CONFIDENTIAL INFORMATION

GRAND BANKS DETAILED FEASIBILITY STUDY
Commercial Report
prepared for

NEWFOUNDLAND & LABRADOR HYDRO

EnerSea Project No. ET-2007.03-02

Information Disclaimer and Confidentiality

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REPORT NO. ET- 2007.03-02/002 – Commercial Report

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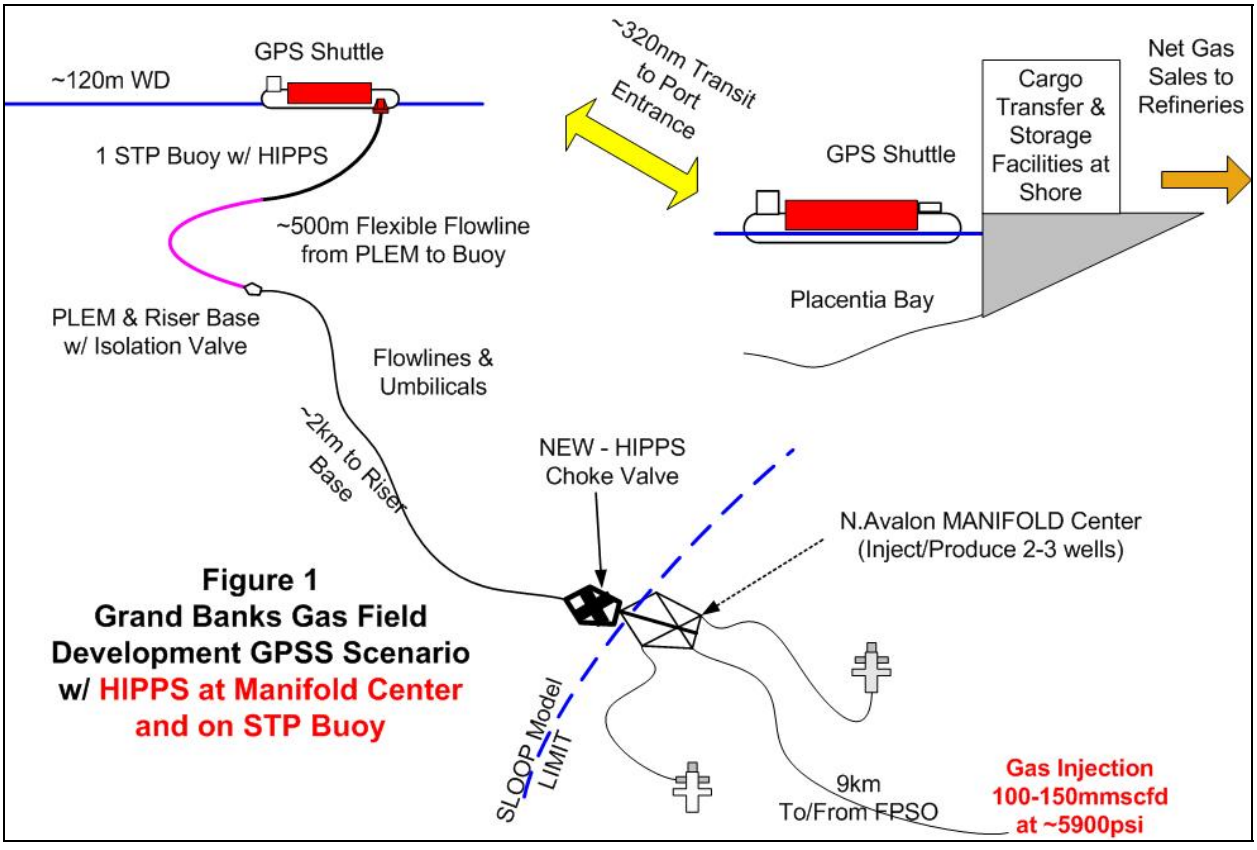
EXECUTIVE SUMMARY

Newfoundland & Labrador Hydro (NLH) commissioned EnerSea to perform a Detailed Feasibility Study (DFS) for production and transport of natural gas from the North Avalon gas field in the Grand Banks area offshore Newfoundland. The operator of the gas field is currently re-injecting associated gas into the North Avalon reservoir from the White Rose oil field. The oil field is being exploited through subsea wells and an FPSO.

This study evaluated the technical and commercial feasibility of developing and transporting gas reserves as CNG from the North Avalon reservoir to a delivery point near the proposed refinery owned by Newfoundland Refinery Corporation (NLRC). The gas production, transport, and delivery concept assumes the use of a Gas Production/Storage/Shuttling (GPSS) system plus storage facilities at the delivery site using EnerSea's "Volume-Optimized" gas handling and storage technology. The scenario is depicted in Figure 1 below:

Figure 1



EnerSea has adapted earlier designs of its VOTRANS CNG carriers ("V-ships") for use in the White Rose field and in the specific Atlantic Canada operating conditions existing along the transit route between the field and the desired gas market. EnerSea has evaluated offshore loading system designs for use in this service that have been proven in both gas and oil operations with an extremely successful performance record in harsh environment oil and gas loading operations. The requirements and options for gas storage and processing at the delivery point have been assessed and defined to minimize the overall transportation cost, while

facilitating deliveries of gas and gas liquids to proposed gas offtakers. Together, these systems enable EnerSea to provide NLH with a robust, dependable and cost effective gas transport service.

