor (Burdens)	\$	-	\$ -	\$ 223,720	\$ 229,313	\$ -	\$ -	\$ -	\$ 453,033
NG Labor (Emp. Exp.)	\$	-	\$ -	\$ 28,682	\$ 29,399	\$ -	\$ -	\$ -	\$ 58,081
Systems Integrators	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$	-	\$ -	\$ 539,222	\$ 552,693	\$ -	\$ -	\$ -	\$ 1,091,915

Technical Training (TT)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Consultants - Other	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$	-	\$ -						

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 4 of 10

Value Assurance (VA)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Consultants - Other	\$	-	-	-	-	-	-	-	-
Total	\$	-	-	-	-	-	-	-	-
Work Management - Maximo (WM(M))		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$	-	-	-	-	-	-	-	-
NG Labor (Base)	\$	-	1,355,603	1,204,793	1,362,061	1,072,821	596,391	-	5,591,669
NG Labor (Burdens)	\$	-	861,729	939,738	1,062,407	836,800	465,185	-	4,165,860
NG Labor (Emp. Exp.)	\$	-	141,760	120,479	136,206	107,282	59,639	-	565,366
Systems Integrators	\$	-	-	-	-	-	-	-	-
Total	\$	-	2,358,102	2,364,910	2,560,674	2,016,903	1,121,215	-	10,322,594
Work Management - Scheduling, Dispatch & Mobility (WM-SDM)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Contractors	\$	-	-	-	-	-	-	-	-
NG Labor (Base)	\$	-	-	1,060,973	1,180,788	831,819	426,191	-	3,499,771
NG Labor (Burdens)	\$	-	-	827,559	921,015	648,819	332,429	-	2,729,821
NG Labor (Emp. Exp.)	\$	-	-	106,097	118,079	83,182	42,619	-	349,977
Systems Integrators	\$	-	-	-	-	-	-	-	-
Total	\$	-	-	2,094,639	2,220,882	1,563,820	801,239	-	6,629,577
Grand Total	\$	-	-	2,094,639	2,220,882	1,563,820	801,239	-	16,952,171

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 5 of 10

National Grid - Gas Business Enablement
IR Response: AG 21-13

Total CapEx by Work Stream (Roll Up)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Asset Management (AM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Geographic Information Systems (GIS)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Change Management Office (CMO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Customer Engagement (CE)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Data Management (DM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Information Services Enablement (ISE)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operating Model (OM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Portfolio Office (PO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Change Leadership & Development (CLD)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Supply Chain (SC)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Work Management - Scheduling, Dispatch & Mobility (WM-SDM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Work Management - Maximo (WM(M))	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hardware	\$ -	\$ 1,745,000	\$ 2,816,400	\$ 716,400	\$ 2,100,000	\$ -	\$ -	\$ 7,377,800
Software	\$ -	\$ 6,759,000	\$ 1,185,000	\$ -	\$ -	\$ -	\$ -	\$ 7,944,000
Legacy Interfaces & Development	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PowerPlan Enhancements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Technical Training (TT)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Solution SMEs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
AFUDC	\$ -	\$ 1,649,301	\$ 3,390,985	\$ 2,529,755	\$ 1,364,623	\$ 432,325	\$ 16,145	\$ 9,383,134
Total	\$ -	\$ -	\$ 110,773,437	\$ -	\$ -	\$ -	\$ -	\$ -

Total CapEx by Work Stream by Cost Type

Asset Management (AM)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$ -	\$ 452,036	\$ 713,694	\$ 697,206	\$ 638,634	\$ 249,346	\$ -	\$ 2,750,917
NG Labor (Burdens)	\$ -	\$ 287,104	\$ 556,682	\$ 543,821	\$ 498,135	\$ 194,490	\$ -	\$ 2,080,231
NG Labor (Emp. Exp.)	\$ -	\$ 47,042	\$ 71,369	\$ 69,721	\$ 63,863	\$ 24,935	\$ -	\$ 276,930
Contractors	\$ -	\$ -	\$ 212,661	\$ 210,319	\$ -	\$ -	\$ -	\$ 422,980
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Geographic Information Systems (GIS)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$ -	\$ -	\$ 178,597	\$ 154,158	\$ 102,996	\$ 61,313	\$ -	\$ 497,065
NG Labor (Burdens)	\$ -	\$ -	\$ 139,306	\$ 120,243	\$ 80,337	\$ 47,824	\$ -	\$ 387,711
NG Labor (Emp. Exp.)	\$ -	\$ -	\$ 17,860	\$ 15,416	\$ 10,300	\$ 6,131	\$ -	\$ 49,706
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Change Leadership & Development (CLD)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$ -	\$ 129,986	\$ -	\$ 298,361	\$ 176,325	\$ 180,734	\$ 65,529	\$ 850,935
NG Labor (Burdens)	\$ -	\$ 82,316	\$ -	\$ 232,721	\$ 137,534	\$ 140,972	\$ 51,113	\$ 644,656
NG Labor (Emp. Exp.)	\$ -	\$ 13,324	\$ -	\$ 29,836	\$ 17,633	\$ 18,073	\$ 6,553	\$ 85,419
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ -	\$ 560,918	\$ 331,492	\$ 339,779	\$ 123,195	\$ 1,662,071

Change Management Office (CMO)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$ -	\$ 300,630	\$ 817,523	\$ 1,749,794	\$ 1,682,222	\$ 726,488	\$ 176,112	\$ 5,452,769
NG Labor (Burdens)	\$ -	\$ 183,978	\$ 637,668	\$ 1,364,839	\$ 1,312,133	\$ 566,660	\$ 137,367	\$ 4,202,646

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 6 of 10

NG Labor (Emp. Exp.)	\$ -	\$ 30,653	\$ 81,752	\$ 174,979	\$ 168,222	\$ 72,649	\$ 17,611	\$ 545,867
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 30,653	\$ 81,752	\$ 174,979	\$ 168,222	\$ 72,649	\$ 17,611	\$ 545,867

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$ -	\$ 281,934	\$ 639,751	\$ 560,987	\$ 332,722	\$ -	\$ -	\$ 1,815,395
NG Labor (Burdens)	\$ -	\$ 179,423	\$ 499,006	\$ 437,570	\$ 259,523	\$ -	\$ -	\$ 1,375,523
NG Labor (Emp. Exp.)	\$ -	\$ 29,628	\$ 63,975	\$ 56,099	\$ 33,272	\$ -	\$ -	\$ 182,974
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 490,985	\$ 1,202,726	\$ 1,054,656	\$ 625,517	\$ -	\$ -	\$ 3,374,893

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ 385,144	\$ 829,800	\$ 912,940	\$ 798,896	\$ 307,215	\$ -	\$ 3,233,994
NG Labor (Base)	\$ -	\$ 244,724	\$ 647,244	\$ 712,093	\$ 623,139	\$ 239,628	\$ -	\$ 2,466,827
NG Labor (Burdens)	\$ -	\$ 40,152	\$ 82,980	\$ 91,294	\$ 79,890	\$ 30,721	\$ -	\$ 325,037
NG Labor (Emp. Exp.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 425,920	\$ 1,559,024	\$ 1,716,327	\$ 1,501,925	\$ 577,664	\$ -	\$ 5,237,887

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ 909,848	\$ 2,128,856	\$ 2,378,426	\$ 1,858,387	\$ 464,908	\$ -	\$ 7,740,425
NG Labor (Base)	\$ -	\$ 577,112	\$ 1,660,508	\$ 1,855,172	\$ 1,449,542	\$ 362,628	\$ -	\$ 5,904,962
NG Labor (Burdens)	\$ -	\$ 94,007	\$ 212,886	\$ 237,843	\$ 185,839	\$ 46,491	\$ -	\$ 777,065
NG Labor (Emp. Exp.)	\$ -	\$ -	\$ 206,975	\$ -	\$ -	\$ -	\$ -	\$ 206,975
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 1,581,067	\$ 4,118,225	\$ 4,471,441	\$ 3,493,768	\$ 854,027	\$ -	\$ 14,012,125

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ 56,715	\$ 183,297	\$ 126,031	\$ -	\$ -	\$ -	\$ 366,044
NG Labor (Base)	\$ -	\$ 35,938	\$ 142,972	\$ 98,304	\$ -	\$ -	\$ -	\$ 277,215
NG Labor (Burdens)	\$ -	\$ 5,812	\$ 18,330	\$ 12,603	\$ -	\$ -	\$ -	\$ 36,745
NG Labor (Emp. Exp.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 98,465	\$ 344,599	\$ 236,938	\$ -	\$ -	\$ -	\$ 679,999

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ 840,025	\$ -	\$ 2,130,267	\$ 1,954,546	\$ 621,679	\$ -	\$ 5,546,517
NG Labor (Base)	\$ -	\$ 533,186	\$ -	\$ 1,661,608	\$ 1,524,546	\$ 484,910	\$ -	\$ 4,204,250
NG Labor (Burdens)	\$ -	\$ 87,189	\$ -	\$ 213,027	\$ 195,455	\$ 62,168	\$ -	\$ 557,838
NG Labor (Emp. Exp.)	\$ -	\$ 641,788	\$ 441,760	\$ 377,300	\$ 143,000	\$ -	\$ -	\$ 1,603,848
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 2,062,088	\$ 441,760	\$ 4,382,201	\$ 3,817,547	\$ 1,168,757	\$ -	\$ 12,359,352

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ 220,909	\$ 235,193	\$ -	\$ -	\$ -	\$ 456,102
NG Labor (Base)	\$ -	\$ -	\$ 172,309	\$ 183,450	\$ -	\$ -	\$ -	\$ 355,759
NG Labor (Burdens)	\$ -	\$ -	\$ 22,091	\$ 23,519	\$ -	\$ -	\$ -	\$ 45,610
NG Labor (Emp. Exp.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ 243,000	\$ 442,162	\$ -	\$ -	\$ -	\$ 697,471

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ 838,168	\$ 944,630	\$ 665,455	\$ 340,953	\$ -	\$ 2,789,207
NG Labor (Base)	\$ -	\$ -	\$ 653,771	\$ 736,812	\$ 519,055	\$ 265,943	\$ -	\$ 2,175,581
NG Labor (Burdens)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ 1,491,939	\$ 1,681,442	\$ 1,184,510	\$ 606,896	\$ -	\$ 4,962,788

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 7 of 10

NG Labor (Emp. Exp.)	\$	-	\$	-	\$	83,817	\$	94,463	\$	66,546	\$	34,095	\$	-	\$	278,921
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-

Work Management - Maximo (WM(M))		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL							
Systems Integrators	\$	-	\$	-	\$	-	\$	-	\$	-						
NG Labor (Base)	\$	-	\$	1,132,526	\$	1,054,194	\$	1,089,649	\$	858,257	\$	477,113	\$	-	\$	4,611,738
NG Labor (Burdens)	\$	-	\$	719,923	\$	822,271	\$	849,926	\$	669,440	\$	372,148	\$	-	\$	3,433,708
NG Labor (Emp. Exp.)	\$	-	\$	118,432	\$	105,419	\$	108,965	\$	85,826	\$	47,711	\$	-	\$	466,353
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-

Hardware		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL							
Hardware	\$	-	\$	1,745,000	\$	2,816,400	\$	716,400	\$	2,100,000	\$	-	\$	-	\$	7,377,800
Total	\$	-	\$	1,745,000	\$	2,816,400	\$	716,400	\$	2,100,000	\$	-	\$	-	\$	7,377,800

Software		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL							
Software	\$	-	\$	6,759,000	\$	1,185,000	\$	-	\$	-	\$	-	\$	-	\$	7,944,000
Total	\$	-	\$	6,759,000	\$	1,185,000	\$	-	\$	-	\$	-	\$	-	\$	7,944,000

Legacy Interfaces & Development		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL	
Consultants - Other	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-

PowerPlan Enhancements		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL	
Consultants - Other	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-

Technical Training		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL	
Consultants - Other	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-

Solution SMEs		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL	
Consultants - Other	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-

AFUDC		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL							
Other	\$	-	\$	1,649,301	\$	3,390,985	\$	2,529,755	\$	1,364,623	\$	432,325	\$	16,145	\$	9,383,134
Total	\$	-	\$	1,649,301	\$	3,390,985	\$	2,529,755	\$	1,364,623	\$	432,325	\$	16,145	\$	9,383,134

Grand Total	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
--------------------	----	---	----	---	----	---	----	---	----	---	----	---	----	---	----	---

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 8 of 10

National Grid - Gas Business Enablement
IR Response: AG 21-13

Total OpEx by Work Stream (Roll Up)

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Asset Management (AM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Geographic Information Systems (GIS)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Change Management Office (CMO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Customer Engagement (CE)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Data Management (DM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Information Services Enablement (ISE)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operating Model (OM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Portfolio Office (PO)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Change Leadership & Development (CLD)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Supply Chain (SC)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Work Management - Scheduling, Dispatch & Mobility (WM-SDM)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Work Management - Maximo (WM(M))	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Data Migration / Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hardware - Infrastructure as a Service (IaaS)	\$ -	\$ -	\$ 1,883,600	\$ 1,883,600	\$ -	\$ -	\$ -	\$ 3,767,200
Software - Software as a Service (SaaS)	\$ -	\$ 2,090,088	\$ 7,398,204	\$ 3,265,581	\$ 557,200	\$ 557,200	\$ -	\$ 13,868,273
Phase 1 OpEx	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PowerPlan Enhancements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Technical Training (TT)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Value Assurance (VA)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 2,090,088	\$ 9,281,804	\$ 5,149,181	\$ 557,200	\$ 557,200	\$ -	\$ 18,544,473

Total OpEx by Work Stream by Cost Type

Asset Management (AM)	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$ -	\$ 57,964	\$ 44,430	\$ 174,301	\$ 159,659	\$ 62,337	\$ -	\$ 498,690
NG Labor (Burdens)	\$ -	\$ 36,815	\$ 34,655	\$ 135,955	\$ 124,534	\$ 48,623	\$ -	\$ 380,581
NG Labor (Emp. Exp.)	\$ -	\$ 6,032	\$ 4,443	\$ 17,430	\$ 15,966	\$ 6,234	\$ -	\$ 50,105
Contractors	\$ -	\$ -	\$ 13,239	\$ 17,381	\$ -	\$ -	\$ -	\$ 30,620
Total	\$ -	\$ 100,811	\$ 96,767	\$ 345,067	\$ 310,149	\$ 117,194	\$ -	\$ 864,041

Geographic Information Systems (GIS)	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ 9,400	\$ 38,539	\$ 25,749	\$ 15,328	\$ -	\$ 89,017
NG Labor (Base)	\$ -	\$ -	\$ 7,332	\$ 30,061	\$ 20,084	\$ 11,956	\$ -	\$ 69,433
NG Labor (Burdens)	\$ -	\$ -	\$ 940	\$ 3,854	\$ 2,575	\$ 1,533	\$ -	\$ 8,902
NG Labor (Emp. Exp.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ 17,672	\$ 72,464	\$ 54,408	\$ 28,817	\$ -	\$ 152,361

