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To: jasonkean@nlh.nl.ca
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Subject: Westney Risk Assessment Services
Date: Thursday, September 6, 2007 2:48:14 AM
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NLH Proposal Risk Assess serv 090507.doc
Sched Rates 2007 rev2a.doc

Jason:

I apologize for being a little slow in getting back to you.

You have a risk session scheduled for September 19 for NLH's Lower Churchill Project and are asking Westney for facilitation help with that effort. We are willing to provide that service, but would like to suggest an alternative approach that we feel will give you more information and improve the predictability and performance of your project.

The attached proposal is the risk assessment that we would normally provide on a mega-project such as the Lower Churchill Project. It is usually a one-week long process at the project office plus our preparation and report writing time.

We would like to discuss this with you in the morning (Thursday) to determine the route that you feel best suits your needs.

I have also included our rates and terms as an attachment.

We look forward to discussing your needs and our services. I will call you this morning.

Regards,

Ric Massie

Risk-Conditioned Investment Value™: The Road to Financial Close

Developer or Lender - Westney can help.

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A
Proposal
to
Newfoundland and Labrador Hydro
Lower Churchill Project

For
Risk Management Services

Presented by
Westney Consulting Group

September 5, 2007

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I. Background & Objectives

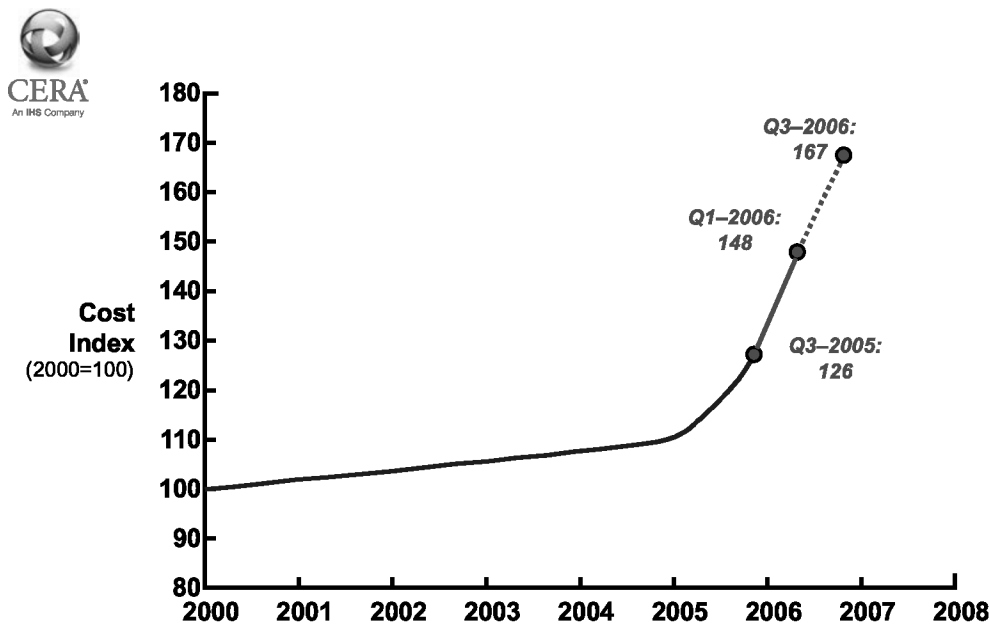
Background

NLH is developing hydroelectric plants at two sites below the existing Churchill Falls facility. The project has been studied several times and significant development engineering has been and is being done. The project has a cost range of \$10 billion Canadian. The estimate is available at this time.

This is a very important project to NLH, and it is important that the risks to cost and schedule are well-understood. By identifying and assessing these risks early, effective mitigation strategies can be defined that will improve predictability and enhance cost, schedule, and operational performance.

The project risks are not insignificant. For example, a study by Cambridge Energy Research Associates (CERA) shows that the index of capital costs for oil and gas projects has followed the tracking curve shown below:

IHS-CERA Project Capital Cost Index



Source: Cambridge Energy Research Associates.
70113-3

Westney's experience with risk assessments on recent projects indicates that the trend for hydroelectric plants is similar. For projects in Canada, the demand for engineering services, engineered equipment, bulk materials, and construction labor is at unprecedented levels, so it can be expected that the market-driven risks to NLH's project are even greater than shown in the chart.