GPSS Concept Description

The GPSS system was designed and evaluated for a maximum production rate of approximately 220 million standard cubic feet per day (Mscfd) of natural gas from subsea wells connected to a subsea well test manifold center (MC). The number of subsea wells required to maintain the rate will be determined in subsequent reservoir studies. Husky is currently re-injecting up to 100Mscfd through one well.

The project concept will utilize two (2) GPSS units to produce, store and transport CNG to receiving facilities at a port inside Placentia Bay near the NLRC refinery. Each of the GPSS units will be equipped to interact with the subsea field production systems to produce and store approximately 665Mscf (18.86Mscm) of gas (expected "working capacity" versus theoretical "absolute capacity" due to permanent heel and fuel buffer allocations) and approximately 27,000bbls (4,290m^3) of liquids (combined condensate, methanol, and water) for transport to the delivery point located about 320 nm southwest of the field. The water depth at the field is assumed to be 120m.

The in-field production/loading system utilizes a Submerged Turret Production (STP) system similar to that designed and installed by Advanced Production Loading A/S (APL) for a number of FPSO facilities world-wide. The STP system is ideal for this application due to the specified availability target. The STP buoy envisioned for the Grand Banks production will be greatly simplified as compared to the complex, high pressure systems used with existing FPSO units.

Delivery Terminal facilities will be designed to offload, receive, meter and deliver CNG to a VOLANDS^{TM} storage facility. This study assumed the use of a dock close to the NLRC refinery. Additional facilities and modifications also evaluated in this study for offloading gas from the GPSS at the port, include cargo transfer equipment, such as gas loading arms and attendant piping, as well as process equipment related to VOTRANS proprietary gas offloading system. The Delivery Terminal facilities are configured to complete discharge of the GPSS within approximately 24 hours. Delivery to the NLRC and the North Atlantic refinery will be made on a rate-able basis from the VOLANDS storage unit.

Conclusions

This feasibility study concludes that a GPSS solution is technically viable across the range of conditions examined to safely, reliably and efficiently transport gas from the supply to market locations defined. This study has developed the following conclusions regarding the major areas on investigation:

Ship: No feasibility issues have been identified for the ship, hull and containment.

Production and gas handling system: No feasibility issues have been identified for the production and gas handling system. Future optimization will be required to validate the gas composition, flow assurance, reservoir modeling and production controls.

Loading System: The loading system is based on Submerged Turret Production (STP) buoy, of a similar type as those existing on Heidrun (APL design). The STP is proven in service in similar harsh environments for high pressure gas loading and no feasibility issues have been identified.

Offloading Location: A specific location has been assumed for the gas delivery port and VOLANDS storage facility in this study. Additional screening and further evaluations will need to be performed in future development activities to confirm this location or select another location.

Commercial: The cost of transport for the case evaluated is $1.65/mmbtu, which includes the capital and operating costs for the complete production and transport of natural gas from the North Avalon field using the GPSS system as described herein. The cost estimate and resultant effective production and transport cost provides a robust development solution for the field operator.

Schedule: The schedule has been developed based on a goal of 1st gas from the field development in early 2013 to meet the refinery requirements. The master schedule developed as part of this study indicates that this goal is very achievable, based on certain assumptions outlined in this report.

Recommendations

EnerSea recommends that this project move forward as early as possible to capture the value of the gas that is currently being re-injected into storage at a significant cost to the project stakeholders. The present value of this gas and associated liquids is approximately 250 million USD per year, which represents a significant value and incentive to move the project forward at a rapid pace.

EnerSea has developed a GPSS Pre-Project Development plan that defines the activities required to progress the project in parallel with the commercial activities leading up to FEED. In order to reach these targets, EnerSea recommends that the GPSS Pre-project development commence as early as possible for numerous reasons as follows:

- Be in a position to complete FEED in a timely manner and secure delivery slots and firm quotes from shipyards as early as possible in a very tight ship-building market.
- Accelerate full-field development, thereby enhancing project NPV.

This report illustrates the unique capability that EnerSea's GPSS project can provide to the project's shareholders to create a robust, near-term solution for acquiring the desired reservoir information while delivering this challenging gas supply to markets.

EnerSea very much appreciates the opportunity to conduct this assessment, and we look forward to working with NLH further in this prospective effort. We recognize that challenging projects such as this one will require the creativity, perseverance and good cooperation amongst all shareholders in the project. EnerSea and our project partners are committed to working with you in that spirit.

1. COMMERCIAL EVALUATION

One of the major objectives of this study was to determine and assess the life-of-field capital and operating costs and commercial basis for this project. The following section illustrates the results of analysis.

1.1 Estimated Capital and Operating Costs

The capital and operating costs as estimated below in Table 1 include costs of the GPSS fleet and ship operations, offshore loading terminal at the field and delivery terminal, inclusive of the VOLANDS storage facility and gas handling equipment at the delivery site. These costs reflect the P90 value of capital costs which includes assumed opportunities for cost reduction as analyzed for this study. Detailed analysis and the basis for this cost are included as Appendix 1 herein.

Table 1 also provides an effective transport cost that is calculated using the capital and operating costs based on a 10% return on capital.

