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# Managing Change Through Partnership

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## White Paper

# **Integration of Deepwater and Legacy Logistic Support Processes Through Business Process Reengineering**

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### Executive Summary

The goal of the Deepwater Project is to improve the Coast Guard's Operational Effectiveness while Minimizing Total Ownership Cost (TOC). The Deepwater Logistics Process and Policy Development (LPPD) Integrated Project Team (IPT) is currently working on a Business Process Reengineering (BPR) project. The intent of this project is to integrate the Deepwater logistics support processes with the Coast Guard's legacy support processes; and it will provide a thorough mechanism for evaluating current Coast Guard and Integrated Coast Guard Systems (ICGS) business practices in order to recommend changes for improvement and cost savings.

The concepts used are Performance Based Logistics and the Business Process Reengineering methodology developed by Michael Hammer and adopted by the Department of Defense (DoD). Performance Based Logistics is typically used by the government to improve operational capability by leveraging the capabilities and agility of commercial industry to reduce the cost, the Government's risk, and logistics footprint in supporting the government's operational assets.

The BPR methodology follows steps to identify what is currently done to support Coast Guard assets, so the most efficient and effective way to execute process activities can be developed, measured and executed. Although originally intended to design the support processes for deepwater assets, the improved processes should be applicable to the non-Deepwater Coast Guard (if accepted by the existing process owners).

The BPR project is collaborating with numerous ongoing restructuring, reorganization, efficiency improvement efforts within the Coast Guard. Following this methodology, ICGS and the non-Deepwater Coast Guard, can integrate the best solutions to come up with a seamless and integrated solution that accomplishes what is right for the Coast Guard as a whole.

Due to the recent GAO audit of the Coast Guard's financial systems, there has been increased interest in obtaining an Enterprise Resource Planning (ERP) tool that integrates logistics and financial information and processes across the entire Coast Guard. Business Process Reengineering is one of the first fundamental steps in the development of an ERP system. If an ERP implementation plan is directed, this effort will have reviewed the generic enterprise-wide processes during the "As-Is" modeling step, so the modeling and reengineering can (and should) be leveraged for the enterprise system's design.

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*Abstract: The purpose of this paper is to describe the ongoing Business Process Reengineering effort within the Deepwater Contract, and to encourage full participation and coordination with similar projects throughout the Coast Guard.*

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## **PART 1 – Introduction**

The Deepwater Contract is a performance based contract that is being executed on a scale never seen before. The Department of Defense has had success with Performance Based Logistics (PBL) contracts, but those successes have been realized while executing PBL on supporting only one particular asset; for example Power-by-the-Hour for Rolls Royce military aircraft engines; or

providing tires for military aircraft with a “just-in-time” supply chain concept.

Performance Based Logistics is typically used by the government to improve operational capability by leveraging the capabilities and agility of commercial industry to reduce the cost, the Government’s risk, and logistics footprint in supporting the government’s operational assets. For example, in providing traditional military

support, the logistician is responsible for identifying, ordering, shipping and delivering the right parts to the right place at the right time, and at the right cost. PBL contracts are put in place to hire a contractor to provide a capability to the operators, and that contractor is free to manage their best practices and most responsive source of supplies or services to deliver the capability to the operators. In this PBL concept the contractor is considered the “Product Support Integrator”, where he is tasked with orchestrating the various and often confusing support channels so the “warfighter” can focus on the mission.

In a very simplistic description, under the Deepwater Contract, the Coast Guard has hired the Lockheed Martin/Northrop Grummon joint venture contractor, Integrated Coast Guard Systems (ICGS), to provide improved assets (ships, aircraft, and Command, Control, Communication, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) equipment and connectivity, *and logistics support* for accomplishing the Coast Guard’s missions. The contractor is required to incorporate their logistic philosophy into the assets’ designs, which will ease their support and improve the Coast Guard’s overall operational effectiveness, while reducing Total Ownership Cost.

Part of the ICGS proposal was a Business Process Reengineering (BPR) project to identify what is currently done to support Coast Guard assets, so they can determine the most efficient way to accomplish those activities. Although originally intended to design the support processes for deepwater assets, the improved processes should be applicable to the non-Deepwater Coast Guard.