NLH's being a Crown Corporation clearly requires that investment decisions for major capital investments be made with a clear understanding of the risks involved, and a well-defined plan to address those risks and ensure success. The purpose of this proposal is to assist NLH's project and executive management in doing exactly that.

Westney Consulting Group is uniquely qualified to perform this service for NLH. The company was founded in 1978 by Richard Westney, an authority in the planning and management of major capital projects in the energy industry. In 2003, Richard Westney joined with Keith Dodson, an experienced engineering and construction contracting executive, to expand the company's project risk management practice into the suite of services called Risk Resolution™. Risk Resolution™'s focus is on the financial implications of the strategic risks to major projects, and the role of executive management in managing those risks. The company has developed and regularly applies proprietary methods, based on its CAPEX VaR™ principles (described in a recent article in World Energy).

Goals & Objectives

The overall goal of the proposed consulting service is to provide NLH management with the information necessary to fully understand the cost and schedule risks of the project, the potential financial impact of those risks, and the steps needed to mitigate them.

To achieve this goal, Westney Consulting Group proposes to act as an independent third party, using the methodologies developed by its Risk Resolution™ process to:

- Conduct a Risk Discovery exercise to ensure that risk-related issues, and their potential impact are identified
- Provide Strategic, Tactical and Schedule Risk Assessments
- Offer future support of NLH in the development of a Risk-Driven Strategic Project Plan, focusing on Organization Planning and Contract Strategy

The scope of work, time, and cost required to achieve these objectives are described in this proposal.

II. Proposed Services to NLH

Lower Churchill Project Proposed Work, Pricing and Schedule

Work Description

Westney believes the project has moved past the point of an initial Risk Framing and it would be more appropriate to incorporate the more rigorous Risk Assessment process utilizing all the project data currently available. *This effort would be in the form of a strategic, tactical and schedule risk assessment.* This will provide NLH with the best view of the current situation for the forward path of the project.

As explained in Section III of this proposal, the Risk Discovery process is similar whether we are doing Risk Framing or Risk Assessment. Westney will conduct a kickoff meeting with the Project Team, knowledge holders and other stakeholders to explain the process. This usually takes about two hours. We then spend an hour after the kickoff receiving the project data (scope, estimate, schedule, contracts, etc.) We will then conduct individual interviews with the key knowledge holders about the various aspects of the project and the developed information. This is normally over a two day period (Days 1 & 2). Interviews are approximately one hour each. NLH is expected to arrange the interview schedule.

Upon completion of the interviews, we will spend a day (Day 3) organizing and finalizing the summation of the acquired information. On Day 4, the Project Team and stakeholders are reconvened to participate in a workshop to range the estimate (what are the plus/minus percentages or dollars for each item) and schedule items. The second part of this workshop is to develop the best and worst case scenarios (in monetary terms) for the strategic risks.

Day 5 is a second workshop to communicate the tactical risk (risk around the estimate) and the schedule risk simulation model results. Additionally, the strategic risk is further developed by selecting risk values for each strategic risk and applying mitigation strategies to reduce these, ultimately resulting in a funding level for strategic risk. Westney will use its proprietary model as a second view of strategic risk.

In approximately one week, a formal report is issued describing the process, the information obtained and the results of the process. Contingencies and management reserve needs are presented. Discussion of the results and the Consultant's view are included.

All of the interviews and workshops would be done at the NLH Project Office in St. John's, Newfoundland.

Price

Westney proposes to execute the above work for the fixed price of US\$ 53,000. This does NOT include travel expenses (estimated US\$ 10,000-12,000) which will be billed at cost. Invoicing will normally be at the completion of the work. Westney Consulting Group Canada ULC will most likely be the contracting party with NLH.

Schedule

The work is usually over a 2-3 week period from kickoff meeting to final report.

Section III of this document describes the overall service capabilities that Westney has available to NLH for risk and risk-driven strategies.