Table 1

Project Scenario	Supply Rate, Mscfd	Energy Content, Btu/scf	Ship Size Mscf	Storage Size Mscf	CAPEX, MUSD	OPEX, MUSD/Yr	Fuel Gas, Mscfd	Transport Cost, USD/MMBtu
Project Tariff Including Capital Cost Reduction Opportunities								
P10	220	1316	665	440	840	20	7.25	**1.32**
P50	220	1316	665	440	940	20	7.25	**1.46**
P90 (Base)	220	1316	665	440	1,080	20	7.25	**1.65**
Project Tariff Excluding Capital Cost Reduction Opportunities								
P10	220	1316	665	440	980	20	7.25	**1.51**
P50	220	1316	665	440	1,140	20	7.25	**1.73**
P90	220	1316	665	440	1,300	20	7.25	**1.95**

The complete GPSS project service includes all ships, facilities and services, from the reception of gas at the field through the delivery of gas onshore at the outlet of the gas storage facility. Support for the subsea well production operations and related processing of produced fluids onboard the GPSS vessels will also be provided. The capital and routine O&M expenses are included for the following:

a) Gas Loading Terminal, including:
   - Submerged Turret Buoy (STP),
   - STP mooring and anchors,
   - Risers and umbilical,
   - PLEM, and
   - Flowline

b) Fleet of (2) GPS shuttles, including:
   - Gas containment system,
   - Production system, and
   - Gas handling and chilling system

c) Gas Delivery Terminal Modifications and Facilities, including:
   - Offloading arms,

- Ancillary piping and controls,
- CNG Liquid Displacement System,
- Automation, controls and instrumentation,
- Safety systems,
- Vent/flare system, and
- Custody transfer metering,

d) VOLANDS, including:
- Gas containment system
- Enclosure/structure with insulation
- Nitrogen generation, chilling and distribution system
- CNG Liquid Displacement System
- Automation, controls and instrumentation
- Safety systems
- Vent/flare system
- Gas heating system

e) Overall operating and maintenance,
f) Logistics, coordination, administration and overheads for the transport fleet, terminal facilities and services

Please note that EnerSea has not included the cost of any land or at-shore property acquisition and usage costs that may be required for the installation and operation of onshore facilities or bases [e.g. offloading facility sites, storage, and system tie-in sites] or port/jetty construction. EnerSea has not included pilotage or port usage fees, if any; income and other taxes, royalties and/or fees to local governments; costs for domestic regulatory approvals, permits or fees; and other miscellaneous site and project-specific items not presently defined. All of these will be investigated during development planning efforts.

1.2 Fuel Gas and Electrical Usage

The GPSS system will utilize fuel gas from the produced gas stream to generate power for propulsion and ship's utilities, as well as for cargo processing and transfer. Fuel gas may also be required for the Delivery Terminal and VOLANDS storage facility. It is assumed that electricity will be provided from the local utility power system for the delivery terminal facilities to drive the glycol displacement pumps and the refrigeration and utility systems. EnerSea has assumed that fuel gas for the GPSS and utility power for the Delivery Terminal and VOLANDS storage facility will be free-issued. The estimated fuel gas usage rates have been calculated and are included in Table 1. The estimated electricity usage is included in REPORT NO. ET- 2007.03-02/001 – Technical Report.

1.3 General Assumptions

The following additional project assumptions apply to the above cases considered in this pre-feasibility study:

a) Vessel life: 20 years
b) Project Life: 20 years
c) Costs are referenced to 1 January 2007 market data, cost estimates and assumptions.

d) No inflation has been assumed in the evaluations performed in this assessment; costs will be indexed to inflation and adjusted on an annual basis.
e) GPSS ships will be classed by an internationally recognized class society (e.g. ABS or DNV), and flagged and built internationally at the discretion of EnerSea and its ship operator.
f) Local content and cabotage issues will need to be reviewed.
g) Fuel gas and electrical power required for the GPSS and terminal and storage facilities are to be provided on a free-issue basis to the Transport Project.

2. PROJECT RISK ASSESSMENT

Cost estimating and project development schedule uncertainties are features of projects that industry benchmarking has highlighted as "containable" through early application of disciplined project management practices. Therefore, cost estimating and project development schedule uncertainties deserve considerable attention in pre-project development efforts. Accordingly, EnerSea has engaged the DNV to lead a study of project risks related to the GPSS project development capital cost and schedule. A summary presentation of the DNV study and a description of the quantitative risk assessment process are included herein as Appendix 1.

2.1 Project Schedule Risks and Probabilistic Impact Assessment

DNV facilitated two working sessions that allowed their analysts to document and appraise the various risks that are expected to challenge the timeliness and cost-effectiveness of the GPSS development for the Grand Banks gas field. The risks are described in detail in Appendix 1. After the risks were defined and ranked according to the agreed 5x5 risk matrix by the combined resources of NLH, EnerSea and DNV, DNV met with EnerSea to map the risks over the entire project schedule. The original project schedule was streamlined to facilitate translation into the Pertmaster tool that DNV used for quantitative risk assessment, but all critical path schedule features were maintained.

Key conclusions of the project risk analysis related to the master schedule are as follows:

- Financial Close milestone (P50): 24 Jan 2010
- Full Gas Production (P50): 23 Jun 2013
- NGO opposition, regulatory approvals, FEED start and FEED duration represented the largest schedule risk drivers.