This BPR effort is currently being undertaken through the Logistics Policy and Procedures Development (LPPD) Integrated Product Team (IPT), where working groups are comprised mainly of Coast Guard representatives from the Centers of Excellence such as the Engineering Logistics Center (ELC), Aircraft Repair and Supply Center (ARSC), Maintenance & Logistics Commands (MLCA and MLCP), etc., and an ICGS systems architect for the applicable domain.

Additionally, there are several improvement efforts within the non-Deepwater Coast Guard that are attempting to streamline, reengineer, and improve the efficiency of, the Coast Guard’s

organic business processes. Combining efforts throughout the Coast Guard enterprise as a whole will make such efforts much less labor intensive, while also preventing the “stove pipe” solutions that have traditionally hindered true efficiency within the Coast Guard.

## **PART 2 – BPR Effort Phase 1**

Integrated Coast Guard Systems (ICGS) performed the discovery phase of Business Process Reengineering (BPR) in support of the Integrated Deepwater System assets. The effort was to benchmark the existing support processes within the Coast Guard to determine where improvements could be made in order to support the proposal to improve Operational Effectiveness, while decreasing Total Ownership Cost (TOC). ICGS conducted interviews at the appropriate support and operational commands to evaluate the execution of business processes within the Air, C4ISR, Training/Crew Support, and Surface Domains. Within each of the Domains, the support function business processes of Supply Support, Maintenance and Modernization, Configuration Management, Crew Support, and Training were mapped. These process maps are high level flow charts. They don’t reflect the key baseline components of cost and time consumption data, which are required for a successful BPR effort, which would be backed by a sound business case analysis. Based on the discovery phase, *qualitative* observations were made, which in essence were recommendations for the second phase as areas for potential improvement. However, as discovered in the onset of Phase 2, *quantitative* – not qualitative – observations are more meaningful as a basis for a Business Case Analysis. Therefore, Phase 2 will focus on obtaining the appropriate level of information on time, cost and mission quality, in order to make a sound business case for change. The qualitative observations are summarized as follows:

### **Maintenance & Modernization Improvement Observations**

- Maintenance Support & Modernization of the surface fleet is fragmented between MLCs and ELC – investigate combining efforts.
- HC-130 Programmed Depot Maintenance is not as effective as that for other air frames – investigate standardizing processes.

### **Supply Support Improvement Observations**

- There is inadequate information for Item Managers at ELC to properly stock warehouses
- Lack of automation for commercial payments and interfaces with systems like CMPlus, WINS, SCCR and LUFFS.
- The Federal Supply System is frequently bypassed, causing Inventory Control Points to stock based on improper information.
- Inconsistency between Centralized Shipboard Supply Systems for the 110' WPB fleet.
- Aviation Demand and Requirement Forecasting Models are inadequate

### **Configuration Management Improvement Observations**

- Lack of consequences for not following CM policies & procedures
- Circumvention of the Surface & C4ISR Engineering Change Process at all levels (MLCs, ELC, unit, etc.)
- Lack of institutionalized support for CM
- Lack of user-friendly tools and standards for CM data collection
- Lack of funds for properly executing CM with Engineering Changes
- Updates to cutter configuration is left for crew to complete manually with inadequate training to do so
- Lack of clear CM policy or doctrine for C4ISR equipment & from TISCOM
- Lack of follow-up from C4ISR Groom Team visits that audit completion of C4ISR field changes

### **Training Improvement Observations**

- Training centers operating at or near capacity with insufficient capabilities for growth

### **Crew Support Improvement Observations**

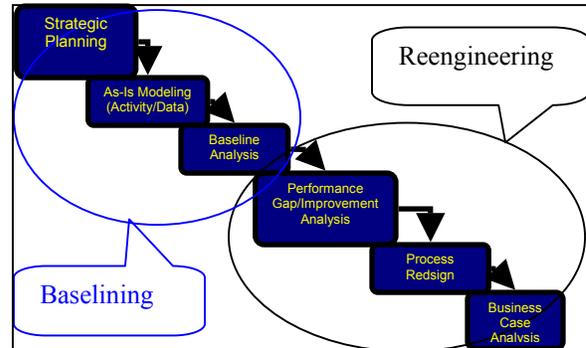
- Problems with annual assignment cycle process
- General Detail does not maintain unit filled billet strength at target 100% level
- Delays in OFCO approval can affect assignments & pre-arrival training
- Medical Board processes are too long, which causes ships to sail without full complement
- Connectivity problems with "Direct Access"

These observations will be used as areas of focus in the later stages of second phase. However, it is important to obtain a baseline of the current cost of doing business so there is something to

which alternatives can be quantitatively compared.