III. Westney's Risk Resolution™ Methodology

Background – the Challenge of Predictability

Issues with project predictability are not new. The root causes of the lack of predictability lie within inadequate risk identification and organizational roles for risk management:

- Traditional risk analysis is performed by project teams and immediate line management. The technique usually involves establishing a range around the base estimate and schedule. The results of such analyses tend to be strongly biased by optimism and available information.
- Estimates and schedules are prepared by engineers and project staff whose responsibilities expressly exclude consideration of strategic (i.e. “background”) risks. These strategic risks are generally the most damaging to project outcome.
- Executive management is not engaged in managing project risks. Those responsible for the project typically present optimistic risk analyses, based on which management sets “stretch” expectations for the outcome.
- The risk analyses and mitigations presented to management tend to ignore the strategic / background risks for which a project manager lacks the authority and capability to mitigate. As a result, there is neither recognition nor mitigation of the most damaging risks to project outcomes.

Conventional practice for owners has been to pass project execution risks to contractors. This was done by insisting on contractor guarantees for cost, completion, and performance. During the 80's and 90's, a buyer's market usually caused contractors to accept such “wraps”. As a result, many suffered extreme losses and some defaulted. As a result of today's seller's market coupled with extreme inflation in project cost components contractors will either refuse to take these risks or propose exorbitant risk premiums. The extent to which owners and developers must now take responsibility for project risks is virtually unprecedented.

Improving Project Success

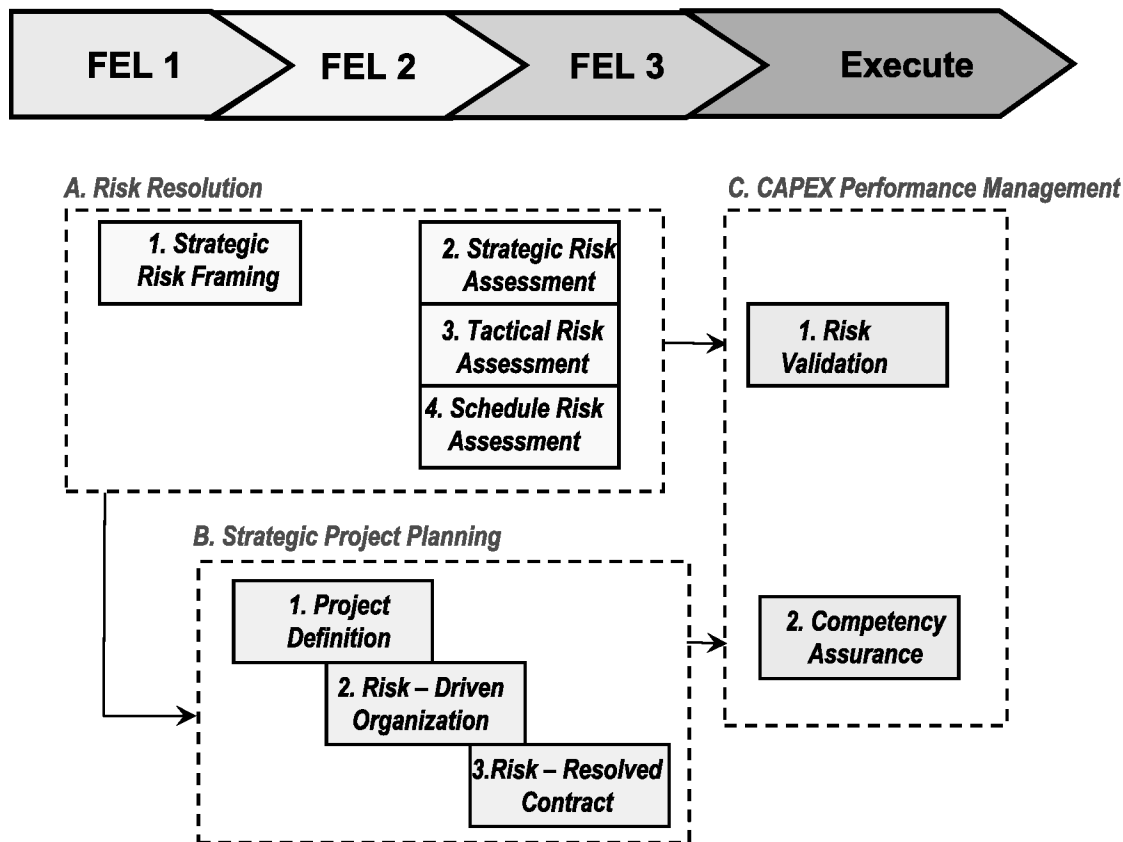
The Risk Resolution™ Process is based on the segregation of project risks into two categories:

- *Strategic risks* are any risks that might affect the project's outcome in terms of cost, schedule, start-up or operation. Managing strategic risks generally requires executive authority and influence.
- *Tactical risks* are those causing variations to the basis of the deterministic estimate and schedule. These risks can be managed by the project team.