2.2 Project Capital Risks and Probabilistic Impact Assessment

After the project risks were defined and ranked according to the agreed 5x5 risk matrix by the entire team, DNV met with EnerSea to map the risks over a simplified spreadsheet model for overall project capital costs. Estimates of the uncertainty and volatility of cost estimates were assessed as P10 and P90 costs for each of the elements reflected in the spreadsheet model. Correlations were assigned between various elements. The capital cost elements used in the model are shown in Appendix 6 with the assigned ranges for cost uncertainty and correlations. EnerSea identified specific cost saving features that it has identified to be implemented into projects. Two areas allowing for substantial cost savings are:

- Utilizing 48 inch cylinders instead of 42 inch cylinders in the ship and VOLANDS containment
- Decreasing storage temperature from -30^{o}C to -40^{o}C.

Preliminary analysis of these cost savings features indicates that the design changes and technical requirements are readily obtainable and EnerSea has decided to implement these changes on future projects that have a reasonable FEED and pre-project development period.

Key conclusions of the project risk analysis related to the capital cost are as follows:

- Estimated and deterministic cost: 1030 million USD
- Probabilistic costs (including cost reduction opportunities):
  - P10: 840 million USD
  - P50: 940 million USD
  - P90: 1,080 million USD
- Probabilistic costs (excluding cost reduction opportunities):
  - P10: 980 million USD
  - P50: 1,140 million USD
  - P90: 1,300 million USD
- The CAPEX distribution without correlations between cost features is unrealistically narrow, so only results including such correlations are being reported.
- The biggest cost risk drivers are ship weight cost factor (i.e., a reflection of the intensity of the shipbuilding market at the time the ships are ordered) and the cost of the premium line pipe used in the CNG cylinders.

It is encouraging to reflect on the cost uncertainty ranges applied to the elements in the CAPEX model because, while such wide ranges have been applied to the key cost drivers, the overall distribution is not disturbingly wide; even with market correlations being accounted. For example, the ship construction cost factor (a key driver) has been allowed to vary from $2,673/MT at P10 up to $4,964/MT at P90, as compared to the base P50 estimate of $3,818/MT from recent market evaluations. This represents a -30%/+30% range around a historic high in shipbuilding costs. The range for premium pipe supply costs was also assigned as -27% to +33% around a price ($1500/MT) that is 100% higher than the cost of the same pipe of material in 2002. Some cost features are assumed to have uncertainty ranges that could be 100% above the base estimate. Further, sampling in the Monte Carlo simulation process allows values to be picked up outside of the P10-P90 range.

The DNV team assessed the potential for “unknown-unknowns” as being a potential source for an additional “contingency” that should be applied on top of the ranges of uncertainties that were assigned to the cost features of the model. Their opinion was that, since the total system only incorporated proven technology components, the wide ranges of uncertainty applied to the cost elements provide adequate coverage for the “unknown-unknowns”, as well as for cost increases that could be expected when building in features to enhance system “regularity” (e.g., adding redundant equipment and/or flow paths to ensure that gas delivery commitments can be met).

Due to the extended time period between now and project sanction, EnerSea considers there is adequate time to engineer and include these valuable cost saving features into the GPSS system design. As such EnerSea recommends that the P90 value (including cost reduction opportunities) be used as the basis for the capital costs at this stage.

2.3 Gas Project Guarantees & Risk Factors

EnerSea is capable of obtaining limited contractual guarantees which will result in a lower risk and more valuable project for all of the stakeholders, which could include the following:

- Delivery Guarantee: Assurance from the Shipbuilder that a fully functional ship will be delivered within the timeframe agreed.
- Operational Guarantee: Assurance from the Ship Operator that the delivery logistics and services are performed as agreed.

The general matter of project risk factors, including their allocation to appropriate project shareholders, mitigation solutions and remedies, will be addressed with NLH and other appropriate project entities during development planning.

2.4 Project Finance and Insurance

There has been great interest expressed by financial institutions and investors to participate in EnerSea's VOTRANS projects. Insurance providers also see a great opportunity to provide coverage for a new range of service.

During the course of the EnerSea's development and commercialization efforts, EnerSea and "K"Line held workshops with leading international banks and insurance companies. Through these workshops, EnerSea and "K"Line obtained not only cost evaluations, in particular with respect to insurance, but also suggestions and requirements for financing CNG projects. The results of these communications are summarized below.

EnerSea and "K"Line prepared information packages, which provided an overview of EnerSea, VOTRANS technology, details of the main commercial terms, contractual alternatives, and project assumptions for a generic CNG project, and sent them to the companies listed below.

- Banks & Financial Institutions:
  - ANZ Investment Bank ("ANZ")
  - BNP Paribas ("BNPP")
  - Citibank NA ("CITI")
  - The Bank of Tokyo-Mitsubishi, Ltd. ("BTM")
  - Mizuho Corporate Bank, Ltd. ("Mizuho")
- Insurance & Brokerage Companies:
  - The Tokio Marine and Fire Insurance Co., Ltd. ("Tokio Marine")
  - The Japan Ship Owners' Mutual Protection & Indemnity Association ("Japan P&I")
  - Royal and SunAlliance ("R&S") with Miller Marine ("Miller")
  - Lloyd's Underwriter with Miller

EnerSea requested their response and feedback related to provision of insurance and financing for a fleet of VOTRANS carriers for a given project. Workshops were held in Tokyo, London and the Houston

2.4.1 CNG Project Finance Conclusions

Even though this approach was made at an early stage and before a specific project had been identified, each of the banks was appreciative of EnerSea's efforts to involve them at this early stage. All the banks emphasized that it is indispensable for evaluation, especially in project finance, to prepare detailed prospects of the cash flow to be generated by specific projects. They also pointed out the necessity of additional value chain information about the off-taker, seller, reservoir, etc., to ensure a reliability of the cash flow.

