

TECHNICAL REPORT
AN INVESTIGATION AND ANALYSIS OF
WORKS AND SYSTEMS

NATIONAL GRID AND LIBERTY
ENERGY UTILITIES COMPANY

FOR THE
NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

OCTOBER 7, 2011



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I. Executive Summary

Liberty Energy Utilities and National Grid have concluded that an exchange of ownership of Granite State Electric and Energy North is in their respective corporate interests. The New Hampshire Public Utilities Commission must conclude whether that decision is in the public's interest.

One critical element in judging the future success – and sustainability – of Granite State Electric and Energy North under the ownership of Liberty Energy New Hampshire is Liberty's ability to effectively and efficiently fulfill the associated responsibilities borne by Granite State Electric and EnergyNorth Gas as regulated utilities in New Hampshire. Fundamental to Liberty Energy's success in achieving that goal in New Hampshire is its ability to define and deploy information technology support for the acquired operations. In recognition of that, the New Hampshire Public Utilities Commission ordered a rigorous examination of the Joint Petitioners' competency, capability, cost and commitment to meet that goal.

After extensive research, including site visits and discovery, rigorous review and cooperation from both Liberty Energy and National Grid we find nothing to suggest that Liberty Energy, with appropriate support from its partners and sufficient time to ensure an orderly transition, is incapable of effectively executing its proposed information technology program for Granite State Electric and EnergyNorth Gas to the benefit of New Hampshire.

Specifically, we have concluded that Liberty Energy has made substantial strides in defining its Information Technology (IT) requirements and developing plans for its deployment at Granite State/EnergyNorth; that it has secured the commitments of all of the principal parties to its planned deployment; and adopted an IT provisioning strategy that meets its basic operational needs, exploits proven technologies and realizes benefits not otherwise achievable. Its timetable for achieving its IT initiative for self-sustaining operations is very aggressive, and quite likely optimistic.

The ultimate success of Liberty Energy's New Hampshire IT initiative, and the sustainability of the operating units that the initiative is intended to serve, is heavily dependent upon fully dedicated executive leadership able to effectively manage Liberty Utilities' transition activities across all of its current transactions; structured protocols with National Grid that preserve access to historical information retained by National Grid but important to the New Hampshire utilities; commitment from National Grid to assist Liberty Energy for whatever

time is deemed necessary to successfully execute the transition; and the ability of numerous, non-affiliated third-parties to fully execute critical parts of Liberty's IT provisioning responsibilities.

Based on our work we believe the individuals – and institutions – potentially affected by any decision to approve this change of control will benefit substantially if Liberty Energy undertakes the following:

- Appoints a fully-dedicated senior executive to be responsible for transition activities associated with all of Liberty Energy's acquisitions;
- Formalizes a data retention agreement with National Grid that ensures the availability of, and accessibility to, historical data of importance to Granite State and EnergyNorth;
- Immediately commences detailed planning to achieve full implementation of the committed IT plan;
- Substantially strengthens its vendor management processes and protocols to ensure efficient implementation and full compliance; and
- Augments its Transition Services Agreement to extend National Grid's commitment beyond the time frame contained in the documents.

Furthermore, we believe the public's interest can be served if the New Hampshire Public Utilities Commission requires that percentage of all fees paid to National Grid under the provisions of the Transitions Services Agreement be held in a publicly-administered escrow account until the Commission concludes the transition is completed; that National Grid post a performance bond payable to the State of New Hampshire for a period to be determined appropriate by the Commission and in accordance with terms and conditions that reflect the public's interest in this matter. This is not meant to question National Grid's stated commitment to the transition process but to recognize the vital role played by National Grid in ensuring the success of this transaction. We believe these measures would be sufficient to protect the public's interest in achieving a successful transition from National Grid to Liberty Energy, pose no threat to National Grid's financial integrity or independence, and are consistent with the statutory duties, obligations and authority of the New Hampshire Commission. And finally, the Commission should require the Joint Petitioners to support an effort by the Commission Staff or consultant resources that will monitor the systems implementation program of Liberty Energy through the period of its IT systems initiative – including these suggestions – and apprise the Commission of progress in achieving its objectives.

II. Introduction

A. Background

On March 4, 2011 Liberty Energy Utilities Co. *et. al.* and National Grid USA *et. al.* (collectively, Petitioners) filed a joint petition with the New Hampshire Public Utilities Commission (Commission) seeking to transfer ownership of Granite State Electric Company and EnergyNorth Natural Gas, Inc. from National Grid USA (National Grid) to Liberty Energy Utilities (New Hampshire) Corp. (Liberty Energy NH)¹ The petition expressly provides for all ownership – and operational responsibility – presently vested with National Grid USA to be conveyed to Liberty Energy NH at such time as the sale is approved by the New Hampshire Public Utility Commission and such other regulatory agencies as may be required. The Commission subsequently accepted the submission, established a formal proceeding under which to examine the petition and set out a procedural schedule.²

Provisions in the Purchase Agreement commit National Grid to assist Liberty Energy Utilities NH to effect a successful transfer of its ownership and operational responsibilities for Granite State and Energy North to Liberty Energy's corporate entity. Accordingly, the parties filed a joint petition for review and consideration by Commission. Liberty Energy represents in the petition that it “...plans to operate Granite State and EnergyNorth, to the greatest extent possible and beneficial to the companies' customers, as a single, stand-alone New Hampshire business...”³

B. Purpose of the Examination

The general purpose of this Proceeding is to evaluate the ability of Liberty Energy to fulfill the role and responsibility previously entrusted to National Grid upon its acquisition of Granite State Electric and EnergyNorth Gas. Liberty Energy asserts that it is prepared to do so if its application is approved. The Commission must objectively determine if Liberty Energy can do so before it can render the decision sought by the petitioners.

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- 1 Filed as a Joint Petition for Authority to Transfer Ownership of Granite State Electric Company and Energy North Natural Gas, Inc. to Liberty Energy Utilities (New Hampshire) Corp. and for Related Approvals the request was designated by the New Hampshire Public Utilities Commission as Docket No. DG 11-040 and hereafter referred to as the “Joint Petition”.
 - 2 Docket No. DG11-040 (hereafter termed “the Proceeding” or “the Docket”) was established on March 4, 2011. Following a pre-hearing conference on April 20, 2011 the Commission issued the associated procedural schedule (hereafter “the Schedule”) on April 25, 2011.
 - 3 *See* Joint Petition at 3.
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On July 17, 2011 the Commission engaged Gorham|Gold|Greenwich & Associates (“G³ Associates”) to assist with Staff’s evaluation of Liberty Energy’s Information Technology plan.⁴ G³ Associates was selected for its familiarity with the issues surrounding a transaction of the type at issue here, as well as for its technical expertise in the IT area. For over 22 years, G³ Associates has conducted a number of due diligence exercises similar to this in a number of utility mergers and acquisitions,⁵ and has advised state regulatory agencies, utility management, investment banking firms, rating agencies and shareholder groups in the Americas, the European Union, Pacific Rim Region and Commonwealth Nations.

G³ Associates was tasked in this proceeding with examining a number of selected issues related to Liberty Energy’s Information Technology (IT) plan. We have understood the scope of our review to require inquiry and analysis in five key areas:

- the capability of the selected technologies
- the competency of the providers, consultants and managers
- the completeness of the proposed plans
- the commitment of the partners involved in IT procurement and implementation
- the associated costs of the planned approach

C. Interest

In this proceeding, the Commission must consider the managerial competence, technical capability, corporate commitment, operational continuity and financial costs concerning the proposed transfer of assets and operational responsibilities.

With recent advances, the role of IT has grown more complex and more critical to the success of an efficiently run utility. In its consideration of the petition in this case, the Commission must be certain that any decisions associated with information-related technology do not present a net harm to the New Hampshire ratepayers.

In recent years, the growing importance of information-related technology has been demonstrated by National Grid as it continues to pursue technological integration of the legacy systems it has accumulated as a consequence of its North American acquisitions.⁶ Granite State

4 G³ Associates is a US-registered professional service firm specializing in the regulated utility sector. G³ Associates was founded in 1989 and continues to provide a range of decision-related services around the world. G³ Associates has extensive experience with mergers and acquisitions, changes in control, organizational design and regulatory compliance.

5 It merits mention that Principals in G³ Associates have more than 35 years experience in the merger and acquisitions field – both as advisors and participants in utility acquisitions, mergers and asset sales – for a number of firms other than G³ Associates.

6 National Grid currently employs legacy systems acquired from Brooklyn Union Gas, Long Island

Electric and EnergyNorth Gas operations have been integral components of National Grid's overarching plan to standardize its information-related systems, unify its support capabilities and modernize its hardware platforms as part of a comprehensive plan.

With the proposed sale of Granite State Electric and EnergyNorth Gas to Liberty Energy the IT integration plans envisioned by National Grid for those utilities will be replaced by new plans developed by Liberty Energy to reflect its own corporate requirements – requirements that are substantially different from those of National Grid. Presented with a significantly different approach to servicing the IT requirements of Granite State Electric and EnergyNorth Gas, the Commission must examine Liberty Energy's IT proposals to understand the magnitude of risk – both near-term and long-term – that this might represent.

D. Authority

The agreement between National Grid and Liberty Energy constitutes a changing of ownership and, consequently, a change in control. The Commission is required by statute to examine the merits of any application presented to it seeking a change of control of a public utility.⁷ Both Granite State Electric and EnergyNorth Gas are regarded as public utilities as defined in RSA 362:2 and, consequently, subject to regulation by the New Hampshire Public Utilities Commission. The Petitioners recognize the broad authority of the New Hampshire Public Utilities Commission to undertake a review of its application and acknowledge such in their Joint Petition.⁸

On May 3, 2011 the Commission issued a detailed Request For Proposal (“RFP”) seeking qualified consultant services to assist it in analyzing the information, works and systems to be transferred and developed as a result of the joint petition filed by National Grid and Liberty Energy. The RFP detailed a comprehensive set of issues that were of interest to the Commission as it deliberates the Joint Petitioners' proposed transaction.⁹ On June 15, 2011 the Commission agreed to a refined set of subject areas that, though fewer in number, retained the essence of the Commission's interest in identifying any attendant risk that might be mitigated or eliminated by

Lighting Company, Niagara Mohawk, New England Power Company, Massachusetts Electric Company, Nantucket Electric, The Narragansett Electric Company, Niagara Mohawk Power Corporation, Boston Gas Company, Colonial Gas Company, Granite State Electric Company and EnergyNorth Natural Gas, Inc.

7 The Commission's general authority in this matter emanates from general authority ascribed to it by RSA 363 and specific authority contained in RSA 363:17-a, RSA 374:3, RSA 374:30 and RSA 374:33.

8 See Joint Petition at 4.

9 The initial Scope of Work presented in the May 3, 2011 Request For Proposals was subsequently reduced in scope and scale to afford the consultant the means to concentrate efforts on those areas and issues of greater risk to the operational efficiency of the respective companies and the successful execution of the transition.

the concerted action of all the parties in the course of this proceeding.

III. Statement of Purpose

A. Intent

The Commission has determined it appropriate to undertake a thorough review of the plans, processes, programs and practices associated with the present and proposed information-technology operations supporting Granite State Electric and EnergyNorth Gas. This examination will provide an evidentiary foundation for any action as may be deemed needed, necessary or beneficial to successful execution of the proposed transaction.

It is apparent from the joint application of Liberty Energy and National Grid that two facts are indisputable.

- maintaining the status quo with respect to IT is not an option available to Liberty Energy; and
- modifying the over-arching IT architecture is not open for consideration

Critical to a successful transaction is a willingness on the part of National Grid to support Liberty Energy's IT requirements prior to, during and, to the extent necessary, after the transition period.

To ensure a through and adequate review of this issue, it is also critical that every element of the proposed IT "system" is open for review. It is apparent that considerable time and effort have been expended in identifying Liberty Energy's needs and matching those with appropriate software applications and infrastructure. It is not clear that any consideration of alternatives has been given.

In our review, we have endeavored to identify and assess the risks, if any, raised by the issues noted above. In our opinion, the identification of risks attendant to the change of responsibility from National Grid to Liberty Energy is critical to the Commission's assessment of the transaction as a whole, and can assist in identifying actions that could improve the likelihood of success and ensure compliance on the part of all the interested parties to those actions.

B. Basis for Investigation

In this matter, the Commission has asked G³ Associates to undertake a review of the Petitioners' IT activities to verify that the proposed actions are reasonable. G³ Associates' review was conducted in a manner that was objective, impartial and fair, with the full cooperation of both

National Grid and Liberty Energy, including affiliates and parent entities. The assistance of both the executives, managers, and staffs of both Petitioners proved indispensable in completing our tasked review in the available time frame and ensuring the accuracy of the work.

C. Scope

In its RFP, the Commission defined its primary interest to be the Cogsdale, Dynamics GP-WennSoft and Telvent products which Liberty intends to deploy to support a variety of front and back office functions and the transfer of data from National Grid systems to Liberty Energy systems. Specifically, G³ Associates was asked to perform the following tasks:

1. Review and assess the systems and functions currently used by National Grid in its New Hampshire operations to provide service to its New Hampshire electric and gas customers to ensure equivalent systems and functionality will be provided by Liberty Energy. Evaluate whether National Grid uses appropriate and sufficient methods to ensure data in various systems are consistent, or whether data reconciliation should be performed prior to transfer of data to Liberty Energy.
2. Review and assess Liberty Energy's planned testing and cut over readiness process including but not limited to a review of the systems testing strategy, plans, test cases and expected outcome of the test cases, conversion of source data, and the testing acceptance criteria along with an analysis of the testing strategy and plans for adequacy, feasibility, and comprehensiveness in addressing all necessary functions moving from National Grid to Liberty Energy, including IT back-up plans. Observe selected system and business process acceptance tests, as appropriate, and review the detailed test results for key acceptance criteria.
3. Verify that Liberty Energy is using appropriate and sufficient methods to assure complete and accurate conversion of data from the National Grid systems to the new Liberty Energy systems. This would include but not be limited to verifying that the conversion team is using automated comparative conversion metrics reporting of key count statistics between the National Grid systems and the converted data in the new systems, including meter counts by type, customer counts by type, product counts by product code, and other comparably key statistics.
4. Review Liberty Energy and National Grid plans to transfer necessary data from National Grid to Liberty Energy systems in a reasonable time frame and verify that the plans will provide the expected results or identify potential delays or failures.
5. Review and evaluate the readiness of Liberty Energy's systems to support all gas and electric operations at cut over, including simulated order activity, as appropriate. Review and evaluate National Grid's support capabilities following the system conversion.

6. Verify that Liberty Energy has performed the steps necessary to confirm accuracy of the data converted from National Grid in advance of cut over. This will include but not be limited to verifying that the conversion team has performed a conversion “audit” to confirm accuracy of data in the final mock conversion in advance of cut over. This audit should involve statistically valid sampling of converted data within the new systems to ensure that data are accurate as designed and required for business operation.
7. Verify that Liberty Energy has taken the necessary steps to produce all reports currently filed by National Grid with the PUC and that those reports are consistent with those currently produced with National Grid.
8. Review the full range of IT systems that National Grid currently has and those that Liberty Energy has proposed implementing to support gas and electric operations in New Hampshire. The list of systems to be reviewed will be developed by the consultant in conjunction with Staff, with input from National Grid and Liberty Energy, and will include, but not be limited, to, the following:
 - i. Retail support functions such as billing, customer accounts, collections, accounting;
 - ii. Systems (database software and/or spreadsheet applications) for supply-related contract administration, accounting of supply asset utilization, supplier invoice reconciliations and approvals, and management of natural gas, LNG and LPG storage inventories;
 - iii. System management software (database, CIS, other) of the daily metered and non-daily metered unbundled transportation customer choice program and coordination between the gas supply and customer information systems; and
 - iv. Outage management system and related Internet capabilities.

D. Focus

Based on discussions with Commission Staff, our review focused attention on actions planned and undertaken by the Petitioners to ensure that Liberty Energy will be able to fulfill the responsibilities currently borne by National Grid. It is consistent with the Commission's statement of work to restrict our professional opinion to institutional rather than individual performance. Accordingly, we concentrated our examination on five aspects of the proposed IT initiative. Specifically, we directed our focus to the following associated elements:

Policies	Corporate-level decisions that define the organizational and operational character of all business units
Processes	An approved means to maximize the value of any proposed policy

Programs	to the corporation Resources, requirements and responsibilities needed to support the approved processes
Practices	Adaptation, and subsequent execution, of approved programs by any operating unit
Plans	A prescribed set of coordinated tasks needed to meet the stated policies and programs

In so doing, we sought to provide context to the seemingly disparate activities surrounding the efforts of National Grid and Liberty Energy as well as Liberty Energy's assorted advisers, providers and partners.¹⁰

IV. Process

A. Framework

As noted in the prior Section, our focus in this investigation centered on those attributes generally regarded as critical to the success of IT systems development, transition and full implementation. To ensure the most efficient use of our time and resources we organized our effort around a five-point audit regimen. The regimen provides a systemic framework within which to examine the most critical facets of any information-technology operation. In this particular instance, we believe it extremely beneficial in evaluating the magnitude of change that accompanies this particular transfer of duties and responsibilities from National Grid to Liberty Energy.¹¹ Specifically we tailored our work to thoroughly examine:

- Systems Development Methodology – the structure, plan, control, and phase management processes utilized for systems, processes and functions that are developed and put into production for users.
- Testing Practices and Procedures – the mechanisms utilized to verify that the systems

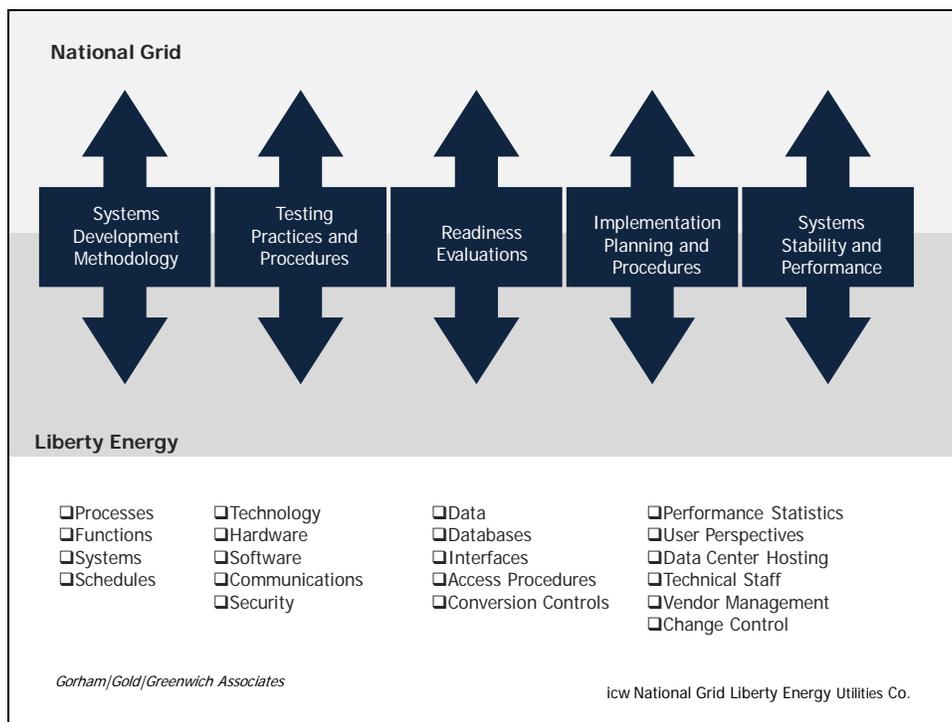
10 The IT initiative currently envisioned by Liberty Energy provides for active participation by a number of third-parties. Though these third-parties nominally operate under the auspices of Liberty Energy we cannot conclude without verification that these third-parties are capable and committed to this initiative. Accordingly, we have not sought to exclude those functions performed by others from our analysis but believe Liberty Energy retains responsibility for ensuring those activities are performed as if they were doing them themselves.

