Acquisition Directorate

Research & Development Center

RDC FY12 Project Portfolio

Table of Contents – FY12 RDT&E Funded

Branch Area	Project #	Project	Slide#
ASA	7505	Human Systems Integration (HSI) Modeling (Completed)	6
	7512	Resource Allocation Modeling Through Game Theory for Deterrence and Prevention	7
	7516	DOMICE Risk Model (Completed)	8
Aviation	1005	Develop Search Sweep Width Data for Search Objects on Ice	9
	1022	Rescue in Electrified Water (Completed)	10
	1101	SAR Distress Notification Methods and Alternatives	11
	7607	Automated Target Detection for CG FMV Sensors (NEW from backlog)	12
	7802	Vertical Unmanned Aerial Systems (VUAS) Flight Demonstration Off the National Security Cutter (NSC)	13
	7804	Shipboard Small UAS Capability Demonstration	14
C4ISR	5203	Boat Crew Communication Capabilities Study	15
	5704	Non-Compliant Vessel (NCV) Video Recorder	16
	5707	Non-Compliant Vessel (NCV) Contraband Marker	17
	5915	TSWG Underwater Imager System (UIS) Prototype (Resumed from FY11)	18
	6205	UHF Operational Communications (Completed)	19
	6206	Alternative Precise Network Timing (NEW)	20
	8103	Federally Integrated Communications System (On Hold)	21
	8105	Mobile Asset Tracking & Reporting Device	22
	8106	(U) Analysis of Solid State Radar (NEW from backlog)	23
	8302	Independent Analysis and Assessment of Fused Intel (Completed)	24
	8305	(U) Advanced COMINT Technology	25
	8306	Airborne Intelligence Capability	26

Table of Contents – FY12 RDT&E Funded (continued)

Branch Area	Project #	Project	Slide#
E&W	2701	Risk Assessment Methodology to Support USATON Design Changes	27
	4101	Ballast Water Treatment (BWT) Project	28
	4153	Recovery of Heavy Oil	29
	4701	Response to Oil in Ice	30
	4702	Detection and Collection of Oil within the Water Column	31
M&S COE	7507	Optimizing RADAR & Electro-Optical Sensors	32
	7513	CG M&S Center of Expertise (Reorganized under Branch Project 9997)	33
	7515	Operation Research Tools for C4ISR (Completed)	34
Surface	4103	Operational Testing of Alternative Fuels	35
	5103	Cost Benefit Analysis of Boat Lifts	36
	56411	JNLWD Small Vessel Entanglement	37
	6204	Arctic Craft investigation	38
	6207	Arctic Shield 2012 Capabilities Documentation (NEW)	39
	6507	Anti-icing Coatings Investigation (NEW from backlog)	40
	7747	Laser Deposited Nonskid (LDN) Analysis	41
	7924	Tactical Flotation & Buoyancy	42
	8402	Cutter Energy Efficient Lighting Study	43

Table of Contents – FY12 Externally Funded

Fund Type	Project #	Project	Slide#
AC&I	2411	Nationwide AIS Acquisition	47
	5112	NSC, FRC, & OPC Cutter Boat IPT Support (Completed)	48
	6202	Polar Icebreaker Business Case Analysis (Resumed from FY11)	49
	7603	Operational Testing of ESS	50
	7744	Evaluation of DOUGLAS MANTIS/SHH Systems (Completed)	51
	7908	C4ISR Alternatives Analysis (NEW/Completed)	52
	7921	CGMOES Analysis Support	53
OE	2413	AIS Transmit Capability	54
	2419	NAIS Increment 1 Technical Forum and Performance Analysis Support	55
	2784	General Engineering Laboratory Support	56
	3402	Command Center Capability Analysis Support (NEW)	57
	4109	Vessel Energy Efficiency Baselining Tool (On Hold)	58
	5918	Point Defense Mission Analysis	59
	6501	iceBerg Analysis and Prediction System (BAPS) Improvement (Completed)	60
	7519	ORAM DOMICE Model Improvement (NEW)	61
	7746	CG Mission Analysis Report (MAR) Support (Completed)	62
	7748	Underwater Imaging System Transition Evaluation	63
	7920	TTP Development Analysis Support	64
	7926	Maritime Security Operations Mission Analysis Report (NEW)	65
	8102	C4ISR Roadmap (Canceled)	66
	8304	C4ISR Overarching CONOP Plan	67

(Note: Highlighted projects indicate new starts.)

Table of Contents – FY12 Externally Funded (continued)

Fund Type	Project #	Project	Slide#
Other Government Agencies	3329	CSSC Marine Safety Risk Analysis	68
	41012	GLRI BWT Shipboard Approval Tests	69
	410131	Shipboard Compliance of Ballast Water Discharge Standards (BWDS)	70
	410132	Ballast Water Discharge Standards Compliance CONOPS Development (NEW)	71
	410141	GLRI BW Other - Laker Feasibility Study	72
	410142	Investigation of Ballast Water Treatment's Effect on Corrosion	73
	410143	GLRI BW Other - Asian Carp Tow Boat/Barge Sampling Study	74
	5802	Maritime Trace Narcotic Identification/Verification	75
DHS S&T	5682	Mobile 10-print Biometric Field Test	76
	5912	Low Cost Swimmer Detection System (Completed)	77

(Note: Highlighted projects indicate new starts.)