## **PART 3 – BPR Phase 2 Approach**

The Phase 2 approach for the BPR effort will follow the "Framework for Managing Process Improvement" by Michael Hammer, who is renowned as the founder of the business process reengineering concept. His model is shown in the figure below:



### **Strategic Planning**

The strategic plan provides a guide from which to base all performance improvement goals that the BPR effort is chartered to achieve.

### **As-Is Modeling**

The "As-Is" model of the organization's infrastructure (the flow of activities and data) is developed by evaluating the consumption of time, people and money in accomplishing the core business processes.

### **Baseline Analysis**

The purpose of conducting a baseline analysis is to establish a firm foundation from which to begin the improvement effort. In many cases, this is the beginning of shifting the organization from a functional management concept to a process management concept.

### **Performance Gap/Improvement Analysis**

This step prepares the process improvement team for reengineering by identifying and quantifying the existing gaps in satisfying stakeholder needs; the deficiencies in quality, cycle time, and cost factors; and the enablers and constraints associated with process-related organizational and technical issues. When these factors are well-understood prior to process redesign or reengineering, the risk of process improvement effort is minimized.

The results of this step will also provide meaningful data for inclusion in the Business Case Analysis.

### **Process Redesign**

The first task in process redesign is to formulate one or more improvement initiatives. An initiative is a design specification that identifies the scope of the design effort, process boundaries, level of improvement, design objectives, performance targets, and opportunities that will be considered during the design effort. The process redesign/reengineering task selects or specifies organizational and technology enablers, identifies process improvement strategies, and employs creative thinking to produce a design package for the improved process. The design package consists of TO-BE activity and data models along with narratives, charts, measures and other data that capture the design features of the renewed process.

### **Business Case Analysis**

The final step in Phase 2 is the Business Case Analysis (BCA). The BCA will provide a cost benefit analysis that compares proposed improvements against the cost of no change (i.e. the “status quo”). Consequently, the Office Of Management and Budget CIRCULAR 300, (viewable at <http://www.cio.gov/documents/s300.pdf>) requires Governmental organizations to submit their resource proposals for major acquisitions using a specific, detailed format of a Business Case Analysis. The format of all BCAs from this group will be developed using this directive as a guideline. The BPR model in the Figure above ends with the BCA.

### **Outlook for Phase 3**

For this effort, the BCA will mark the end of Phase 2 and the beginning of Phase 3—Implementation, Measurement and Continuous Improvement. The group will develop a change management plan and facilitate the necessary changes by presenting the BCA. Then they will continue to measure the Key Success Factors developed in determining the performance gap to ensure that the improvements are in fact being recognized. Also, improvements in one area of an organization can quite possibly impact overall efficiency (or in our case Operational Effectiveness and TOC), so the IDS performance parameters will be monitored closely to ensure positive trends.

### **Processes Developed for 123' WPB Fleet**

The first Deepwater asset was delivered in March of 2004. Introduction of the 123' WPB required processes to be developed without the benefit of a full BPR effort. ICGS proposed, and is using a software solution called Logistics Information Management System (LIMS), which will be released in 5 iterations. Because of the timing of the 123' fleet's introduction, business processes were developed around the capabilities of the “out of the box” software capabilities. These processes also considered the “As-Is” process flow charts from BPR Phase 1, and the associated observations for potential improvement. Therefore, these processes are possibly better than the Coast Guard's Legacy support processes, but they indeed might not be better due to the software's limitations, or possible sub-optimization. Therefore, the Legacy Coast Guard support processes are going to remain the basis for study in baselining and for the performance gap analysis. Consistent measures will be developed and monitored between the two to see where benefit is gained or not gained. Further, the BPR effort will contribute directly to future iterations of LIMS to be able to execute the reengineered process. So, the new processes may drive the requirements for the information system. We expect to bring in the latest technology and Business Process Management (BPM) concepts to be able to execute, monitor and measure end-to-end processes. (<http://www.bpmi.org>).