11 Liberty Energy has opted to deploy a fundamentally different approach to its IT responsibilities than National Grid. Accordingly, the “handover” between National Grid and Liberty Energy entails much more than transferring certain databanks from one provider to another. The scope and scale of change envisioned by Liberty Energy dramatically compounds the difficulty of achieving a seamless transition from National Grid to Liberty Energy.

work according to plan, at capacity and with responsiveness sufficient to meet user-established criteria

- Readiness Evaluations – the demonstrations made to ensure the systems are capable of meeting requirements for operations in advance of introduction
- Implementation Planning and Procedures – the means to migrate systems from development to operational environments with practices and procedures to deal with problems encountered in the migration phases
- Systems Stability and Performance – the ways in which systems are measured and monitored once placed into production.

As a general principle, this five-point audit regimen is very useful in identifying “gaps” and “overlaps” within/across organizations involved in technology planning.



B. Design

Given the intent of this engagement is to identify any systemic weaknesses that might exist in the current proposals of Liberty Energy it seemed appropriate that the investigation take the form of a verification audit. In that context, the representations made by the principal parties were subjected to rigorous scrutiny, examined for their relative importance and assessed for their veracity. The audit focused on any gaps, inconsistencies and misrepresentations that, if corrected, could materially alter opinions of the Commission regarding this topic.

C. Methodology

Approaching this engagement as a verification audit provides us the opportunity to apply the Enterprise Risk Methodology (“ERM”) as a framework for our examination. ERM was developed in 2006 and adopted by the American Institute of Certified Public Accountants (“AICPA”) as a means for American corporations to comply with Sarbanes-Oxley reporting requirements. ERM is purposely structured to identify fundamental weaknesses, improve decision-making and enhance managerial accountability. The approach has proven to be very effective in matters such as this where the intent is to identify risk, establish its relative importance to the operational success of the enterprise and formulate a series of actions to reduce or eliminate it.¹²

ERM emphasizes the importance of directing attention to those subject areas that determine the relative success or failure of the business enterprise. In this instance, Granite State Electric and EnergyNorth Gas’ success is heavily dependent on the ability to execute a timely transition from the long-used, heavily-modified legacy information systems available to National Grid to a markedly different approach adopted by Liberty Energy.

ERM delineates a number of useful audit tools that can be employed to identify risk in a subject. For this engagement, we opted to use Gap Analysis – a widely-recognized and generally accepted set of audit techniques. Gap Analysis emphasizes the difference between an accepted standard of performance and that observed in use by the subject as a primary determinant of risk.

In this investigation, we noted that the operational differences between National Grid and Liberty Energy with respect to IT systems and implementation were dramatic. The span of difference was such that it introduced a measure of risk in the transfer of control that warranted the concern and attention of the audit team. Gap Analysis proved to be the most effective means of identifying the scope and scale of change, the magnitude of risk it presented to the transition process and the set of actions required to mitigate any identified risks.

D. Measurements

Information technology is, by most definitions, an enabling capability within the enterprise it supports¹³. Accepting that as our premise in this examination, the principal goal for any IT

¹² For an applied use of the Enterprise Risk Methodology: See K.H. Spencer Pickett Audit Planning: A Risk-Based Approach (New York: John Wiley & Sons, 2006).

¹³ The opinion we hold is one first asserted by C. L. Hulin and M. Roznowski in a pioneering article on the effects of technology on organizational behavior. Their views are fully articulated in “Organizational Technologies: Effects on Organizations’ Characteristics and Individuals’ Responses” in L.L. Cummins and B.M Straw (eds) Research in Organizational Behavior, Vol. 7,

organization must be to improve the ability of any organizational unit it serves to achieve its stated goals and objectives. Consequently, IT must be judged by its ability to provide services, systems and support personnel to meet the needs of its user community.

This engagement does not lend itself to a significant number of quantitative measurements. The significant operational differences between National Grid and Liberty Energy make almost any conventional metric comparison impossible. The exception is cost and we do make some observations in that regard.

In keeping with the definition that we refer to above, we have endeavored to substitute some qualitative measures that generally reflect the issues of interest to the user communities. In our experience, the efficiency and effectiveness of service organizations is more evident in the qualitative aspects of its operations than in its metrics. Consequently, we looked to judge five dimensions of Liberty's planned approach to meeting its IT requirements. Specifically, we sought to assess:

Commitment – The depth and breadth of effort made on the part of the responsible party (i.e. Liberty Energy) to plan, execute and manage the transfer;

Capability – The inherent limits to performance presented by technology choices, vendor management and operational constraints;

Comparability – The extent to which user training must be provided with any new technology to achieve a level of proficiency and value to the operation;

Continuity – The extent to which the transition and/or transformation from one operating environment to another can be achieved without loss of function, file or form; and

Cost – The extent to which the investment, – direct and allocated function expenses, – and transition costs, have been considered for the IT function.

V. IT Systems and Functions within Liberty Energy

As explained by Algonquin's witnesses Mr. Tremblay and Mr. Bronicheski, Granite State Electric and EnergyNorth Gas operating under Liberty Energy NH, will utilize a broad range of IT systems and functions provided by the parent entities (i.e., Algonquin, Liberty Energy Utilities Canada, and Liberty Energy Utilities US) while some end-user support functions will be

(Greenwich: JAI Press, 1985).

provided locally. Direct cost assignments and allocations will be passed to the operating utilities, pursuant to the corporate cost allocation process. This approach is not unique (National Grid has traditionally performed similarly) and it presents no new challenges to regulation.

Liberty Energy will operate its IT enterprise from a centrally located data center (equipped with back-up and recovery capabilities) networked to work centers in New Hampshire where personal-computers and other devices are the tools its users employ to access the IT systems. The leased telecommunications network Liberty Energy uses is secured in a number of ways to ensure that access to the systems and information is provided according to user privilege, administered by the Liberty Energy headquarters technical staff. Liberty Energy intends to implement a suite of applications under the Microsoft Dynamics GP (formerly Great Plains) framework which provides a common infrastructure for the eventual, mature operations of the utilities.

Liberty Energy will, at some time, provide a full range of customer service functions in New Hampshire, tied to the implementation of its Customer Service Management (“CSM”) system. Until then, Liberty Energy will rely on National Grid to provide customer service and contact support via Transition Services Agreements which we discuss in detail in this report. Other Liberty Energy IT system users will have their business functions supported with systems resources implemented over an envisioned two-year time period with interim support also provided by existing National Grid IT systems.

VI. Frequently Used Terminology

For ease of use and reference, the following terms have the meanings provided:

Joint Petition – the Joint Petition for Authority to Transfer Ownership of Granite State Electric Company and Energy North Natural Gas, Inc. to Liberty Energy Utilities (New Hampshire) Corp. and for Related Approvals.

TSA – Transition Services Agreements of EnergyNorth Gas (Joint Petition Attachment 10) and Granite State Electric (Joint Petition Attachment 11) – the agreement(s) for Liberty Energy to purchase utility operations support services from National Grid and its service companies, post closing – Schedule A of each Agreement provides a detailed description of each service available, the duration or period that the Joint Petitioners believe the service will be needed by Liberty Energy, the costing basis for the fee(s) for each service, and the names of National Grid and Liberty Energy coordinators for the service.

Data Request – For discovery, the parties issued Data Requests (i.e., Interrogatories) to seek clarifying or supporting information from other parties. These have been numbered sequentially and prefixed to associate them with the issuing organization: OCA – Office of the Consumer Advocate, Staff – Staff of the Commission, including its consultant, USWA, United Steelworkers

of America.

Technical Session – The procedural schedule for this matter provides for four (4) meetings of the Joint Petitioners, Staff, OCA, Intervenors and other participants in the proceeding during which noticed agenda items can be discussed openly and information exchanged and requested.

Day 1 – The theoretical first day of operation of the Granite State Electric and EnergyNorth Gas utilities by Liberty Energy Utilities. In many respects, Liberty Energy will be supported by National Grid with transition services beginning on Day 1.

Year 1 – The theoretical first year of operation of the Granite State Electric and EnergyNorth Gas utilities by Liberty Energy Utilities. In many respects, Liberty Energy will be supported by National Grid with transition services throughout Year 1.

Day N – The theoretical day when Liberty Energy operates independently from National Grid’s transition services. Day N may also apply to the phased-in implementation timeframes for individual operations..

Year N – The theoretical first year of Liberty Energy Utilities independent operation of the Granite State Electric and EnergyNorth Gas utilities

VII. Overview of Liberty Energy’s Approach to Planning its IT Systems and Related Operations

Liberty Energy has bifurcated its approach to planning for its assumption of operational responsibility for the Granite State Electric and EnergyNorth Gas utilities in New Hampshire: it has Day 1 and Day N conceptual views, where Day 1 is the targeted start of Liberty Energy’s operational role and Day N refers to the final transition and implementation of mature state of IT systems, operations, and work center support.

For its project planning processes to hold shape and dimension, Liberty Energy has selected December 1, 2011 as its planned Day 1. A nominal date is typically chosen to serve as a project planning anchor point which gives the project planning staffs a means to forecast project steps, tasks, task intervals, and resource estimates. The actual date for Day 1 will be reset based on the presumed approval of the underlying transaction by the Commission, finalization of the contractual obligations of the Joint Petitioners, and other requirements.

Liberty Energy refers to its mature operational state as Day N to reflect its vision as a stand-alone operator of the New Hampshire utilities. Each of its IT systems, operations, and work centers supported by IT systems will reach its own Day N, based on yet-to-be-developed project plans;

Liberty Energy will reach Day N when all of its systems and operations reach this mature state. While these are not pin-pointed for dates certain, the use of the “mature state” concept is useful for project planning purposes.

The bifurcated approach, however, creates uncertainty in evaluating IT systems which, ideally, should be evaluated as they exist and operate. In this engagement, very few of the systems included in Liberty Energy’s plans currently exist, and very few additional ones will be implemented in the near future, as most are envisioned for Day N, somewhere along the 18- 24 month TSA time continuum. Liberty Energy has prioritized its project planning for Day 1 operational requirements. The business functions Liberty Energy will have in place for Day 1 are the ones Granite State Electric and EnergyNorth Gas currently utilize, and which will continue as provided via transition services, with exceptions for financial systems, e-mail and some telecom resources. The planned staffing of work centers follows this bifurcated approach as well. For example, for Day 1 operations, customer service support (e.g., calls for service inquiries, billing questions, reporting troubles, etc.) will be performed by National Grid staff on behalf of Liberty Energy through the TSAs. Some specialized service activities, such as energy efficiency program arrangements, will be handled by Liberty Energy staff in New Hampshire. Collections work will be performed by third-party contractors as is the current National Grid practice.

National Grid has committed resources to assist in achieving the Day 1 and Day N objectives in accordance with Liberty Energy’s project planning approach.

As we conducted our evaluation, we accepted the premise that Liberty Energy intends to deploy its IT systems in New Hampshire as stated in the Joint Petition and according to the Direct Testimony of its witnesses. The timing of those deployments is dependent upon project planning efforts which, in practical terms, have not begun for the Day N systems and operations.

VIII. Hypotheses

In preparation for our review we established a set of working hypotheses to guide our work. To formulate our eight hypotheses we drew upon the scope of work assigned to us by the Commission¹⁴ and our experience in conducting similar IT systems evaluations in other engagements. Our hypotheses are interdependent in forming our conclusions about the Liberty Energy and National Grid IT systems and designed to test the specific subject matter from different perspectives. In developing these hypotheses, we believed it reasonable to assume National Grid and Liberty Energy maintain short - and long-range perspectives addressing:

¹⁴ Request for Proposals at III. “Scope of Work”

- ⤴ Strategic views of operations and of systems and work centers
- ⤴ System architecture views
- ⤴ Migration plans
- ⤴ Operations and systems management requirements

Absent any meaningful insight to these matters in the Joint Petition, we had to assume documentation existed on the part of both petitioners that would be sufficient for us to gauge the scope and scale of their work in these areas. The importance of documentation cannot be overstated, as it reflects not only what matters have been considered and resolved, but also those that remain to be addressed.

We knew that considerable energy had been expended by the two parties on the issue of IT development, transfer, and implementation, but without further information, we lacked the foundational material that underlay the commitments expressed by the participants as they filed their Joint Petition.

The hypotheses we used to guide our research and analysis are outlined below, with summaries of our investigation methods, results, and conclusions.

***Hypothesis I.** Liberty Energy exercised reasonable decision making when selecting its IT systems and organizing operations supported by IT systems*

With this hypothesis we test Liberty Energy's management and decision-making with respect to its choices of vendors and applications. We also inspect its planned operations to determine that the choices are appropriate for the anticipated utilization of the system by Liberty Energy NH user departments. G³ Associates observations:

- ✓ We examined Liberty Energy's IT vendor selection process and found that it elected to use BDO, WennSoft, Cogsdale, and Telvent on the basis of its past experiences with those vendors and products. No competitive bidding or selection process was performed by Liberty Energy. We typically find that major IT investment decisions entail consideration of the broad marketplace of vendors and applications that are available and involve the technical staff and user organizations to find the proper solution.
- ✓ We found there was no consideration made for long-term use of the IT assets of National Grid, but that the companies had decided to make use of National Grid's Transition Services for the initial operations of the utilities with the intent to migrate to Liberty

Energy's own IT and support systems over a multi-year period. As we examined the National Grid transition services offered to Liberty Energy, we felt an alternate choice could be to have National Grid continue to operate the IT systems, maintain them, and function similarly to a service bureau for Liberty Energy. While it is an interesting concept, neither National Grid nor Liberty Energy believed it worthwhile considering.

- ✓ Liberty Energy has a basic understanding of the functionalities within each of the IT applications it intends to utilize for the long-term and intends to gain further knowledge by working closely with the various vendors to configure and implement the systems. Given the proposed transaction closing date and the transition timeframe, this approach leaves Liberty Energy with a small window within which to develop its institutional knowledge of the functions, processes and procedures within these systems. This approach compels the need to manage and direct the IT vendors through the transition and beyond.

Liberty Energy's reliance on the IT applications to define its operations is contrary to the approach most often used by businesses, including utilities. "Our strategy is to build our processes around these [Enterprise Resource Planning ("ERP")] solutions leveraging on the ease of implementation"¹⁵ Typically the system users have business functional requirements "what the systems need to do" and utilize IT systems to achieve those requirements "how the systems meet the needs". The Liberty Energy approach places the focus on the IT systems "what the systems can do" to perform processes for the users "conform your process requirements to the systems." The Liberty Energy approach dictates what the system can do as conceived by the vendor and not what the system must do, as conceived by the business process owner, i.e., the Liberty Energy users.

Liberty Energy has expressed its intent to have its systems integrated with one another to the extent possible, especially by using systems that conform to the Microsoft Dynamics GP infrastructure. Each vendor-supplied application will bear on other applications. The resulting operating environment may frustrate Liberty Energy's users as they will have their needs for system functions limited by the least capable vendor that needs to "catch-up" with the vendors that have made more technical advances.

The trade-off Liberty Energy has made in its choice of IT strategy is cost avoidance in its own human and technology resources that would be required to perform systems analysis, design, and development. Instead, this approach requires Liberty Energy to seek any necessary system modifications, upgrades, or feature changes from the vendors. Each of the vendors has its own proprietary process for considering system changes from its user community. Liberty Energy would be one among many seeking changes, with no reasonable expectation that its system change request would be accepted or scheduled for

¹⁵ Information Technology Update to the New Hampshire Public Utilities Commission by Liberty Energy Utilities, June 13, 2011

implementation. In the meanwhile, its users will be required to invent and employ “work-around” procedures to achieve their operational needs.

- ✓ Based on its analysis of National Grid systems, functions and processes, Liberty Energy has decided that it will concentrate on building IT capabilities to parallel those of National Grid in its New Hampshire operations. It has not conducted sufficient analysis to allow us to comment on the efficacy of that plan. In its nascent stage as an electric utility and a neophyte in the gas distribution business, Liberty Energy has no independent understanding of how it wants to have IT systems, functions, and processes configured for the New Hampshire gas and electric operations. It intends to learn about and develop the necessary configurations during the transition period following Day 1. Liberty Energy has implicitly accepted the National Grid operating model by its acceptance of Transition Services for Day 1 – i.e., the systems will operate no differently than they do prior to Day 1. The lack of detailed planning documentation of its intended systems, coupled with the acceptance of the IT systems, as defined by its vendors, means the Day N systems, functions, and processes will be determined in the future and are not available for our evaluation during this proceeding.