All of this information will be known as more details are developed on specific projects, such as would be developed during the early stages of the project FEED.

EnerSea's strategic development partners, including Mitsui and Tanker Pacific, have expressed strong interest in providing project development equity for EnerSea's CNG projects, especially in the areas of gas loading/offloading terminals and gas storage facilities, both land-based and floating (where appropriate). These companies have great financial strength and project capabilities in undertaking such projects. Combined with their intimate knowledge of EnerSea's technology and systems, it may be expected that these companies would have a greater level of comfort and confidence in such projects than third-party entities that are not as familiar with this industry. Therefore, these resources may be able to provide and/or sponsor an attractive source of project financing.

2.4.2 CNG Project Insurance Conclusions

Based on the response from each of the insurance companies, a general conclusion was reached that VOTRANS projects can obtain hull insurance for CNG vessels at a relatively reasonable cost level. This point should also be emphasized during negotiations on financial conditions with banks. General conclusions related to Hull and P&I (Protection and Indemnity) insurance and comparison with LNG is as follows:

1. Hull Insurance costs for CNG will always be evaluated against LNG until performance history is obtained for CNG vessel operation, which is the most important element in a premium rating.
2. Risks in connection with P&I insurance were estimated to be the same order of magnitude as risks related to LNG. CNG risks could be considered as less than those for LNG based on the following:
    a) Because CNG vessels loads and offloads at offshore buoy mooring systems or at jetty/ports that are isolated from general commercial maritime use, the CNG vessel is not exposed to risks normally associated with LNG tankers that must transit busy ports and waterways.
    b) CNG vessels carry less cargo than conventional LNG carriers; therefore there is less cargo damage risk.
3. VOTRANS projects can obtain P&I Insurance for CNG vessels at a relatively reasonable cost level.
4. Claims for P&I are paid from funds obtained through annual insurance payments by members in each P&I club. Japan P&I is one of largest clubs worldwide. “K”Line will monitor the cost level and annual fluctuations according to total performance of members.
5. Estimated rate is based on longtime and good performance of “K”Line.

Based on the groundwork established by EnerSea and its strategic partners, the transport project team is now well positioned to progress the commercial issues related to acquiring suitable ship and terminal financing and insurance coverage for CNG transport projects. Once projects become better defined, both prior to and in the early stages of the FEED, EnerSea will plan to approach banks and other lending institutions regarding the project finance, as well as insurers for progressing the development of appropriate policies to cover the ship and terminals and the transport operations.

3. PROJECT PLAN AND SCHEDULE

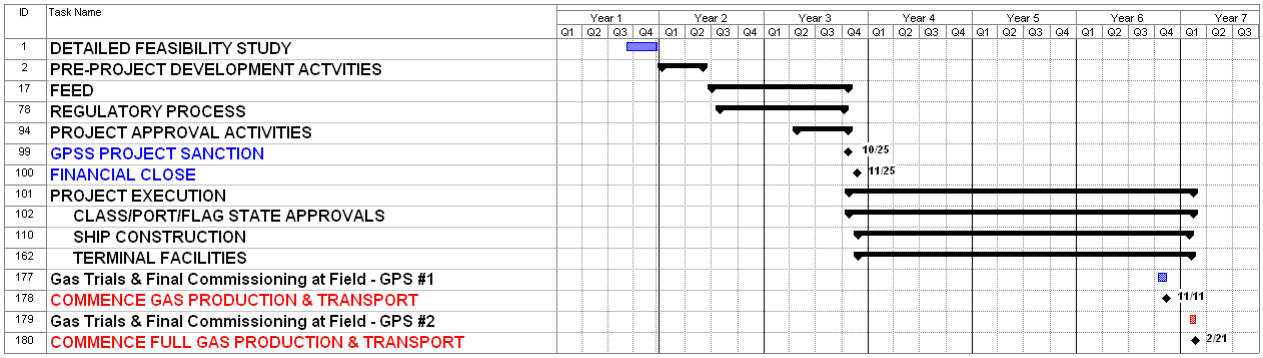
The preliminary Grand Banks Project Schedule reflects the level of information developed to date and the interdependencies of project activities. There are numerous activities that lead up to Project Sanction that will be important in establishing a definitive project development plan and to facilitate NLH's decision-making process. Completion of the following activities will provide NLH and EnerSea with sufficient levels of confidence in the technical, commercial and regulatory viability of the GPSS for the North Avalon field to sanction the Grand Banks project.

The schedule proposed below and all assumptions reflect an early start to pre-project development activities, which in any project is a prudent recommendation. The project risks associated with this schedule are detailed previously in this study.

3.1 Schedule Basis

The schedule rollup illustrated in Figure 2 below is back-calculated from the goal of 1st gas from the full field development in early 2013. The detailed schedule in included as Appendix 2 herein.

Figure 2



The main assumptions for this schedule are as follows:

1. NLH moves forward with additional pre-project development activities, as further described below, during the period prior to commencement of FEED in 2008. These activities will be performed in parallel with NLH commercial activities to create alignment between supply and market.
2. The FEED decision based on positive outcome of all of the above will be made by June 2008.
3. The schedule assumes that commercial negotiations will be conducted in parallel with the FEED activities to finalize the transportation agreement and the gas sale and purchase agreements as well as the work to secure any governmental approvals and other authorizations needed for project sanction.
4. The loading and offloading systems fabrication and installation schedule is not considered to be on the critical path and will commence as soon as necessary in advance of first vessel's operation.
5. The Regulatory process and schedule has been estimated based on results of the analysis completed by experts in Atlantic Canada. "Best" and "Worst" case scenarios have been developed. "Project Release" triggers have been assigned to each major regulatory regime. The Master schedule assumes the "Best" case for each regime.