Acquisition Directorate

Research & Development Center

RDC FY12 Project Portfolio

RDT&E Funded Projects

Human Systems Integration (HSI) Modeling

Gap: Current RDC M&S capabilities lack human performance models (HPMs), and thus lack the "total system performance" predictions needed to support PMs/Sponsors to minimize acquisition risk.

Project Objectives:

Develop RDC core human performance M&S capability to incl:

- Model library of human tasks/functions for selected shoreside, surface, and air platforms.
- IMPRINT Pro for human performance modeling.
- Dynamic linking of HSI models of user tasks/performance to platform/campaign models to allow analysis of design trade-offs and total system performance.

Project Sponsor: CG-926

Acquisition: Various

Key Milestone / Deliverable Schedule:

Project Start……..…….…..... 10 Feb 09 ✓

HPM Development Plan……..…….…..... 21 Jul 09 ✓

★ **Human Performance Modeling in Support of Human Systems Integration…….....24 Nov 09** ✓

HSI-system Model Data Interface Requirements... 16 Aug 10 ✓

★ **Briefing on Integrated HSI-System Model Demonstration……21 Dec 10** ✓

★ **Use of the IMPRINT-CGTME Model: Notional Acquisition Problem…….....8 Sep 11** ✓

★ **White Paper on M&S for CG Operations.....21 Nov 11** ✓

Project End ……..… 22 Dec 11 ✓

Completed

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7505	3	Dr. Anita Rothblum	LT Derek Storolis

[Anticipated Classification: FOUO**]**

★ Indicates RDC product.

Resource Allocation Modeling Through Game Theory for Deterrence and Prevention

Gap: Operational risk-based resource allocation decision models lack critical attributes that incorporate the value of direct contact and virtual means to deterrence and prevention.

Project Objectives:

- Develop a tool based on game theory that will randomize patrol schedules weighted towards high-valued targets that maximizes deterrence.
- Develop a tool that will measure the economic risk value to the MTS.
- Leverage the previously completed security analytic research of DHS Centers of Excellence such as USC/CREATE.

Project Sponsor:	Acquisition:
LANT-73, DCO-81	None

Key Milestone / Deliverable Schedule:

	Project Start …….….....	23 Jun 10 ✓
	⋮	
★	**Proof of Concept PWCS Patrol Randomization Model……..……..…….**	**8 Sep 11 ✓**
★	**Exploration of Visualization Methods for PWCS Deterrence Operations..……**	**5 Oct 11 ✓**
★	**Deterrence and the USCG: Enhancing Current Practice with Performance Measures…...…**	**22 Mar 12 ✓**
★	**LA/LB PROTECT Implementation Analysis Rpt**	**Nov 12**
	Technology Transition Agreement Signed……..	Dec 12
★	**PROTECT Prototype Analytic Vis. Dev. Rpt.…**	**Jun 13**
★	**PROTECT Prototype Optimized Random Scheduler Model Development Report……**	**Jun 13**
	Project End ……	Jul 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7512	1	Mr. Craig Baldwin	LT Derek Storolis

[Anticipated Classification: SSI**]**

DOMICE Risk Model

Gap: ORAM lacks rigorous definitions of several DOMICE modeling variables.

Project Objectives:

- Develop DOMICE risk and performance measures for incorporation into the CG's Operational Risk Assessment Model (ORAM).
- Develop proof-of-concept model of DOMICE mission that supports risk-based decision making.

Project Sponsor:	Acquisition:
LANT-73	Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start …….. 1 Nov 10 ✓

DOMICE Risk Measures Workshop…….. 20 Sep 11 ✓

DOMICE Risk Measures…….. 10 Oct 11 ✓

DOMICE Simulation and Briefing…….. 7 Feb 12 ✓

★ **Technical Report on DOMICE Simulation Model…….. 11 Apr 12** ✓

★ **Domestic Ice Breaking Simulation Model User Guide…….. 11 Apr 12** ✓

Project End …….. 15 May 12 ✓

Completed

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7516	3	Mr. Mark VanHaverbeke	LT Derek Storolis

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Develop Search Sweep Width Tables For Search Objects On Ice

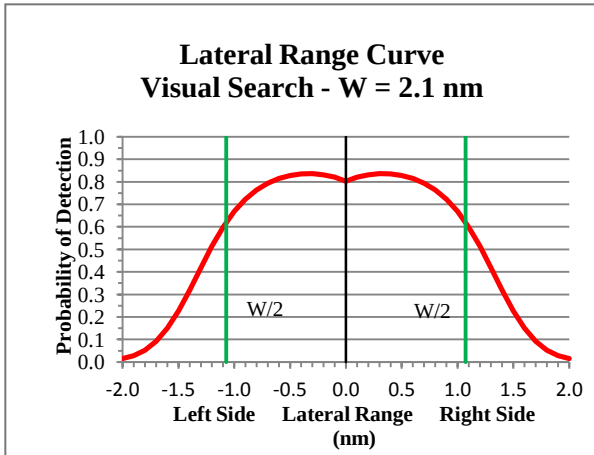
Gap: Neither the Search Planning Guide (Appendix H) to the Coast Guard SAR Addendum, nor SAROPS contains search planning data for search objects on ice.