Change Leadership & Development (CLD)	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$ -	\$ 251,749	\$ 494,765	\$ 74,590	\$ 44,081	\$ 45,183	\$ 16,382	\$ 926,751
NG Labor (Burdens)	\$ -	\$ 159,424	\$ 385,917	\$ 58,180	\$ 34,383	\$ 35,243	\$ 12,778	\$ 685,926
NG Labor (Emp. Exp.)	\$ -	\$ 25,805	\$ 49,477	\$ 7,459	\$ 4,408	\$ 4,518	\$ 1,638	\$ 93,305
Contractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ 437,078	\$ 930,159	\$ 140,229	\$ 82,872	\$ 89,944	\$ 30,799	\$ 1,671,077

Change Management Office (CMO)	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NG Labor (Base)	\$ -	\$ 474,461	\$ 1,552,108	\$ 437,448	\$ 420,556	\$ 181,622	\$ 44,028	\$ 3,110,223

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 9 of 10

NG Labor (Burdens)	\$	-	\$	290,358	\$	1,210,645	\$	341,210	\$	328,033	\$	141,665	\$	34,342	\$	2,346,253
NG Labor (Emp. Exp.)	\$	-	\$	48,378	\$	155,211	\$	43,745	\$	42,056	\$	18,162	\$	4,403	\$	311,954
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$		\$		\$		\$		\$		\$		\$	

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL								
Systems Integrators	\$	-	\$		\$		\$									
NG Labor (Base)	\$	-	\$	44,954	\$	33,671	\$	140,247	\$	83,181	\$	-	\$	-	\$	302,052
NG Labor (Burdens)	\$	-	\$	28,608	\$	26,263	\$	109,393	\$	64,881	\$	-	\$	-	\$	229,145
NG Labor (Emp. Exp.)	\$	-	\$	4,724	\$	3,367	\$	14,025	\$	8,318	\$	-	\$	-	\$	30,434
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$		\$		\$		\$		\$		\$		\$	

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL								
Systems Integrators	\$	-	\$		\$		\$									
NG Labor (Base)	\$	-	\$	32,113	\$	16,935	\$	228,235	\$	199,724	\$	76,804	\$	-	\$	553,811
NG Labor (Burdens)	\$	-	\$	20,405	\$	13,209	\$	178,023	\$	155,785	\$	59,907	\$	-	\$	427,329
NG Labor (Emp. Exp.)	\$	-	\$	3,348	\$	1,693	\$	22,824	\$	19,972	\$	7,680	\$	-	\$	55,518
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$		\$		\$		\$		\$		\$		\$	

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL								
Systems Integrators	\$	-	\$		\$		\$									
NG Labor (Base)	\$	-	\$	181,383	\$	618,055	\$	594,606	\$	464,597	\$	116,227	\$	-	\$	1,974,868
NG Labor (Burdens)	\$	-	\$	115,050	\$	482,083	\$	463,793	\$	362,385	\$	90,657	\$	-	\$	1,513,969
NG Labor (Emp. Exp.)	\$	-	\$	18,741	\$	61,806	\$	59,461	\$	46,460	\$	11,623	\$	-	\$	198,089
Contractors	\$	-	\$	-	\$	60,089	\$	-	\$	-	\$	-	\$	-	\$	60,089
Total	\$	-	\$		\$		\$		\$		\$		\$		\$	

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL								
Systems Integrators	\$	-	\$		\$		\$									
NG Labor (Base)	\$	-	\$	32,035	\$	4,700	\$	31,508	\$	-	\$	-	\$	-	\$	68,243
NG Labor (Burdens)	\$	-	\$	20,300	\$	3,666	\$	24,576	\$	-	\$	-	\$	-	\$	48,542
NG Labor (Emp. Exp.)	\$	-	\$	3,283	\$	470	\$	3,151	\$	-	\$	-	\$	-	\$	6,904
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$		\$		\$		\$		\$		\$		\$	

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL								
Systems Integrators	\$	-	\$		\$		\$									
NG Labor (Base)	\$	-	\$	269,943	\$	2,420,349	\$	532,567	\$	488,637	\$	155,420	\$	-	\$	3,866,915
NG Labor (Burdens)	\$	-	\$	171,340	\$	1,887,872	\$	415,402	\$	381,137	\$	121,227	\$	-	\$	2,976,978
NG Labor (Emp. Exp.)	\$	-	\$	28,018	\$	242,035	\$	53,257	\$	48,864	\$	15,542	\$	-	\$	387,715
Contractors	\$	-	\$	178,463	\$	1,018,918	\$	980,628	\$	992,256	\$	546,000	\$	113,400	\$	3,829,665
Other	\$	-	\$	890,213	\$	1,182,596	\$	1,101,633	\$	729,098	\$	479,603	\$	278,083	\$	4,661,225
Total	\$	-	\$		\$		\$		\$		\$		\$		\$	

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL								
Systems Integrators	\$	-	\$		\$		\$									
NG Labor (Base)	\$	-	\$	-	\$	65,911	\$	58,798	\$	-	\$	-	\$	-	\$	124,710
NG Labor (Burdens)	\$	-	\$	-	\$	51,411	\$	45,863	\$	-	\$	-	\$	-	\$	97,273
NG Labor (Emp. Exp.)	\$	-	\$	-	\$	6,591	\$	5,880	\$	-	\$	-	\$	-	\$	12,471
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$		\$		\$		\$		\$		\$		\$	

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL
Systems Integrators	\$	-	\$		\$		\$	

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-13-1
Page 10 of 10

NG Labor (Base)	\$	-	\$	-	\$	222,804	\$	236,158	\$	166,364	\$	85,238	\$	-	\$	710,564
NG Labor (Burdens)	\$	-	\$	-	\$	173,787	\$	184,203	\$	129,764	\$	66,486	\$	-	\$	554,240
NG Labor (Emp. Exp.)	\$	-	\$	-	\$	22,280	\$	23,616	\$	16,636	\$	8,524	\$	-	\$	71,056
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	428,871	\$	444,077	\$	312,764	\$	160,252	\$	-	\$	1,333,837

Work Management - Maximo (WM(M))		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL							
Systems Integrators	\$	-	\$	-	\$	-	\$	-	\$	-						
NG Labor (Base)	\$	-	\$	223,077	\$	150,599	\$	272,412	\$	214,564	\$	119,278	\$	-	\$	979,931
NG Labor (Burdens)	\$	-	\$	141,806	\$	117,467	\$	212,481	\$	167,360	\$	93,037	\$	-	\$	732,152
NG Labor (Emp. Exp.)	\$	-	\$	23,328	\$	15,060	\$	27,241	\$	21,456	\$	11,928	\$	-	\$	99,013
Contractors	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	438,211	\$	383,126	\$	682,134	\$	416,358	\$	225,243	\$	-	\$	1,443,772

Data Migration / Other		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL	
Consultants - Other	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-

Hardware - Infrastructure as a Service (IaaS)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL							
Hardware	\$	-	\$	-	\$	1,883,600	\$	1,883,600	\$	-	\$	-	\$	-	\$	3,767,200
Total	\$	-	\$	-	\$	1,883,600	\$	1,883,600	\$	-	\$	-	\$	-	\$	3,767,200

Software - Software as a Service (SaaS)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL							
Software	\$	-	\$	2,090,088	\$	7,398,204	\$	3,265,581	\$	557,200	\$	557,200	\$	-	\$	13,868,273
Total	\$	-	\$	2,090,088	\$	7,398,204	\$	3,265,581	\$	557,200	\$	557,200	\$	-	\$	13,868,273

PowerPlan Enhancements		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL	
Consultants - Other	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-

Technical Training (TT)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL	
Consultants - Other	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-

Value Assurance (VA)		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL	
Consultants - Other	\$	-	\$	-	\$	-	\$	-	\$	-
Total	\$	-	\$	-	\$	-	\$	-	\$	-

Phase 1 OpEx		FY17	FY18	FY19	FY20	FY21	FY22	FY23	TOTAL							
NG Labor (Base)	\$	2,479,029	\$	1,614,085	\$	-	\$	-	\$	-	\$	-	\$	-	\$	4,093,114
NG Labor (Burdens)	\$	1,693,691	\$	1,043,894	\$	-	\$	-	\$	-	\$	-	\$	-	\$	2,737,585
NG Labor (Emp. Exp.)	\$	667,156	\$	173,254	\$	-	\$	-	\$	-	\$	-	\$	-	\$	840,410
Consultants	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Contractors	\$	688,050	\$	111,051	\$	-	\$	-	\$	-	\$	-	\$	-	\$	799,101
Other Expenses	\$	305,310	\$	164,911	\$	-	\$	-	\$	-	\$	-	\$	-	\$	470,221
Software	\$	-	\$	201,004	\$	-	\$	-	\$	-	\$	-	\$	-	\$	201,004
Total	\$	4,783,186	\$	3,033,145	\$	-	\$	-	\$	-	\$	-	\$	-	\$	7,816,331

Grand Total	\$	4,783,186	\$	3,033,145	\$	428,871	\$	444,077	\$	312,764	\$	160,252	\$	-	\$	1,333,837
--------------------	----	-----------	----	-----------	----	---------	----	---------	----	---------	----	---------	----	---	----	-----------

REDACTED

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-156
Page 1 of 53

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-31-1
Page 1 of 53

*Privileged and Confidential
Attorney Client Work Product*

Pipeline Safety Compliance Assessment

Prepared For:
National Grid

March 2017

Prepared By:

P·PIC
Process Performance Improvement Consultants, LLC

*Privileged and Confidential
Attorney Client Work Product*

Table of Contents

- 1. Executive Summary..... 2
- 2. Introduction 6
- 3. Scope of Work and Compliance Assessment Process 7
- 4. Findings and Recommendations 8
 - Part One – Addressing API RP 1173..... 9
 - A. Build on these Strengths in Policy Practice and Experience 9
 - B. Further Development Required15
 - C. Longer-Term, Continuous Improvement (2 to 3 Years). 25
 - Part Two- Addressing Regulatory Compliance Concerns..... 25
- 5. Conflicts of Interest and Independence..... 50
- Appendix A: P-PIC Qualifications 51

*Privileged and Confidential
Attorney Client Work Product*

1. Executive Summary

[Redacted]

[Redacted]

The Employees

[Redacted]

[Redacted]

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

Procedures and Processes

[REDACTED]

[REDACTED]

Supporting Information Technology Systems

[REDACTED]

Compliance with Regulatory Requirements

[REDACTED]

¹ [REDACTED]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid

[REDACTED] 17-170
[REDACTED] 1-31-1
[REDACTED] of 53
[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

The National Grid Commitment

[REDACTED]

The Most Significant Findings and Recommendations

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

[REDACTED]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid

[REDACTED] 17-170
[REDACTED] 1-31-1
[REDACTED] of 53
[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[Redacted text block]

[Redacted text block]

2. Introduction

[Redacted text block]

[Redacted text block]

[Redacted text block]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

3. Scope of Work and Compliance Assessment Process

A [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid

[REDACTED] 17-170
[REDACTED] 1-31-1
[REDACTED] of 53
[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

[REDACTED]

4. Findings and Recommendations

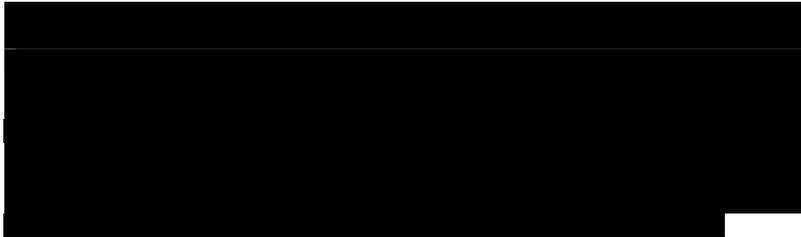
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*



Findings Part One: Addressing API RP 1173

4. A. Build on Existing Strengths in Policy, Practice and Experience

4. A. 1. National Grid Gas Top Management

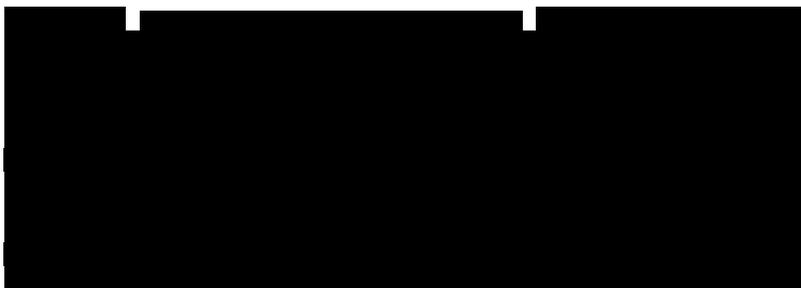
Finding # 1 Board Level Involvement in Safety



Recommendation # 1



Finding # 2 Operational Controls and Internal Stakeholder Engagement: Gas Business Enablement



*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 2

[Redacted]

Finding # 3 Risk Management and Process Safety

[Redacted]

Recommendation # 3

[Redacted]

[Redacted]

Recommendation # 4

[Redacted]

Finding # 4 Safety Assurance - Three Lines of Defense

[Redacted]

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Recommendation # 5

[REDACTED]

Finding # 5 Incident Investigation - Learning from Experience

[REDACTED]

Recommendation # 6

[REDACTED]

Finding # 6 Emergency Preparedness

[REDACTED]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid

[REDACTED] 17-170
[REDACTED] 1-31-1
[REDACTED] of 53
[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Recommendation # 7

[REDACTED]

Finding # 7 Competency and Commitment to Improve Learning and Development

[REDACTED]

Recommendation # 8

[REDACTED]

4. A. 2 Management (Middle Management)

Finding # 8 Recognize That Employees Are a Great Strength

[REDACTED]

Recommendation # 9

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Finding # 9 Risk Management and Process Safety

[REDACTED]

[REDACTED]

Recommendation # 10

[REDACTED]

Recommendation # 11

[REDACTED]

Finding # 10 A Critical Aspect of Risk Management: Damage Prevention

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 12

[REDACTED]

Finding # 11 Operational Controls and Safety Assurance - Quality Assurance

[REDACTED]

[REDACTED]

Recommendation # 13

[REDACTED]

Finding # 12 Strengthen Stakeholder Engagement by Building Upon Public Awareness

[REDACTED]

Recommendation # 14

[REDACTED]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid

[Redacted]
[Redacted]
[Redacted]
[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

Finding # 13 Emergency Planning Execution

[Redacted]

[Redacted]

Recommendation # 15

[Redacted]

4. A.3 Employees

Finding # 14 Employee as Leaders Reveal Risk per API RP 1173

[Redacted]

Recommendation # 16

[Redacted]

4.B. Further Development Required

4.B.1 Top Level Findings for Top Management

[Redacted]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid

[REDACTED] 17-170
[REDACTED] 1-31-1
[REDACTED] of 53
[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Finding # 15 Leadership and Management Commitment

[REDACTED]

Recommendations # 17

[REDACTED]

Finding # 16 Maintain Steadfast Support for Gas Enablement

[REDACTED]

Recommendation # 18

[REDACTED]

Finding # 17 "Why" is as Critical as "What"

[REDACTED]

Recommendation # 19

[REDACTED]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid

[REDACTED] 17-170
[REDACTED] 1-31-1
[REDACTED] of 53
[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]
[REDACTED]

Finding # 18 Communicate Maturity of The SMS

[REDACTED]
[REDACTED]

[REDACTED]

Recommendation # 20:

[REDACTED]
[REDACTED]
[REDACTED]

Finding # 19 Create IT Systems That Are As Strong As Your Human Capital Assets

[REDACTED]
[REDACTED]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
Docket No. 17-170
-31-1
of 53

*Privileged and Confidential
Attorney Client Work Product*

This block contains a large rectangular area that has been almost entirely redacted. The background of this area is light blue, and it is filled with numerous horizontal black bars of varying lengths, completely obscuring any text or graphics that were originally present. The redaction covers the majority of the page's content area.