## **PART 4 – Foreseen Integration Points**

There are numerous restructuring, reorganization, efficiency improvement efforts within the Coast Guard. For successful integration of the Deepwater Project into the greater Coast Guard, this project needs to connect with these efforts. Ideally, the two entities, ICGS and the non-Deepwater Coast Guard, can integrate the best solutions to come up with a seamless and integrated solution that accomplishes what is right for the Coast Guard as a whole. Some examples of these efforts include:

- The President's Management Agenda and A-76 Studies
- Federal Activities Inventory Reform (FAIR) Act
- Formation of the Department of Homeland Security
- Rescue 21

- Shore Facilities Capital Asset Management (SFCAM)
- Future Force 21
- Integrated Command Centers (ICCs)
- Theater Integrated Logistic Architecture (TILA)
- Government Results and Performance Act (GPRA)
- Chief Financial Officers (CFO) Act
- System's Roles and Responsibilities Study (G-SLP/LMI, published FEB 2003)
- CASREP Improvement Natural Working Group, (chartered by G-SEN- ongoing)
- IDS Contract Performance Gap Analysis (chartered by G-OCD - ongoing)
- Unified Performance Logic Group (chartered by G-CPP/G-SRP - ongoing)
- Readiness Management System (chartered by G-CCS - ongoing)
- U.S. Coast Guard Logistics and Financial Systems Study (chartered by the Logistics Advisory Council - ongoing)

Specifically, there are six projects that currently appear to either be parallel in effort, or there is potential for mutual benefit.

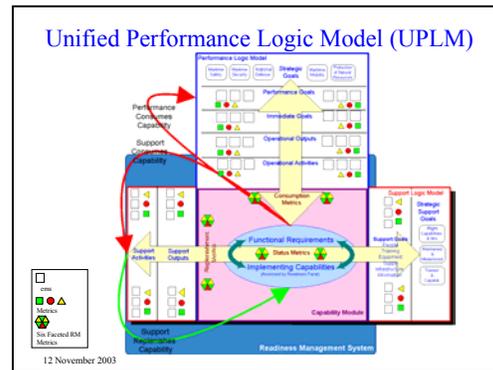
### Competitive Sourcing

As required in OMB Circular A-76 ([http://www.whitehouse.gov/omb/circulars/a076/a76\\_rev2003.pdf](http://www.whitehouse.gov/omb/circulars/a076/a76_rev2003.pdf)), the Resources Directorate (CG-8) is coordinating and assigning A-76 studies to fulfill the requirement for competitive sourcing. The BPR effort will be evaluating the cost benefit of how specific activities are executed, and will be working on finding better & more efficient ways to execute the core processes. The results of previous A-76 studies can identify the past experience with identifying core competencies and/or successful strategic outsourcing. In addition, significant efforts have been made to study and identify Logistic Core Competencies. Some of these efforts include studies such as the Logistics Outsourcing Parameters Assessment Team (LOPAT) and as study by Logistics Management Institute (LMI) entitled "Definition of HQ USCG Systems Directorate (G-S) Core Competencies." If done correctly, these results and studies could be used to proactively shape how ICGS integrates with the greater Coast Guard.

### Unified Performance Logic Model.

The Systems Directorate (G-S) and the Office of Plans, Policy & Evaluation (G-CPP) are jointly sponsoring work on developing the Unified Performance Logic Model. This model attempts to "link strategic goals to support goals by way

of capability and readiness measures, with the purpose of aligning support activities with operational activities." (USCG Unified Performance Logic Model Project Notebook, 31JUL03). This effort ties into the data collected with the Readiness Management System and raises it a level that elevates raw data to a level that can be used as information. The logic model is developed from the highest level of our Core Values down to the Coast Guard's Strategic Goals, which are further broken down into the Coast Guard's chartered Mission Programs.



Below is a description of how the logic model rolls performance down to specific activities. The activities are then evaluated with the Support Logic Model to ensure the adequate support is available to ensure the activities are achievable.