Project Objectives:

- Develop lateral range curves and sweep widths for visual search via MH-65C helicopters and SPC-22 airboats against SAR search objects on ice.
- Use lessons learned during testing to develop recommendations for search employment techniques using current D-9 winter SAR assets.

Project Sponsor:
LANT-7, CGD-9, CG-534

Acquisition:
None



Key Milestone / Deliverable Schedule:

	Project Start	7 Nov 11 ✓
	Phase 1 Go/No-Go	29 Dec 11 ✓
	Phase 1 Testing	1 Mar 12 ✓
★	**Interim Brief: Lessons Learned and Preliminary Test Planning Guidance for Searches on Ice…31 May12**	✓
	Decision Point for Phase 2 Testing	Jul 12
	Phase 2 Testing	Feb 13
★	**Final Report: Preliminary Search Planning Guide for Search Objects on Ice**	**Aug 13**
	Project End	Sep 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
1005	3	Mr. Don Decker	CDR Thomas Meyer

[Anticipated Classification: UNCLAS]

Rescue in Electrified Water

Gap: The CG doesn't have capability to safely conduct person in the water rescue in electrified waters.

Project Objectives:

- Investigate capabilities, operational problems , and gaps associated with rescue in electrified water.
- Identify any specialized personal protective equipment (PPE) and rescue equipment that allows safe retrieval of an incapacitated person in Electrified water conditions.
- Test a suite of rescue PPE and retrieval equipment, if available.

Project Sponsor:	**Acquisition:**
CG-731, CGD9	None

Completed

Key Milestone / Deliverable Schedule:

Project Start ..... 1 Feb10 ✓
Instrumented Experimental Measurements ..... 19 Nov 10 ✓
★ **SSC Fish Barrier Simulated Rescuer Touch Point Results, Operating Guidance, and Recommendations for Rescuer Safety..... 3 Feb 11** ✓
Project Continuation KDP..... 9 Feb 11 ✓
★ **CSSC Fish Barrier Simulated Rescuer Touch Point Results, Operating Guidance, and Recommendations for Rescuer Safety, Interim Rpt 1 Mar 11** ✓
Follow-up Experimental Measurements..... 21 Jul 11 ✓
★ **Report on Guidance, Equipment and Procedures for Rescue in Electrified Water..... 27 Sep 11** ✓
Project End ..... 28 Nov 11 ✓

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
1022	3	Mr. M. J. Lewandowski	Mr. Jaurin Joseph

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

SAR Distress Notification Methods and Alternatives

Gap: Distress signal device requirements may be redundant or may specify inefficient devices.

Project Objectives:

- Determine suitability of potential alternatives to pyrotechnic visual distress signals.
- Update carriage requirements to eliminate ineffective distress notification devices.

Project Sponsor:	Acquisition:
CG-SAR, CG-BSX, CG-ENG	None

Key Milestone / Deliverable Schedule:

	Project Start ……	1 Nov 10 ✓
	Functional Requirements Workshop……	30 Mar 11 ✓
	Visual Comparisons and Use Testing..……....	9 Nov 11 ✓
★	**Suitability of Potential Alternatives to Pyrotechnic Distress Signals……..…… **	**21 Feb 12** ✓
	Laboratory Testing……	Nov13
	Field Testing…….....	May14
★	**Review of Distress Signal Characteristics, and Potential Modifications to Carriage Requirements.....**	**Jul 14**
	Project End ……	Sep 14

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
1101	3	Mr. Vinnie Reubelt	CDR Tung Ly

[Anticipated Classification: UNCLAS]

Automated Target Detection for CG FMV Sensors

Gap: The Coast Guard cannot fully exploit its EO/IR sensor capabilities without automatic target detection aids to support mission execution.

Project Objectives:

- Baseline any current CG full motion video (FMV) automatic target detection capabilities.
- Conduct market research on available technologies and software algorithms to exploit automatic target detection from FMV.
- Evaluate potential costs and benefits of automated detection systems.
- Recommend automated FMV target detection technologies for CG demonstration and evaluation.

Project Sponsor:	**Acquisition:**
CG-926	Pre-acquisition

Key Milestone / Deliverable Schedule:

	Project Start …….	19 Apr 12 ✓
	CG Baseline Automated Target Detection…….....	Sep 12
	Release and Analyze Request For Information……..	Dec 12
★	**Automated Target Detection for Full Motion Video Interim Report.....**	**May 13**
	Apply Auto-Detect Technology to FMV Data……..	Sep 13
★	**Computer-based Evaluation of FMV Auto-Detect……..…**	**Jan 14**
	Project End ……	Feb 14

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
7607	3	Dr. Andrew Niccolai	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Unmanned Aerial Systems (UAS) Flight Demonstration Off the National Security Cutter (NSC)

Gap: Limited CG research and operational experience w/ UAS capabilities in a maritime environment.