*Privileged and Confidential
Attorney Client Work Product*

Finding # 20 Short-Term IT Improvements Are Critical

[REDACTED]

Recommendation # 24

[REDACTED]

Finding # 21 "Trust But Verify": Create the Basis to Do So

[REDACTED]

Recommendation # 25

[REDACTED]

Recommendation # 26

[REDACTED]

Recommendation # 27

[REDACTED]

Recommendation # 28

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid

[REDACTED] 17-170
[REDACTED] 1-31-1
[REDACTED] of 53
[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Finding # 22 Improve Support of IT Systems and Hardware

[REDACTED]

Recommendation # 29

[REDACTED]

[REDACTED]

[REDACTED]

Finding # 23 Establish Performance Standards for IT

[REDACTED]

Recommendation # 30

[REDACTED]

[REDACTED]

Finding # 24 Enable Employees to Readily Access Internal Technical Experts

[REDACTED]

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 31

[Redacted]

Recommendation # 32

[Redacted]

Recommendation # 33

[Redacted]

Recommendation # 35

[Redacted]

Finding # 25 Strengthen risk management capability

[Redacted]

Recommendation # 36

[Redacted]

Finding # 26 Broaden scope of safety culture assessment

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Recommendation # 37:

[REDACTED]

Finding # 27 Prioritize Clearing Disconnects to Strengthen Culture

[REDACTED]

[REDACTED]

Recommendation # 38

[REDACTED]

Recommendation # 39

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[Redacted]

Recommendation # 40

[Redacted]

Recommendation # 41

[Redacted]

Finding # 28 Establish An Agenda for Management Reviews Driven By PSMS

[Redacted]

Recommendation # 42

[Redacted]

Recommendation # 43

[Redacted]

Recommendation # 44

[Redacted]

Finding # 29 Create a vision of what leading performance means – apply routinely in Management Reviews

[Redacted]

Recommendation # 45

*Privileged and Confidential
Attorney Client Work Product*

[Redacted]

4.C.Longer-Term Continuous Improvement (2 to 3 Years)

Finding # 30 *Dedicate a team of field SMS champions*

[Redacted]

Recommendation # 46

[Redacted]

[Redacted]

Finding # 31 *Gas Enablement Offers An Opportunity to Define Processes To Be Used In Acquisitions and Organic Growth*

[Redacted]

Recommendation # 47

[Redacted]

Findings Part Two: – Addressing Regulatory Compliance Concerns

Finding # 31 *Establish Transparency and Rebuild Trust*

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Recommendation # 48

[REDACTED]

Finding # 32 Strengthen Policies and Systems That Support Regulatory Relationships

[REDACTED]

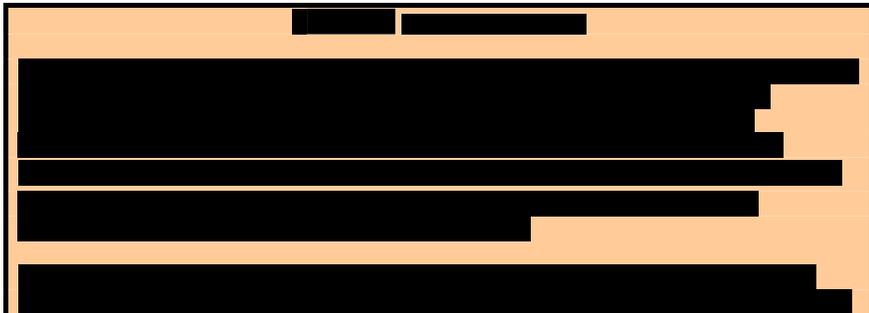
Recommendation # 49

[REDACTED]

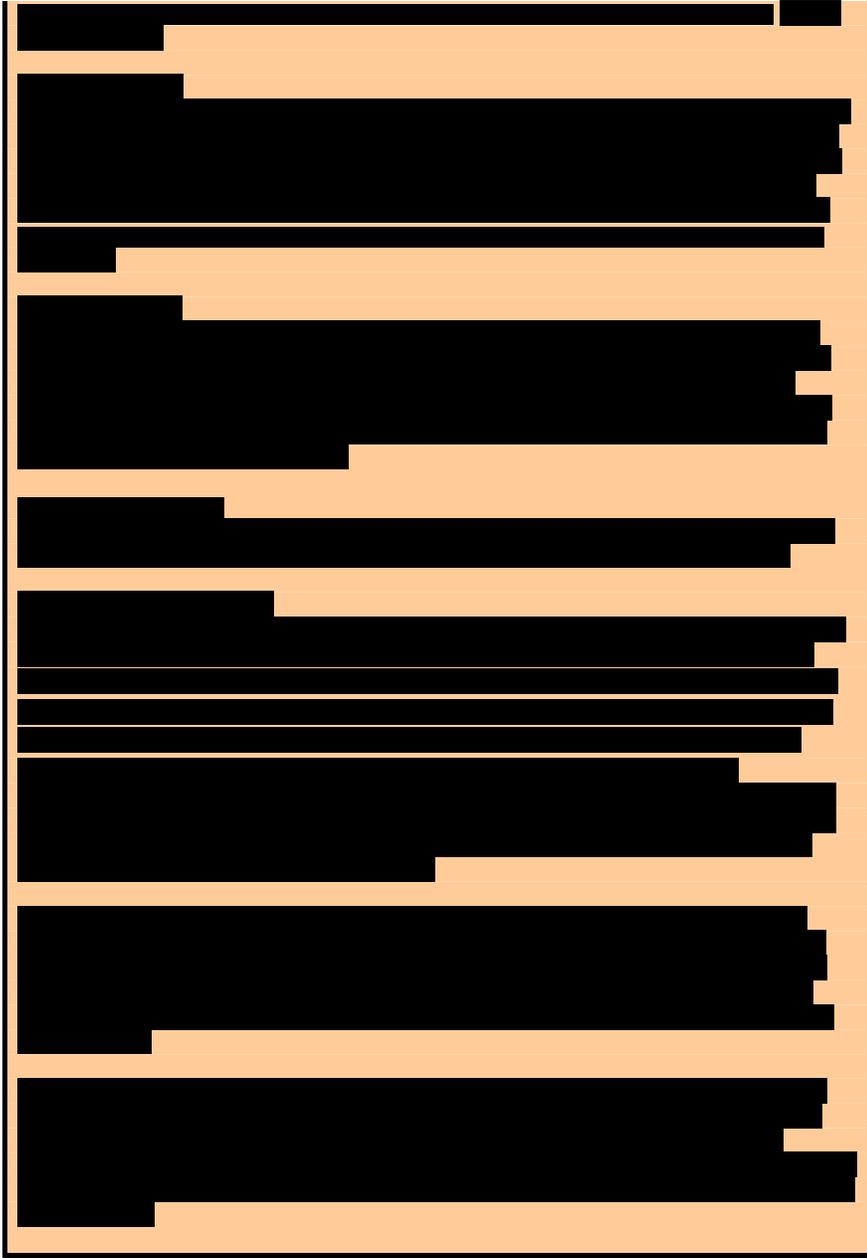
Recommendation # 50

[REDACTED]

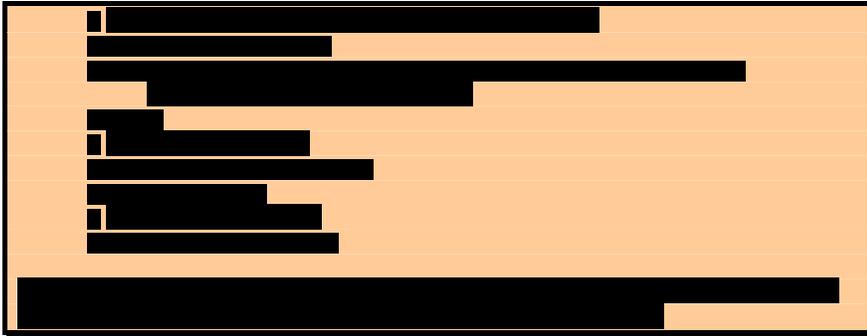
*Privileged and Confidential
Attorney Client Work Product*



*Privileged and Confidential
Attorney Client Work Product*



*Privileged and Confidential
Attorney Client Work Product*



Finding # 33 *Use The Best, Common Procedures, But Recognize and Embrace Jurisdictional Differences*



Recommendation # 51



Recommendation # 52



Recommendation # 53



Recommendation # 54



Finding # 34 *Conduct a Workshop on the Importance of Compliance*

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Recommendation # 55

[REDACTED]

Finding # 35 *Embrace The Role of Procedures in Training*

[REDACTED]

Recommendation # 56

[REDACTED]

Finding # 36 *Technology Can Enable Compliance*

[REDACTED]

Recommendation # 57

[REDACTED]

Finding # 37 *Improve Competency and Management of Contractors*

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 58

[Redacted]

Recommendation # 59

[Redacted]

Recommendation # 60

[Redacted]

Finding # 38 Continue To Strengthen Quality Control in Field Operations

[Redacted]

[Redacted]

Recommendation # 61

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Recommendation # 62

[REDACTED]

Finding # 39 Use Hubs to Define Improvements to be Made to Procedures

[REDACTED]

Recommendation # 63

[REDACTED]

Finding # 40 Remove Redundant Text From Procedures

[REDACTED]

Recommendation # 64

[REDACTED]

Finding # 41 Push Lagging Metric Review From Top Management to Management

[REDACTED]

Recommendation # 65

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 66

[REDACTED]

Finding # 42 Find Ways to Actively Demonstrate Compliance

[REDACTED]

Recommendation # 67

[REDACTED]

Recommendation # 68

[REDACTED]

Finding # 43 Re-emphasize the Role of PJSBs in Compliance, Safety and Quality

[REDACTED]

Recommendation # 69

[REDACTED]

Recommendation # 70

[REDACTED]

Finding # 44 Create Technology Solutions in Enablement That Draw Upon Strengths of Current Practices

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

[REDACTED]

Recommendation # 71

[REDACTED]

Recommendation # 72

[REDACTED]

Finding # 45 Broaden Use of Management of Change

[REDACTED]

[REDACTED]

[REDACTED]

Recommendation # 73

[REDACTED]

Recommendation # 74

[REDACTED]

Recommendation # 75

[REDACTED]

Finding # 46 Improving Accessibility to Maps And Records is Critical in Emergency Response

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 76

[Redacted]

Finding #47 Risk Prioritize GBE Projects

[Redacted]

Recommendation # 77

[Redacted]

Recommendation # 78

[Redacted]

Finding # 48 Free Up Supervisors - Paperwork

[Redacted]

Recommendation # 79

[Redacted]

Recommendation # 80

[Redacted]

Finding # 49 - Free up Supervisors – IT Troubleshooting

[Redacted]

Recommendation # 81

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

Finding # 50 Better Integrate Engineering and Field Operations

[REDACTED]

Recommendation # 82

[REDACTED]

Finding # 51 Strengthen The Lines of Defense

[REDACTED]

Recommendation # 83

[REDACTED]

Recommendation # 84

[REDACTED]

Recommendation # 85

[REDACTED]

Recommendation # 86

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 87

[Redacted]

Finding # 52 Formalize a Lessons Learned System

[Redacted]

Recommendation # 88

[Redacted]

Recommendation # 89

[Redacted]

Training, Competence and Qualification

Finding # 53 Evaluate the Blend of Training Delivery

[Redacted]

Recommendation # 90

[Redacted]

Recommendation # 91

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

Finding # 54 *Define the Blend of Hands-On, Procedure Specific Training In The Learning Centers and OTJ Training*

[Redacted]

Recommendation # 92

[Redacted]

Recommendation # 93

[Redacted]

Recommendation # 94

[Redacted]

Finding # 55 *Ensure There Are No Gaps Between Northeast Gas Association (NGA) Task Execution and NG Procedures*

[Redacted]

Recommendation # 95

[Redacted]

Finding # 56 *Key Factors in Training Improvement*

[Redacted]

[Redacted]

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Recommendation # 96

[REDACTED]

Finding # 57 *Involve the Business in Training Design*

[REDACTED]

Recommendation #97

[REDACTED]

Finding # 58 *Broaden PSMS Training*

[REDACTED]

Recommendation # 98

[REDACTED]

Finding # 59 *Involve Top Management in Leadership Training*

[REDACTED]

Recommendation # 99

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[Redacted]

Finding # 60 Define Leadership Training Needs

[Redacted]

Recommendation # 100

[Redacted]

Finding # 61 Emphasize the Importance of Safety Culture in Training

[Redacted]

Recommendation # 101

[Redacted]

Finding # 62 Strengthen Employee Development Plans

[Redacted]

Recommendation # 102

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 103

[REDACTED]

Recommendation # 104

[REDACTED]

Finding # 63 Adopt Use of New Employee Journals

[REDACTED]

Recommendation # 105

[REDACTED]

Recommendation # 106

[REDACTED]

Finding # 64 Ensure learnings from AGA Process Safety Work Group are Shared Throughout National Grid

[REDACTED]

Recommendation # 107

[REDACTED]

Recommendation # 108

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Finding # 65 Ensure that basis for and staffing requirements for Process Safety initiatives are understood by impacted supervision

[Redacted]

Recommendation # 109

[Redacted]

Recommendation # 110

[Redacted]

Finding # 66 Improve the integration of Process Safety Group work with needs of Programs

[Redacted]

Recommendation # 111

[Redacted]

Distribution Integrity Management Program

Finding # 67 Formalize Tracking of P&M Measures

[Redacted]

Recommendation # 112

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

Transmission Integrity Management

Finding # 68 *Define and Implement Technology Solutions for Evaluating IM Data*

[Redacted]

Recommendation # 113

[Redacted]

Finding # 69 *Further Strengthen Risk Assessment and Risk Management*

[Redacted]

Recommendation # 114

[Redacted]

Recommendation # 115

[Redacted]

Recommendation # 116

[Redacted]

Quality Assurance/Quality Control Program

Finding # 70

[Redacted]

[Redacted]

Recommendation # 117

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

[REDACTED]

Finding # 71 Continue To Improve Damage Prevention

[REDACTED]

[REDACTED]

[REDACTED]

Recommendation # 118

[REDACTED]

Recommendation # 119

[REDACTED]

Finding # 72 Reduce Maintenance and Replacement Mapping Backlog

[REDACTED]

Recommendation # 120

[REDACTED]

Recommendation # 121

[REDACTED]

Recommendation # 122

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 123

[Redacted]

Finding # 73 Increase Use of Analytics to Target High-Risk Excavators –

[Redacted]

Recommendation # 124

[Redacted]

Finding # 75 Find Ways To Strengthen Contract Locator Effectiveness

[Redacted]

Recommendation # 125

[Redacted]

Recommendation # 126

[Redacted]

Recommendation # 127

[Redacted]

Instrumentation and Regulation.