- ✓ Liberty’s plan for staffing customer service operations at Day 1 is to utilize current National Grid staff via transition services, with some supplemental staff at the manager level. The additional positions are consistent with Liberty Energy’s intent to locate additional jobs in New Hampshire. “Liberty Energy NH will establish and maintain a New Hampshire headquarters and operations center for all core functions of Granite State and EnergyNorth that are returned to New Hampshire.”¹⁶ We understand Liberty Energy has decided to accept the headcounts of National Grid as its beginning premise for operations that are served by the IT systems for Day 1¹⁷. It will adjust those as it progresses toward Day N for its stand-alone customer service operations implementation. Whether these headcounts are sufficient or excessive cannot be determined until the Day 1 training regimens are assembled, tested and have been analyzed for impact on operations. For example, with the unresolved issues explained in Hypothesis V, customer contact intervals may be significantly increased as customer service representatives are impacted when these changes are implemented: “National Grid staff will be trained to answer calls as Liberty Energy Staff” and “National Grid staff will be trained to answer questions about the change in ownership”¹⁸

- ✓ Liberty Energy’s budget estimates for the capital investment in IT systems it will utilize

¹⁶ Robertson Direct Testimony at p. 22 of 32

¹⁷ “During the Transition Period, the Seller will continue to manage the call center in a manner consistent with past business practices. All hours of operation and staffing levels are to remain the same as they do currently, including the recruitment of agents to cope with peak periods of call activity.” TSAs Schedule A, Customer Service 1 “Call Center Operations”

¹⁸ Supplemental Response to Staff Data Request 3-69 and Attachment (c) “Customer Service Project Plan”; ID Numbers 48 and 49

are in line with its experience with the same vendors that have worked with the company in other parts of the country. Its estimates for implementation of the systems for New Hampshire are incomplete as a result of its concentration on planning for Day 1 operations. As it develops its plans for implementation of the Day N IT systems and related operations, significant budget increases will follow.

Our testing and evaluation result in acceptance of this hypothesis with respect to Day 1 IT systems and related operations. We lack sufficient data at the present time to either accept or reject this hypothesis for purposes of evaluating Liberty Energy's IT plans for Day N.

Hypothesis II. *Liberty Energy's plans for proving and testing the systems it intends to implement are sufficient for their intended purposes*

This hypothesis is directed by the Commission's request for our evaluation of "... Liberty Energy's planned testing and cut over readiness process including but not limited to a review of the systems testing strategy, plans, test cases and expected outcome of the test cases, conversion of source data, and the testing acceptance criteria along with an analysis of the testing strategy and plans for adequacy, feasibility, and comprehensiveness in addressing all necessary functions moving from National Grid to Liberty Energy ..."¹⁹ G³ Associates observations:

- ✓ We reviewed the IT test plans Liberty Energy and BDO have drafted for the conversion of financial information from National Grid to the WennSoft systems Liberty Energy intends to utilize for Day 1. These plans²⁰ provide articulated steps by which Liberty Energy and National Grid will cooperate in converting financial information from National Grid into the WennSoft applications. No test plans were provided by Liberty Energy that relate to its plans for implementing IT systems for other functional areas of its utilities operations. We cannot adequately address the RFP requirements without documented testing plans. In the Systems Testing section of our Findings, below, we provide further explanation of the testing plans that Liberty Energy should develop and implement for its IT systems. Presumably when Liberty Energy engages the work to acquire and implement the other systems, it will work with the involved IT vendors to develop adequate testing plans.
- ✓ It is unclear that much progress has been made in the testing of the financial system conversion process and the ongoing exchange of financial information²¹ between National Grid and Liberty Energy for Day 1 operations indicate that more work is

¹⁹ Request for Proposals at III. "Scope of Work" 2.

²⁰ See Response to Staff Data Request TS 2-9 and Attachment to the Response

²¹ Liberty Energy intends to rely on National Grid to provide it with ongoing information on customer payments, accounts receivable and revenues but has not yet determined the form, format, and frequency of those information exchanges.

required before a successful conversion can take place. Our expectation is that the financial systems and associated data conversion testing processes will be conducted by BDO, National Grid and Liberty Energy in sufficient time to implement the systems for Day 1.

- ✓ Testing of other IT systems for Day 1 operations, such as e-mail, Citrix and RSA-2 security devices are expected to be conducted closer to Day 1 operations. We reviewed no such test plans. These IT systems are currently utilized in Liberty Utilities' water operations and we expect the expansion of them for Liberty Energy in New Hampshire to pose no technical concerns.
- ✓ We reviewed no evidence of user involvement in testing of the IT systems for Day 1. The absence of user involvement in the system testing can have direct and negative consequences for Liberty Energy for Day 1. Notwithstanding the fact that there is a small population of users involved with the financial information processed through the Day 1 financial systems, exposing them to new information, from new sources for reporting financial results jeopardizes the accuracy, timeliness and completeness of the data until the users become acclimated to the changes. The familiarization process should be conducted within the testing and implementation environment and not when the flow of financial information is a product of live operations.

Our testing and evaluation result in rejection of this hypothesis in respect to Day 1 IT systems and related operations. The absence of comprehensive testing plans for the systems and operations planned for Day 1 and the pending status of financial systems testing and data conversion testing for cutover and ongoing information flows from National Grid to Liberty Energy are the determinable criteria. We lack sufficient data at the present time to either accept or reject this hypothesis for purposes of evaluating Liberty Energy's IT plans for Day N.

***Hypothesis III.** Liberty Energy's planned support systems are adequate to the identified needs*

In this hypothesis we test what the IT systems are intended to deliver in terms of functions and processes to the IT organization and to users of the Liberty Energy IT systems. G³ Associates observations:

- ✓ We examined Liberty Energy's plans for Day 1 operations and found it intends to utilize its own e-mail, network security, and financial applications²² and obtain to all other IT system support from National Grid's transition services.

²² WennSoft financial systems will be launched with support and subject matter expertise provided by BDO, Liberty Energy's selected systems integration consultants.

- ✓ Liberty Energy has worked with BDO to define system and operating requirements for the financial systems (e.g., FERC chart of accounts²³, fixed assets, procurement, capitalization, inventory, time sheet entry, chart of accounts setup, FERC accounting rules, pension plan accounting, month end accounting, monthly book-closing routines, capitalization policies and fuel procurement accounting requirements) according to its parent entities' internal processes and procedures. Liberty Energy has also examined reporting requirements for information required by the Commission, FERC and other agencies. Based on discussions and discovery conducted in this proceeding, our understanding is that Liberty Energy and BDO have communicated on these requirements thoroughly.
- ✓ Liberty Energy and BDO, working with National Grid, have crafted a testing plan to address incorporating financial information from the National Grid systems and convert it to the Liberty Energy system.²⁴ We understand this testing is to begin imminently.
- ✓ Liberty Energy has no plans to perform volume testing of its Day 1 financial systems where volume testing means subjecting the system(s) to certain transaction volumes to determine that the volumes of transactions do not impair or impede processing-as-usual, including response times. Presumably, as an explanation for its decision not to conduct volume testing, Liberty Energy has stated that “WennSoft and Cogsdale are based on the Microsoft Dynamics GP/SQL platform utilizing its advanced design, database (SQL 2008) and robust technology and has already been stress tested by the manufacturer.”²⁵ The failure to subject the system to volume testing as configured for its planned operation, as opposed to a controlled vendor environment, exposes Liberty Energy to the risk that there is a point at which the amount of work to be performed within the system is such that it “slows down” or provides delays in system response time to users. This risk would be mitigated by finding out, in advance, the conditions that create deterioration of operations, and building an operations plan that avoids that peak work volume impairing operations. Volume testing is a generally accepted type of IT testing that is a sensible precaution.
- ✓ Liberty Energy also has no plans to perform stress testing of its Day 1 financial systems where stress testing means subjecting the system(s) to transaction volumes where the object of the test is to determine the point at which volumes of transactions significantly higher than typical loads do or do not impair or impede processing-as usual, including response times. Stress testing is a type of volume test, but with a different objective which is to find the breaking point where the system fails to perform. Certain volumes of transactions are posed to the system in a testing environment so that the system managers can locate the operating capacity limit and provide “circuit-breakers” that allow the

²³ 18CFR § 101 and § 141

²⁴ Response to Staff Data Request TS 2-9 and its Attachment.

²⁵ Response to Staff Data Request 4-11

system to be “gracefully” shut down to avoid the crash experienced in the testing environment. Stress testing is a typical component of well-engineered system testing protocols.

Our testing and evaluation result in acceptance of this hypothesis in respect to Day 1 IT systems and related operations. We lack sufficient data at the present time to either accept or reject this hypothesis for purposes of evaluating Liberty Energy’s IT plans for Day N.

Hypothesis IV. Liberty Energy’s post-close operations are reasonably efficient and effective compared to those of National Grid

Testing of this hypothesis entails consideration of the expected operating characteristics of Liberty Energy as it uses its IT systems in support of gas and electric operations in New Hampshire. Those are weighed against the known environment as currently operated by National Grid. G³ Associates observations:

- ✓ In discussions with Liberty Energy on August 23, 2011, in Oakville, Ontario, we examined the extent to which Liberty Energy intends to utilize the National Grid Transition Services post-close. We reviewed Liberty Energy’s project planning (For Day 1 Operations), including its methods of prioritizing which functions to perform on a stand-alone basis versus through utilizing transition services.
- ✓ The prioritization method employed in these exercise considered a Liberty Energy-prescribed model where “Ease of Implementation” and “Value” are critical parameters. Both being subjective measures, and absent relevant insight to the Liberty Energy value propositions within each, the resulting “prioritization matrix”²⁶ for the department/organization plans presents, at least, an examination of alternatives for deployment of resources. The organizational preliminary views of Liberty Energy’s transition services requirements beginning with Day 1 and continuing through 2012 are presented below. Some transitions services may be required beyond 2013. The highlighted periods represent intervals during which Liberty Energy expects to utilize transition services within each project planning group. The intervals during with Transition Services are expected to be used are generally reasonable forecasts at this time and because the TSAs provide for extending the utilization periods, little risk exists that operations would be disrupted by a particular service termination. The intervals currently being experienced in Liberty Energy’s CalPeco operation do not seem to be represented in these estimates, in the CalPeco case, delays in the cutover to customer service on the Cogsdale CSM system has caused Liberty Energy to require additional transition services from Sierra Pacific. As Liberty Energy’s planning for the period beyond Day 1 continues

²⁶ See Granite State and EnergyNorth Transition Planning presentation by Liberty Energy staff on August 23 and 24, 2011 Oakville, Ontario.

for New Hampshire, and transition services ordering and management procedures are developed, we expect these estimated utilizations to be expanded. (See Transition Services Management section in our Findings)

Group	Transition Service Family	Day 1	2012				2013			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Customer Service	Meter Reading System	█	█	█	█	█				
	Billing Systems	█	█	█	█	█				
	Billing Services	█	█	█	█	█				
	Cash Processing	█	█	█	█	█				
	Collection Systems	█	█	█	█	█				
	Collection Services	█	█	█	█	█				
	Call Center Services	█	█	█	█	█				
	IVR	█	█	█	█	█				
	Web	█	█	█	█	█				
	Energy Efficiency	█	█	█	█	█				

Group	Transition Service Family	Day 1	2012				2013			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Operations	Dispatch	█	█	█	█	█				
	System Control	█	█	█	█	█	█	█	█	
	Mutual Assistance Crew/Cont. Support	█	█	█	█	█	█	█	█	
	Meter Shop	█	█	█	█	█				
	GIS	█	█	█	█	█				
	Operations Support	█	█	█	█	█				

Group	Transition Service Family	Day 1	2012				2013			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Human Resources	Technical Training	█	█	█	█					
	Pension	█	█	█	█					
	Benefits	█	█	█	█					

Group	Day 1	2012				2013			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Transition Service Family									
Information Technology									
Not Provided ²⁷									

Group	Day 1	2012				2013			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Transition Service Family									
Regulatory									
Training on major filings									
Develop PUC Communication Plan									
Begin compliance function									
Government Affairs									
Determine position on energy issues									
Introduce Liberty staff to Gov't contacts									
Manage REC inventory									

Group	Day 1	2012				2013			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Transition Service Family									
EHS&S									
Health and Safety									
Environmental Compliance									
MGP Site Investigation and Remediation									
Security Training									
Vulnerability Assessments									
Security Services Manual/Procedures/Plans									
Security Control, Monitor & Log									
NERC/CFATS/PHMSA/TSA Compliance									

²⁷ IT Transition Services costs of \$2.7 million were estimated for “Year 1” in the Technical Session held on September 7 and 8, 2011. These services would be required for Day 1, and presumably for some period of 2012 and perhaps beyond.

Group	Day 1	2012				2013			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Transition Service Family									
Finance									
Estimating									
Emergency w/o's									
Equipment and PM scheduling									
Drawings									
Warehouse									
Fleet									

Group	Day 1	2012				2013			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Transition Service Family									
Procurement - Electric									
Electric Procurement									
Settlement Services									
Meter Data Services System Ready									
Load Data from MV-90									
Customer Count Input System Ready									
ICAP Calculations Ready									
Manage REC Inventory									
Electric Forecast									

Group	Day 1	2012				2013			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Transition Service Family									
Procurement - Gas									
Gas Procurement									
Gas Scheduling									
Tracking of Gas Cost									
Customer Choice Programs									
Gas Volatility Management Program									
Gas Supply Optimization									
Gas Load Forecasting									

- ✓ The costs for transition services are to be based on current costs for National Grid's utilities to perform the functions as defined in the Schedule A sections of the TSAs, with no mark-up for profit.

“All of the Services rendered under this Agreement will be charged based on a reasonable approximation of the actual costs incurred by the Seller to provide such Services, without any mark-up for profit. The Seller will

calculate its actual costs of providing the Services by using a combination of direct charges and allocations in a manner consistent with the charges billed to the Company for comparable services prior to the Transition Period, and in all cases consistent with industry standards and applicable regulations.”²⁸

- ✓ The estimated total costs for transition services for “Year 1” for Granite State Electric are \$7.2 million and for EnergyNorth Gas, \$11.8 million²⁹. Based on our analysis of the time periods predicted for Liberty Energy’s utilities to require the transition services³⁰ we expect the costs in the second year to drop to \$10 million as the Liberty Energy utilities begin to self-perform the functions covered by the Transition Services. Transition services rates are not expected to change over the period that Liberty Energy’s utilities use these services.
- ✓ Service Quality Metrics (“SQM”) are regularly used in service operations, including those of utility operators, as a method for management (and regulators) to obtain information about quality of services rendered, trends of those indicators, and to trigger action plans in case the trends become of concern. National Grid currently uses SQMs for measuring such activities as: meter reading, billing, customer calls, collections and web-based interactions with customers. Liberty Energy intends to use the same metrics for its operations beginning with Day 1³¹, but may consider alternate SQMs. “... upon conversion a comprehensive review will be undertaken to ensure appropriateness of the metrics for the operations.”³² Conversion, in this context, is presumed to mean when Liberty Energy is performing its operations without support of Transition Services from National Grid.

Our testing and evaluation result in acceptance of this hypothesis in respect to Day 1 IT systems and related operations. We lack sufficient data at the present time to either accept or reject this hypothesis for purposes of evaluating Liberty Energy’s IT plans for Day N.

Hypothesis V. *Liberty Energy’s IT staffing proposals for IT systems and for its operations supported with IT systems, including recruitment, training, capabilities, and coverage (i.e., sick days, vacations, emergencies, etc.) are reasonable*

²⁸ Transition Services Agreement – EnergyNorth Natural Gas, Inc. Schedule A, II. Transition Services Costing and Transition Services Agreement – Granite State Electric Company Schedule A, II. Transition Services Costing

²⁹ Supplemental Response to OCA Data Request OCA 2-18

³⁰ See Transition Services Agreements, Schedule A “Transition Services”

³¹ Response to OCA Data Request OCA 2-8 (f)

³² Response to OCA Data Request OCA 2-8 (g)

Our consideration of this hypothesis gives us insight into the extent to which Liberty Energy has planned its work centers and how they will utilize the proposed IT systems to provide comprehensive coverage to support Liberty Energy customers. G³ Associates observations:

- ✓ We met with the Liberty Energy IT executives and managers for a two-day period in Oakville, Ontario (August 23 and 24, 2011) to discuss in detail a broad range of IT issues.³³ Our intent was to gain insight into planning and implementation work Liberty Energy has underway and is considering for the future. Considerable time was invested in reviews of IT systems and the planned operations, especially for Day 1, that rely on IT systems.
- ✓ Liberty Energy has committed to staff work functions in New Hampshire keeping to its organizational design principle of localized employment for its utilities operations. “Under the Algonquin model, a far greater proportion of the services will be provided by directly employed New Hampshire operations staff.”³⁴ This staffing will not be achieved for Day 1 operations.
- ✓ Some core management positions have been designed for Granite State Electric and EnergyNorth Gas and while those are identified for Day 1³⁵, it requires speculation to assert those would be sufficient and adequate for a non-specific time period, such as Day N. The work force necessary for Day N operations has not been configured and will not be until detailed planning work is done for the future systems and operations environment.
- ✓ Consistent with our assigned evaluation, two particular Liberty Energy organizations that we studied (Information Technology and Customer Service) are worth profiling for purposes of demonstrating Day 1 operations³⁶ – Information Technology because it is central to our engagement’s scope and Customer Service because of its reliance on information technology to enable its users to do their work.

³³ The corporate headquarters location of Algonquin Power & Utilities, Corp, and its wholly owned subsidiary, Liberty Energy Utilities, the parent entity of Liberty Energy New Hampshire, is located in Oakville, Ontario

³⁴ Robertson Direct Testimony at p. 20 of 32

³⁵ Granite State and EnergyNorth Transition Planning presentation by Liberty Energy staff on August 23 and 24, 2011 Oakville, Ontario at p. 8.