3.2 Pre-Project Development Plan

There are many project development activities to be performed prior to project sanction, the output of which will provide sufficient confidence for NLH and EnerSea to achieve timely sanction of the project. This document describes the primary pre-project development activities that are required prior to entering into the FEED (front-end engineering and design) phase for the project. These pre-project development activities as defined in more detail in Appendix 3, will develop sufficient information and confidence to enter into and to be better prepared for the FEED. The scope of work for this pre-project development plan is proposed with the following key objectives:

- Ensure that initial GPSS system design parameters are flexible enough to accommodate an acceptable change in gas composition, rate, supply and offtake conditions without substantial re-work in subsequent phases.
- Secure the foundations of the most important opportunities for cost reduction and system performance enhancement while keeping pace with the availability of project specific information.
- GPSS system design information is developed to advance regulatory activity in the early stages to ensure regulatory approvals or project release triggers can be obtained in accordance with the project schedule.
- Provide input as required to support NLH commercial activities

The primary activities will focus on confirming and updating the Basis of Design with input from the field operator and the consumer(s); assessing and selecting delivery terminal location; educating regulatory authorities to obtain feedback and preparation of detailed FEED program. The following activities are recommended:

- Obtain reservoir information required to confirm and update the GPSS concept and prepare production operations interface;
- Obtain input from consumer(s) required to confirm and update the GPSS concept and prepare consumer operations interface;
- Resolve system operational features and plans to ensure that gas sales delivery performance can support a contractual commitment;
- Develop a preliminary design that incorporates the selected cost saving features as well as all key aspects that will attract regulatory scrutiny;
- Submit and obtain initial input from required regulatory and maritime authorities;
- Develop preliminary regulatory roadmap based on initial input, and;
- Develop detailed FEED plan, inclusive cost and schedule
- Select FEED subcontractors and prepare for FEED mobilization.

These pre-project development activities are further described and additional details, such as cost and schedule are included in the Pre-Project development Plan included herein as Appendix 3.

3.3 Project FEED

The FEED will be performed to provide sanction level cost estimate and schedule required for the project. The FEED will also develop the design and regulatory permits required to provide sufficient confidence to NLH, the province and the financial community to obtain project sanction and financial close for the project. The main objectives for the FEED are as follows:

- Develop Project Sanction quality cost estimates.
- Complete Shipyard negotiations of ship-building contracts.
- Complete regulatory activity to a "Project Release" level as indicated in various regulatory schedules.
- The Port and Flag State Approvals process will commence during execution of the FEED activities.
- Develop and execute suite of agreements related to White Rose Gas export, including,, but not limited to:
  - CNG transport agreement
  - Natural gas storage agreement
  - Pipeline delivery agreement
  - Gas Sales Agreements

3.4 Project Critical Path

EnerSea has focused its development efforts on items that will be on the critical path. EnerSea has developed plans for addressing these key critical path items with its partners (as appropriate) to ensure we can adequately estimate schedule and cost during the evaluation phase. EnerSea's plan to address these critical path items is discussed in more detail as follows:

3.4.1 Shipyard Deliveries & Market

In the present market, the critical path is ship delivery and securing shipyard berths. EnerSea's current knowledge of the ship building industry is based on our interactions with "K"Line and our ship broker, Lonestar R.S. Plateau. These sources project that to secure 2013 ship deliveries, we would need to place orders by early-2010 at the latest. The current shipyard backlog is approximately 3 years, while the construction time for our vessels is approximately 28 months. If the ship-building market slows down in the next few years as some ship brokers project, then we may have more flexibility. EnerSea has also had discussions with its partners about creative strategies to secure berths early, if we know a project is moving forward. One idea is for "K"Line to secure slots in advance for ships (e.g. containers, tankers or LNG vessels) that would require similar berths, then switch these slots to CNG carriers after the appropriate project commitments are made. The ability to redeploy these slots could reduce the cancellation costs.

EnerSea's close relationship with HHI will provide us with some leverage and advantages in securing berths and obtaining early commitments, however it is important that we involve HHI (and other yards) as early as possible in the process.

The EPS Project Schedule assumes that the CNG cylinders will be fabricated and installed in to the GPSS hull after shipyard delivery at a fabrication facility in S. E. Asia or the Far East.

Dock trials will be performed to test all marine equipment and systems and an interim inclining experiment will be performed by the Shipyard before sea trials and delivery to the shipowner.

3.4.2 Line Pipe

EnerSea has developed the line pipe specification used in CNG cylinder manufacture and working with three Japanese pipe mills has qualified their capabilities to supply pipe for EnerSea's projects. In conjunction with this qualification process, all three mills have

manufactured pipe and plate that has been fabricated into test cylinders. These cylinders have been tested in EnerSea's prototype test program and in accordance with ABS requirements.

EnerSea has confirmed with each of these mills that the pipe can be manufactured in accordance with the schedule proposed herein based on award of pipe at project sanction.