Finding # 76 Consider Continuing implementation of Cascade for I&R assets

[Redacted]

Recommendation # 128

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

Recommendation # 129

[REDACTED]

Finding # 77 Work with Process Safety Group to Define Highest Risk Assets and Risk Controls

[REDACTED]

Recommendation # 130

[REDACTED]

Recommendation # 131

[REDACTED]

Recommendation # 132

[REDACTED]

Emergency Preparedness and Response

Finding # 78 Develop a Bridge Between Federal and State Regulatory Requirements and the US Department of Homeland Security, Homeland Security Exercise and Evaluation Program (DHS HSEEP) being used by National Grid.

[REDACTED]

[REDACTED]

Recommendation # 133

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[Redacted]

Corrosion Control

Finding # 79 Ensure application of intended cathodic protection criterion

[Redacted]

Recommendation # 134

[Redacted]

Finding # 80 AC Interference Criteria

[Redacted]

Recommendation # 135

[Redacted]

Finding # 81 Ensure That Negative Potential Readings Are Used

[Redacted]
[Redacted] tial that a rectifier could

Recommendation # 136

[Redacted]

Finding # 82 Strengthen the technical network among corrosion control personnel

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Recommendation # 137

[REDACTED]

[REDACTED]

Recommendation # 138

[REDACTED]

Finding # 83 Competence, Training and Awareness

[REDACTED]

Recommendation # 139

[REDACTED]

[REDACTED]

Recommendation # 140

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Finding # 84 Ensure Expertise in Thermodynamics and Interchangeability Is Available

[REDACTED]

Recommendation # 141

[REDACTED]

Public Awareness Program

Finding # 85 Evolve the current Public Awareness program to being a Stakeholder Engagement program - Add internal resources

T [REDACTED]

Recommendation # 142

[REDACTED]

Finding #86 Evaluate level and type of engagement based on levels of work activity

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

[REDACTED]

Recommendation # 143

[REDACTED]

Finding # 87 Define how employees can be involved in stakeholder engagement.

[REDACTED]

Recommendation # 143

[REDACTED]

Recommendation # 144

[REDACTED]

5. Conflicts of Interest and Independence

[REDACTED]

[REDACTED]

[REDACTED]

*Privileged and Confidential
Attorney Client Work Product*

Appendix A – P-PIC Qualifications

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

*Privileged and Confidential
Attorney Client Work Product*

[Redacted text block]

[Redacted text block]

[Redacted text block]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request AG-21-41
March 15, 2018
H.O. Pieper
Page 1 of 2

Information Request AG-21-41-REDACTED

Request:

Please also identify (1) whether any of the agreements provided in response to AG-21-40 contain penalty provisions in connection with cost overruns; and (2) how each agreement provided in response to AG-21-40 specifically holds the “external partner[] accountable for successful implementation of the portions of the program for which they are responsible.” Exhibit NG-GBE-1, page 30.

Response:

For each of the contracts for the main delivery partners PWC, Accenture and Kotter International provided in the response to Information Request AG-21-40 there are a number of important protections to support successful delivery.

First, each of the contracts are fixed price against a fixed scope. So rather than having a time and materials contract with penalties for overruns the vendors are locked into a fixed price for the scope they are contracted to deliver. This is anticipated to significantly reduce the risk of unanticipated incremental costs. Change controls are still possible for extra scope or incorrect assumptions.

There are then three [REDACTED] clauses built into the contracts:

- 1) The first is a [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
- 2) The second is a [REDACTED]
[REDACTED]
[REDACTED]
- 3) The third is a v [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Prepared by or under the supervision of: Anthony H. Johnston and Reihaneh Irani-Famili

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-158
Page 2 of 2

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Information Request AG-21-41
March 15, 2018
H.O. Pieper
Page 2 of 2



Prepared by or under the supervision of: Anthony H. Johnston and Reihaneh Irani-Famili

[REDACTED]
Statement of Work
[REDACTED]

SECTION 1: STATEMENT OF WORK DETAILS

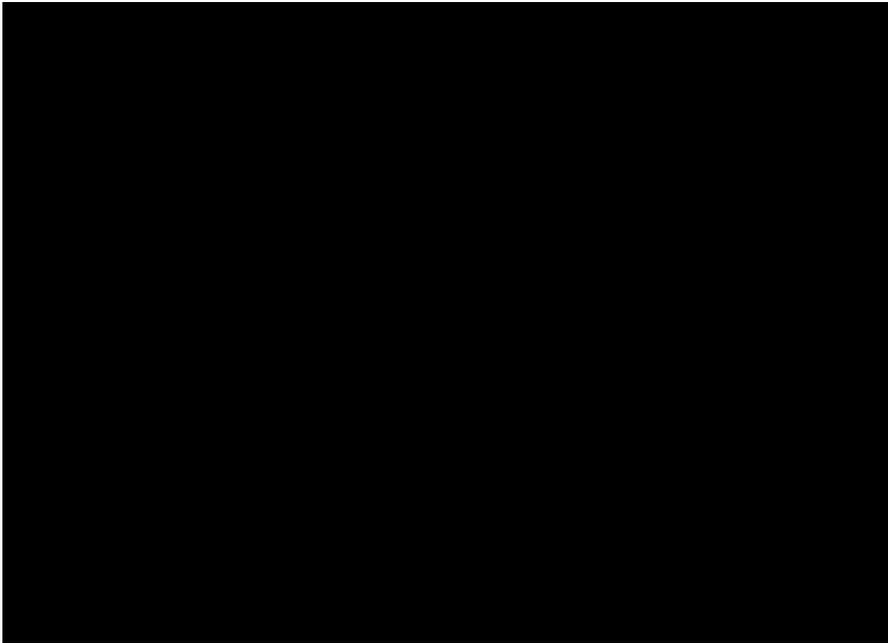
[REDACTED]

SECTION 2: STATEMENT OF WORK AUTHORIZATION

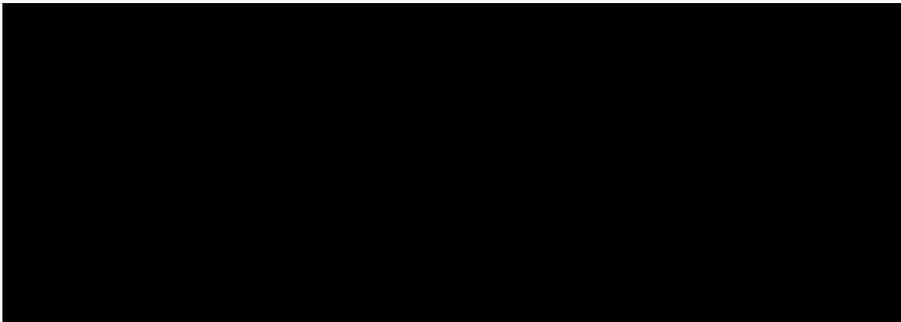
[REDACTED]

[REDACTED]

SECTION 3: OVERVIEW



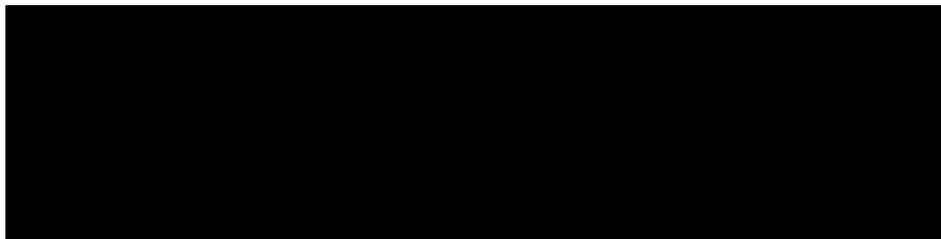
3.1 Services Overview



Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-42-1
Page 3 of 21



3.2 Deliverables Overview

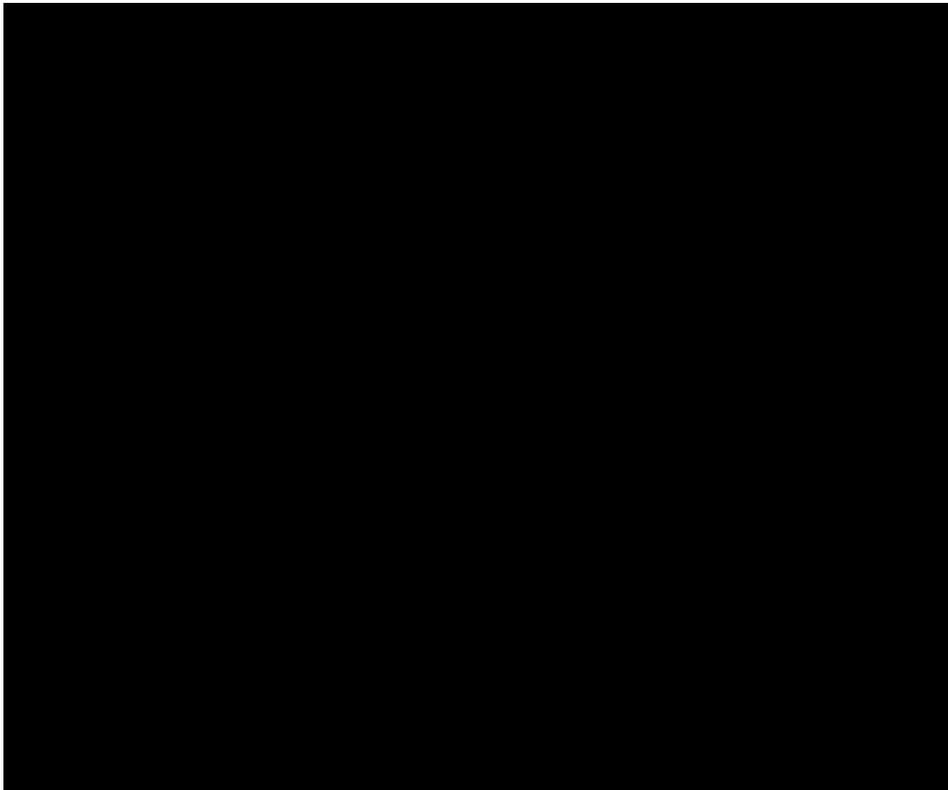


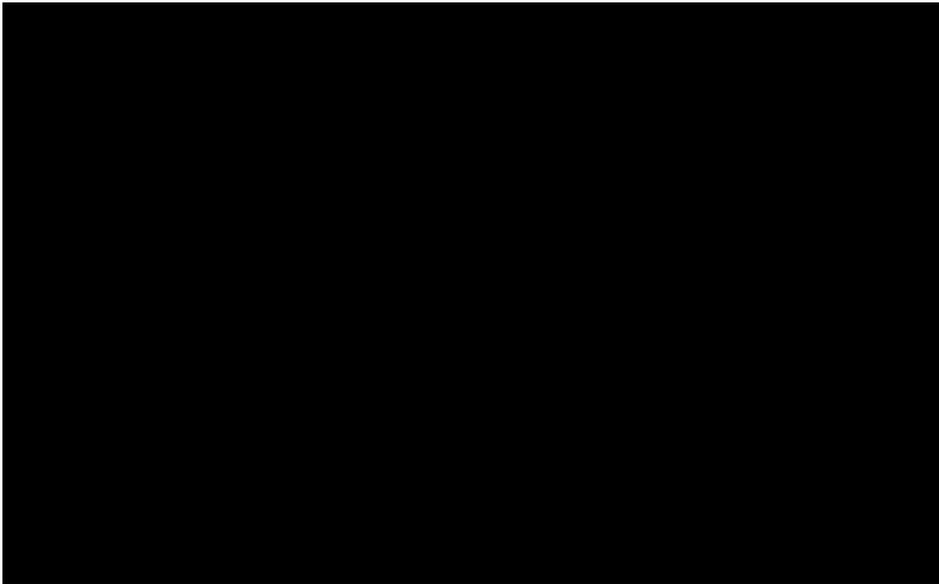
Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-42-1
Page 4 of 21



SECTION 4: SCOPE OF SERVICES

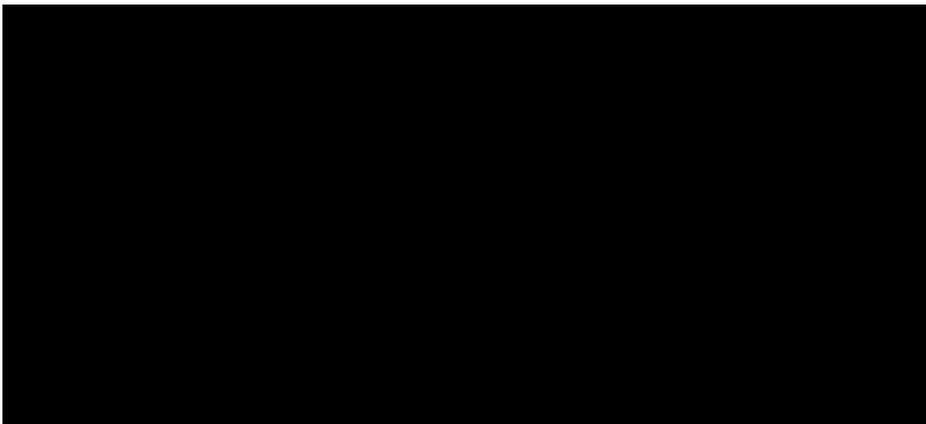
Scope of Services

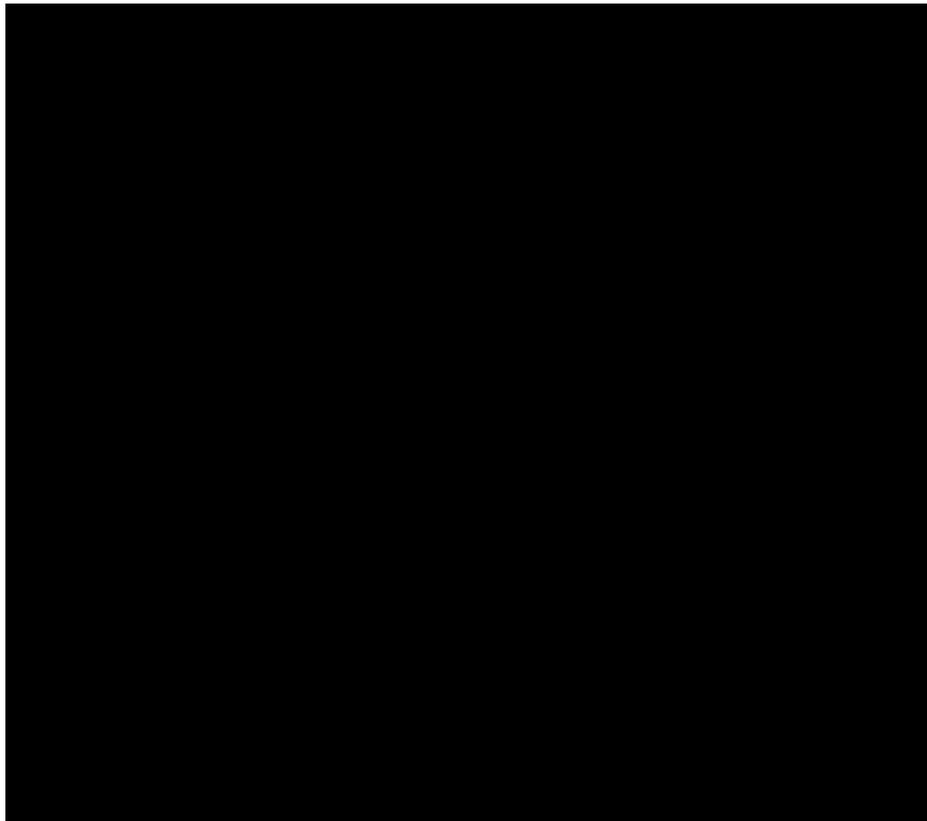
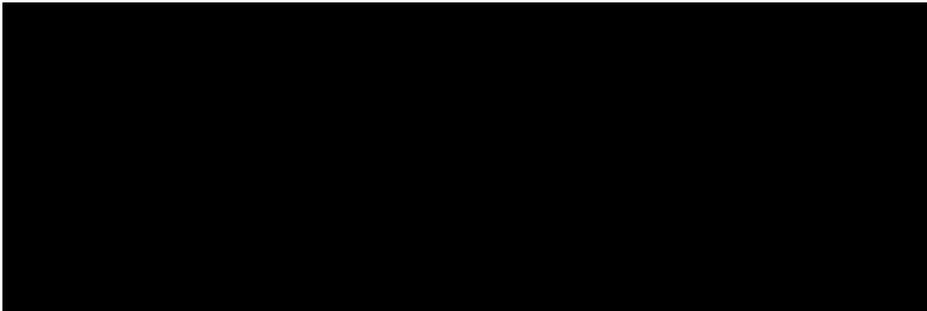