³⁶ *Id.* at pp. 8 and 25



Information Technology Day 1 Operating Model Objectives

- Stand-alone
 - Email System – move employees to @Liberty- Energy.com
 - Transfer ownership of telecom lines , long distance , mobile devices related to local operations of Energy North / Granite State
 - Issue new security roles within both National Grid and Liberty Energy's corporate domain as needed
 - Citrix access to Liberty Energy applications – Great Plains System, Email , Office applications
- TSA Requirements for the following:
 - Business Application Support and Development
 - Data Center
 - Client Services (Help Desk)
 - Contracts & Licensing
 - Infrastructure
 - Network
 - Digital Risk and Security

June 13, 2011

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Customer Service Day 1 Operating Model Objectives

- Stand-alone
 - Liberty Energy will have a core Management Team in place (VP, Director/Manager, Analyst, Customer Complaint Representative)
 - Customer calls for new services, service upgrades or changes (Order Fulfillment) will shift to Liberty Energy
 - Sales and Marketing will shift to Liberty Energy
 - Energy Efficiency Program management and delivery will shift to Liberty Energy
 - Day-to-day interactions with regulatory staff and consumer agencies will shift to Liberty Energy
 - Regulatory, government and community interactions at the Leadership level will shift to Liberty Energy, with support from National Grid as needed
- TSA Requirements for the following
 - National Grid will deposit customer payments to a new Liberty Energy bank account
 - National Grid will provide financial and operational reports on a daily, weekly and monthly basis

June 13, 2011

8

○

✓ Liberty Energy's Customer Service Project Plan significantly understates the operation's

reliance on transition services from National Grid. These New Hampshire customer-facing operations for Day 1 will be performed under the TSAs. While Liberty Energy's commitment to customer service excellence is made by its executives³⁷, it actually intends to rely on National Grid for the first 12 to 18 months for these services at service levels currently experienced. Transition services will also provide call center operations, customer meter readings, issuing bills, customer payment processing, collections activities and new customer implementations. For these functions, Liberty Energy will rely on transition services until its own customer service management system on the Cogsdale application has been successfully implemented.

- ✓ Our testing and evaluation results in rejection of this hypothesis for Day 1 IT systems and related operations. There are several criteria applied to this hypothesis that collectively, require us to conclude failure with respect to Day 1 objectives: specific training materials for Day 1 for Customer Service Staff is not scheduled to be complete until October 4, 2011 and the training program will not be conducted until November, 2011;³⁸ key staff members in the Customer Service organization have been given no notice of a starting date/time frame or a reporting location³⁹. We lack sufficient data at the present time to either accept or reject this hypothesis for purposes of evaluating Liberty Energy's IT plans for Day N.

Hypothesis VI. *Liberty Energy's budget and financing plans for the development and implementation of IT systems is reasonable.*

G³ Associates observations:

- ✓ We examined expense and capital plans for IT systems and operations, as well as work centers that rely on IT systems support. Liberty Energy plans to invest over \$6 million⁴⁰ in 2011 through 2013 in IT systems in the following areas: System Operations, Customer Service, Financial and Work Management, and Infrastructure. It will capitalize these costs.

³⁷ "... managing the new organization to deliver on our goal of best-in-class customer service" Robertson Direct Testimony at p. 9 of 32; "We believe that there is no adequate substitute for local management, local decision making, and local operational control for a utility that is serious about achieving the highest level of customer satisfaction ..." Pasieka Direct Testimony at p. 7 of 23; "Our goal is to provide high quality service to our customers at a reasonable cost. We want satisfied customers." Sherry – Tremblay – Wood Direct Testimony at p. 9 of 24

³⁸ *Id.* "ID Number 49 Training"

³⁹ Discussions with National Grid Customer Service Staff members who have elected to join Liberty Energy to work in New Hampshire advised these facts in our visit to Marlborough, MA on September 6, 2011

⁴⁰ Response to Staff Data Request TS 2-15

- ✓ Liberty Energy has estimated 2011 and 2012 costs for labor and various operations and maintenance categories for Granite State Electric and for EnergyNorth Gas, based on National Grid’s actual costs for certain functions incurred in its immediately prior fiscal year⁴¹ with some adjustments for inflation, and one-time events.⁴²

	Granite State		EnergyNorth	
	2011	2012	2011	2012
Labor	\$9.8	\$10.1	\$17.9	\$18.4
O&M	\$7.3	\$7.4	\$11.1	\$11.4
Total	\$17.1	\$17.5	\$29.0	\$29.8

- ✓ Because the underlying costs National Grid incurred in its fiscal year ending March 2011 were the basis for the forecast of transition services costs⁴³ and for the Liberty Energy 2011 and 2012 budgets jointly developed by the companies⁴⁴, the Granite State Electric and EnergyNorth Gas departmental budgets should be reduced by the amounts that will be avoided by the planned purchases of transition services from National Grid and by adding the Transition Services costs as line items in each utility’s budgets for 2011 and 2012.
- ✓ Liberty Energy’s anticipated costs for IT transition services in Year 1 total \$2.7 million, of which 49.5% comes from allocations of labor expense from the National Grid service companies and the balance of 50.5% in non-specified non-labor costs.⁴⁵ These are likely to decrease in subsequent years, but Liberty Energy has made no forecast of reductions, nor time periods during which those reductions would occur.
- ✓ Liberty Energy expects its IT costs at Year N to be \$2.1 million.⁴⁶ With its planned capital costs for IT systems from 2011 through 2013 of \$6.4 million⁴⁷ configured into a plan view we conclude the IT expenses for the early years of operation to be as depicted

⁴¹ Response to Staff Data Request 2-111

⁴² Additional, minor adjustments to line items in both utilities’ budgets were advised in the response to OCA Data Request TS 2-1, but which do not have significant impact on the total budgets as expressed in Staff Data Request 2-111.

⁴³ Supplemental Response to OCA Data Request 2-18 “This schedule is an estimate of the monthly amount of TSA costs by major category. The estimate is based on the Granite State and EnergyNorth actual fiscal year 2011 cost.”

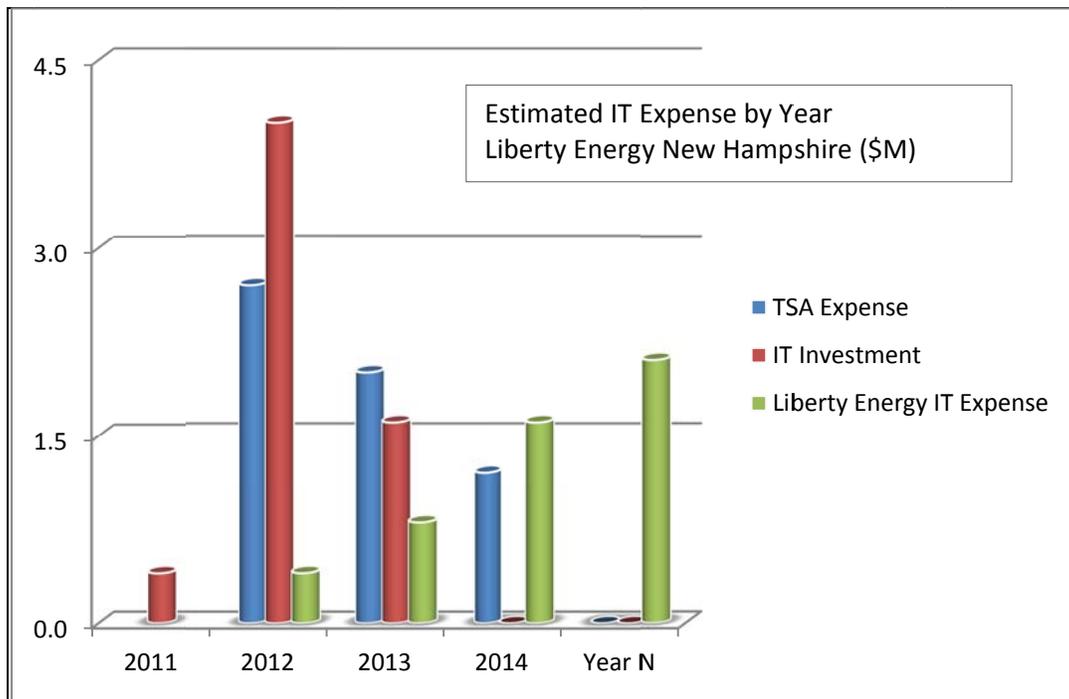
⁴⁴ See Response to Staff Data Request 2-111 “The estimated budget is preliminary and based on an analysis of the March 31, 2011 company financials by FERC account...”

⁴⁵ Liberty Energy presentation at the New Hampshire PUC Technical Session, September 7 and 8, 2011

⁴⁶ *Id.*

⁴⁷ Response to Staff Data Request TS 2-15

in the below chart⁴⁸:



- ✓ Liberty Energy’s IT budget estimates do not include adequate coverage for the costs it will incur for the work of configuring the acquired IT systems to meet Year N requirements, conversion of data from National Grid’s systems to the Liberty Energy applications, and system and user testing of the IT systems before implementation. Budget estimates for these activities would be developed from the detailed planning and analysis activities that will be undertaken when Liberty Energy begins to focus on Year N configurations. The extent to which Liberty Energy has forecast these types of expenses as a work product of its IT Systems Roadmap work and added these to any budget line (capital or expense) is not clear.
- ✓ Costs in other Liberty Energy departments (e.g., operations, customer service, etc.) for implementing the IT systems in the future are also insufficiently budgeted as they have not been estimated at this time. These too would be produced in the planning work necessary to set up user testing, create job aids and reference materials, train users on system features and functions, and purchase additional equipment required for the IT systems within the work centers.

Our testing and evaluation result in acceptance of this hypothesis in respect to Day 1 IT systems

⁴⁸ Annual costs for IT systems in years 2012 through 2014 are estimates by G³ Associates

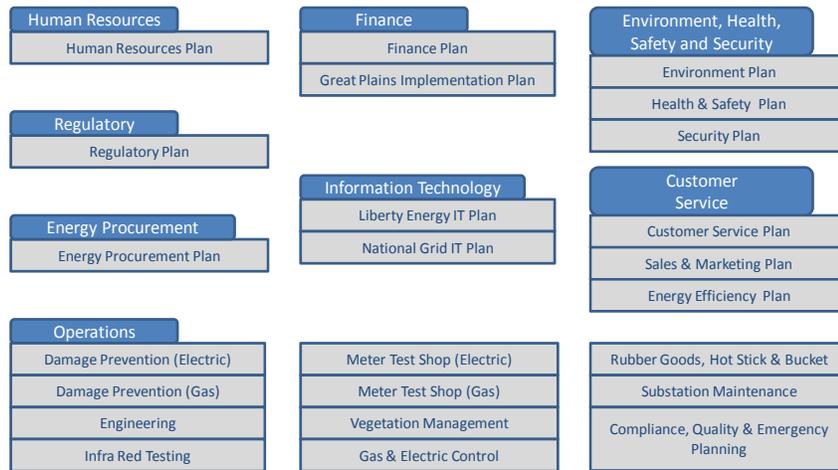
and related operations. We lack sufficient data at the present time to either accept or reject this hypothesis for purposes of evaluating Liberty Energy's IT plans for Day N.

***Hypothesis VII.** Liberty Energy's transition planning is comprehensive, collaborative and compliant*

G³ Associates observations:

- ✓ We examined a wide variety of planning materials obtained from Liberty Energy and National Grid over the course of our work. The most comprehensive material provides Liberty Energy's project planning documents received in response to Staff Data Request 3-69 which sought: "... an update on the status of the development of transition milestones and transition team reports. If those milestones and/or reports have not yet been produced, please provide an estimate of when they would be available. To the extent they are available now or as they become available, please provide copies of those reports." We received response materials:
 - ❖ July 25, 2011 Supplemental Responses to Staff Data Request 3-69 and Supplemental Attachments (b) though (y)
 - ❖ October 3, 2011 Supplemental Responses to Staff Data Request 3-69 and Supplemental Attachments (b) though (y)

- ✓ The project planning materials address twenty-four areas of Liberty Energy and National Grid's work necessary to move toward Day 1 operations. These have been published by Liberty Energy's Oakville, Ontario project management office.



Liberty Energy – National Grid Project Plans for Day 1 Operations

Response to Staff Data Request 3-69 and Attachments (a) through (y) and Supplements to the Response

- ✓ The respondents advised that the plans were developed by cross-company teams according to task categories designed by the Liberty Energy project management office: Namely,
 - ❖ Staffing
 - ❖ Process
 - ❖ TSA
 - ❖ Budget
 - ❖ Regulatory
 - ❖ Compliance
 - ❖ Information Technology
 - ❖ Infrastructure
 - ❖ Rebranding
 - ❖ Communication
 - ❖ Contracts
 - ❖ Readiness

- ✓ The project plans do not contain deliverable materials for each of the subjects required by the Liberty Energy project management office. For example, the project plans require each project team to determine the budgeting process, i.e., the timeline to do that, the personnel resources who can contribute to calculating the budget and capital and O&M costs, but the project plans do not identify budget amounts for any of the project plans. The project plans should indicate the documentation repositories for resolved tasks and milestones; i.e., the project management office should have access to supporting documentation to effectively manage the continued development and oversight of planning materials.

- ✓ Similarly, each team was to determine its needs for information technology, and many of those needs (especially for operations) consist of cell phones, personal computers, and ancillary software requirements. The project plans establish intervals and responsibilities to collect the information technology requirements, but those requirements are not fulfilled by their being reflected in project plan documents. The project plans provide for the reporting of % Work Complete where the managers are to estimate the amount of work that has been done relative to the estimated total work necessary for each task item. This is a fragile project planning component as it calls for conclusions of work “yet to be done” irrespective of issues uncovered, problems encountered, resource constraints and dependencies related to other tasks.
- ✓ The “Liberty Energy Great Plains Phase 1” project plan⁴⁹ goes further in detail than any other project plan involving information technology. The document addresses activities, tasks, milestones, and due dates between March 1, 2011 “Planning & Scoping begins” through December, 20, 2011 “Phase 1 Project Management concludes”. Other project plans generally provide for tasks and time during the July to October periods to determine particular needs for information technology resources. The National Grid IT Transition Project Plan⁵⁰ is targeted to three main tasks that are well detailed and which comport with its internal Solution Delivery Process Methodology: Pre-Day 1 Delivery; Day 1 Solutions Delivery and Day 1 Service Delivery. Detailed tasks are provided for each of the sixteen system areas (Solutions) and seven Service Delivery capabilities it is to provide. These are critical components of the transition services National Grid will provide to Liberty Energy for Day 1 and beyond.
- ✓ Other than these detailed project plans for Day 1 operations, the additional project planning work that has been accomplished by Liberty has been its IT Roadmap. “Liberty Energy has held several workshops and has developed a roadmap document to identify all the major applications that require implementation and to aid in the direction of IT service requirements. This roadmap provides an initial view of our implementation methodology, a major application summary, and a high level project plan.”⁵¹

⁴⁹ Response to Staff Data Request 3-69 Attachment (k)

⁵⁰ Response to Staff Data Request 3-69 Attachment (s)

⁵¹ Response to Staff Data Request 4-10 and Attachment

3. MAJOR APPLICATION SUMMARY

Application	Description	Business Function	Vendor
Outage Management	Monitoring and reporting system	System Operations	Telvent-Responder
Network SCADA	Monitoring and Control	System Operations	Telvent
Meter Data Management	Gather and analysis of meter information	Meters	ITRON
GIS	Mapping and asset analysis	Front Office	ArchFM ESRI-Telvent
Energy Trading	Commodity procurement	System Operations	Allegro
MV-90	Retrieving interval meter data	Meters	Itron
MVRS	Non interval residential customer meter data	Meters	Itron
CIS	Customer management system	Front Office	Cogsdale
Internet Web	Public web site and customer self serve	Front Office	Joomla/Cogsdale
Work Management	Field service, job cost, equipment management and project management	Front Office	Wennsoft
Phones	Telecommunication	Front Office	Cisco
IVR	Telephone self serve	Front Office	Vocantis
Data Network	Computer Network	Back Office	Cisco

- ✓ Liberty Energy’s level of planning for its future IT systems, those which would come into existence sometime during the period between Day 1 and Day N consists of five (5) pre-planning considerations that allow for high level estimates of the amount of time to perform: Planning, Design, Configuration, Training & Testing and Deployment. Without question, these are important steps, but they are not reflective of the necessary work that must be done to sharply focus attention on the length, grade, terrain, or time to forecast on the journey to Day N: not for the IT requirements, and not for the work centers that will be supported by IT systems.
- ✓ In two respects, Liberty Energy will have some contingencies available to it after Day 1 arrives. It will have transition services from National Grid and alternate data center services available for the financial, e-mail, and network security systems it intends to use. In the case certain transition services are defective, there are no specific remedies available within the TSAs that would require National Grid to develop or provide a contingency service delivery capability for those services. Rather the Transition Services Agreements call for the companies to resolve any complaints about services through discussions and negotiations. For the backup data center and telecommunications resources it has designed for Day 1 use, Liberty Energy has included recovery mechanisms that appear sufficient to continue to support those operations in the case of significant failure.⁵²

⁵² See Response to Staff Data Request 4-94 and Attachment 4-94 Liberty Energy “Information

Our testing and evaluation result in acceptance of this hypothesis in respect to Day 1 IT systems and related operations. We lack sufficient data at the present time to either accept or reject this hypothesis for purposes of evaluating Liberty Energy's IT plans for Day N.

***Hypothesis VIII.** National Grid is fully cooperative in the transition process with respect to providing adequate training, facilitating transfer of data, etc. as regards the IT systems for Liberty Energy*

This hypothesis is an outgrowth of the Commission's RFP in several areas. The following scope tasks (among others) cannot be achieved without National Grid's cooperation: whether "... Liberty Energy is using appropriate and sufficient methods to assure complete and accurate conversion of data from the National Grid systems to the new Liberty Energy systems"; whether Liberty Energy "... plans to transfer necessary data from National Grid to Liberty Energy systems in a reasonable time frame and verify that the plans will provide the expected results or identify potential delays or failures." and whether "Liberty Energy has taken the necessary steps to produce all reports currently filed by National Grid with the PUC and that those reports are consistent with those currently produced with National Grid"⁵³ G³ Associates observations:

- ✓ We met with the National Grid President for New Hampshire and Rhode Island, the Vice President of Information Services (IS) who has been assigned responsibilities for the National Grid New Hampshire Divestiture and key technical managers assigned key roles in working with Liberty Energy on issues specific to the IT environment of National Grid and for Liberty Energy.⁵⁴ These individuals are experienced in IT and IS transformations, having been directly involved and responsible for systems within National Grid as it acquired utility entities and integrated them into its ongoing operations in the past. This is an impressive commitment of talent by National Grid to effect the transition through Day 1 and on to Day N.
- ✓ National Grid technical staff have been directly involved with the Liberty Energy technical staff in efforts to explain the National Grid systems in terms of systems development methodologies, system design and functionality, operating characteristics, performance standards, and planned future modifications.⁵⁵

Technology Disaster Recovery"

⁵³ See Request for Proposals Section III "Scope of Work" Items 3, 4 and 7

⁵⁴ On September 6, 2011, G³ Associates met with National Grid's IS Transition Team and executives in Marlborough, MA for a full day of discussions and presentations which served to enhance our understanding of the National Grid IT systems and related customer operations serving both Granite State Electric and EnergyNorth Gas customers in New Hampshire.