Project Objectives:

- Procure all major Fire Scout system subcomponents except air vehicle.
- Execute flight deck certification, engineering and airspace processes involved in order to operate Unmanned Aerial System (UAS) off the National Security Cutter (NSC). Install and test Fire Scout system from an NSC.
- Conduct analysis and report on effectiveness of UAS to contribute to NSC mission performance.

Project Sponsor: CG-926, CG-931, CG-711, CG-751, CG-932	**Acquisition:** Cutter-based UAS

Key Milestone / Deliverable Schedule:

Project Start	1 Oct 09	✓
Reinitiate Project	8 Feb 12	✓
Place MIPR for Procurement, Installation and Test	Aug 12	
Technology Transfer Agreement Signed	Aug 12	
Select Candidate NSC for Test	Jun 13	
GCS System Acceptance Test	Nov 13	
NSC Installation and Test	Mar 14	
★ **Final Report (title TBD)**	**Jul 14**	
Project End	Jul 14	

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
7802	1	Mr. William Posage	CDR Tom Meyer

[Anticipated Classification: FOUO**]**

★ Indicates RDC product.

Shipboard Small UAS Capability Demonstration

Gap: The CG needs to understand the risks, benefits, and limitations of operating small UAS off the National Security Cutter (NSC).

Project Objectives:

- Prepare for a sUAS installation on and NSC to include TCTO, ECP, Interim Flight Clearance, Topside Analysis and other prerequisites.
- Execute two-phased Small Unmanned Aircraft System (sUAS) demonstrations from National Security Cutter (NSC).
- Analyze and report on potential sUAS contributions to NSC mission capabilities and impact on ship and crew operations.

Project Sponsor: CG-926, CG-931, CG-711, CG-751, CG-932

Acquisition: Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start ……...	27 Sep 11	✓
Configuration Control Board Approval……	14 Apr 12	✓
Shore Side Test……	6 May 12	✓
Phase I Demonstration off USCGC Stratton……..	Aug 12	
★ **sUAS Interim Report and Recommendations……..**	**Oct 12**	
Phase II Demonstration off USCGC Stratton……..	Apr 13	
★ **sUAS Final Report and Recommendations……**	**Aug 13**	
Project End …….....	Sep13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7804	1	Mr. William Posage	CDR Tom Meyer

[Anticipated Classification: SSI**]**

★ Indicates RDC product.

Boat Crew Communication Capabilities Study

Gap: Small Boat crews lack an effective and reliable internal-external communications capability.

Project Objectives:

- Determine performance needs and gaps in CG internal-external Integrated Communications Systems (ICS) across boat classes.
- Resolve BCCS Problems Documented in DHS IG Report.
- Optional: Conduct field test and assessment of representative standardized ICS.

Project Sponsor:	**Acquisition:**
CG-7311, USCG DOG	None

Key Milestone / Deliverable Schedule:

Project Start ……..... 27 May 10 ✓

★ **BCCS Capability Gaps and System Test Recommendations Briefing……16 Jun 11** ✓

IG Resolution testing expanded from Sta NLON to MSST Kings Bay ……..… 30 Apr 12 ✓

★ **BCCS Briefing on IG Resolution……. Sep 12**

Project End …… Sep 12

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
5203	3	ETC Mark Berg	CDR Tung Ly

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Non-Compliant Vessel (NCV) Video Recorder

Gap: CG OTH platforms have no ability to capture video imagery of operations or surroundings.

Project Objectives:

- Evaluate a range of technical capabilities a video system can provide in support of OTH operations and missions.
- Collect quantitative data points that can be used to determine the range of technical performance for various systems.
- Generate, support, and validate operational requirements and Key Performance Parameters (KPPs) for a potential future acquisition.

Project Sponsor:	Acquisition:
LANT Area, CG-761	Pre-acquisition

Key Milestone / Deliverable Schedule:

	Project Start ……	20 Oct 11 ✓
★	**Selected Technologies Briefing……**	**20 Jun 12✓**
	Initial Evaluation……	Nov 12
	Technology Transition Agreement (TTA) Approval…	Jan 13
	Extended Evaluation..……	Apr 13
★	**Non-Compliant Vessel Video Recorder Final Report……**	**Jul 13**
	Project End ……	Aug 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5704	3	LTJG Kevin Sorrell	CDR Tung Ly

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Non-Compliant Vessel (NCV) Contraband Marker

Gap: Coast Guard Law Enforcement vessels cannot effectively tag and track jettisoned contraband for later recovery.

Project Objectives:

- Evaluate a range contraband marker systems to support OTH LE activities.
- Collect quantitative data points that can be used to determine the range of technical performance for various systems.
- Generate, support, and validate operational requirements and Key Performance Parameters (KPPs) for a potential future acquisition.