4.2 [REDACTED] Approach and Activities

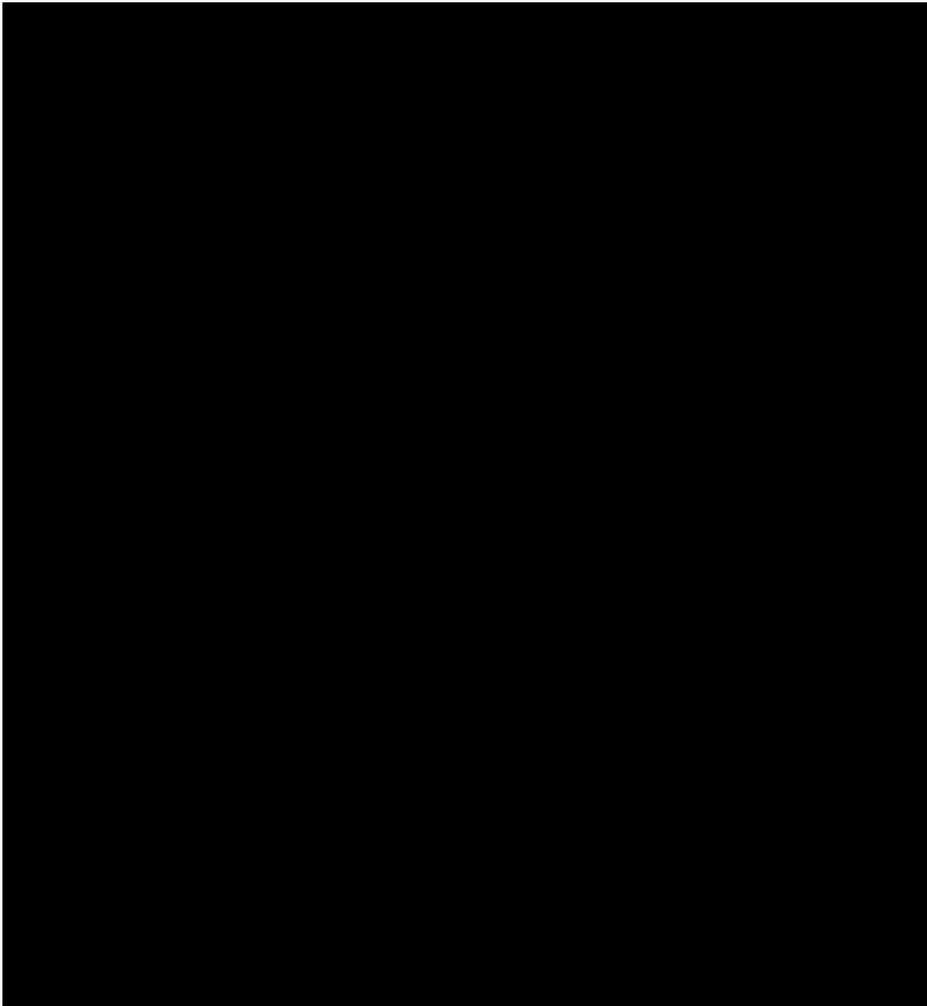
4.2.1 Overview





The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-160
Page 7 of 21

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-42-1
Page 7 of 21



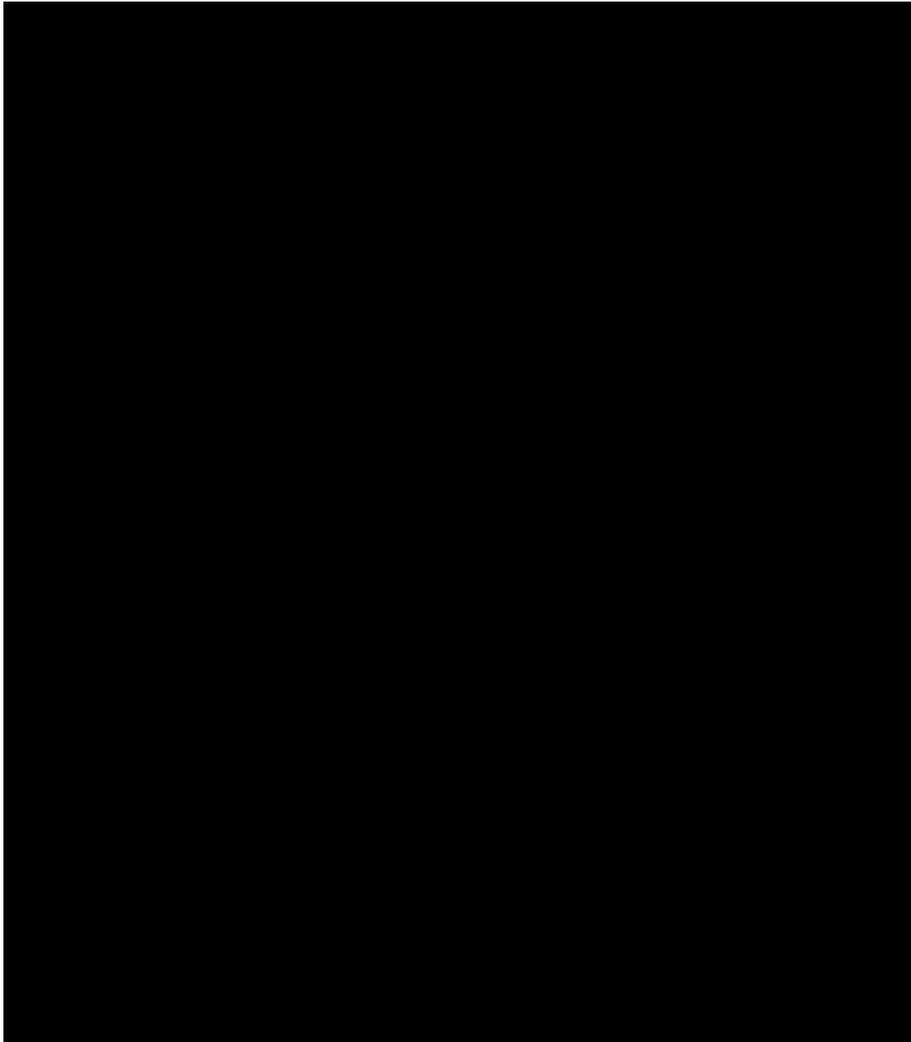
[Redacted]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-42-1
Page 8 of 21



4.3 Roles and responsibilities 





Out of Scope Services

[Redacted]

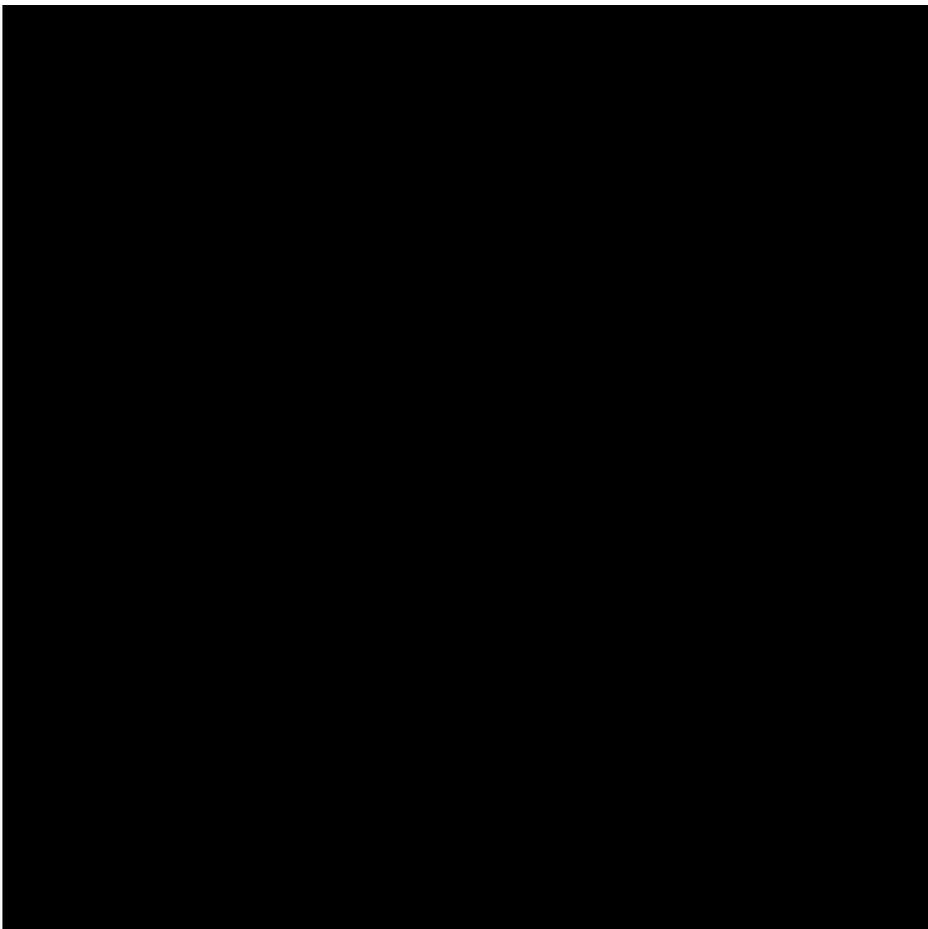
[Redacted]

SECTION 5: DELIVERABLES



[Redacted]

SECTION 6: IMPLEMENTATION PLAN

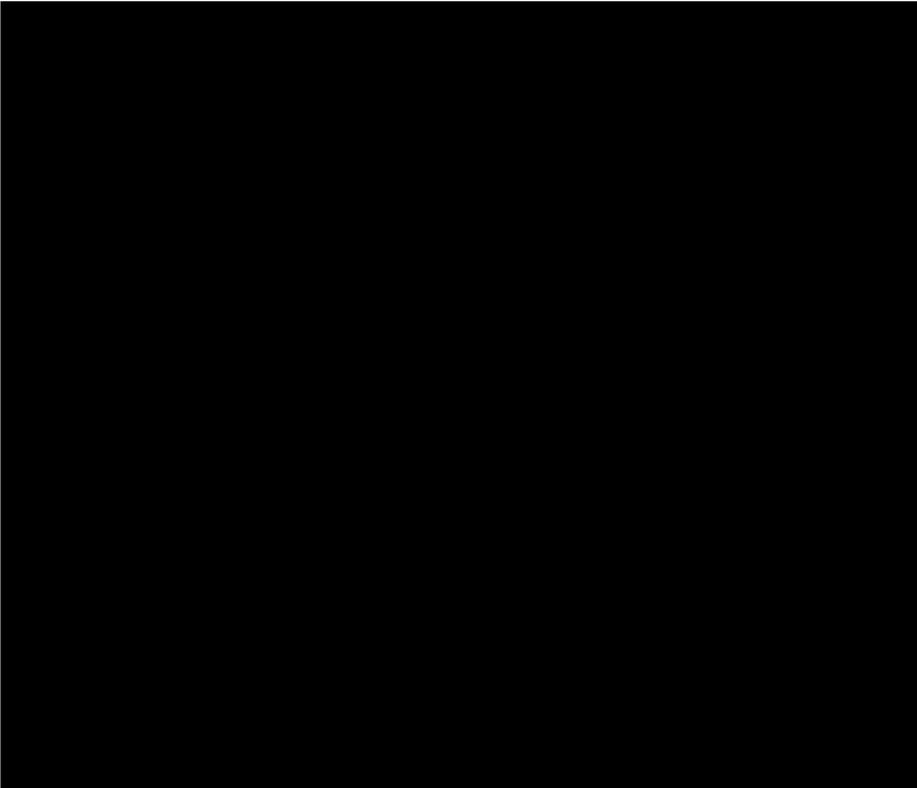


[Redacted]