⁵⁵ The petitioners' technical teams met in Planning & Scoping sessions that have been held once monthly since April, 2011 (IT Technical Update for the New Hampshire Public Utilities

- ✓ National Grid and Liberty Energy IT technical staff are supported by the Transition Governance Group and the Transition Steering Committee⁵⁶, both of which are staffed by senior executives of the Joint Petitioners.⁵⁷
- ✓ Liberty Energy and National Grid IT Technical Staff are represented on the IT project teams that are responsible for developing the transition plans moving forward to Day 1 operations.⁵⁸

Our testing and evaluation result in acceptance of this hypothesis in respect to Day 1 IT systems and related operations. We lack sufficient data at the present time to either accept or reject this hypothesis for purposes of evaluating Liberty Energy's IT plans for Day N.

Commission, June 13, 2011 by Liberty Energy and Response to Staff Data Request 3-28. Moreover, in the September 7 and 8 Technical Session, representatives of both companies advised that they have frequent teleconference sessions in which IT systems issues are discussed and resolved.

⁵⁶ The Petitioners have formed two executive-level teams that are responsible for guiding Liberty Energy's acquisition of Granite State Electric and EnergyNorth Gas from National Grid. The Transition Steering Committee and the Transition Governance Group support the project planning and implementation of the operations of the utilities across all functional areas, including IT.

⁵⁷ Liberty Energy presentation at the September 7 and 8 Technical Session "Granite State and EnergyNorth Transition Planning" at p. 5.

⁵⁸ See Supplemental Responses to Staff Data Request 1-47 Attachments (a) through (y) containing *inter alia* Granite State and Energy North Governance Updates from June through August, 2011; and Response to Staff TS 2-20 and Attachments (a) and (b) providing updates for the weeks ending September 9 and 16, 2011.

Summary of Hypotheses Testing

	Hypothesis Checklist	Day 1	Day N
I.	Liberty Energy exercised reasonable decision making when selecting its IT systems and organizing operations supported by IT systems	Accepted	Insufficient Data
II.	Liberty Energy's plans for proving and testing the systems it intends to implement are sufficient for their intended purposes	Rejected	Insufficient Data
III.	Liberty Energy's planned support systems are adequate to the identified needs	Accepted	Insufficient Data
IV.	Liberty Energy's post-close operations are reasonably efficient and comparatively effective to those of National Grid	Accepted	Insufficient Data
V.	Liberty Energy's IT staffing proposals for IT systems and for its operations supported with IT systems, including recruitment, training, competence, and coverage (i.e., sick days, vacations, emergencies, etc.) are reasonable	Rejected	Insufficient Data
VI.	Liberty Energy's budget and financing plans for the development and implementation of IT systems is reasonable.	Accepted	Insufficient Data
VII.	Liberty Energy's transition planning is comprehensive, collaborative and compliant	Accepted	Insufficient Data
VIII.	National Grid is fully cooperative in the transition process with respect to providing adequate training, facilitating transfer of data, etc. as regards the IT systems for Liberty Energy	Accepted	Insufficient Data

IX. Findings

Here we highlight certain of the issues we raise through the application of our hypothesis testing and address other matters based on our experience in similar engagements. These illuminate areas of Liberty Energy's proposed IT systems for Granite State Electric and EnergyNorth Gas, the development, testing, implementation and transition to those systems and areas that are implicated by those systems.

General

The scope and scale of the New Hampshire transaction is unmatched by anything Liberty Energy has previously undertaken. CalPeco represents Liberty Energy's first acquisition of an electric operation; Granite State Electric is its second. EnergyNorth Gas is Liberty Energy's initial entry into the gas distribution sector. Granite State Electric and Energy North Gas are significantly larger than CalPeco and, as such, will entail more attention and skill to successfully migrate to Liberty Utilities' portfolio.

It is obvious that a number of expressed commitments – including staffing – remain unfinished at this time. It appears to us that some actions have been purposely postponed until such time as an individual with appropriate skills and experience needed to determine an appropriate course of action can be identified and vested with the authority to complete the tasks. The commitments at issue include contracting with IT vendors, planning system integrations, designing work centers and selecting managers for future operations. In our professional opinion, Liberty Energy's intentions to supplement its management group with competent and capable individuals before setting certain decisions in motion is a responsible approach; however, its caution has disrupted some long-term planning activities. Based upon what we have seen and heard in the course of our review we do not expect the remaining planning initiatives to be pursued aggressively – or concluded – without the Commission's approval of the transaction.

It is a recognized fact that Liberty Energy is currently engaged in executing a transition of CalPeco's operations from Sierra Pacific to the Liberty Energy corporate family. It is also a recognized fact that the CalPeco transition has experienced some unforeseen difficulties that have affected the timetable envisioned for its transition.

Based on that experience it is not unreasonable to assume that the timetable set for New Hampshire is equally ambitious and is susceptible to unforeseen challenges. In fairness, many of those challenges might be unrecognizable to any acquirer irrespective of prior experience because they tend to appear as a consequence of the transition – not their operations.

We can reasonably expect that some delay will be the case in the New Hampshire transition, not necessarily through the fault of any particular party. However, we have some concern that Liberty Energy's appetite for closely-timed acquisitions may pose managerial challenges beyond

those that would be encountered in any single transaction and well beyond those that Liberty Energy is prepared to effectively address.

Specifically, we have some concern that Liberty Energy may have – at a minimum – three implementation initiatives underway simultaneously (CalPeco, Granite State/Energy North and Atmos Energy⁵⁹) in the relatively near future. Based on discussions in this proceeding, of still greater concern to us is the possibility that Liberty Energy may pursue additional acquisition opportunities over the near-term that could further increase both the number of overlapping transition initiatives and the duration of the overlaps.

It is apparent from representations made in this proceeding that Liberty Energy has used its existing senior management team to plan and direct the transfer of Granite State and EnergyNorth from National Grid. This follows the same pattern used by Liberty Energy in earlier acquisitions and, from the record of those efforts, proved adequate to the task. The patterns may not hold, however, until an evaluation of Liberty Energy's CalPeco experience is made. From what we have been able to determine about those acquisition successes, results may be due, in large part, to the relatively small scale of the acquired operations and the sequential nature of their acquisition.

We have a general concern that a number of factors are converging in this instance that require re-evaluation by Liberty Energy as to how it approaches acquisitions in general and Granite State/EnergyNorth in particular. The New Hampshire transactions represent a scale and complexity that has not been seen by Liberty Energy's management team on any previous occasion. Secondly, the possibility that Liberty Energy's management currently faces multiple transition initiatives is something that will severely challenge their skills and attention. Finally, the "lessons" accumulated in these individual acquisition experiences have a cost on the operational effectiveness of the business units – new and old – that must be part of the calculus in each subsequent effort.

Our concern is specifically related to the ability of Liberty Energy to successfully execute the transition of Granite State/EnergyNorth in the stated timeframe and at the represented cost with its current "shared" approach to project management. It is increasingly apparent that the Granite State/EnergyNorth transition demands the dedicated effort of a senior Liberty Energy executive to ensure long-term sustainability of both entities when support from National Grid is withdrawn pursuant to the TSAs.

The relative importance of an acquisition such as Granite State/EnergyNorth to Liberty Energy warrants a greater managerial commitment than has been evidenced to date. Successful implementation and long-term sustainability requires dedication and determination by a highly-experienced transition executive to achieve – an executive that we believe can prove beneficial to

⁵⁹ On May 13, 2011, Algonquin announced that Liberty Utilities had entered into an agreement with Atmos Energy Corporation ("Atmos") to acquire its regulated natural gas distribution utility assets located in Missouri, Iowa, and Illinois

Liberty Energy in both the near-term and the long-term. The shortcomings we found in testing our hypotheses would be challenges this executive would face.

The recent decision to acquire portions of Atmos Energy will, undoubtedly, put additional demands on Liberty Utilities executives for their time and attention. Assuming still other acquisitions in the future by Liberty Utilities only increases the need for a dedicated Liberty Energy transition executive to coordinate resource commitments in a manner that is both efficient and effective. An immediate effort by Liberty Utilities to contract such an individual could markedly improve the chances that Granite State/EnergyNorth will be able to meet the stated timetables and cost estimates associated with implementation. Conversely, a commitment to maintain the current “part-time” approach through the transition period is likely to produce delay, promote indecision and prescribe disappointing results.

Liberty Energy has a relatively small group of executives with operational experience in the regulated utility sector available to it in New Hampshire. It has made a concerted effort to identify, and engage, talented individuals from National Grid to supplement its management ranks in key operational roles. Similarly, it is actively pursuing outside hires from the utility sector and is currently interviewing candidates for selected management positions – including a senior manager for its information technology operations and a president for the New Hampshire operations.

These measures, however, fail to fully characterize the efforts being made by Liberty Energy to address apparent shortfalls in its managerial and directorial ranks. In the area of information technology, Liberty Energy has recognized the immediate need to commit resources well in advance of some other areas. To address the most immediate needs in the information technology sector, Liberty Energy has opted to contract for resources not otherwise available to it from firms such as BDO, Cogsdale and Qwest/Savvis/CenturyLink – all experienced third-party providers.

The most prominent “partner” in Liberty Energy’s information technology initiative is BDO – a Canadian systems integration firm that has worked extensively with Liberty Energy in the past, both in the United States and in Canada. BDO’s deep involvement with Liberty Energy’s planning processes demonstrates its importance to the success of this endeavor and Liberty Energy’s confidence in its ability. BDO has assumed primary responsibility for defining Liberty Energy’s information requirements, translating those requirements to the appropriate software applications, planning the data transfer from National Grid and directing much of the end-user training. In entrusting such responsibility to a third-party, Liberty Energy tacitly admits lacking a core competency within its own management group that is critical to success, while taking measures to meet its immediate needs.

BDO has also assumed considerable responsibility on the part of Liberty Energy to coordinate the activities of other third-party participants in matters related to information technology. This confidence is both pragmatic (an internal organization with the needed experience cannot be

amassed in the available timeframe) and prudent (past collaboration affords some predictability of success).

Similarly, Liberty Energy has elected to extend its relationship with Cogsdale based upon its familiarity with the technology⁶⁰ and Cogsdale's reputation in the local government and utilities sectors. Liberty Energy is currently installing Cogsdale's Customer Service Management (CSM) in its CalPeco operations and has expressed full confidence in Cogsdale's ability to meet the requirements for the New Hampshire operations.

Finally, Liberty Energy has committed to hosting its information technology operations with Qwest/Savvis/CenturyLink. This commitment represents a significant departure from the provisioning methods historically employed by regulated utilities. The absence of any embedded technology investment by Liberty Energy affords them the ability to pursue innovative approaches not generally available to systems planners. In this instance, Liberty Energy has elected to "partner" with a well-known provider in this field that is capable of providing a wide-range range of technical services not otherwise available to a company the size of Liberty Energy.

Liberty Energy has made a concerted effort to ensure it has available skills and experience needed for its future success. Furthermore, Liberty Energy has pursued a variety of means to meet its requirements in the hope of securing the best resources it can in the time afforded it by this transaction.

A. Liberty Energy's IT Systems Development

Liberty Energy has proposed that its planned systems and operations represent a technically competent and viable approach to utilization of information technology resources.

Because its operational and management approach, including information technology and customer service processes, will be tailored to the smaller size of Granite State and EnergyNorth, rather than a far larger organization operating in other larger states, Liberty Energy NH is confident that it can deliver the highest level of customer service and regulatory responsiveness while maintaining an overall cost structure that is consistent with what customers would have expected under current ownership. *Joint Petition at ¶ 34.*

⁶⁰ Cogsdale's CSM application is the application used for customer service support, billing, and related functions in the Liberty Utilities water utilities operations.

Liberty Energy has undertaken work – supported by National Grid – to identify which National Grid IT systems pair-up with planned Liberty Energy IT systems in an exercise the parties refer to as “Application Mapping”. This analysis is performed to determine whether the Liberty Energy IT approach would be able to replicate in some way, shape or form, the IT system that National Grid currently uses to support its gas and electric operations. The 204 National Grid systems⁶¹ were grouped into Application Domains, i.e., broad functional areas which indicated the principal operating purpose of each system.

- ❖ CIS – Customer Information Systems
- ❖ Shared Services
- ❖ Work Management
- ❖ GIS – Geographic Information Systems
- ❖ Meter Management
- ❖ Asset Management
- ❖ System Operation – Commercial
- ❖ System Operation – Electric
- ❖ System Operation – Gas
- ❖ Data Warehousing & Reporting
- ❖ Electric Network Analysis
- ❖ Knowledge Management and Collaboration
- ❖ Gas Network Analysis

National Grid IT systems were reported by Liberty Energy⁶² to have counter-parts in the Liberty Energy systems proposed to be deployed for the future.

With Application Mapping, the far fewer number of applications that Liberty Energy intends to implement can be paired to the National Grid Application Domain information.

National Grid laid out its Application Domain list and Liberty Energy determined whether, how and in which IT system each proposed application would be constructed for Day N purposes.

⁶¹ In some areas, National Grid has a system that supports gas operations and a different application that provides similar functionality for electric operations. The total number of IT systems in used by National Grid is not a starting point for Liberty Energy’s systems evaluations, rather it is a reflection of the significant size, operating footprint, and technological resources National Grid has elected to deploy or acquire as it has expanded its operations in the United States.

⁶² When asked about this Application Mapping work during the September 7 and 8, 2011 Technical Session, Liberty Energy’s Mr. Pasioka and Mr. Tremblay answered in the affirmative that this work had been completed. No known work product reflecting the mapping has been produced.

Liberty Energy did not attempt to make this determination for Day 1 operations, relying on the Transition Services of Granite State Electric and EnergyNorth Gas to fulfill those needs for IT support.

Granite State Electric and EnergyNorth Gas do not utilize the same IT systems in all cases, because in some cases, the “legacy” systems⁶³ that were used in the utility at the time it was acquired by National Grid continue to be used. For example National Grid uses some of the EnergyNorth Gas IT systems that were in use by KeySpan when it was acquired in 2007 by National Grid. As a result, both companies’ IT systems inventories required analysis by Liberty Energy, with the assistance of National Grid technical staff, to determine whether IT systems and applications it has been contemplating will sufficiently meet the business needs the National Grid systems currently perform.

Application Mapping

National Grid Application Domains⁶⁴		Liberty Utilities IT Matrix by Solution⁶⁵	
	Granite State Electric		Granite State Electric
CIS – Customer Information System	CSS	CIS Customer System	Cogsdale CSM
Asset Management	Power Plant	Asset Management	Dynamics GP- Wennsoft
GIS – Geographic Information Systems	Small World	GIS	ArcFM ESRI
Work Management	STORMS	Work Management	Dynamics GP□ WennSoft
Work Management	Ischeduler	Work Scheduling	Dynamics GP□ WennSoft
Work Management	Mwork	Mobile/Dispatch	Dynamics GP□ WennSoft
	PBX	Phones	Cisco
Shared Services	Ivaya	IVR	Vocantis
Shared Services	PeopleSoft	Finance	Microsoft Dynamics GP
Shared Services	PeopleSoft	HR/Payroll	Ceridian

⁶³ “Legacy” systems is an industry term used to describe a computer system or which continues to be used because the cost of replacing or redesigning it exceeds the costs of continuing its use, as is, and often despite its poor competitiveness and compatibility with modern equivalents. This term does not imply an obsolete system, per se, but one that is entrenched within the business.