An integrated process is taken to ensure CAPEX Predictability; it includes:

- Risk Resolution™
- Strategic Project Planning
- CAPEX Performance Management

These processes are mapped to the various project stages as indicated in the diagram below.



Each of processes is described below.

A. Risk Resolution™

The Risk Resolution™ Process consists of the steps described below.

1. Strategic Risk Framing

The objective of the Strategic Risk Framing process is to identify and probabilistically display project risk at the earliest stage of project development. Strategic Risk Framing is really about defining the problem and the right questions to ask.

The process begins with Risk Discovery, an independent due diligence review of project documents and deliverables. Then, people with key information impacting project risk are interviewed, followed by key members of the project team. (Note that the views of

many key information holders are often omitted from traditional assessments). Once the interviews are complete, and with a clear picture of all relevant risks, an independent risk assessment can be performed or (preferably) a joint assessment facilitated. Risk Resolution's™ proprietary check list supports this process.

The process can be utilized to test economic expectations against the reality of all the project risks. Scenario - type planning is used to frame potential risks, and is very enlightening for the participants who include all key project stakeholders and management. The predictions have proven to be quite good.

2. Strategic Risk Assessment

The strategic risk assessment begins with scenario - type analysis as discussed above. Many strategic risks are discontinuous or highly skewed, and cannot be properly modeled with the distributions used in typical Monte Carlo analyses. Unlike traditional methods, Risk Resolution™ uses a Monte Carlo type analysis that does not require the estimate as a likely value and uses a distribution that matches the discontinuous or highly skewed nature of many strategic risks. The probabilistic result of the Strategic Risk Assessment indicates the ***Financial Risk Exposure***. The Risk Resolution™ model can also be used for “what if” analysis of planned mitigations. Funding may be required for some or all of the strategic risks after careful analysis of various mitigation options.

It is highly recommended that Strategic Risk Assessment be carried out in conjunction with Tactical and Schedule Risk Assessments.

3. Tactical Risk Assessment

The Risk Resolution™ approach to Tactical Risk Assessment is fairly traditional. The deterministic estimate is the basis for traditional Monte Carlo simulation (e.g. @Risk® or Crystal Ball® software). Since strategic risks are considered elsewhere in the overall Risk Resolution™ process, the risk ranges and resulting contingency levels tend to be very reasonable.

4. Schedule Risk Assessment

Risk Resolution™ uses a new, proprietary technique for schedule risk analysis that overcomes the shortcomings of traditional methods. A risk model of around 150 activities is built from the key risk interfaces in the schedule. The model is based upon the logic of the detailed schedule and uses its specific dates. The model is then submitted to Monte Carlo simulation. This approach ensures that schedule risks are stressed in the simulation, and has been proven to be a reliable predictor.