Project Sponsor:	**Acquisition:**
LANT Area, CG-761	None

Key Milestone / Deliverable Schedule:

	Project Start ……	20 Oct 11 ✓
★	**Non-Compliant Vessel Contraband Marker: Technology Selection Briefing ……**	**Aug 12**
	Initial Evaluation……	Feb 13
	Extended Evaluation..……	Aug 13
	Technology Transition Agreement (TTA) Approval……	Oct 13
★	**Non-Compliant Vessel Contraband Marker: Final Report …… ……..**	**Nov 13**
	Project End ……..	Jan 14

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
5707	3	LTJG Kevin Sorrell	CDR Tung Ly

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

TSWG Underwater Imager System Prototype

Gap: CG has limited capability to rapidly perform underwater inspections.

Project Objectives:

- Determine potential use of Underwater Imager System (UIS) in PWCS and other CG missions.
- Provide the capability to rapidly detect underwater anomalies from patrol craft during normal patrols or search for specific underwater objects.
- Relieve divers of the time consuming search and detection tasks; reduces hazards and costs; improves probability of detection.

Project Sponsor:
CG-532, CTTSO-TSWG, DOG-3

Acquisition:
Pre-acquisition

Key Milestone / Deliverable Schedule:

	Project Start ……	9 Jul 07 ✓
	Delivery of Three Initial Prototypes……..	17 Jan 08 ✓
★	**Technical Support for TSWG UIS……**	**29 Jul 08** ✓
	Advanced Prototype Delivery……..10 Feb 09	✓
★	**Automatic Change Detection Summary Ltr….**	**21 Jul 10** ✓
★	**UIS Development Final Report ……..…..**	**17 Oct 11** ✓
★	**Technology Transfer Package……**	**12 Aug 11** ✓
	Final PEA Delivery……	Aug 12
★	**Reliability and Effectiveness of UIS ……**	**Sep 12**
	Project End ……	Sep 12

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5915	3	Ms. Elizabeth Weaver	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

UHF Operational Communications

Gap: The CG is not able to effectively use the UHF radio communications introduced by the Rescue 21 system, impacting intra-CG communications as well as CG communications with OGAs & Port Partners.

Project Objectives:

- Identify & document clear & protected UHF frequencies supported by R21, and matrix of assets that are/aren't able to communicate on those frequencies.
- Conduct a survey of communication equipment on CG assets to determine ROM cost of transition to UHF capable hardware.
- Develop a test plan to determine the feasibility of the communication shift to UHF or tactical VHF.
- Perform an operational test to determine benefits and vulnerabilities.

Project Sponsor:	Acquisition:
CG-761	None

Completed

Key Milestone / Deliverable Schedule:

	Project Start	23 Jan 11 ✓
	Collect and Develop Matrix of Frequencies	22 Jun 11 ✓
	Conduct Survey of Comms Gear on CG Assets	22 Jul 11 ✓
	Go/No-Go Decision for Test	22 Aug 11 ✓
★	**UHF Operational Communications – Briefing**	**7 Sep 11 ✓**
	Develop Test Plan for Feasibility Study	29 Sep 11 ✓
	Execute Operational Test in District 1	4 Jan 12 ✓
★	**UHF Operational Communications – Feasibility Study**	**24 Feb 12 ✓**
	Project End	2 Apr 12 ✓

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6205	3	Mr. Jay Carey	CDR Tung Ly

[Anticipated Classification: FOUO**]**

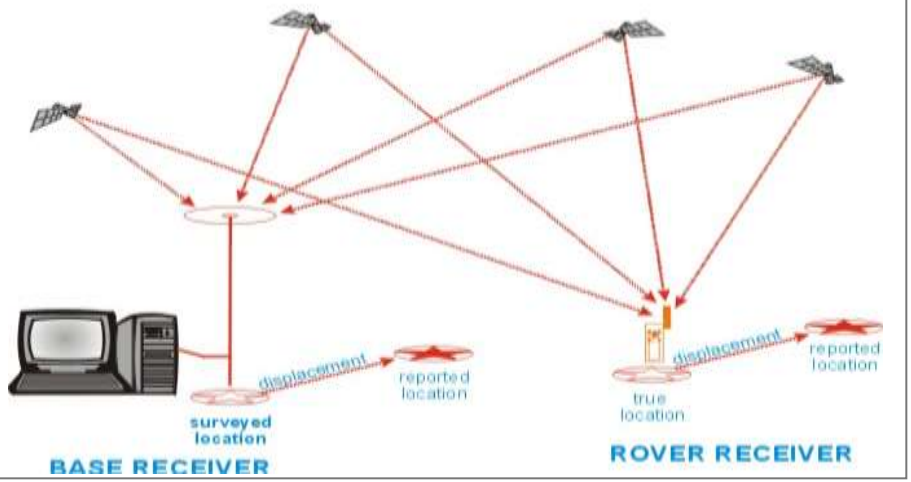
Alternative Precise Network Timing

Gap: The Coast Guard relies heavily on GPS for mission execution but does not have an alternative in the event GPS becomes unavailable.

Project Objectives:

- Research, evaluate, and document at least one promising wireless technical approach for passing precise time using LORAN and dGPS frequencies.