⁶⁴ Response to Data Request Staff 2-128 and Attachment, and Supplemental Attachment

⁶⁵ IT Technology Update Presentation (June 13, 2011) by Liberty Utilities at the New Hampshire Public Utilities Commission

National Grid Application Domains ⁶⁴		Liberty Utilities IT Matrix by Solution ⁶⁵	
	Granite State Electric		Granite State Electric
Shared Services	Manhattan	Materials/Logistics	Dynamics GP□ WennSoft
Shared Services	Vision FM	Facilities Mgmt	Dynamics GP□ WennSoft
Shared Services	Fleet Anywhere	Fleet Mgmt	Dynamics GP□ WennSoft
Data Warehousing & Reporting	Business Objects	BI (Business Intelligence)	Clarity
Shared Services	PeopleSoft	Purchasing	Dynamics GP/Paramount
	Pitney Bowes	Mailing System	Pitney Bowes
CIS – Customer Information System	CSS	Billing System	Cogsdale
System Operation	ABB Network Manager	System Operation	Telvent
System Operation	Nucleus	Energy Trading	Allegro
Meter Management	ITRON MV90/P4	Meters – Software	ITRON MV90/MVRS
Meter Management	In-house System - PULSE	Meters Management	ITRON

National Grid Application Domains		Liberty Utilities IT Matrix by Solution	
	EnergyNorth Gas		EnergyNorth Gas
CIS -- Customer Information System	CRIS	CIS Customer System	Cogsdale CSM
Asset Management	MAXIMO Power Plant	Asset Management	Dynamics GP□ WennSoft
GIS – Geographic Information Systems	ESRI	GIS	ArcFM ESRI
Work Management	LMS/MAXIMO	Work Management	Dynamics GP□ WennSoft
Work Management	MDSI	Work Scheduling	Dynamics GP□ WennSoft
Work Management	MDSI	Mobile/Dispatch	Dynamics GP□ WennSoft
	PBX	Phones	Cisco
Shared Services	Ivaya	IVR	Vocantis
Shared Services	Oracle	Finance	Microsoft Dynamics GP
Shared Services	PeopleSoft	HR/Payroll	Ceridian
Shared Services	Oracle	Materials/Logistics	Dynamics GP
Shared Services	MAXIMO Facilities	Facilities Mgmt	Dynamics GP□ WennSoft
Shared Services	Fleet Anywhere	Fleet Mgmt	Dynamics GP□ WennSoft
Data Warehousing & Reporting	Micro Strategy	BI (Business Intelligence)	Clarity

National Grid Application Domains		Liberty Utilities IT Matrix by Solution	
	EnergyNorth Gas		EnergyNorth Gas
Shared Services	Oracle	Purchasing	Dynamics GP/Paramount
	Pitney Bowes	Mailing System	Pitney Bowes
CIS – Customer Information System	CRIS	Billing System	Cogsdale □ CSM
System Operation	Telvent	System Operation	Telvent
System Operation	Nucleus	Energy Trading	Allegro
Meter Management	ITRON MV90/P4	Meters – Software	ITRON MV90/MVRS
Meter Management	In-house System	Meters Management	ITRON

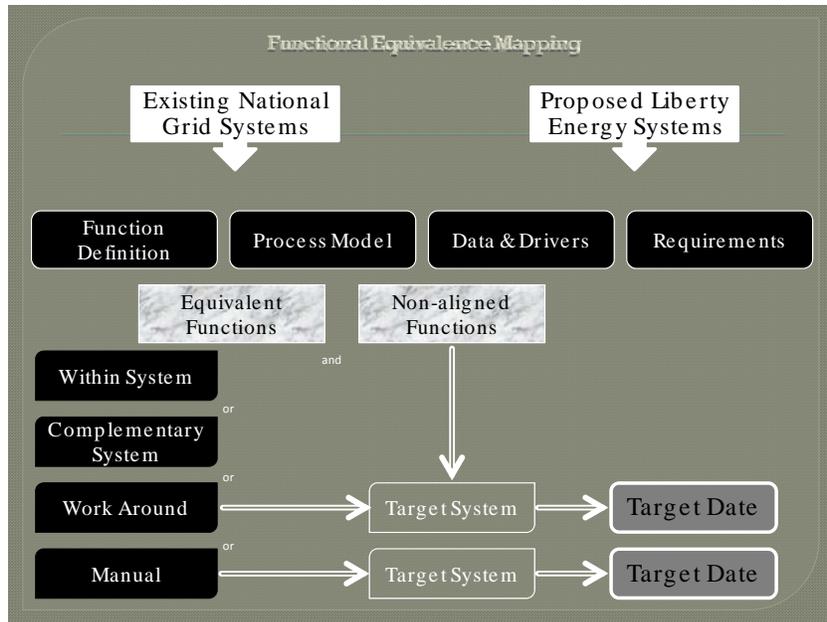
Two additional analyses are planned to be undertaken by the Joint Petitioners to address the future IT systems needs for Liberty Energy’s operations:

- ❖ Function mapping, where the business and technical functions provided within the National Grid IT systems and related operations are evaluated to determine the ways in which Liberty Energy will be able to perform each function;⁶⁶ and
- ❖ Data mapping, where the specific types of information – “data elements” – that are stored, processed, used, or calculated in the National Grid systems and operations are evaluated to determine how the data will be available to Liberty Energy and managed in the IT systems and operations.

Function Mapping

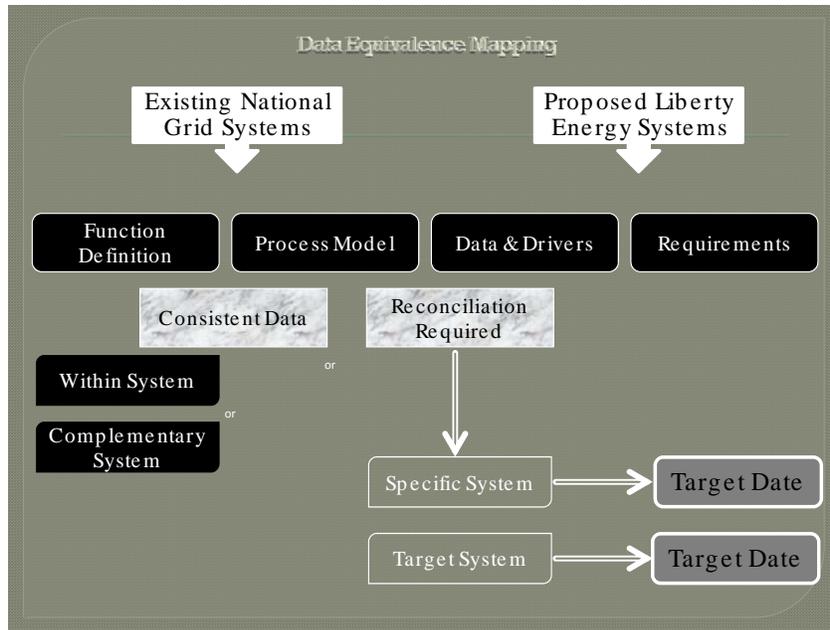
Function mapping, as depicted in the chart below is designed to identify each of the functions within the existing National Grid systems and correlate each to a specific application(s) in the Liberty Energy systems. This is an extensive research and analysis effort that requires staff from the Joint Petitioners and Liberty Energy’s selected IT systems vendors.

⁶⁶ Because National Grid uses some IT systems for its gas operations that are different from those for its electric operations, the Function Mapping may be required in each area. Similarly, it is not clear that Liberty Energy will utilize a single system for both of its gas and electric operations, and if not, certain National Grid functions could be mapped to more than one Liberty Energy system.



Data Mapping

In addition to the Function Mapping work, the Data Mapping activities (chart below) are required to clearly indicate how the specific information that is stored in databases, used in system processing, and provided to users must be configured by Liberty Energy in its IT systems to correspond with data used in the National Grid systems. This work also involves technical staff of the Joint Petitioners and the IT vendors supporting Liberty Energy.



The Joint Petitioners’ work in these second-tier analyses has been done for financial functions and for financial data⁶⁷ that will be sourced in the WennSoft systems which will be initiated on Day 1. No further mapping work products are known to have been produced by Liberty Energy.

Application Domain Name ⁶⁸	Application Mapping Status	Function Mapping Status	Data Mapping Status
CIS – Customer Information Systems	Complete		
Shared Services	Complete	Partially Complete	Partially Complete
Work Management	Complete	Partially Complete	Partially Complete
GIS – Geographic Information Systems	Complete		
Meter Management	Complete		
Asset Management	Complete		
System Operation – Commercial	Complete		
System Operation – Electric	Complete		
System Operation – Gas	Complete		

⁶⁷ The financial systems are grouped within the Shared Services and Work Management Application Domain.

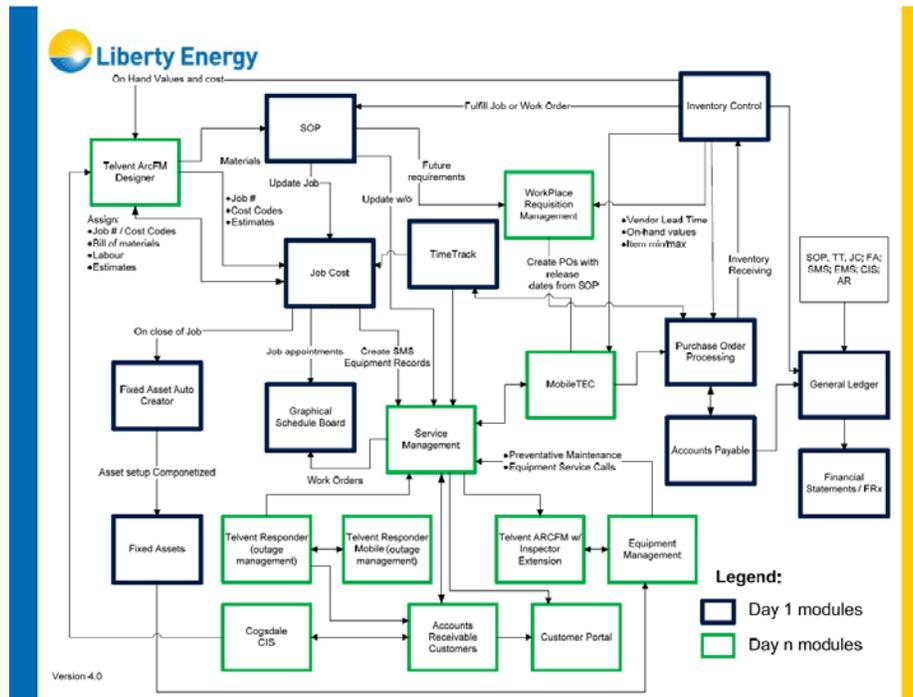
⁶⁸ Information in this chart was obtained during meetings with National Grid’s IT Transition Team in Marlborough, MA on September 6, 2011.

Application Domain Name ⁶⁸	Application Mapping Status	Function Mapping Status	Data Mapping Status
Data Warehousing & Reporting	Complete		
Electric Network Analysis	Complete		
Knowledge Management and Collaboration	Complete		
Gas Network Analysis	Complete		

For other IT systems and work center operations, the function and data mapping work has yet to be undertaken. These are analysis projects that must be performed and, in large measure, completed prior to building complete and cohesive IT systems and work center operations plans.

B. Liberty Energy IT System Functionality for New Hampshire

The following diagram portrays the major IT system elements as conceived by Liberty Energy for its Day N operation which overlay those deployed for Day 1 in the Financial Systems area.



The IT systems Liberty Energy intends to use for its customer-facing operations are to be obtained from Cogsdale Corporation.

“Cogsdale has been developing solutions for local governments and utilities to address the complex and changing needs of their operations since 1997. With more than 300 clients worldwide, Cogsdale focuses on public and private utilities, local government organizations and utility co-operatives.”⁶⁹

While Cogsdale offers IT systems to meet business requirements “Financial Management, Asset Management, People Management, Work Management and Customer Management”⁷⁰, Liberty Energy has elected to obtain only the Cogsdale Customer Service Management (“CSM”) system and obtain the balance of the systems it needs from WennSoft.

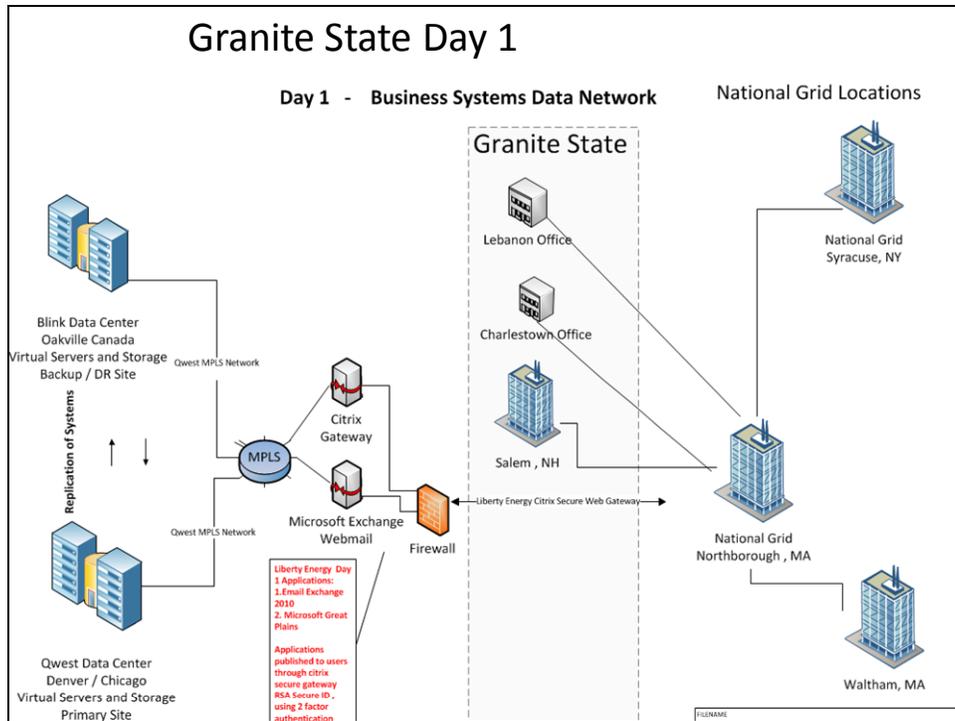
The Cogsdale CSM, as an example, will need to be evaluated to determine how customer name and address information, credit history, payment plans, etc., are to be stored similar in form, format and content to the data arrays in the existing National Grid systems. Moreover, since certain customer information is also required in the WennSoft systems which provide accounts receivable functional support, those technical evaluations are likewise required. All other data types require these same evaluations.

At Day 1, the Liberty Energy IT environment will be comprised of a small number of IT systems supported by a comprehensive data network that links processing centers with work centers and users in both Granite State Electric and EnergyNorth Gas locations. Liberty Energy has consistently displayed the architecture of its Day 1 operations in two frames: one for Granite State Electric and one for EnergyNorth Gas. While managed and administered as one company, they will operate separately since the electric and gas customers are in locales that do not overlap.

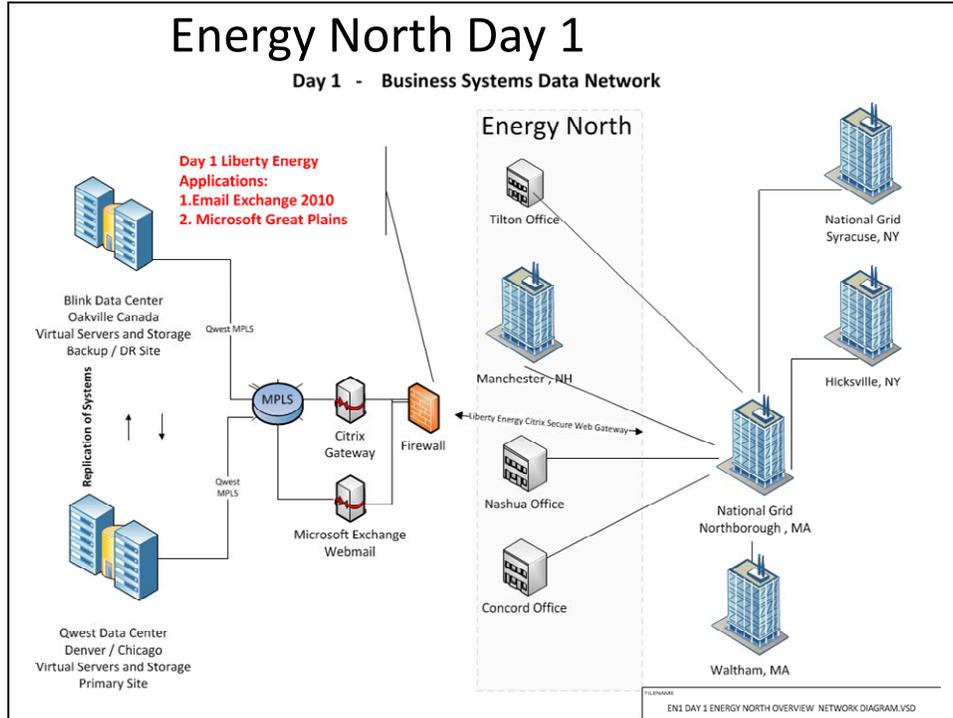
Granite State Electric on Day 1

⁶⁹ See www.cogsdale.com

⁷⁰ *Id.*



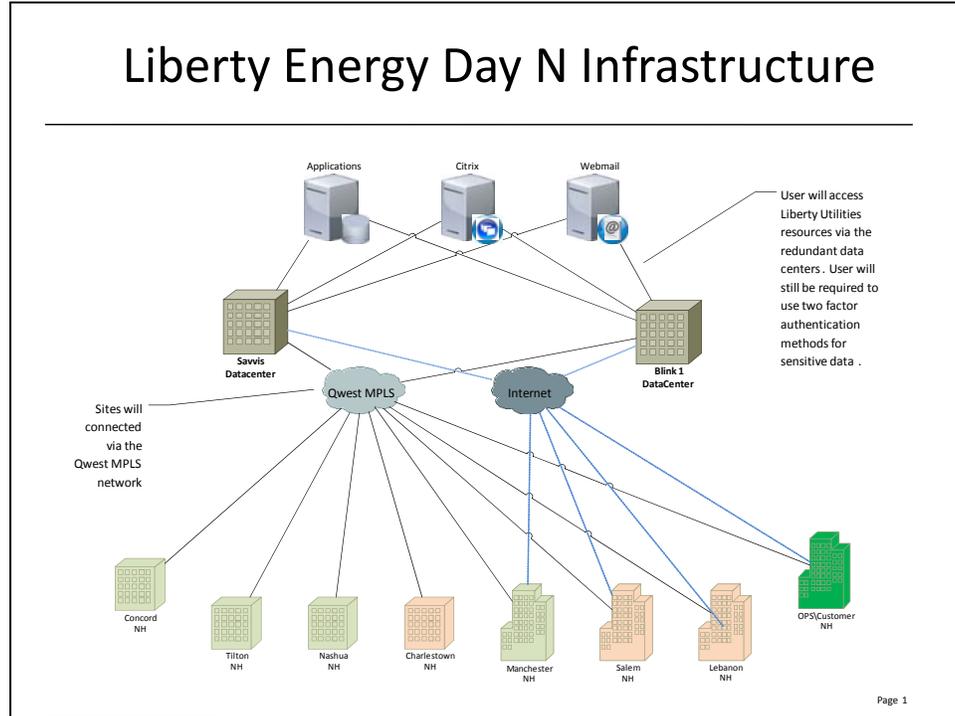
EnergyNorth Gas on Day 1



It should be noted that the infrastructure of data centers, MPLS (Multi-Protocol Label Switching)⁷¹ e-mail, firewalls, and gateways are common resources supporting both gas and electric operations. Further, both utilities are connected with National Grid work centers for Transition Services needed by both gas and electric operations during the transition period from Day 1 to Day N. The significant differences between these diagrams are the locations of the Liberty Energy work centers and the resources that connect them to the data centers.

⁷¹ MPLS, used in high-performance telecom networks, directs data from one network node to the next based on short path labels rather than long network addresses. It increases the end-to-end speed of data packets on the virtual network.

Liberty Energy Day N



C. IT System Testing

The testing protocols necessary to demonstrate the efficacy of the IT systems Liberty Energy will be using for its back-office, metering, and front-office functions have not been planned. The company intends to conduct testing before it implements these systems, but to date, has not expressed its testing methodologies, having decided to concentrate its efforts on using Transition Services from National Grid to support its Day 1 operations. Presumably Liberty Energy will take up the issue of testing approach(es) after its New Hampshire acquisition transaction has closed.