Deliverable: Risk Report including Risk Mitigation Balance Sheet

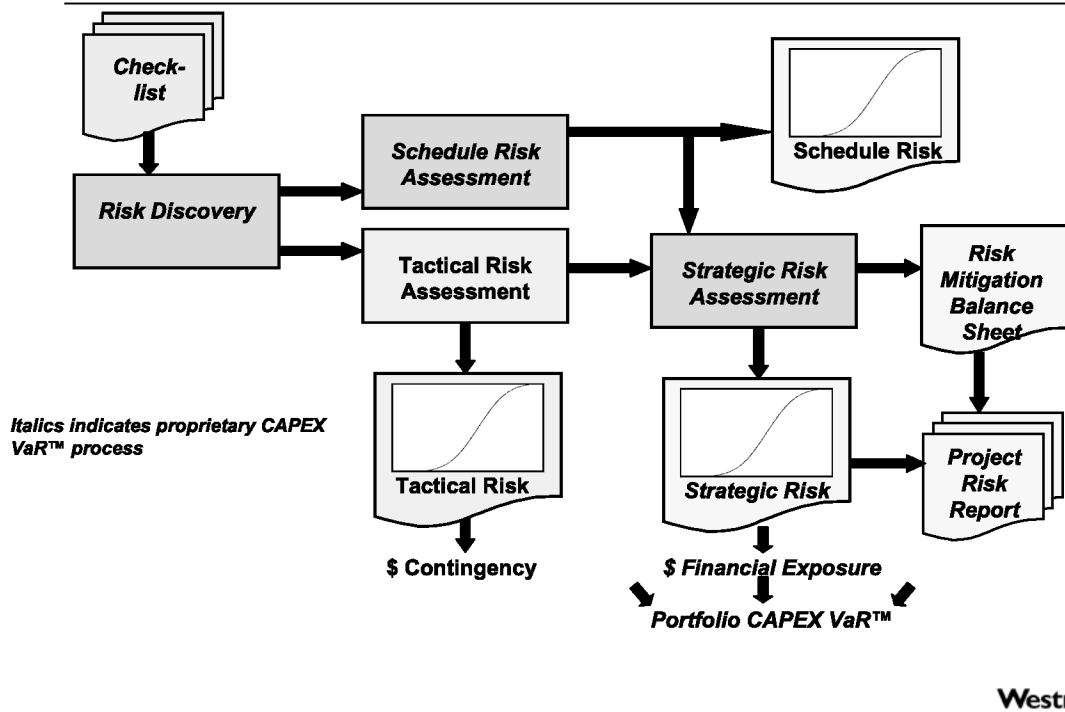
The results of the Risk Assessments are the basis for planning Risk Mitigation. A comprehensive risk report is provided for each type of risk assessment. The Risk Report provides a clear view of project risks in a summary presentation that includes cumulative probability curves as well as the results of Risk Discovery.

The Risk Resolution™ process also provides a financially accountable approach to mitigation planning in the form of the Risk Mitigation Balance Sheet. An example is shown below.

Risk Mitigation Balance Sheet	
\$ XXXX.XX (Value of Mitigation)	\$ XXXX.XX (Value of Risk)
\$ XXX.XX (Funding)	\$ XXX.XX (Cost of Mitigation)
	\$ XXX.XX (Net Risk Exposure)

The above steps are executed in the sequence illustrated below.

Risk Resolution™ Process



B. Strategic Project Planning

Strategic Project Planning begins by considering the results of the Strategic Risk Framing. This provides an understanding of risks that serves as the basis for the Strategic Project Plan. For example, Risk Framing is used to drive the Organization and Contracting plans, which, if correct, are a major success factor.

1. Project Definition

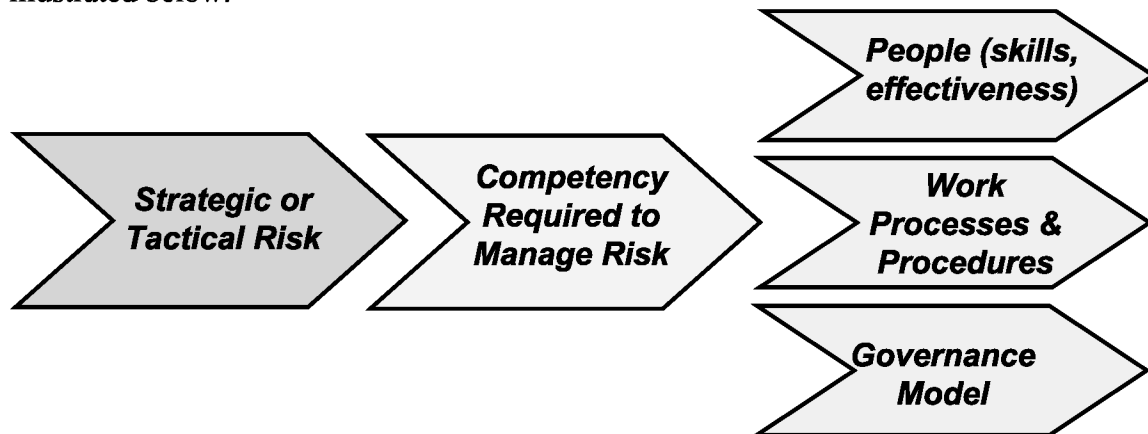
This is the foundation of the Strategic Project Plan, and depends on the stage the project is in. The framing of strategic risks associated with alignment on business goals and project objectives, as well as the current and planned development of the scope of work, provide the basis.