Project Sponsor:	Acquisition:
CG-533	None



Key Milestone / Deliverable Schedule:

Project Start	5 Dec 11	✓
Statement of Obligation for CRADA	23 Dec 11	✓
CRADA Signed by Both RDC and UrsaNav	11 Jan 12	✓
Testing at LORAN Station Wildwood, NJ	Jul 12	
Testing at LORAN Station Las Cruces, NM	Sep 12	
★ **Results of Alternative to GPS Timing Tech**	**Oct 12**	
Project End	Nov 12	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6206	3	LT Helen Millward	CDR Tung Ly

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Federally Integrated Communications System

Gap: The Coast Guard lacks the ability to communicate inter-operatively with other federal agencies that use DOJ's IWN.

Project Objectives:

- Test and evaluate a federally integrated communications system that would enable the current Rescue 21 conventional Land Mobile Radio (LMR) network to communicate with the Department of Justice's (DOJ) Integrated Wireless Network (IWN) Trunked LMR Systems.

Project Sponsor: CG-761

Acquisition: Pre-acquisition

On Hold

Key Milestone / Deliverable Schedule:

Project Start …… 21 Oct 11 ✓

CRADA Signed…… (Canceled)

Federally Integrated Communications System Field Test…… TBD

★ **Results of Federally Integrated Communications System T&E…….. TBD**

Project End…….. TBD

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8103	2	LCDR Octavia Ashburn	CDR Tung Ly Mr. Charles Hall

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Mobile Asset Tracking and Reporting Device

Gap: A flexible adhoc interoperable communication/information system to enhance the Coast Guard's ability to respond to Incidents of National Significance does not exist .

Project Objectives:

- Prototype a flexible interoperable communication/ information system, processes, and procedures to enhances the USCG's ability to transfer information that will assist personnel responding to an IONS (e.g., oil spill).
- The system, processes, and procedures should make use of the equipment the responders are expected to bring to the incident such as smartphones, tablet computers, and laptops.
- Utilize CRADA where applicable and IAA for Lincoln Labs.

Project Sponsor:	Acquisition:
CG-761	Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start ..... 19 Aug 11 ✓
CRADA Signed by both RDC and GD..... 26 Apr 12 ✓
Technology Assessment ..... Mar 13
★ **Technical Assessment Brief for Mobile Asset Tracking and Reporting Device.....Mar 13**
Technology Demonstrations (Start Apr 12)..... Jul 14
(Lincoln Labs, General Dynamics, Army, Trident, Other)
-Build Prototypes
-Conduct Technical Demonstrations
★ **Mobile Asset Tracking and Reporting Device: IONS System Test Results and Recommendations..... Oct 14**
Project End ..... Nov 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8105	1	Mr. Jon Turban, P.E.	CDR Tung Ly

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Analysis of Solid State Marine Radar

The CG needs to assess the characteristics of newer solid state marine radar.

Project Objectives:

- Investigate new advances in marine radar, including solid state developments.
- Investigate problems associated with low-power radars not triggering Search and Rescue Transponders (SARTS) or RACONS.

Project Sponsor:	Acquisition:
CG- 257	None

Key Milestone / Deliverable Schedule:

Project Start ……..…. 2 Nov 11 ✓

Define and scope of solid state radars for CG…… 25 Apr 12 ✓

Market Research & RFI to industry ……15 Jun 12 ✓

Determine beneficial characteristics …… Jul 12

Compare Solid State Radar to CG Systems ……. Jul 12

★ **(U) Comparative Analysis on CG Capability against LPI Emitters …..... Sep 12**

Project End ……. Sep 12

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8106	3	LT Jeff Young	CDR Tung Ly

[Anticipated Classification: SECRET**]**

★ Indicates RDC product.

(U) Independent Analysis and Assessment of Fused Intel

Gap: The CG needs improved capability to effectively collect and correlate data and/or reduce data corruption from multiple inputs.

Project Objectives:

- Provide analysis and recommendations on the future utility of various technologies to improve maritime security by tracking maritime movements, identifying potential threats and prioritizing operational action.
- Specific focus will be given to SIGINT, AIS, and SEI programs.

Project Sponsor:	Acquisition:
CG-257, CGCG	None

Key Milestone / Deliverable Schedule:

Project Start…… 22 Jan 09 ✓

★ **Comprehensive Maritime Awareness (CMA) Data Release-Ability Report…… 27 May 09** ✓

★ **ASC Performance Analysis Report…… 25 Aug 11** ✓

★ **ABLE LOOKOUT Report…… 2 Nov 11** ✓

Project End…….. 14 Feb 11 ✓

Completed

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8302	3	Mr. Jay Spalding	CDR Tung Ly

[Anticipated Classification: TS/SCI]

★ Indicates RDC product.