SECTION 7: RESOURCING

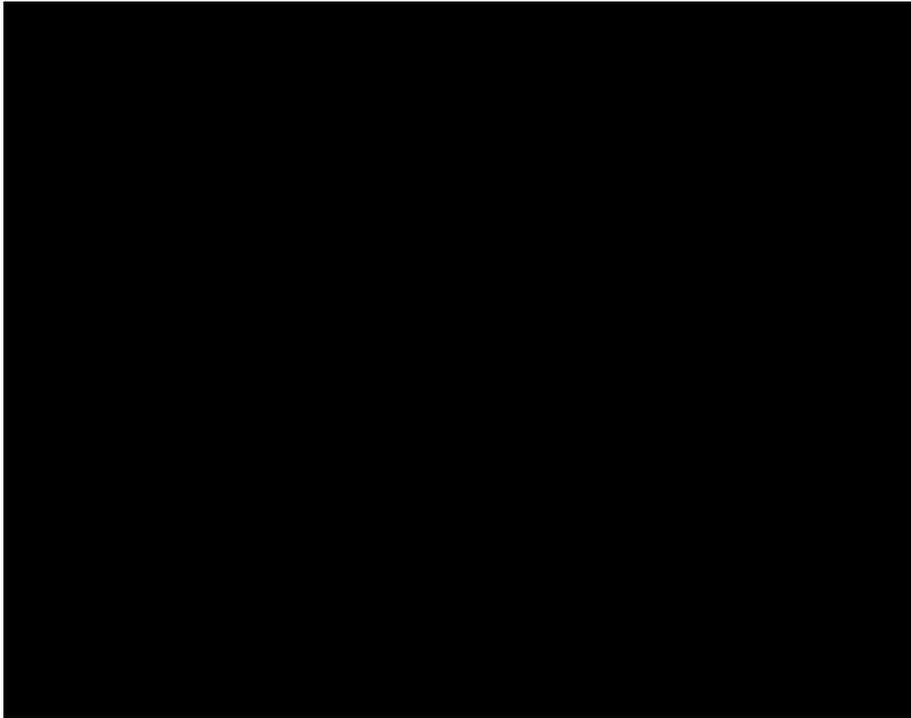


7.1 [REDACTED] Team



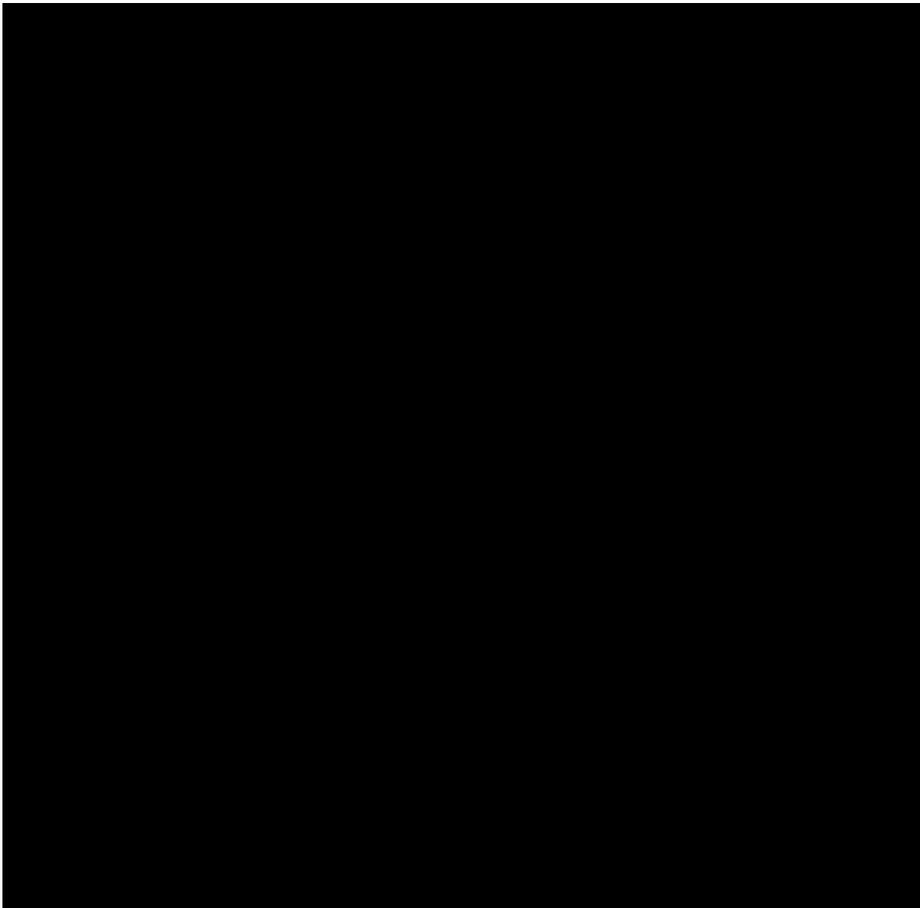
[REDACTED]

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-42-1
Page 13 of 21



[Redacted]

SECTION 8: [REDACTED]



SECTION 9: [REDACTED]



SECTION 10: SERVICE LEVELS



SECTION 11: GENERAL

Intentionally left blank



SECTION 12: STATEMENT OF WORK CONTACTS

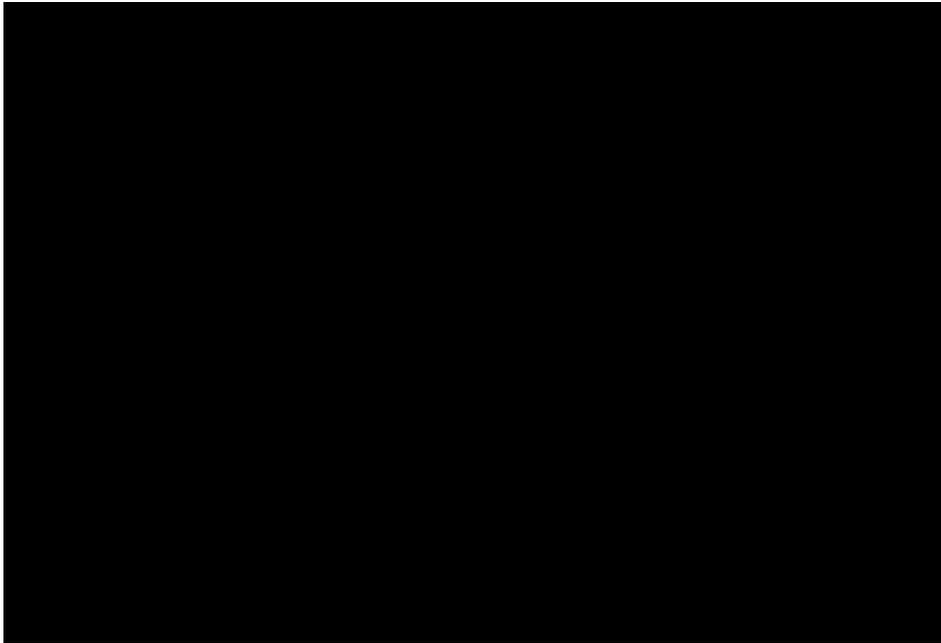


Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-42-1
Page 17 of 21

SCHEDULE 1

SERVICES

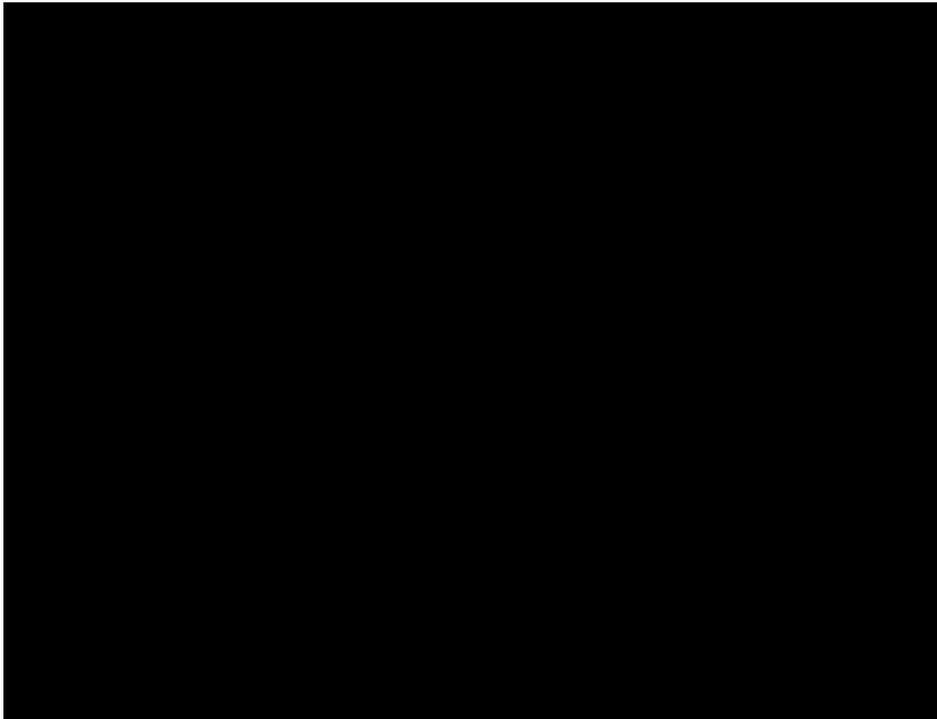
Consultant shall provide the Services according to the service activity descriptions set out below:



SCHEDULE 2

MILESTONES / DELIVERABLES

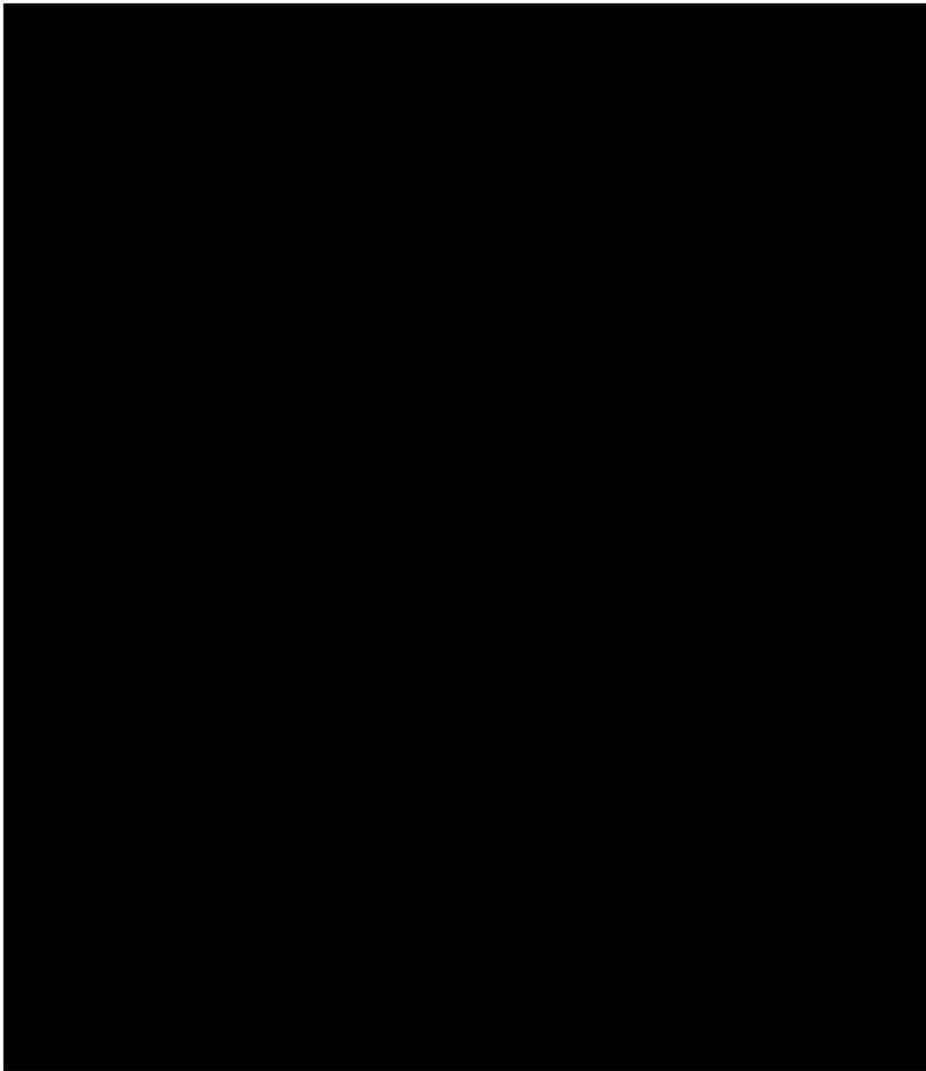
Consultant shall provide the Deliverables according to the key Milestone Deliverables, Milestone Acceptance Criteria and Milestone Dates as follows



[Redacted]

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-160
Page 19 of 21

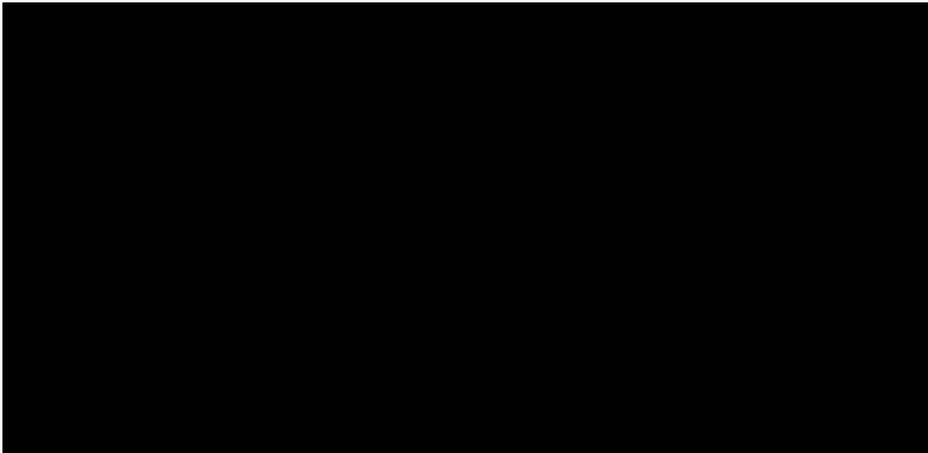
Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-42-1
Page 19 of 21



[Redacted]

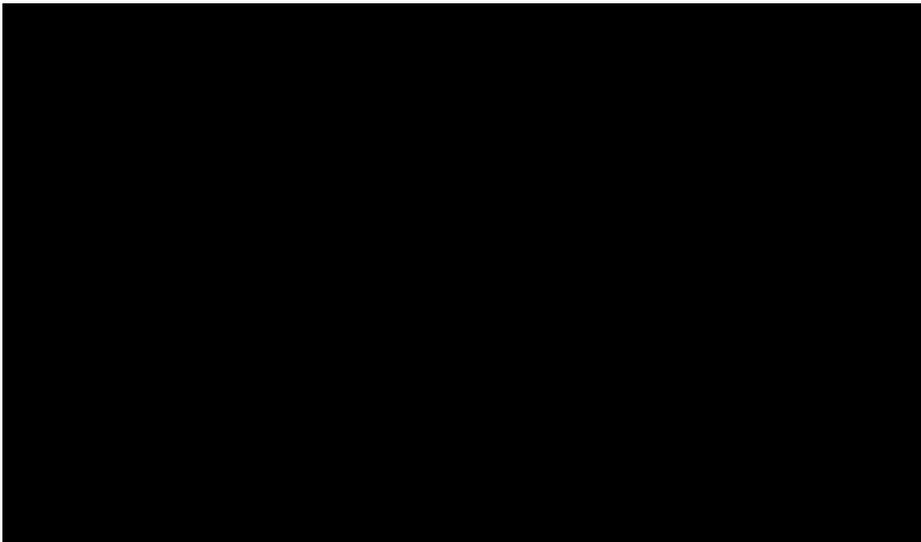
The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-160
Page 20 of 21

Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-42-1
Page 20 of 21



Boston Gas Company and Colonial Gas Company
each d/b/a National Grid
D.P.U. 17-170
Attachment AG-21-42-1
Page 21 of 21

SCHEDULE 3
IMPLEMENTATION PLAN



[Redacted]

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-161
Page 1 of 6

Boston Gas Company
and Colonial Gas Company
each d/b/a National Grid
D.P.U 17-170
Attachment DPU-NG-1-10-1-Corrected
Page 1 of 6