2. Risk-Driven Project Organization

Everyone knows that a strong and effective owner organization is a key success factor in reducing many project risks. But how does one reconcile the need for a strong team with the realities of limited resources?

The answer lies in Risk – Driven Competency Model.

Each risk requires competency in the project or owner organization to manage it. This is illustrated below.



The chart illustrates that the project organization is not just about organization charts and staffing. The risk-driven competency model allows the organization to be structured such that key people are placed, and supported with appropriate work processes, procedures and governance, so that the primary risks are addressed effectively.

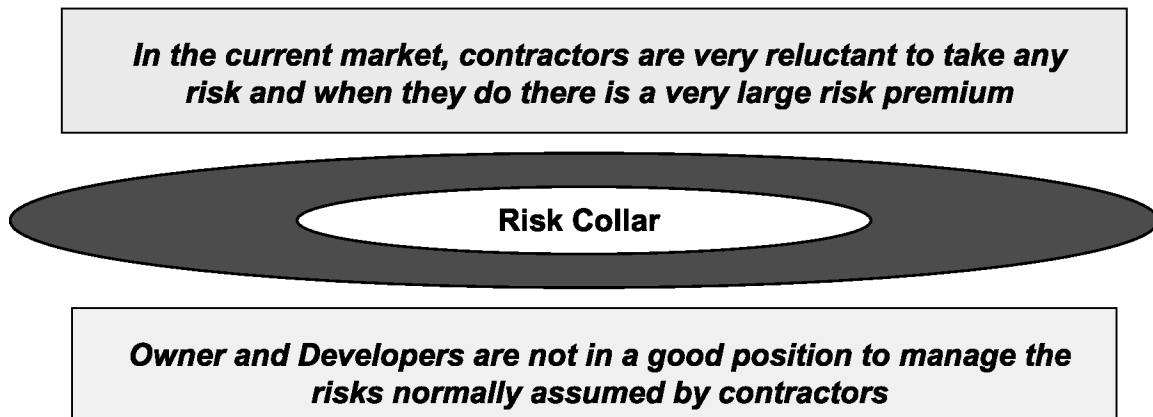
3. Risk-Resolved Contract

The dilemma facing owners today is this:

- On one hand, project uncertainties and risks are much greater than in the past, making it more desirable for an owner to offload risks onto contractors
- On the other hand, current seller's market conditions reduce the need for contractors to take risk, and when asked to do so, the risk premium is likely to be so high as to be untenable.

A clear identification and understanding of the risks facing the project, provides the basis for contracting concepts that allocate, eliminate, and/or correctly value the risks to both owner and contractor. Westney Risk Resolution™ provides an independent perspective that makes it possible to arbitrate risk sharing at the optimum economic value to both parties. The elimination of costly contractor risk premiums increases the possibility for a project to proceed with acceptable risks.

A Risk-Resolved contract makes it possible to “collar” the main risks to the project, such that owner and contractor each bear the risks they are best able to control and finance, while a financial mechanism is used to fund any risks that remain. This concept is illustrated by the diagram below.



With each project risk individually identified and quantified, a “Risk-Resolved” contracting concept can be implemented to reduce costs and complete a “bankable” EPC contract. Risk-Resolved Contracting uses the results of detailed risk analysis to guide the contracting parties to a sharing of risks for optimum economic value. This resolution of risks may take the form of innovative contract language, agreed behavior of the parties, or the transparent inclusion of a value of the risk in the project costs. Westney’s independent arbitration of the risk issues provides the transparency needed to minimize contractor’s risk cost and to structure an incentive for effective risk management. Carefully defined risk exposure (with appropriate contract language) allows contractors to accept the guarantees required for project finance.

C. CAPEX Performance Management

1. Risk Validation

Westney Consulting offers a package of services to ensure that the risks identified in the assessments are being effectively mitigated, and that new sources of risk are promptly identified and plans developed to mitigate them.