When it designs its testing methodologies, Liberty Energy should consider the burden of proof it bears in demonstrating that its IT systems:

- ❖ function to meet design specifications
- ❖ reflect obtained and implemented data from National Grid systems accurately and completely
- ❖ interact effectively with all related IT systems
- ❖ satisfy user requirements for form and function
- ❖ enable its users to meet customer expectations

- ❖ process transactions likely to be presented in the normal course of business accurately, timely and completely
- ❖ maintain typical system processing response times under higher than usual volumes
- ❖ provide timely, accurate, and complete reports to the company's external users, including the Commission

Each of the systems Liberty Energy develops, buys, or obtains license to use must be subject to the testing discipline to ensure the system functions on its own, and in concert with the overall IT system integration plan that Liberty Energy has espoused as central to its business objectives, i.e., customer service focused, efficient, etc.

National Grid's Solution Delivery Process ("SDP") was "developed by the National Grid IS Program Management Office, utilizing industry standards and practices"⁷² and it guides the company's system development, testing, and implementation processes. Notably, the task of developing a system test plan is coterminous with National Grid's developing of the system itself, and it involves three levels of testing: System, User Acceptance and Operations Acceptance. These testing efforts are consistent with widely accepted standards for demonstrating the effectiveness of IT system projects.

Liberty Energy has committed to testing its IT systems with National Grid's assistance: "Leading up to the anticipated hand-off date, the parties will collaborate on testing Liberty Energy NH's systems and applications to ensure readiness for Day 1."⁷³

The specific testing approach will vary depending on the nature of the individual service that is being transitioned. As an example, a service that is heavily dependent on a new computer system will require extensive testing of the system in addition to training and assessing the readiness of the staff who will be using the system. *Response to Staff Data Request 1-40*

However, the documented test plans that will be employed are less certain than the commitment to testing. "Test plans will be developed and available at the start of the Testing phase – October 28th 2011."⁷⁴

In its response to Staff Data Request 3-68 which sought information about when the Liberty Energy testing plans would become available, the following was supplied (all dates in 2011):

⁷² Response to Staff Data Request 3-38 and Attachments (a) and (b).

⁷³ Horan/Pasieka Direct Testimony at p. 15 of 29.

⁷⁴ Response to Staff Data Request 3-25 (g)

Functional teams to finalize readiness testing plans	September 15 to September 30
Steering Committee approval for readiness testing plan	October 3 to October 7
Transition teams perform the readiness testing	October 17 to November 15

We inquired about Liberty Energy’s test plans for its CalPeco implementation⁷⁵ where Cogsdale is to provide the “Testing Plan”⁷⁶ and Liberty Energy, as the Cogsdale “client” is to provide “test scripts, conduct user acceptance testing, log and report any discrepancies, and [provide the] complete testing document”⁷⁷ associated with the Deployment – System Testing and Cutover task. Liberty Energy provided two documents that outline its “CSM (Customer Service Management) and Data Testing plans”⁷⁸. These documents do not provide nor describe test scripts, user acceptance testing plans, any logs or reports of discrepancies or what could be termed a complete testing document. These are more correctly described as data verification check lists that would be used to manually inspect information provided on the Cogsdale system screens.

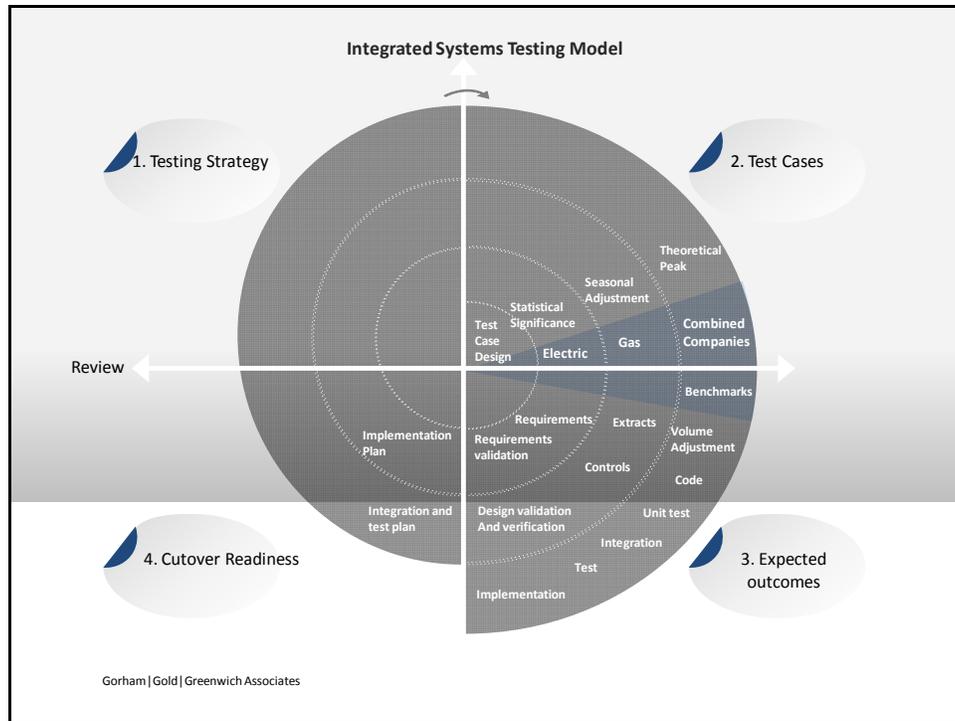
Our expectation for the Cogsdale project and for the testing work leading up to Day N in New Hampshire for each of the systems that Liberty Energy intends to deploy is an integrated, comprehensive, documented testing approach. This approach must prove that the vendors and suppliers of systems and components of systems have developed system functions appropriately, consistently, and in environments that simulate the live production environment. Moreover, the necessary data conversions must be proven to have been executed, completely, accurately and timely.

⁷⁵ Staff Data Request 4-43

⁷⁶ Response Attachment to Staff Data Request 3-12, Cogsdale Statement of Work at p. 15

⁷⁷ *Id.*

⁷⁸ Response to Staff Data Request 4-43 and Attachments 4-43 (a) and 4-43 (b)



The four key areas of integrated IT systems testing are:

- ❖ Testing Strategy – this sets out the depth and breadth of the testing approach which expresses the principles of testing.
- ❖ The Test Cases – this explains how the testing process(es) uses test cases (also called scenarios) to demonstrate that the testing will verify the functions of the elements of the system and the systems as integrated for operations.
- ❖ Expected Outcomes – the tests must be designed to verify that “good data” is correctly processed and “bad data” is correctly rejected, and that “good data” is not rejected and that “bad data” is not accepted.
- ❖ Cutover readiness – describes how the testing process is exited and progress toward implementation of the system and the users of the system are involved in the authorization to proceed.

Applying this model to the testing that Liberty should be planning to conduct for its array of Day N systems is a reasonable way for it to demonstrate that its systems will provide the necessary functionality to its users, including external users, such as the Commission, FERC and others.

A well-managed and comprehensive testing program for the IT systems it will implement is a fundamental requirement that Liberty Energy must embrace. The risks to Liberty Energy’s operational continuity, customer services and provisioning, and reputation that stem from

introducing, significant IT applications can be mitigated through rigorous testing in controlled environments.

D. Transition Management

To become the service provider of gas and electric utility services in New Hampshire according to the terms of the Joint Petition requires two separate and distinct transitions. The first is the transition from National Grid providing the services at the beginning of Liberty Energy's assumption of the role of operator, including the transitional period covered by the TSAs. The second is the transition from reliance on National Grid's provision of services to the self-provisioning by Liberty Energy of all support functions as a stand-alone entity, i.e., cut-over.

The Joint Petitioners have spent considerable resources planning for Day 1. The plans developed by eight Liberty Energy and National Grid "cross-functional teams" focus on twenty-four areas that have been addressed with the general objective of directing the internal and vendor resources to having the associated work completed by December 1, 2011.⁷⁹ The plans are the result of the Joint Petitioners evaluating twelve common elements in each function and then determining dependencies, time frames, resource requirements, and "start" and "end" dates.

With the exception of the "Great Plains Phase 1" project plan⁸⁰ for the IT systems being implemented on that technology infrastructure, the project plans typically have an end-date on or before December 1, 2011 – which is the Joint Petitioners' projected date for operations starting under Liberty Energy in New Hampshire. The project plans only address tasks necessary to arrive at an operational state on Day 1, predominantly through transition services. These plans do not guide work to be taken after the notional end date such as managing business functions, performing the services, generating work orders, etc.

⁷⁹ See Response to Staff Data Request 3-69 and Attachments (b) through (y) and Supplemental Response and Supplemental Attachments (b) through (y)

⁸⁰ *Id.* at Attachment 3-69 (k)

Project Plan Name	End Date	Project Plan Name	End Date
Compliance, Quality & Emergency Planning	12/01/11	IR (Infra-Red Testing) for Distribution and Substation	11/15/11
Customer Service	12/01/11	Liberty Energy IT	12/01/11
Damage Prevention Electric	12/01/11	Gas & Electric Control & Dispatch	12/01/11
Damage Prevention Gas	12/01/11	Meter Test Shop Gas	11/30/11
Energy Efficiency	12/01/11	Meter Test Shop (Electric)	12/01/11
Energy Procurement	12/01/11	Information Technology	12/01/11
Engineering	11/30/11	Regulatory Plan	11/30/11
Environmental Compliance and MGP	12/01/11	Rubber Goods / Hot Stick / Bucket Testing	11/15/11
Finance	12/01/11	Sales and Marketing	12/01/11
Liberty Energy Great Plains Phase 1	07/23/12	Security	12/01/11
Health and Safety Transition Plan	11/30/11	Substation Maintenance	12/01/11
HR	12/01/11	Vegetation Management	11/30/11

Liberty Energy’s Information Technology Day 1 Operating Model Objectives involve using Transition Services for the following:

- ❖ Business Application Support and Development
- ❖ Data Center
- ❖ Client Services (Help Desk)
- ❖ Contracts & Licensing
- ❖ Infrastructure
- ❖ Network
- ❖ Digital Risk and Security

Liberty Energy intends to stand on its own for its e-mail system, telecom lines and equipment, change-over to its system security procedures, including access to the software systems.

The Joint Petitioners continue to make progress toward Day 1 using, in some measure, the documented project plans. Liberty Energy has expressed its intention to utilize these project plans to coordinate its work towards Day 1 implementation.⁸¹

The second transition, to “Day N”, or “the end state, or completion of transition activities⁸²” has

⁸¹ In the Technical Session at the New Hampshire PUC held on September 7 and 8, 2011 Liberty Energy officials advised the twenty-four project plans were being updated through September 15, 2011 to reflect more current efforts, and expected these to be provided to the parties. These were provided on October 3, 2011 in response to Staff Data Request TS-2-20

⁸² See Response to Staff Data Request 3-26

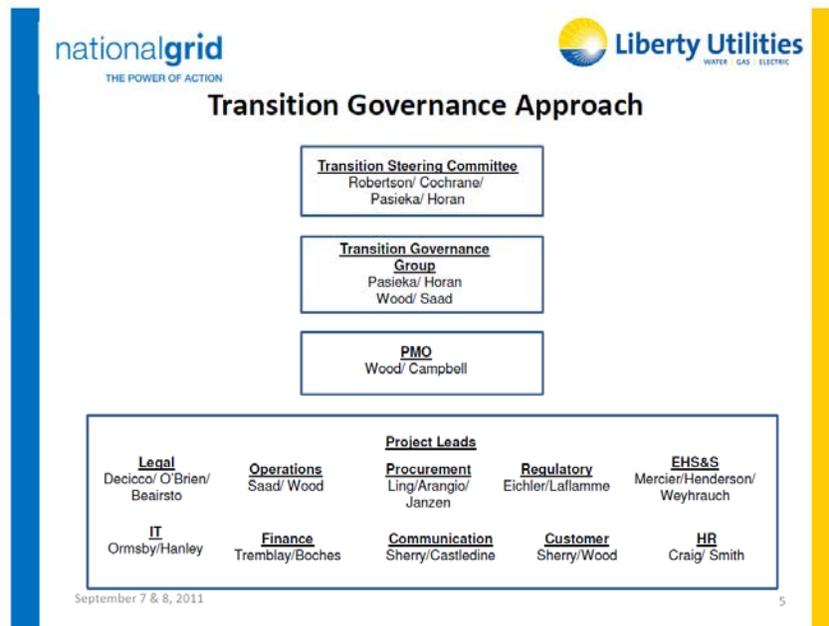
not been planned to the same extent. Liberty Energy has advised that its IT transition – from using National Grid’s transition services as the basic capability to Liberty Energy’s own systems and operations, will be guided by its IT Roadmap.

Over the past several months, Liberty Energy has and continues to focus much of its information technology (IT) attention toward the day one transitional activities of the Energy North and Granite State facilities. As day one nears, Liberty Energy is now thinking toward the end state vision and the IT requirements of these facilities. Liberty Energy has held several workshops and has developed a roadmap document to identify all the major applications that require implementation and to aid in the direction of IT service requirements. This roadmap provides an initial view of our implementation methodology, a major application summary, and a high level project plan. *Response and Attachment to Staff Data Request 4-10*

The IT Roadmap is inadequate for use in guiding the transition to stand-alone systems for Liberty Energy. Each of the eleven major systems projects is presented in five task areas: Planning, Design, Configuration, Training & Testing and Deployment. Each has a start and end date. Each begins in either 3rd or 4th quarter 2011 and ends some-time in late 2012 or early to mid-year 2013.

These tasks are very broadly defined and drawn at a very high level thus weakening the effect of the planning. For example, no actual planning steps are shown; no analysis work products are defined or described; no design milestones are reflected; no configuration tasks of a system are inter-related to another; and no deployment coordination efforts are depicted. A fundamental formulation of systems planning is significant detailed analysis of the systems design, development methodology, engagement with users of the planed system, the technical characteristics and standards that must be applied, dependencies and interdependencies with other tasks and systems work, system integration and user testing processes, and ultimately the implementation stage. Liberty Energy has not begun this planning work.

The Transition Planning work done to-date by Liberty Energy and National Grid has been done on a part-time basis by members of the Transition Project Leads, supported by the Transition Governance Group and the Transition Steering Committee. In essence, all of the Project Leads have responsibilities for day-to-day operations of their respective companies and have worked to advance the planning work to the scope authorized by the Transition Steering Committee.



That the planning work has been accomplished for Day 1 operations, to the extent it has, is remarkable. That the planning for the transition from Day 1 to Day N has not moved forward is not surprising, as it is evident that the Joint Petitioners have decided not to risk the resources for longer-term future planning while the near-term future is not clear.

Presuming the transaction successfully closes, Liberty Energy must take action to appropriately vest responsibility and authority for managing the transition to an officer-level position reporting directly to Algonquin Senior Executives, with “dotted-line” reporting to Liberty Utilities and Liberty Energy.

The Transition Executive should be responsible for:

- ❖ directing the project planning work for the New Hampshire utilities
- ❖ managing the utilities’ project plans that communicate the direction, timing, milestones, and planned completion dates
- ❖ applying “lessons learned” from other acquisitions and from earlier experiences to current planning activities
- ❖ ensuring all departmental projects and staff are being directed in a manner consistent with the overall project plan
- ❖ overseeing the testing and deployment of IT and system resources
- ❖ managing transition services Expenses

The Transition Executive should be assigned responsibility for the Transition Services Expense budget and be provided sufficient budget and control for a small staff of direct-report managers and the project management office.⁸³ We have not met an individual at the executive level in Algonquin or Liberty Utilities nor one who has been presented as a candidate with the requisite skills and experience for this position who would be dedicated to these responsibilities.

E. Transition Services Management

The Transition Services Agreements have been constructed as a means for Liberty Energy to provide service in New Hampshire using National Grid staff, systems, processes, resources, and operations for support for such time and in such capacities until it is able to self-provide the services. The EnergyNorth Gas agreement offers to provide seventy-six (76) discrete services⁸⁴ and the Granite State Electric agreement offers to provide seventy-four (74) services, each defined and described in Attachment A of the separate agreements.

During our work, inquiries about the types of transition services likely to be purchased by Liberty Energy, and the extent to which those will be required met with responses indicating the Joint Petitioners were working through transition planning activities and had not determined with finality which specific services were to be needed, or the pricing of such services and the overall costs Liberty Energy would likely incur. There is apparent agreement that as many as sixty-two (62) of the seventy-six (76) gas transition services and fifty-nine (59) of the seventy-four (74) electric transition services will be purchased⁸⁵.

In the first year of its operating Granite State Electric and EnergyNorth Gas, Liberty Energy is expected to spend an estimated \$19 million dollars on transition services provided by National Grid and its service companies.⁸⁶ Analyzing the types of service available and the likely utilization of these during the first two years of operations we forecast the extent of these expenses as follows:

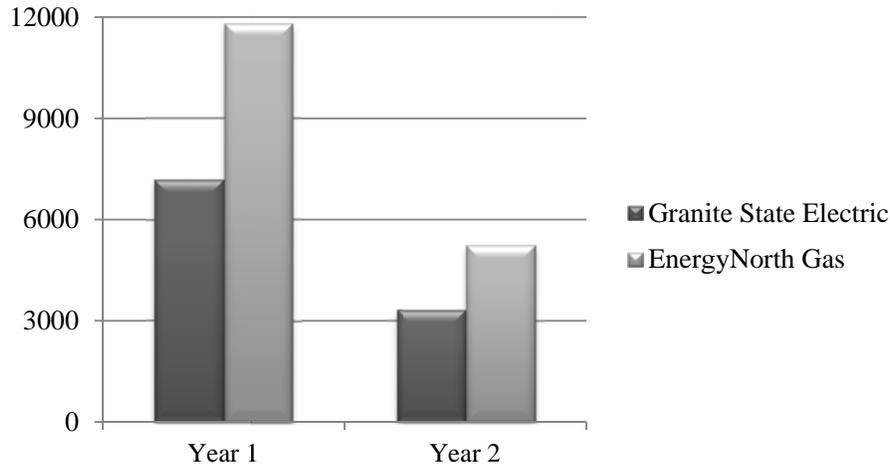
⁸³ This Executive position can also benefit Algonquin by managing the latter stages of the CalPeco implementation and the transition planning work for Liberty Utilities' acquisition of Atmos Energy.

⁸⁴ Schedule A of the Agreement provides a detailed description of each service available, the duration or period that the Joint Petitioners believe the service will be needed by Liberty Energy, the costing basis for the fee(s) for each service, and the names of National Grid and Liberty Energy coordinators for the service.