3.4.3 CNG Cylinder Manufacture

EnerSea has developed the technical requirements for cylinder manufacture during the prototype testing program, inclusive development of pipe and head manufacture procedures, cylinder fabrication procedures and weld procedure qualifications with fabricators in the US, Korea and SE Asia.

EnerSea has received quotes for CNG cylinder fabrication from internationally recognized fabrication yards. Automatic welding equipment, procedures and personnel will be mobilized to the selected fabrication contractor's site. The EPS Project Schedule incorporates this logistics plan.

3.4.4 Cargo Systems Fabrication

EnerSea developed the technical requirements for the gas handling system equipment. The EPS Project Schedule assumes that the gas handling facilities will be built as modules for installation on to the CNG ships.

After installation and testing of the cargo containment system, the ship will sail to Newfoundland for installation of the gas handling module, assuming that local fabrication resources and competitive pricing can be obtained for this activity. This issue is addressed in the Benefits section of this report.

EnerSea has qualified fabricators to assemble the equipment into modules. Due to the conventional nature of this module construction, EnerSea considers that there are many competitive fabricators capable of constructing this package.

3.4.5 Gas Trials

Gas Trials are required for final vessel classification. Initial gas trials for ship delivery purposes will be performed with Nitrogen or other inert gas due to the challenges associated with obtaining natural gas in a compressed form similar in composition to the project-specific requirements. This aspect of ship delivery and release of shipyard responsibility must be considered in greater detail during further studies.

EnerSea considers that gas trials would ultimately be performed for final classification during commissioning of the 1st gas offtake and delivery from the specific project reservoir, which is similar to commissioning aspects of a normal FPSO installation.

4. PRELIMINARY PROJECT STAFFING PLAN

EnerSea has entered into strategic business relationships with the two of the leading gas ship owner/operators, Kawasaki Kisen Kaisha, Ltd. ("K"Line) and Tanker Pacific as well as with Mitsui & Co. (USA), Inc. These alliance partners are contributing their resources and capabilities to actively participate and support EnerSea's transport projects and capabilities, including: vessel construction, ownership and operation; offshore storage facilities; and financing.

4.1 Project Management

EnerSea has developed an experienced team for execution of large international projects as can be seen below. EnerSea will be responsible for overall project management and will identify and employ world-class senior project management and project support personnel as required to oversee the critical activities. This team has been included in the development and design costs estimated for each project.

EnerSea's personnel have been involved with many world-class projects with responsibilities ranging from project engineering through project and asset management over a wide array of projects. This experience and the networks established by EnerSea's management team will be invaluable as we move forward on these projects.

EnerSea will develop a detailed project plan, inclusive of execution plan and staffing levels during FEED.

4.1.1 Contracting Strategy

EnerSea will develop the overall project scope divided into various major components and will bid out major work packages whilst honoring the commitments set out under the Atlantic Accord. EnerSea will seek to appoint an EPC contractor, who shall be subject to the benefit commitments made by the proponent, that will take project responsibility for Engineering, Procurement and Construction for the major components.

4.1.2 V-Ship Construction Period

During the V-ship construction, "K"Line will designate supervisor(s) to be dispatched to the shipyard to supervise construction. Several months prior to delivery, designated V-ship key crew members will also be dispatched to become familiar with the V-ship systems and to witness testing of the cargo systems in accordance with the CNGC Crew Training and Orientation Plan.

Procedures for the gas trial prior to delivery will be established by the shipyard for review and approval.

EnerSea and "K"Line will work with classification society and regulators during all phases of vessel design, engineering, construction, commissioning and gas trials to ensure an efficient class approval and flag/port state approvals process.

4.2 Transport Service Management – Project Specific

EnerSea and "K"Line will form a Fleet Operations Management Team located onshore to manage fleet operations, logistics, port operations, supply, bunkering, client management, government and public relations and general administration during transport operations. EnerSea has included the following personnel for shore-side Fleet Operations Team:

- EnerSea Project Company Services Team (Client & regional relations management)
- Fleet manager
- Assistant Manager
- Port Captain
- Assistant Port Captain (2)
- Administration inclusive of Benefits Reporting & Local Procurement

4.3 Gas Loading and Offloading Terminal Operations

Operations of the Gas Loading Terminal and Gas Offloading Terminal will be the responsibility of the parties that own the assets.

5. CANADA/NEWFOUNDLAND & LABRADOR BENEFITS

EnerSea Canada confirms its understanding of and commitment to the Canada-Newfoundland Benefits, objectives, principles and procedures as outlined by the Atlantic Accord. We acknowledge our responsibility for ensuring that all contractors, sub-contractors and service providers engaged by EnerSea are cognizant of the commitments made and shall also commit to these understandings. EnerSea as an equal opportunity employer will provide full and fair employment opportunities to Newfoundlanders and Canadians.

EnerSea shall not discriminate in any fashion against qualified members of the labor force, manufacturers, consultants, contractors and service companies who are capable of participation - in a competitive fashion in the supply of goods and services. Principle to this philosophy will be the identification and recognition of local and national personnel and supply capabilities that would assist in the establishment of a quality and competitively conscious supply chain. EnerSea recognizes that the development of these Canada-Newfoundland providers is paramount to a cost effective business in Newfoundland and Labrador.