Gas Business Enablement
Total forecasted GBE Program spend by jurisdiction

			Total US GBE Investment (recorded on the books of the Service Company)			
Line	Portfolio Anchor	Workstream	Allocation Code	Total US CapEx Spend	Total US Non-CapEx Spend	Total US Spend
Cap Ex Investment						
1	PA1-3	Asset Management	C-210	\$ 27,740,204	\$ -	\$ 27,740,204
2	PA1-3	Asset Management / GIS	C-210	\$ 57,094,854	\$ -	\$ 57,094,854
3	PA1-3	Work Management (Maximo)	C-210	\$ 77,789,270	\$ -	\$ 77,789,270
4	PA4	Asset Management	C-210	\$ 11,194,992	\$ -	\$ 11,194,992
5	PA4	Asset Management / GIS	C-210	\$ 11,593,919	\$ -	\$ 11,593,919
6	PA4	Work Management (Maximo)	C-210	\$ 23,162,044	\$ -	\$ 23,162,044
7	PA5	Asset Management	C-210	\$ 7,543,962	\$ -	\$ 7,543,962
8	PA5	Asset Management / GIS	C-210	\$ 5,708,998	\$ -	\$ 5,708,998
9	PA5	Work Management (Maximo)	C-210	\$ 8,821,682	\$ -	\$ 8,821,682
10	PA6	Asset Management	C-210	\$ 3,430,354	\$ -	\$ 3,430,354
11	PA6	Asset Management / GIS	C-210	\$ 2,426,260	\$ -	\$ 2,426,260
12	PA6	Work Management (Maximo)	C-210	\$ 2,669,104	\$ -	\$ 2,669,104
13	PA1-3	Customer Engagement	C-175	\$ 21,662,720	\$ -	\$ 21,662,720
14	PA4	Customer Engagement	C-175	\$ 5,375,307	\$ -	\$ 5,375,307
15	PA1-3	WM-SDM	C-175	\$ 21,241,751	\$ -	\$ 21,241,751
16	PA4	WM-SDM	C-210	\$ 7,223,210	\$ -	\$ 7,223,210
17	PA5	WM-SDM	C-210	\$ 704,896	\$ -	\$ 704,896
18	PA6	WM-SDM	C-210	\$ 566,330	\$ -	\$ 566,330
19	PA1-3	Supply Chain	C-210	\$ 8,802,068	\$ -	\$ 8,802,068
20	PA4	Supply Chain	C-210	\$ 2,299,468	\$ -	\$ 2,299,468
21	PA1-3	Hardware (CapEx)	C-175	\$ 4,979,300	\$ -	\$ 4,979,300
22	PA4	Hardware (CapEx)	C-210	\$ 1,348,500	\$ -	\$ 1,348,500
23	PA5	Hardware (CapEx)	C-210	\$ 1,050,000	\$ -	\$ 1,050,000
24	PA6	Hardware (CapEx)	C-210	\$ -	\$ -	\$ -
25	PA1-3	PP Enhancements (CapEx)	G-012	\$ 990,833	\$ -	\$ 990,833
Non-Cap Ex Investment						
26		Business Enablement & Change Management	C-210	\$ -	\$ 12,833,790	\$ 12,833,790
27		Data Management	C-210	\$ -	\$ 1,367,967	\$ 1,367,967
28		IS Enabling	C-210	\$ -	\$ 8,306,845	\$ 8,306,845
29		Operating Model	C-210	\$ -	\$ 1,426,405	\$ 1,426,405
30		Portfolio Office	C-210	\$ -	\$ 35,089,803	\$ 35,089,803
31		Strategic BECM	C-210	\$ -	\$ 11,617,248	\$ 11,617,248
32		Software	C-210	\$ -	\$ 13,868,273	\$ 13,868,273
33		Hardware	C-210	\$ -	\$ 3,767,200	\$ 3,767,200
34		PP Enhancements	C-210	\$ -	\$ 1,840,119	\$ 1,840,119
35		Tech Training - Labor	C-210	\$ -	\$ 19,750,000	\$ 19,750,000
36		Data Migration	C-210	\$ -	\$ 713,574	\$ 713,574
37		Value Assurance	C-210	\$ -	\$ 2,600,000	\$ 2,600,000
38		Phase 1	C-210	\$ -	\$ 6,130,746	\$ 6,130,746
39		Asset Management	C-210	\$ -	\$ 1,823,624	\$ 1,823,624
40		Asset Management / GIS	C-210	\$ -	\$ 2,190,698	\$ 2,190,698
41		Work Management (Maximo)	C-210	\$ -	\$ 6,455,987	\$ 6,455,987
42		Customer Engagement	C-210	\$ -	\$ 2,072,189	\$ 2,072,189
43		WM-SDM	C-210	\$ -	\$ 7,980,079	\$ 7,980,079
44		Supply Chain	C-210	\$ -	\$ 2,887,559	\$ 2,887,559
45		FY17 Non-CapEx Investment	G-210	\$ -	\$ 20,142,307	\$ 20,142,307
46		Totals		\$ 315,420,028	\$ 162,864,413	\$ 478,284,440

Fiscal Year 2018 Bill Pool Allocators

All US Electric and Gas Distribution Companies--Number of Customers	C-175	All Retail Companies	100.00%
All US Gas Distribution Companies--Number of Customers	C-210	All Gas Retail Companies	100.00%
All US Electric and Gas Distribution Companies--General 3-Point Allocator (1)	G-012	All Companies	100.00%

(1) 3-Point Allocator is based on weighting of each company's (1) Net Plant,
(2) Net Margin & (3) Net Operations & Maintenance Expense

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-161
Page 2 of 6

Boston Gas Company
and Colonial Gas Company
each d/b/a National Grid
D.P.U 17-170
Attachment DPU-NG-1-10-1-Corrected
Page 2 of 6

Gas Business Enablement
Total forecasted GBE Program spend by jurisdiction

Line	Portfolio Anchor Workstream		Allocation Code	MA-Electric Share		
				CapEx	Non-CapEx	Total MA Electric
Cap Ex Investment						
1	PA1-3	Asset Management	C-210	\$ -	\$ -	\$ -
2	PA1-3	Asset Management / GIS	C-210	\$ -	\$ -	\$ -
3	PA1-3	Work Management (Maximo)	C-210	\$ -	\$ -	\$ -
4	PA4	Asset Management	C-210	\$ -	\$ -	\$ -
5	PA4	Asset Management / GIS	C-210	\$ -	\$ -	\$ -
6	PA4	Work Management (Maximo)	C-210	\$ -	\$ -	\$ -
7	PA5	Asset Management	C-210	\$ -	\$ -	\$ -
8	PA5	Asset Management / GIS	C-210	\$ -	\$ -	\$ -
9	PA5	Work Management (Maximo)	C-210	\$ -	\$ -	\$ -
10	PA6	Asset Management	C-210	\$ -	\$ -	\$ -
11	PA6	Asset Management / GIS	C-210	\$ -	\$ -	\$ -
12	PA6	Work Management (Maximo)	C-210	\$ -	\$ -	\$ -
13	PA1-3	Customer Engagement	C-175	\$ 4,029,266	\$ -	\$ 4,029,266
14	PA4	Customer Engagement	C-175	\$ 999,807	\$ -	\$ 999,807
15	PA1-3	WM-SDM	C-175	\$ 3,950,966	\$ -	\$ 3,950,966
16	PA4	WM-SDM	C-210	\$ -	\$ -	\$ -
17	PA5	WM-SDM	C-210	\$ -	\$ -	\$ -
18	PA6	WM-SDM	C-210	\$ -	\$ -	\$ -
19	PA1-3	Supply Chain	C-210	\$ -	\$ -	\$ -
20	PA4	Supply Chain	C-210	\$ -	\$ -	\$ -
21	PA1-3	Hardware (CapEx)	C-175	\$ 926,150	\$ -	\$ 926,150
22	PA4	Hardware (CapEx)	C-210	\$ -	\$ -	\$ -
23	PA5	Hardware (CapEx)	C-210	\$ -	\$ -	\$ -
24	PA6	Hardware (CapEx)	C-210	\$ -	\$ -	\$ -
25	PA1-3	PP Enhancements (CapEx)	G-012	\$ 202,724	\$ -	\$ 202,724
Non-Cap Ex Investment						
26		Business Enablement & Change Management	C-210	\$ -	\$ -	\$ -
27		Data Management	C-210	\$ -	\$ -	\$ -
28		IS Enabling	C-210	\$ -	\$ -	\$ -
29		Operating Model	C-210	\$ -	\$ -	\$ -
30		Portfolio Office	C-210	\$ -	\$ -	\$ -
31		Strategic BECM	C-210	\$ -	\$ -	\$ -
32		Software	C-210	\$ -	\$ -	\$ -
33		Hardware	C-210	\$ -	\$ -	\$ -
34		PP Enhancements	C-210	\$ -	\$ -	\$ -
35		Tech Training - Labor	C-210	\$ -	\$ -	\$ -
36		Data Migration	C-210	\$ -	\$ -	\$ -
37		Value Assurance	C-210	\$ -	\$ -	\$ -
38		Phase 1	C-210	\$ -	\$ -	\$ -
39		Asset Management	C-210	\$ -	\$ -	\$ -
40		Asset Management / GIS	C-210	\$ -	\$ -	\$ -
41		Work Management (Maximo)	C-210	\$ -	\$ -	\$ -
42		Customer Engagement	C-210	\$ -	\$ -	\$ -
43		WM-SDM	C-210	\$ -	\$ -	\$ -
44		Supply Chain	C-210	\$ -	\$ -	\$ -
45		FY17 Non-CapEx Investment	G-210	\$ -	\$ -	\$ -
46		Totals		\$ 10,108,913	\$ -	\$ 10,108,913

Fiscal Year 2018 Bill Pool Allocators

		MA Electric/Nantucket Electric
All US Electric and Gas Distribution Companies--Number of Customers	C-175	18.60%
All US Gas Distribution Companies--Number of Customers	C-210	0.00%
All US Electric and Gas Distribution Companies--General 3-Point Allocator (1)	G-012	20.46%

(1) 3-Point Allocator is based on weighting of each company's (1) Net Plant,
(2) Net Margin & (3) Net Operations & Maintenance Expense

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-161
Page 3 of 6

Boston Gas Company
and Colonial Gas Company
each d/b/a National Grid
D.P.U 17-170

Attachment DPU-NG-1-10-1-Corrected
Page 3 of 6

Gas Business Enablement
Total forecasted GBE Program spend by jurisdiction

Line	Portfolio Anchor Workstream		Allocation Code	MA-Gas Share		
				CapEx	Non-CapEx	Total RI Gas
Cap Ex Investment						
1	PA1-3	Asset Management	C-210	\$ 6,862,927	\$ -	\$ 6,862,927
2	PA1-3	Asset Management / GIS	C-210	\$ 14,125,267	\$ -	\$ 14,125,267
3	PA1-3	Work Management (Maximo)	C-210	\$ 19,245,065	\$ -	\$ 19,245,065
4	PA4	Asset Management	C-210	\$ 2,769,641	\$ -	\$ 2,769,641
5	PA4	Asset Management / GIS	C-210	\$ 2,868,336	\$ -	\$ 2,868,336
6	PA4	Work Management (Maximo)	C-210	\$ 5,730,290	\$ -	\$ 5,730,290
7	PA5	Asset Management	C-210	\$ 1,866,376	\$ -	\$ 1,866,376
8	PA5	Asset Management / GIS	C-210	\$ 1,412,406	\$ -	\$ 1,412,406
9	PA5	Work Management (Maximo)	C-210	\$ 2,182,484	\$ -	\$ 2,182,484
10	PA6	Asset Management	C-210	\$ 848,670	\$ -	\$ 848,670
11	PA6	Asset Management / GIS	C-210	\$ 600,257	\$ -	\$ 600,257
12	PA6	Work Management (Maximo)	C-210	\$ 660,336	\$ -	\$ 660,336
13	PA1-3	Customer Engagement	C-175	\$ 2,742,500	\$ -	\$ 2,742,500
14	PA4	Customer Engagement	C-175	\$ 680,514	\$ -	\$ 680,514
15	PA1-3	WM-SDM	C-175	\$ 2,689,206	\$ -	\$ 2,689,206
16	PA4	WM-SDM	C-210	\$ 1,787,022	\$ -	\$ 1,787,022
17	PA5	WM-SDM	C-210	\$ 174,391	\$ -	\$ 174,391
18	PA6	WM-SDM	C-210	\$ 140,110	\$ -	\$ 140,110
19	PA1-3	Supply Chain	C-210	\$ 2,177,632	\$ -	\$ 2,177,632
20	PA4	Supply Chain	C-210	\$ 568,888	\$ -	\$ 568,888
21	PA1-3	Hardware (CapEx)	C-175	\$ 630,379	\$ -	\$ 630,379
22	PA4	Hardware (CapEx)	C-210	\$ 333,619	\$ -	\$ 333,619
23	PA5	Hardware (CapEx)	C-210	\$ 259,770	\$ -	\$ 259,770
24	PA6	Hardware (CapEx)	C-210	\$ -	\$ -	\$ -
25	PA1-3	PP Enhancements (CapEx)	G-012	\$ 109,685	\$ -	\$ 109,685
Non-Cap Ex Investment						
26		Business Enablement & Change Management	C-210	\$ -	\$ 3,175,080	\$ 3,175,080
27		Data Management	C-210	\$ -	\$ 338,435	\$ 338,435
28		IS Enabling	C-210	\$ -	\$ 2,055,114	\$ 2,055,114
29		Operating Model	C-210	\$ -	\$ 352,893	\$ 352,893
30		Portfolio Office	C-210	\$ -	\$ 8,681,217	\$ 8,681,217
31		Strategic BECM	C-210	\$ -	\$ 2,874,107	\$ 2,874,107
32		Software	C-210	\$ -	\$ 3,431,011	\$ 3,431,011
33		Hardware	C-210	\$ -	\$ 932,005	\$ 932,005
34		PP Enhancements	C-210	\$ -	\$ 455,245	\$ 455,245
35		Tech Training - Labor	C-210	\$ -	\$ 4,886,150	\$ 4,886,150
36		Data Migration	C-210	\$ -	\$ 176,538	\$ 176,538
37		Value Assurance	C-210	\$ -	\$ 643,240	\$ 643,240
38		Phase 1	C-210	\$ -	\$ 1,516,747	\$ 1,516,747
39		Asset Management	C-210	\$ -	\$ 451,165	\$ 451,165
40		Asset Management / GIS	C-210	\$ -	\$ 541,979	\$ 541,979
41		Work Management (Maximo)	C-210	\$ -	\$ 1,597,211	\$ 1,597,211
42		Customer Engagement	C-210	\$ -	\$ 512,659	\$ 512,659
43		WM-SDM	C-210	\$ -	\$ 1,974,271	\$ 1,974,271
44		Supply Chain	C-210	\$ -	\$ 714,382	\$ 714,382
45		FY17 Non-CapEx Investment	G-210	\$ -	\$ 1,485,947	\$ 1,485,947
46		Totals		\$ 71,465,771	\$ 36,795,396	\$ 108,261,167

Fiscal Year 2018 Bill Pool Allocators

All US Electric and Gas Distribution Companies--Number of Customers	C-175	MA Gas	12.66%
All US Gas Distribution Companies--Number of Customers	C-210		24.74%
All US Electric and Gas Distribution Companies--General 3-Point Allocator (1)	G-012		11.07%