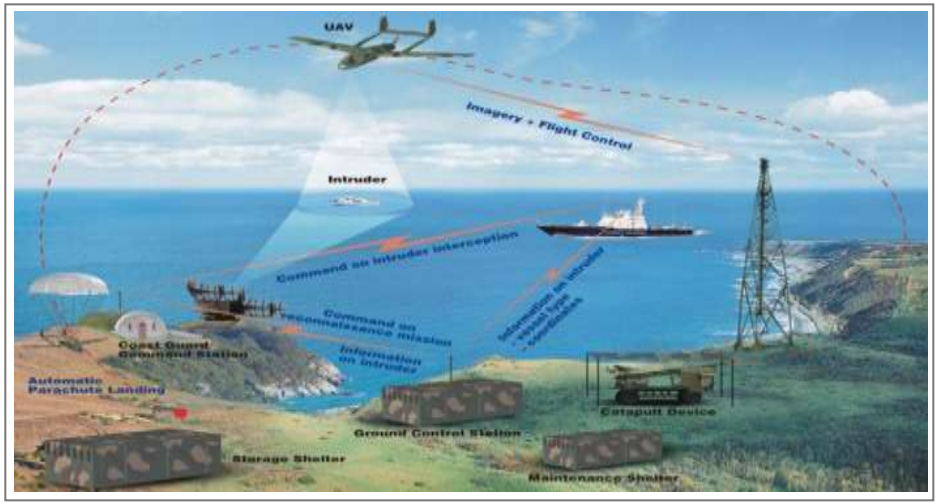
(U) Advanced Communications Intelligence (COMINT) Technology

Gap: Limited capability to process, exploit, and disseminate (PED) signals of interest as part of shipboard collections platforms to support advanced surveillance, identification, classification, and interception.

Project Objectives:

- Evaluate COMINT capabilities on CG vessels and compare performance against mission needs and requirements.
- Identify candidate systems that have the potential to meet requirements.
- Conduct demonstrations to validate candidate technical solutions for CG requirements.

Project Sponsor:	**Acquisition:**
CG-257, CG-761, CGCG	Pre-acquisition



Key Milestone / Deliverable Schedule:

Project Start …….….	8 Nov 11 ✓
Technology Research…….….	Jul 12
Tech Review & Gap Analysis……	Sep 12
Identify Solutions …….	Jan 13
Conduct Demonstrations ……	Mar 13
★ **Advanced CG COMINT Capabilities: Next Step Shipboard Capabilities……..... **	**Jun 13**
Project End ……..…	Aug 13

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
8305	3	Mr. Jay Spalding	CDR Tung Ly

[Anticipated Classification: TS/SCI**]**

★ Indicates RDC product.

Airborne Intelligence Capability

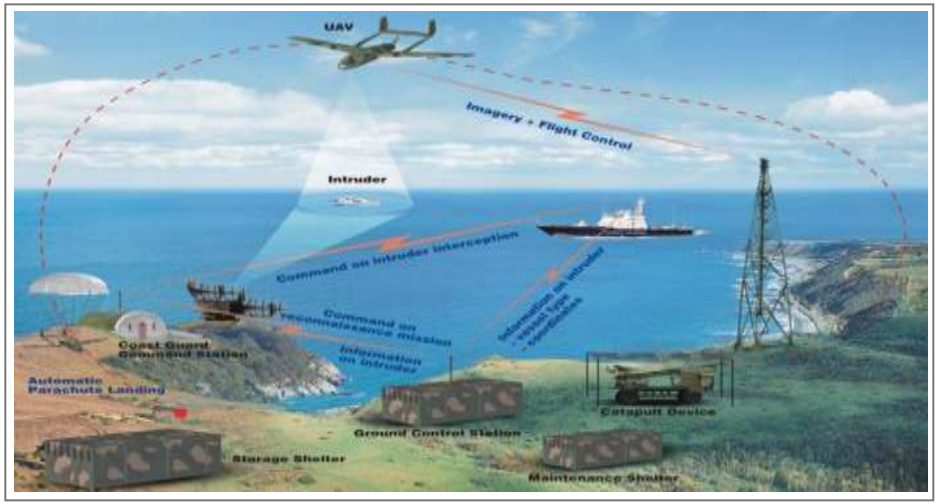
Gap: Limited capability to task, collect, process, exploit, and disseminate (TCPED) signals of interest as part of airborne, forward collections platforms supporting advanced surveillance, identification, classification, and interception.

Project Objectives:

- Evaluate existing Intel/ISR capabilities on CG aircraft and ground nodes. Compare performance against mission needs and requirements.
- Evaluate only external solutions relevant to CG ISR.
- Deliver recommendations for procedural and technology options for follow-on evaluation to address the gap on Airborne Intel/ISR.

Project Sponsor:
CG-926/-257/-761/-711/-CG

Acquisition:
Pre-acquisition



Key Milestone / Deliverable Schedule:

Project Start	20 Oct 11	✓
HQ/Contractor Kick-Off	7 Jun 12	✓
D1 ASCC & DCGS ISR Site Visits	15 Jun 12	✓
Identify Solutions	Dec 12	
★ **(U) CG Airborne Intelligence Capabilities: Existing Airborne Capacity and Gaps**	**Jun 13**	
Identify & Test Solutions (Optional Spiral 2)	Dec 13	
★ **(U) CG Airborne Intelligence Capabilities: Enabling Technologies Field Test Results and Recommendations Going Forward**	**May 14**	
Project End	Aug 14	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8306	1	Ms. Val Arris	CDR Tung Ly

[Anticipated Classification: TOP SECRET**]**

★ Indicates RDC product.