5.1 Objectives - Benefits Assessment

EnerSea Canada has evaluated ways in which Newfoundland and Canadian companies might benefit from the advancement of the project proposed for Grand Banks gas development utilizing EnerSea's GPSS technology. Specific objectives of this study were as follows:

- Complete a high-level review of EnerSea's GPSS design for the gas development and export system as it relates to local fabrication and construction capabilities;
- Complete a high-level review of EnerSea's VOLANDS design for land based storage as it relates to local supply, fabrication and construction capabilities;
- Assess the capabilities of qualified manufacturers, consultants, contractors and service companies in Newfoundland and Labrador and throughout Canada to participate in the project on a competitive basis;
- Assess the capabilities of identified fabrication and construction, commissioning and life of service maintenance and operation in Newfoundland and Labrador and throughout Canada to participate in the project on a competitive basis;
- Assess the opportunity for Canadians for employment on the project with first consideration given to Newfoundland and Labrador residents for employment and training opportunities related to the project; and

The study has indicated a range of benefits to a substantial number of companies in Newfoundland. Key opportunity relate to the potential for completion and pre-commissioning of the GPSS's topsides at facilities in southeastern Newfoundland and construction of the VOLANDS storage and marine terminal.

5.2 Conclusions - Benefits Assessment

Based on a review of the GPSS system and the CNG project delivery chain, examples of opportunities and benefits that can accrue to the province of Newfoundland and Labrador include:

- Transfer of knowledge and technology for the engineering and maritime sectors;
- Fabrication facilities that can be utilized for additional projects;
- An estimate of 100 or more highly skilled jobs for up to two years during construction of the GPSS topside module;
- An estimate of 150 or more highly skilled jobs for two years or more during the construction and commissioning of the land based storage and marine terminal;
- Continued utilization of existing deep water fabrication sites which have been constructed at substantial cost for previous projects; and,
- Approximately 160 permanent positions will be required to support the project for life of field operations.

Fabrication of the topsides gas handling module, outfitting of the purpose-built hull (fabricated in the Far East) and pre-commissioning can be undertaken in Newfoundland and Labrador with the potential for the majority of manufactured requirements to be sourced within Canada. The gas handling module will contain the process equipment such as production equipment, separators, chillers, and refrigeration systems.

Other opportunities are identified as follows:

- APL (EnerSea's proposed loading system supplier) completed significant investigations for fabrication of the STL system for the White Rose FPSO project to qualify local fabrication capability. Those investigations revealed that the majority of the STL fabrication could be completed at a local facility such as NEWDOCK or Metal World. Special components such as castings and bearings for the STP turret buoys and certain other specialized items will be manufactured in Norway. The similarities between the STL and STP systems confirm that a similar level of benefits is achievable.
- Pipeline end manifolds (PLEMS) required for the loading system could be engineered, fabricated and commissioned in Newfoundland as all the major global subsea system engineering companies have resident offices in Newfoundland.
- Planned off-loading infrastructure may be utilized and or modified for the delivery terminal or a new site for pier placement may be identified. In the event new pier facilities have to be constructed in Newfoundland, there are a number of Newfoundland companies which are capable of undertaking the design and construction of docks and associated manifolds, piping and other required components.
- Major engineering requirements identified in the area of design (marine and process), fabrication/construction/installation, project management and commissioning. Several major international Engineering firms, through acquisition or association with Provincial or Canadian Engineering companies have the capability to provide Engineering services from offices in Newfoundland and Labrador. Additionally, a number of Newfoundland engineering firms have expanded their traditional onshore and marine multi-discipline engineering activities to include offshore engineering.

NLH has confirmed many similarities between the VOLANDS storage installation and the offloading and storage of crude at their Holyrood terminal. The land based storage element of the value chain offers the potential for opportunities not associated with a typical benefits assessment which may include the following:

- General civil and mechanical engineering, construction and commissioning of the overall land based storage system
- Provision and installation of gas offloading and gas transfer equipment, inclusive water treatment skid
- Fabrication of CNG storage cylinders

Numerous Canadian manufacturers can be sourced for the gas handling equipment requirements. The electrical, instrumentation and control requirements for VOLANDS storage can be sourced in Newfoundland as was the case for The Newfoundland Transshipment terminal. All major E, I & C engineering and system manufacturers are also resident in Newfoundland.

Cost and productivity factors associated with Atlantic Canada fabrication and outfitting will have to be quantified to prove competitiveness of the workforce.

5.3 Procurement & Employment Strategy

EnerSea will develop processes and procedures that ensure compliance with the Atlantic Accord and to ensure the most cost effective project. EnerSea's preliminary procurement and employment strategy includes:

- Becoming familiar with Newfoundland and Canadian supply companies and opportunities.
- Communicating, on a timely basis, with Newfoundland and Canadian companies and individuals, those opportunities to participate.
- Making available to potential suppliers the bidding procedures, names and locations of key procurement personnel.
- Submitting to the client for review, prior to issuance, a description of scopes of work, copies of relevant contract documents, copies of pre-qualification questionnaires as well as a procurement timetable as the client may be aware of additional providers of such goods and services.
- Prior to award, notify the client of any contract or purchase order for review inclusive of the name of the selected contractor, contract commencement and completion dates as well as award rationale.
- Requesting Newfoundland and Canada Benefits information as a part of the bid solicitation process, in sufficient detail to assess the benefits to be derived from individual bids.
- Hold pre-bid meetings, where practical and appropriate.
- Communicate with unsuccessful bidders, when requested, to help them bid more competitively in the future.

Appendix 1
Project Risk Assessment
DNV Summary

Appendix 2
Master Schedule

Appendix 3
Pre-Project Development Plan