2. Competency Assurance

This service is designed to ensure that the competencies needed to address project risks are being applied effectively. These services may include:

- Facilitation of best practices such as Team Alignment, Value Engineering, Constructability, and Lessons Learned
- Project Management Training
- Interface and Issues Management
- Independent Project Reviews
- Development of work processes and procedures

IV. Company and Consultant Qualifications

Westney Consulting Group

Westney Consulting Group was founded in 1978 by Richard Westney, PE, PMP (see resume below). The company's focus then as now, was on methods and services for predictability and performance in capital projects in the energy, chemicals and pharmaceuticals industries. The company's list of over 100 clients includes leading energy-industry investment organizations such as:

- Oil company supermajors (e.g., BP, Chevron, ConocoPhillips, ExxonMobil, Shell)
- Independents & Mid-Tier (e.g., Anadarko, BHP Billiton, Devon, Husky, Marathon, Nexen)
- National Oil Companies (e.g., Petrobras, Sonangol, Statoil)
- Engineering & Construction Contractors (e.g., Mustang, Technip)
- Engineered Equipment Manufacturers (e.g., Cameron, FMC, Natco)
- Drilling (e.g., GlobalSantaFe, Noble, Transocean)
- Financial / Developers (e.g., First Reserve, DKRW)
- Government (State of Alaska)

Recognizing the growing magnitude and complexity of project risk, development of the Risk Resolution™ Process began in 2003. The company has proprietary methods that provide a top – down, executive level focus on strategic CAPEX risk. These methods and services are being applied – with very credible results – to major projects such as oil sands, chemicals manufacturing, and deepwater production. Westney Consulting is also applying the Risk Resolution™ process with developers/equity investors on projects such as gasification, providing an independent, expert perspective as well as risk – driven strategic planning.

The Fall 2006 issue of World Energy contains an interview with Keith Dodson and Richard Westney, as well as their article *CAPEX VaR™ – Key to Predictability*. This provides an overview of the concepts behind the company's proprietary CAPEX VaR™ processes and methods.

Proposed Consulting Team

Services to NLH will be performed by two or more of the following senior staff:

Keith Dodson is a Senior Partner of Westney Consulting Group where his focus is on supporting owners and contractors in the identification, assessment, and funding of strategic risks.

Mr. Dodson began his work with Westney in 2003. Prior to that he served as President, US Operations for Petrofac; Senior Vice President and Chief Operating Officer for Enron Engineering and Operations Company; Senior Vice President for Stone & Webster Engineering Corporation; Chief Executive Officer of M.W. Kellogg Ltd., and President (USA) of Davy McKee. He began his career with Brown & Root as a cost engineer, and rose to become President of Brown & Root Engineering & Construction International.

Active in numerous professional organizations, Mr. Dodson was a founder and served as Chairman of the Construction Industry Institute (CII). He served two terms as Chairman of the Engineering Foundation of the University of Texas at Austin and was also a director of the Engineering and Construction Contracting Association (ECC). He was elected to the National Academy of Construction,. Mr. Dodson is a graduate of the University of Texas at Austin and the Advanced Management Program at Rice University.

Richard Westney, PE, PMP, is Founder/CEO of Westney Consulting Group. Mr. Westney began his oil and gas career in the Project Management Division of Exxon Research & Engineering Company, and formed Westney Consulting Group in 1978.

Author of 5 books on project management, Mr. Westney has served as visiting faculty at Texas A&M University and the Norwegian University of Science and Technology, as well as an instructor for construction executive programs at Texas A&M, University of Texas, and Stanford Universities.

He is a Fellow and Past-President of AACE International (The Association for the Advancement of Cost Engineering), and received that association's highest honor, the Award of Merit. He is also a director of the Engineering & Construction Contracting Association (ECC). Mr. Westney received a BS in Mechanical Engineering from the City College of New York, an MS in Management Science from Rensselaer Polytechnic Institute, and is a graduate of the 3-year Owner/President Management Program at Harvard Business School.

Eric Briel, PE, PMP is Chief Operating Officer of Westney Consulting Group.

Mr. Briel has 30 years of project management and engineering experience. He began his career as an officer in the US Army, serving as an Airborne Ranger assigned to the Berlin Brigade and later the Ninth Infantry Division. Following 6 years of military service he joined Amoco where spent 18 years developing and managing international oil & gas exploration and production projects.