⁸⁵ See Response to Staff Data Request TS 2-13 and Attachments (a) and (b)

⁸⁶ Supplemental Response to Data Request OCA 2-18, September 9, 2011

**Year 1 and 2 Estimated Transition Services Costs
(\$000)**



Liberty Energy has not identified an organization, a position, or an individual that will be responsible for managing transition services for the company. As the costs for transition services are expected to decline over a period of at least two years⁸⁷, Liberty Energy should designate a senior manager to be responsible for management of transition services costs and work with line managers to verify accuracy, completeness, and timeliness of the charges invoiced by National Grid.

The Joint Petitioners have not determined resolution for a number of critical issues that surround transition services⁸⁸. These must be defined, documented, and verified and it is unclear when that work will be completed. Clearly explained working procedures will help ensure that transition services are effectively managed.

Ordering transition services – certain processes and procedures are necessary to effect changes to the services that become necessary as Liberty Energy makes progress in achieving self-sufficiency. Service scope changes may be necessary, volumes of services may need to be changed; services may need to be curtailed. Without a mechanism in place to order changes, the likelihood that full billing for transition services could

⁸⁷ The Transition Services Agreements have terms for the individual services that are estimated to be used by Liberty Energy for periods of 6 to 24 months. Provision is made in each Agreement for continuing each service on an “as-requested” basis for longer periods, as needed by Liberty Energy. See Schedule A to each of the Agreements.

⁸⁸ In response to data requests seeking information about how the petitioners have come to agreement on operating procedures relative to transition services (see for example, Staff Data Requests 4-20 and 4-21), it is clear the work will be taken up by the project teams responsible for planning Day 1 operations. See our discussion of Hypothesis VII testing.

continue while the actual provision of services is reduced or eliminated.⁸⁹

The costs for transition services – In Staff Data Request 1-45, we asked the Joint Petitioners to: “... provide a preliminary estimate of the cost for each of the Transition Services.” On April 15, 2011, the response provided: “The parties are still developing the scope and costing for the individual transition services, and therefore the requested information is not yet available. On an aggregate basis, the costs are expected to be consistent with the current cost for such services.” The follow-up Data Request Staff TS 2-13 Response (on September 30) presented labor and non-labor costs for each of the 150 transition services (74 for Granite State Electric and 76 for EnergyNorth Gas). Each is an estimate for a “month” of such service, based on costs from National Grid’s direct and allocated costs to New Hampshire as of its last fiscal year, ending March 2011. Sixteen (16) Electric services and twenty-six (26) Gas services are indicated to be purchased by Liberty Energy, but no cost information is provided. This implies several things: the extent to which any of these services are used, the costs to Liberty Energy will exceed the proposed transition services costs for Year 1; Liberty Energy will not know what to expect for the costs of the services were it to choose to use them; National Grid may not be able to bill Liberty Energy for use of these services from its existing processes and procedures.

Third-party software fees – The two Transition Services Agreements provide for the petitioners to work together to determine which, if any, third-party software used by National Grid (*et al*) in providing the services require licensing of the right to use the software to Liberty Energy.⁹⁰ In the Supplemental Response to OCA Data Request 2-17 (September 16, 2011), the work to obtain license, relief, costs, or notice of denial of rights from the third-party vendors is currently underway.

“National Grid has completed its review of the relevant software licenses and identified instances where vendor consents may be required to utilize the software to provide transition services to Granite State/EnergyNorth following the close. Shortly, National Grid will notify these software vendors by letter of its intent to use the licenses to provide transition services during the transition period. Since the use of the licensed software during the transition period will be consistent with National Grid’s current use, National Grid will ask that the vendor provide its consent for no additional compensation.”

These license fees may increase Transition Services costs to Liberty Energy.

⁸⁹ The Agreements contain provisions for terminating the services. See Schedule A. “Termination/Transition of Services.” They however, do not contain procedures that the companies’ staffs and organizations can utilize to terminate any of the services.

⁹⁰ See Schedule A, I. 4 “Third-Party Software” – identical in each Agreement

Billing for transition services – The work to determine how National Grid will bill Liberty Energy for transition services under these Agreements has not been completed. The Agreements provide guidance and control that will bear on the billing procedures used by National Grid.

“... statements will be rendered each month by the Seller or its Affiliates, as applicable, to the Company for Services delivered during the preceding month and all reasonable and documented expenses incurred by the Seller or its Affiliates, as applicable, in providing such Services (the “Monthly Statement”). Such Monthly Statements will be substantiated by supporting information and will itemize in reasonable detail the basis for such Monthly Statement”⁹¹

Transition services billing processes are typically complicated, and in these instances, will require National Grid to quickly, and accurately gather operating costs from its United States headquarters organizations and service companies, subject those costs to allocation processes, collect documented expenses and produce an itemized statement. The work to develop and document these processes and procedures within National Grid has not been completed. In the case these procedures are not resolved when transition services are initiated, we predict several months, if not longer, when billing will be problematic, error prone, and a source of confusion for both National Grid and Liberty Energy.

F. Legacy Records (National Grid’s Retention of Records Plan)

The conversion of data from National Grid IT systems to those of Liberty Energy is a significant undertaking as many data types are involved; they reside in many data bases; they are presented in different configurations; and there are myriad records of customers, plant and equipment records, assets, liabilities, and more. In some form, most, if not all, data will be converted from one or more types of magnetic storage – databases, tapes, discs, etc. Extracting the data from the National Grid system and transferring the data to Liberty Energy systems does not erase the data from the National Grid system. The extraction and data transfer process creates a copy of the original National Grid data for entry into the Liberty Energy system – the original data remains intact.

The Joint Petitioners recognize the value and the need for National Grid to retain copies of the data it transfers to Liberty Energy’s systems. The Joint Petitioners advised that “the Amended

⁹¹ Transition Services Agreements Section III. Payment

and Restated Stock Purchase Agreements, at Section 7.2(c), provide that National Grid shall have access to certain records of the company to the extent reasonably required in connection with issues arising prior to the closing”⁹². The Petitioners also acknowledge that there remains significant work to be done to determine record retention requirements – in particular as they pertain to customer information, following the conversions to Liberty Energy’s systems.⁹³

National Grid provided helpful information about its record retention policies and procedures that will assist Liberty Energy in forming, or supplementing its own detailed record retention policies especially as they relate to operating gas and electric utilities.⁹⁴ Liberty Energy should also form its policies and procedures in light of the requirements expressed in FERC regulations⁹⁵ and any additional rules and regulations of the New Hampshire Public Utilities Commission. National Grid advises that the Commission’s rules regarding its use of customer information is at the least, prescribed by the Commission’s rules on information sharing among affiliates.⁹⁶

National Grid’s post-closing records retention policies and plans need to be closely coordinated with Liberty Energy’s requirements, as well as those of the Commission. National Grid’s institutional knowledge of the records, systems which are used to maintain the records, and means to access those records, including archives, are not readily or simply reproducible.

G. Post-Transaction Monitoring

The Commission’s RFP asked that our work to evaluate the IT systems and plans of Liberty Energy be done in consideration of the procedural schedule established for this proceeding. Because Liberty Energy has determined not to fully deploy its IT systems within the timeframe allowed by the Commission’s RFP, several of the required tasks cannot be completed as of this writing.

As no data conversions have been performed and the conversion of financial data is currently being designed, the conversion of data from National Grid to Liberty Energy cannot be evaluated; statistical sampling of the data cannot be done and any need to have data reconciled between the National Grid and Liberty Energy systems cannot be determined. As testing of the envisioned IT systems (with the exception of Day 1 systems) has not been designed, the test plans cannot be reviewed and assessed. Simulations of order activity cannot be done on the

⁹² See Response to Staff Data Request 4-29

⁹³ See Responses to Staff Data Requests 4-28, 4-29, 4-30, and 4-33.

⁹⁴ See Response to Staff Data Request TS 2-7 and Attachments (a), (b) and (c).

⁹⁵ See 18 CFR Part 125 “Preservation Of Records Of Public Utilities And Licensees” and Part 225 “Preservation Of Records Of Natural Gas Companies”

⁹⁶ See Response to Staff Data Request 4-30 “...National Grid is aware that its right to use such information is limited in particular by the Commission’s rules relating to affiliate transactions and competitive affiliates.”

envisioned Liberty Energy systems, and the reporting capabilities of the envisioned systems cannot be evaluated.

These unresolved issues then must be regarded as “post transaction monitoring” requirements, presuming the Commission decides in the affirmative to grant the Joint Petition. Such monitoring is by no means or measure an insignificant task. If the Commission concludes the RFP’s requirements must be met, the work to conduct those evaluations will require additional work by Commission Staff or by consultants to the Staff beyond the 12 months of the present review.

In addition, these findings suggest the Commission’s Staff will be required to monitor, evaluate, and advise of the progress – or problems – of the eventual conversion to Liberty Energy becoming self-sufficient in operating Granite State and EnergyNorth. In our opinion, the decision of Liberty Energy to proceed slowly is warranted but it places an additional burden on the Staff that was not originally envisioned when the Commission initiated its investigation. Accordingly, we believe the Commission’s interests are best served only if it finds the matter warrants further attention and a condition for approval is acceptance of such direct monitoring on the part of the Commission’s Staff.

Several categories of on-going planned work for the next several years on the part of both Liberty Energy and National Grid must be reviewed in this context.

Project Plans – given the requirement for project plans to drive the planning, development, and implementation of IT systems in an organized, efficient and effective manner, the underlying project plans must be reviewed periodically to determine that the work is on-track, that milestones are being measured and managed, that resource issues are being addressed, and that dependent and inter-dependent projects and tasks are being managed as well. Staff resources should be added to review and advise the Commission.

Transition Services – as these bear a significant cost to Liberty Energy and are critical to its operational stability, consistent review of these by Staff for the Commission will bring service utilization, performance, and billing matters into focus on a timely basis.

Quality of Service – because it will be operating with National Grid’s Transition Services support for several years, service quality measurement systems should not be changed, but the levels of service become the responsibility of the new owners and managers of the utilities. With Liberty Energy’s commitments to quality service – “Algonquin and Liberty Utilities have consistently shown their commitment to the highest standards of customer service and maintaining strong regulatory relations”⁹⁷ the ongoing involvement of Staff in working with Liberty Energy requires resources to evaluate service levels and identify issues.

⁹⁷ Joint Petition at ¶ 31

H. Liberty Energy Data Integrations

In its implementation of the WennSoft, Cogsdale and Telvent suites of systems for its New Hampshire operations, Liberty will be required to synchronize certain data common to these systems⁹⁸. Liberty Energy uses the term “Data Integration” in this regard.

Customer and customer physical location information resident in the Cogsdale CSM system comprises the presumptive “parent” database for these data. It needs to be reflected in the Telvent ArcFM™ system⁹⁹, and additionally in the WennSoft Accounts Receivable, Service Management and Equipment Management systems, according to their design and function within the Liberty Energy IT architecture.

Liberty Energy intends to perform these data integrations on a daily basis, at the least, so frequent or wide-ranging discrepancies in the data is not likely; but the fact that synchronization is required brings the need to have the process effectively managed to a matter of importance. At issue is the actual integration process and the corollary process(es) of addressing any “fall-out” caused by data rejects in the processes within each of the “child” databases.

The process within each application is facilitated with the Microsoft Dynamics GP Integration Manager (“IM”) product which instructs the systems on how to absorb and control the data being presented for integration. Liberty Energy and its vendors are required to prescribe the integration methods within IM. We understand the general industry preference (and usage trend toward eConnect, also a Microsoft product) and expect Liberty Energy to adopt that at some point in the future. The IM system relies on some dated technology which can cause problems in environments when the data volumes are significant, i.e., in excess of hundreds per day – not a likely concern for the New Hampshire deployment of these systems in normal daily operations as the churning of this data does not result in high volumes.

I. Liberty Utilities’ Cost Accounting Manual

Similar to National Grid’s allocations of costs and assignment of costs to New Hampshire operations, Algonquin and its subsidiaries operate as part of a shared services model under which certain services provided at the corporate level, either by Algonquin itself or by Liberty Utilities, are charged to Algonquin affiliates based on either a direct charge or a defined cost allocation methodology.¹⁰⁰ Liberty Energy contends that its ownership of the Granite State Electric and

⁹⁸ As discussed in Liberty Utilities’ offices in Oakville, Ontario on August 23 and 24, 2011

⁹⁹ This is the Geographic Information System (GIS) Liberty Energy proposes to use for its gas and electric operations. It contains facilities location data and provides mapping and control services.

¹⁰⁰ Eichler Direct Testimony at p. 17 of 20

EnergyNorth Gas utilities will provide a simpler, more transparent system that will make it simpler for costs to be identified and related to the state receiving the benefit of those costs. It intends to enter shared services agreements between the utilities, Algonquin Power & Utilities Corp., Liberty Utilities and Liberty Energy New Hampshire.¹⁰¹ The chart below depicting these shared services, is Exhibit 21 to the Joint petition.

		 (New Hampshire)
<u>Labor</u> -Executive Management -Corporate Legal -Corporate Accounting -Treasury Services -Corporate Communications	<u>Labor</u> -Corporate Finance -Rates & Regulatory Affairs -Information Technology -Utility Planning -Payroll -Human Resources	<u>Labor</u> -All operations labor -Customer Care -Energy Efficiency -Regulatory, Government & Community Affairs -Environmental, Health, Safety, and Security -Accounting and Financial Planning -Human Resources
<u>Non-Labor</u> -Strategic Management -Access to capital -Financial Controls -Administrative	<u>Non-Labor</u> -Professional Services -Administrative costs -Systems costs	<u>Non-Labor</u> -Professional Services -Administrative Costs

Liberty Energy contends that “... utilizing direct charges whenever feasible, the shared services model has a significant level of transparency (and simplicity) that enables regulators to readily determine the costs attributable to parent level or affiliate services and whether those costs are appropriate.”¹⁰²

Based on our assessment of the information provided thus far, however, the Algonquin cost allocation methodologies, as extended to Liberty Energy New Hampshire and to Granite State Electric and EnergyNorth Gas do not adequately address the means to fairly allocate shared costs of gas and electric operations for functions such as call center, customer service and any other function where work is done to support both utility operations.

Liberty Energy must determine the method it will use to allocate costs on a fair and reasonable basis among gas and electric operations.

¹⁰¹ *Id.* at p. 16 of 20

¹⁰² *Id.* at p. 17 - 20

X. Conclusions

After an extensive review of Liberty Energy's proposed information technology (IT) initiative, we have concluded that Liberty Energy has

- ❖ made substantial strides in defining its IT requirements and developing plans for its deployment at Granite State and EnergyNorth;
- ❖ made notable efforts to secure the commitments of all of the principal parties to its planned deployment;
- ❖ adopted an IT provisioning strategy that meets its basic operational needs, exploits proven technologies and realizes benefits not otherwise achievable; and
- ❖ must thoroughly evaluate the timelines it has proposed for the implementation of its IT initiative

The ultimate success of Liberty's initiative, and the sustainability of the Liberty Energy operating units in New Hampshire that the initiative is intended to serve, is heavily dependent upon

- ❖ fully dedicated executive leadership able to effectively manage the company's transition activities across all of its current transactions;
- ❖ structured protocols with National Grid that preserve access to historical information retained by National Grid but important to Granite State/EnergyNorth;
- ❖ a commitment from National Grid to assist Liberty Energy for whatever time is deemed necessary to successfully execute the transition; and
- ❖ the ability of numerous, non-affiliated third-parties to fully execute critical parts of Liberty Energy's IT provisioning responsibilities

Based on the above referenced conclusions we believe the individuals, and institutions potentially affected by a decision to approve the proposed change of control will substantially benefit if Liberty Energy

- ❖ appoints a fully-dedicated senior executive to be responsible for transition activities associated with all of Liberty Energy's acquisitions;
- ❖ formalizes a data retention agreement with National Grid that ensures the availability of and accessibility to historical data of importance to Granite State/EnergyNorth;
- ❖ immediately commences detailed planning to achieve full implementation of the committed IT plan;
- ❖ continues to apply rigorous IT security measures and technology to protect its business data network and maintain the highest level of access controls to systems and information within them;

- ❖ develops a comprehensive systems testing program and applies that for the IT systems it implements;
- ❖ substantially strengthen its vendor management processes and protocols to ensure full compliance; and
- ❖ augments its Transition Services Agreements to impart procedural steps to address management and operational control of the use and provision of the services, including careful management of the costs entailed

The ultimate success of this transaction is dependent, in large part, on sustained support from National Grid. As noted in other parts of our report, the knowledge, experience and talent of National Grid constitutes a pool of resources that Liberty Energy cannot easily replicate. The importance of National Grid to achieving an efficient – and cost-effective – transition cannot be overstated.

In our opinion, the Commission must exercise any, and all, authority available to it to ensure National Grid's expressed intent to support Liberty Energy is met without any qualification on its part in the future. Presuming the Commission finds this transaction in the public interest, it is in the public's interest to see that this change of control is executed without undue delay or disruption of services; the role played by National Grid is crucial to that end.

The overarching importance of that goal warrants action on the part of the Commission to ensure National Grid remains committed to supporting Liberty Energy for whatever period of time it takes for it to reach self-sustainability. Therefore, we recommend that the Commission:

- ❖ direct National Grid to appoint a fully-dedicated senior executive to be responsible for the IT transition activities associated with the transfer of Granite State Electric/Energy North to Liberty Energy.
- ❖ direct Liberty Energy to pay a percentage of all fees earned by National Grid under the Transition Services Agreements to a publicly-administered escrow account until the Commission concludes the transaction is completed
- ❖ require National Grid to post a performance bond payable to the State of New Hampshire in the case of non-performance for a period to be determined appropriate by the Commission and in accordance with terms and conditions that reflect the public's interests in the transaction.

We believe these measures are sufficient to protect the public's interest in achieving a successful transition from National Grid to Liberty Energy, pose no threat to National Grid's financial integrity or independence and are consistent with the statutory duties, obligations and authority of the New Hampshire Commission. Furthermore, we believe the public's interest can be best

served if the New Hampshire Public Utilities Commission concludes that:

- ❖ the Joint Petitioners should support efforts of the Commission Staff, or its appointed representative in monitoring and evaluating the systems implementation program of Liberty Energy through the period of its IT systems initiative including the recommendations outlined above and regularly apprise the Commission of progress in achieving its objectives