(1) 3-Point Allocator is based on weighting of each company's (1) Net Plant,
(2) Net Margin & (3) Net Operations & Maintenance Expense

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-161
Page 4 of 6

Boston Gas Company
and Colonial Gas Company
each d/b/a National Grid
D.P.U 17-170

Attachment DPU-NG-1-10-1-Corrected
Page 4 of 6

Gas Business Enablement
Total forecasted GBE Program spend by jurisdiction

Line	Portfolio		Allocation Code	RI Share		NY Share		NGUSA Parent Co.	Total GBE
	Anchor	Workstream		Total RI	Total NY	Total RI	Total NY		
Cap Ex Investment									
1	PA1-3	Asset Management	C-210	\$ 2,044,453	\$ 18,832,825	\$ -	\$ 27,740,204		
2	PA1-3	Asset Management / GIS	C-210	\$ 4,207,891	\$ 38,761,696	\$ -	\$ 57,094,854		
3	PA1-3	Work Management (Maximo)	C-210	\$ 5,733,069	\$ 52,811,135	\$ -	\$ 77,789,270		
4	PA4	Asset Management	C-210	\$ 825,071	\$ 7,600,280	\$ -	\$ 11,194,992		
5	PA4	Asset Management / GIS	C-210	\$ 854,472	\$ 7,871,112	\$ -	\$ 11,593,919		
6	PA4	Work Management (Maximo)	C-210	\$ 1,707,043	\$ 15,724,712	\$ -	\$ 23,162,044		
7	PA5	Asset Management	C-210	\$ 555,990	\$ 5,121,596	\$ -	\$ 7,543,962		
8	PA5	Asset Management / GIS	C-210	\$ 420,753	\$ 3,875,839	\$ -	\$ 5,708,998		
9	PA5	Work Management (Maximo)	C-210	\$ 650,158	\$ 5,989,040	\$ -	\$ 8,821,682		
10	PA6	Asset Management	C-210	\$ 252,817	\$ 2,328,867	\$ -	\$ 3,430,354		
11	PA6	Asset Management / GIS	C-210	\$ 178,815	\$ 1,647,188	\$ -	\$ 2,426,260		
12	PA6	Work Management (Maximo)	C-210	\$ 196,713	\$ 1,812,055	\$ -	\$ 2,669,104		
13	PA1-3	Customer Engagement	C-175	\$ 2,320,077	\$ 12,570,876	\$ -	\$ 21,662,720		
14	PA4	Customer Engagement	C-175	\$ 575,695	\$ 3,119,291	\$ -	\$ 5,375,307		
15	PA1-3	WM-SDM	C-175	\$ 2,274,992	\$ 12,326,588	\$ -	\$ 21,241,751		
16	PA4	WM-SDM	C-210	\$ 532,351	\$ 4,903,837	\$ -	\$ 7,223,210		
17	PA5	WM-SDM	C-210	\$ 51,951	\$ 478,554	\$ -	\$ 704,896		
18	PA6	WM-SDM	C-210	\$ 41,739	\$ 384,481	\$ -	\$ 566,330		
19	PA1-3	Supply Chain	C-210	\$ 648,712	\$ 5,975,724	\$ -	\$ 8,802,068		
20	PA4	Supply Chain	C-210	\$ 169,471	\$ 1,561,109	\$ -	\$ 2,299,468		
21	PA1-3	Hardware (CapEx)	C-175	\$ 533,283	\$ 2,889,488	\$ -	\$ 4,979,300		
22	PA4	Hardware (CapEx)	C-210	\$ 99,384	\$ 915,497	\$ -	\$ 1,348,500		
23	PA5	Hardware (CapEx)	C-210	\$ 77,385	\$ 712,845	\$ -	\$ 1,050,000		
24	PA6	Hardware (CapEx)	C-210	\$ -	\$ -	\$ -	\$ -		
25	PA1-3	PP Enhancements (CapEx)	G-012	\$ 111,171	\$ 409,809	\$ -	\$ 833,390		
Non-Cap Ex Investment									
26		Business Enablement & Change Management	C-210	\$ 945,850	\$ 8,712,860	\$ -	\$ 12,833,790		
27		Data Management	C-210	\$ 100,819	\$ 928,713	\$ -	\$ 1,367,967		
28		IS Enabling	C-210	\$ 612,215	\$ 5,639,517	\$ -	\$ 8,306,845		
29		Operating Model	C-210	\$ 105,126	\$ 968,386	\$ -	\$ 1,426,405		
30		Portfolio Office	C-210	\$ 2,586,118	\$ 23,822,467	\$ -	\$ 35,089,803		
31		Strategic BECM	C-210	\$ 856,191	\$ 7,886,950	\$ -	\$ 11,617,248		
32		Software	C-210	\$ 1,022,092	\$ 9,415,170	\$ -	\$ 13,868,273		
33		Hardware	C-210	\$ 277,643	\$ 2,557,552	\$ -	\$ 3,767,200		
34		PP Enhancements	C-210	\$ 135,617	\$ 1,249,257	\$ -	\$ 1,840,119		
35		Tech Training - Labor	C-210	\$ 1,455,575	\$ 13,408,275	\$ -	\$ 19,750,000		
36		Data Migration	C-210	\$ 52,590	\$ 484,445	\$ -	\$ 713,574		
37		Value Assurance	C-210	\$ 191,620	\$ 1,765,140	\$ -	\$ 2,600,000		
38		Phase 1	C-210	\$ 451,836	\$ 4,162,163	\$ -	\$ 6,130,746		
39		Asset Management	C-210	\$ 134,401	\$ 1,238,058	\$ -	\$ 1,823,624		
40		Asset Management / GIS	C-210	\$ 161,454	\$ 1,487,265	\$ -	\$ 2,190,698		
41		Work Management (Maximo)	C-210	\$ 475,806	\$ 4,382,970	\$ -	\$ 6,455,987		
42		Customer Engagement	C-210	\$ 152,720	\$ 1,406,809	\$ -	\$ 2,072,189		
43		WM-SDM	C-210	\$ 588,132	\$ 5,417,675	\$ -	\$ 7,980,079		
44		Supply Chain	C-210	\$ 212,813	\$ 1,960,364	\$ -	\$ 2,887,559		
45		FY17 Non-CapEx Investment	G-210	\$ 5,715,184	\$ 12,852,145	\$ 89,031	\$ 20,142,307		
46		Totals		\$ 16,233,803	\$ 109,746,183	\$ 89,031	\$ 478,126,997		

Fiscal Year 2018 Bill Pool Allocators

		Total RI	Total NY	
All US Electric and Gas Distribution Companies--Number of Customers	C-175	10.71%	58.03%	
All US Gas Distribution Companies--Number of Customers	C-210	7.37%	67.89%	
All US Electric and Gas Distribution Companies--General 3-Point Allocator (1)	G-012	11.22%	41.36%	15.89%

- (1) 3-Point Allocator is based on weighting of each company's (1) Net Plant,
(2) Net Margin & (3) Net Operations & Maintenance Expense

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-161
Page 5 of 6

Boston Gas Company
and Colonial Gas Company
each d/b/a National Grid
D.P.U 17-170
Attachment DPU-NG-1-10-1-Corrected
Page 5 of 6

Gas Business Enablement
Key Project Implementation Dates

Line	Portfolio Anchor	Workstream	RI-Electric	RI-Gas	MA	NMPC	KEDNY	KEDLI
Cap Ex Investment								
1	PA1-3	Asset Management	Oct-18	Oct-18	Jan-19	Apr-19	Jul-19	Oct-19
2	PA1-3	Asset Management / GIS	Oct-18	Oct-18	Jan-19	Apr-19	Jul-19	Oct-19
3	PA1-3	Work Management (Maximo)	Apr-18	Apr-18	Jan-19	Apr-19	Jul-19	Oct-19
4	PA4	Asset Management	Apr-20	Apr-20	Jun-20	Apr-19	Jul-19	Oct-19
5	PA4	Asset Management / GIS	Apr-20	Apr-20	Jun-20	Jul-20	Aug-20	Sep-20
6	PA4	Work Management (Maximo)	Apr-20	Apr-20	Jun-20	Jul-20	Aug-20	Sep-20
7	PA5	Asset Management	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21
8	PA5	Asset Management / GIS	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21
9	PA5	Work Management (Maximo)	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21
10	PA6	Asset Management	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21
11	PA6	Asset Management / GIS	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21
12	PA6	Work Management (Maximo)	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21
13	PA1-3	Customer Engagement	Oct-18	Oct-18	Jan-19	Apr-19	Jul-19	Oct-19
14	PA4	Customer Engagement	Apr-20	Apr-20	Jun-20	Jul-20	Aug-20	Sep-20
15	PA1-3	WM-SDM	Apr-18	Apr-18	Jan-19	Apr-19	Jul-19	Oct-19
16	PA4	WM-SDM	Apr-20	Apr-20	Jun-20	Jul-20	Aug-20	Sep-20
17	PA5	WM-SDM	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21
18	PA6	WM-SDM	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21
19	PA1-3	Supply Chain	Oct-18	Oct-18	Jan-19	Apr-19	Jul-19	Oct-19
20	PA4	Supply Chain	Apr-20	Apr-20	Jun-20	Jul-20	Aug-20	Sep-20
21	PA1-3	Hardware (CapEx)	Oct-18	Oct-18	Jan-19	Apr-19	Jul-19	Oct-19
22	PA4	Hardware (CapEx)	Apr-20	Apr-20	Jun-20	Jul-20	Aug-20	Sep-20
23	PA5	Hardware (CapEx)	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21	Apr-21
24	PA6	Hardware (CapEx)	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21	Jul-21
25	PA1-3	PP Enhancements (CapEx)	Aug-17	Aug-17	Aug-17	Aug-17	Aug-17	Aug-17

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4770
Attachment DIV 7-49-161
Page 6 of 6

Boston Gas Company
and Colonial Gas Company
each d/b/a National Grid
D.P.U 17-170
Attachment DPU-NG-1-10-1-Corrected
Page 6 of 6

Gas Business Enablement
Service Company Allocation Codes Utilized

Allocation Codes

All US Electric and Gas Distribution Companies--Number of Customers	C-175
All US Gas Distribution Companies--Number of Customers	C-210
All US Electric and Gas Distribution Companies--General 3-Point Allocator (1)	G-012
All US Gas Distribution Companies--General 3-Point Allocator (1)	G-210

(1) 3-Point Allocator is based on weighting of each companies' (1) Net Plant, (2) Net Margin and (3) Net Operations & Maintenance Expense

Fiscal Year 2018 Allocation Percentages	<u>C-175</u>	<u>C-210</u>	<u>G-012</u>
RIELEC	6.94%	0.00%	8.37%
RIGAS	3.77%	7.37%	2.85%
RI	10.71%	7.37%	11.22%
BOS	9.80%	19.15%	9.03%
COL	2.86%	5.59%	2.04%
MECO/NANT	18.60%	0.00%	20.46%
MA	31.26%	24.74%	31.53%
NMPC	31.95%	16.93%	20.47%
KEDNY	17.83%	34.83%	12.38%
KEDLI	8.25%	16.13%	8.51%
NY	58.03%	67.89%	41.36%
Parent/NonRegulated Companies			15.89%
	100.00%	100.00%	100.00%

Fiscal Year 2017 Allocation Percentages	<u>G-210</u>
RIELEC	0.00%
RIGAS	7.41%
RI	7.41%
BOS	23.29%
COL	5.21%
MECO/NANT	0.00%
MA	28.50%
NMPC	12.44%
KEDNY	30.10%
KEDLI	21.55%
NY	64.09%
	100.00%

CONFIDENTIAL



Gas Business Enablement Steering Group (SG) Minutes	
Date & Time:	Thursday, May 5 th , 2016, 1400 – 1500 (EST)
Location:	Res Woods
Attendees:	Dean Seavers, Rich Adduci, Peggy Smyth, John Bruckner, Vivienne Bracken, Lorraine Lynch, Ross Turrini, Kasia Kulbacka
Apologies:	Roger Young
Presenters	Johnny Johnston, KC Healy

Key Areas of discussion:

1. JJ led a discussion on GBE QPR participation and Exec briefings. It was agreed that GBE will participate in the next QPR and on an as needed basis going forwards. Briefings to Executive Committee will also be done as needed (level of activity, major milestones/deliverables etc.)
2. JJ reviewed action items from the previous SG meeting (status below). JB asked that we continue to work on developing a strategy for sustaining the business while we deploy GBE solutions – agreed by the Program and SG
3. JJ took the SG through Program context, ambitions, technology landscape, guiding principles and scope. Highlights from the ensuing group discussion include:
 - a. We are not just replacing applications, rather simplifying the front office landscape
 - b. Scope must be carefully managed, prioritized and phased so that we do not attempt too much at once
 - c. The Back Office is out of scope except for integration activities and Powerplan solutioning. **(Action)**
 - d. PS asked that GBE coordinate scope and activities with Finance Remediation **(Action)**
 - e. The Program will be working closely with regulatory, pricing and legal groups to align GBE solutions with regulatory and rate case requirements
4. JJ reviewed the process, success criteria, planning assumptions and options considered in developing a procurement strategy for the High level Design phase. Discussion highlights include:
 - a. LL requested that success criteria be expanded to include controls support **(Action)**
 - b. JJ described the recommended procurement strategy and consulting partner roles
 - c. DS stressed that fit for purpose must be defined by our business needs
 - d. Customization controls will be put into place during the high level design phase
 - e. LL stated that our 2nd line assurance team would work with the Design Assurance Partner
 - f. RA suggested GBE avoid “overplaying” the competitive dynamic between partners
 - g. Procurement timelines and processes were reviewed. JJ agreed to provide more detail on the proposals and responses in the next SG meeting as well as the selection criteria and request delegated authority for selection **(Action)**
5. The SG endorsed the current program scope statement, subject to refinement during the high level design phase
6. The SG approved the recommended procurement strategy

CONFIDENTIAL



7. RT and JJ discussed preparations for pending labor contract negotiations. Should a strike occur, there could be an impact on employee availability to support the high level design phase
8. JJ closed the meeting and asked for any feedback from the SG members.

Actions:

	Action	Owner	Assigned	Due	Comment	Complete?
1	Ensure that Enablement is added to the QPR agenda	PS	10 Mar 16	1 Apr 16		Yes
2	To provide visibility of the expect impact of Gas Business enablement on the ability to run the business due to a potential talent drain.	JJ	10 Mar 16	1 May16	Defer to completion of vendor bid analysis	Projected Aug 16
3	To identify the appropriate approach to ensure that the SG has visibility to the level of customization being undertaken by the project.	JJ	10 Mar 16	1 Oct16	Pending	
4	To share the rate case strategy and ensure that any appropriate costs are included in the MA Gas rate case.	JJ	10 Mar 16	1 Jul 16	Pending	
5	Advise SG on Powerplan solution options impacting the Program	JJ	5 May 16	June 16		
6	Review GBE Scope with Finance Remediation	KCH	5 May 16	June 16		
7	Add controls development to design phase success criteria	KCH	5 May 16	June 16		
8	Update the SG on proposal detail and procurement process status and selection criteria	JJ	5 May 16	June 16		