Mr. Briel joined Westney Consulting Group in 1999, and was appointed COO in 2003. He is a Registered Professional Engineer in the states of Virginia, Washington and Colorado and a certified Project Management Professional (PMP). Mr. Briel holds a BS in Civil Engineering from Virginia Military Institute, an MBA from Regis College, and completed the Key Executive Program at Harvard Business School.

Michael Pappas, Ph.D., P.E. received his Ph.D. and M.S.E. in Civil Engineering from the University of Texas at Austin, and his B.S. in Civil Engineering from the University of Missouri-Rolla.

His consulting work focuses on pre-project planning, productivity improvement, dispute resolution and risk management. Dr. Pappas' background and expertise makes him particularly well-suited to facilitate the optimum allocation of risk between owner and contractor as discussed in this proposal.

In addition to his consulting work, Dr. Pappas is a consultant and lecturer at the University of Texas at Austin where he is also engaged in executive learning programs.

Dr. Pappas is a member of the American Society of Civil Engineers, the Dispute Resolution Board Foundation, and the State Bar of Texas Construction Law Section, as well as a licensed professional engineer in the State of Missouri. He has written award-winning papers regarding construction management and dispute prevention and resolution.

After receiving his BS degree, Dr. Pappas spent nine years as an officer in the United States Navy Civil Engineer Corps.

J. R. (Ric) Massie, Jr., PE, PMP is a Senior Executive Consultant with the Westney Consulting Group. He received his B.S. and M.S. in Chemical Engineering from Texas Tech University. His consulting work focuses on Risk Resolution™, as well as strategic planning for domestic and international projects including chemicals, LNG regasification, and refining.

Mr. Massie has 30 years experience in all aspects of engineering and construction projects. As a project manager at Dow Chemical, he was responsible for the economics, authorization, process design, engineering, procurement, construction and operation of world scale hydrocarbon processing plants. His experience also includes positions of Vice President and director of an engineering and construction company.

Westney Consulting Group – Schedule of Rates - 2007

Consulting Classification	Hourly Rate	Daily Rate
Founder / CEO		
Senior Partner		
Chief Operation Officer		
Senior Executive Consultant/ Partner		
Executive Consultant		
Managing Consultant		
Consultant		
Consulting Support		

Notes:

1. Rates do not include travel time or expenses. Travel time is billed at ½ the hourly rate. Travel expenses are invoiced at cost.
2. The hourly rate applies to work performed in Westney's offices or at the client's office if client's location is in the greater Houston area.
3. The daily rate applies to work performed in the client's office if the work takes all or the majority of a full day, as well as to work in the client's office if the office is outside the greater Houston area. The daily rate assumes an 8-hour day. Authorized overtime is charged at the hourly rate.
4. The above rates apply to all work done in calendar year 2007.
5. Training course and workshop presentations are priced on a lump – sum basis, which includes fees for proprietary materials.
6. Rates exclude any extraordinary printing or reproduction charges, such as the printing of manuals. If such costs are incurred, they will be invoiced at our cost plus a markup of 15%.
7. Rates exclude any provision for corporate or personal taxes associated with work outside the USA.

The Consulting Classifications are described on the following pages:

Consulting Classification Descriptions

Founder/CEO: Richard E. Westney, PE, PMP

Senior Partner

- Greater than 35 years of industry experience, including management or executive positions in leading owner and/or contractor organizations
- Industry-wide recognition as an authority in Project Management and/or general management in the engineering & construction industry

Chief Operating Officer: Eric M. Briel, PE, PMP

Senior Executive Consultant/Partner

- Greater than 30 years of industry experience
- Provides strategic direction for consulting assignments
- Holds a management position in the Westney organization
- Provides high -level consulting services

Executive Consultant

- Greater than 20 years of industry experience
- Competent, independent, professional that may have either unique or broad industry experience, with strong background in project management.
- Provides all consulting services and/or leads consulting teams

Managing Consultant

- Greater than 15 years of industry experience
- Industry professional with specialized and general management and project management experience
- Capable of leading and/or performing most of the services that Westney provides.

Consultant

- Greater than 10 years of industry experience
- Industry professional with project management experience
- Capable of leading and/or performing some of the services that Westney provides.

Consulting Support

Technical writer or computer programmer.