### Performance Logic Model

- Mission Program - Maritime Safety
- Performance Goal – Prevent Maritime Worker Fatalities
- Immediate Goal – Eliminate Casualty Inducing Maintenance Factors
- Operational Output – Certificate of Inspection or Re-certification
- Operational Activities – Inspect, Transit, Locate

### Support Logic Model

- Functional Requirements
  - Ability to do Hull, Machinery, Deck, COW, IGS, MISLE Inspections
  - Qualified Inspector
  - Vehicle/Boat
- Support Outputs
  - Equipment
  - People
  - Policy
  - Consumables
  - Gas
  - MISLE Information

#### Support Activities

- Training
- Recruit People
- Assign People
- Retain People
- Purchase Equipment
- Maintain Equipment

These Performance Measures and Models are under development within the Unified Performance Logic Model Group, and are being refined to use existing data collection with the Readiness Management System as much as possible. Further, extensive effort is being made to standardize activity definitions. To ensure comparable and compatible measurements it is important to define the lowest level of activities so all (or most) of the measurements can be based on the same language. To this end, the BPR activities will be closely linked to the RMS and will use the most current activity definitions from the Logic Model Group. By doing so, the coordination of measurements between Deepwater and the rest of the Coast Guard can occur. The BPR effort has a complementary approach to this project, and we are working hard to maintain collaboration.

#### **CASREP Working Group**

G-SEN recently chartered Natural Working Groups to improve the effectiveness of the CASREP system. The Maintenance and Modernization BPR Group is starting to focus on similar efforts and the possibility of diverging solutions exists. G-SDW has membership on this team and members of the BPR team will be coordinating efforts to offer any valuable information to this group. By staying closely tied, we can avoid duplicated efforts.

#### **Systems Roles & Responsibilities Study**

G-SL contracted Logistics Management Institute (LMI) to compile the results of previous reorganization studies, including Gilbert I, Gilbert II, Gilbert II (mod), Streamlining, TILA, SL21, etc., and make recommendations for changes to specific roles, responsibilities and structure within the Systems Organization. In summary, LMI recommended a restructuring of the Logistics Organization into three tiers that align with the supply chain methodology of Plan (Tier 1), Produce (Tier 2), and Deliver (Tier 3). The study was well done and thorough, and proposes improvements in many ways. The ideas conveyed in this study will be considered in the reengineering stages, and if alignment

presents a sound business case, they will be incorporated in the recommendations for improvement.

#### **Implementation of the Logistics Doctrine and TILA**

The concept behind Theater Integrated Logistic Architecture (TILA) is based on lifting the burden of logistics from the operational side of the Coast Guard. This effort is in parallel with the Logistics Doctrine (COMDTINST 4000.5 (series)). One of the Phase 1 BPR observations was fragmentation of the logistic support between the MLCs and ELC. This is aligned with the efforts and observations behind several past and current efforts undertaken by the Systems Directorate. These efforts include alignment with the Logistics Doctrine, Gilbert studies, Systems to Automate and Integrate Logistics (SAIL) and TILA. Thus, there is a potential for G-S to leverage the BPR effort to better align the Coast Guard construct with the Logistics Doctrine and beneficial projects that improve the Systems Directorate's ability to provide capability to Coast Guard Operations.

#### **Enterprise Resource Planning (ERP)**

A recent audit by the US General Auditing Office (GAO) has significantly increased the focus on accounting and reporting methods used throughout the enterprise. This focus brought to light the use of numerous information systems, rather than an enterprise-wide system. The development of LIMS through Deepwater introduces yet another system, which will make consistent reporting and auditing more difficult at the Department level. Therefore, there is serious thought in developing an ERP information system for executing logistic and financial processes and financial tracking. The current technology in ERP applications enables the process to be executed, tracked and reported all the way to the Activity Based Costing (ABC) level, which is the direction that the OMB is pushing all of the government agencies.

The implementation of an ERP system requires a BPR effort as one of the first fundamental steps. If an ERP implementation plan is directed, this effort has reviewed the generic enterprise-wide processes during the "As-Is" modeling step, so the modeling and reengineering can (and should) be leveraged for the enterprise system's design.

## **Part 5 - Conclusion**

We are moving forward with this effort, and are looking forward to making a significant impact while seeking a coordinated effort to consolidate the lessons learned in BPR projects, streamlining efforts, competitive sourcing and strategic sourcing endeavors. This reengineering effort is truly an opportunity to shape the future of the Coast Guard.

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