Risk Assessment Methodology to Support USATON Design Changes

Gap: The CG needs to update the design standards of the U.S. Maritime Aids to Navigation System (USATONS) based on emergent and current e-Navigation technology.

Project Objectives:

- Determine current and proposed carriage requirements for e-Navigation components.
- Determine to what degree mariners rely on visual ATON.
- Develop comparative risk model to support changes to USATONS design standards which incorporate e-Navigation components.
- Determine impacts to user groups affected by USATONS design standard changes.

Project Sponsor:	Acquisition:
CG-NAV-1	None

Key Milestone / Deliverable Schedule:

	Project Start	2 May 11 ✓
	Selection of Port Scenarios Interim Report	25 Nov 11 ✓
	Existing ATON Performance Interim Report	3 Feb 12 ✓
	Modeling/Risk Interim Report	8 Jun 12 ✓
★	**Final Report of Recommended Changes to Design Standards of USATONS**	**Oct 12**
	Project End	Nov 12

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2701	3	Mr. Scott Fields	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

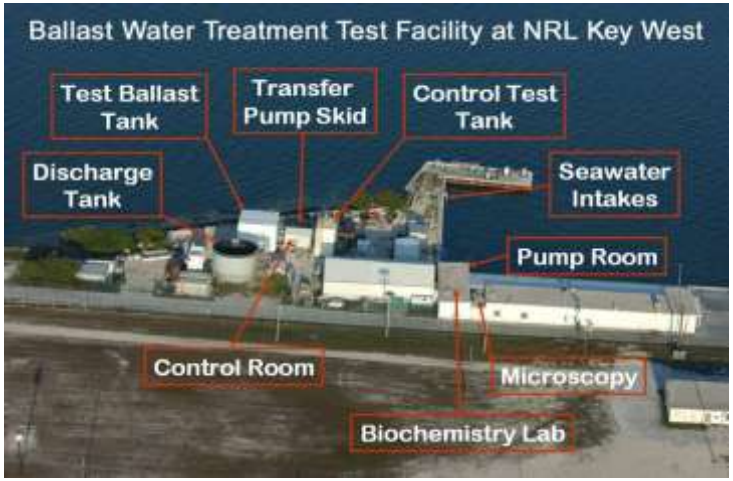
Ballast Water Treatment (BWT) Project

Gap: There is no capability to verify that ballast water treatment systems meet discharge standards.

Project Objectives:

- Develop a test protocol for shore-based tests of BWT systems.
- Conduct inter-comparison of shore-based test facilities.
- Develop automated methods to standardize analysis of samples with very low concentrations of organisms.

Project Sponsor:	Acquisition:
CG-OES-4	None



Key Milestone / Deliverable Schedule:

	Project Start……	30 May 08 ✓
	⋮	
	Conclude Test Facility Equipment Testing……..	8 Aug 11 ✓
★	**Revised Protocol for Zooplankton Automated Analysis……**	**14 Nov 11 ✓**
★	**Protocol for Automated Protist Analysis…….**	**8 Dec 11 ✓**
★	**Automated Protist Analysis of Complex Samples: Recent Investigations Using Motion and Thresholding……..**	**13 Jan 12 ✓**
★	**Assessment of Intercalibration Tests by Selected Test Facilities - Final Report ……..**	**Nov 12**
★	**Indep. Assess. of MERC BW Test Facility ……**	**Jan 13**
	Project End ……	Mar 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4101	2	Ms. Penny Herring	Mr. Jaurin Joseph

[Anticipated Classification: UNCLAS**]**

Recovery of Heavy Oil

Gap: CG and Industry lack capability to detect and recover heavy oils, which do not remain on surface of water.

Project Objectives:

- Document the present status of capabilities and techniques for the detection and recovery of heavy oils.
- Develop and evaluate the most promising capabilities and techniques for detecting heavy oil on the bottom.
- Develop and evaluate the most promising capabilities and techniques for recovering heavy oil on the bottom.
- Optional field trials of prototypes.

Project Sponsor:	Acquisition:
CG-MER-3	None

Key Milestone / Deliverable Schedule:

	Project Start……	5 Feb 07 ✓
	Phase 1: Detection	
★	**Heavy Oil Detection Proofs of Concept Briefing……**	**22 May 08 ✓**
★	**Heavy Oil Detection Prototypes Final Report..**	**11 Jun 09 ✓**
	Phase 2 : Recovery	
★	**Heavy Oil Recovery Design Briefing……..**	**11 Jan 11 ✓**
	Recovery Prototype Tests……	15 Nov 11 ✓
★	**Heavy Oil Recovery Ohmsett Test Report……**	**8 Jun 12 ✓**
	Prototype Field Demonstration…….	Oct 12
★	**Development of Bottom Oil Recovery Systems – Final Project Report……..……**	**Jul 13**
	Project End……..	Aug 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4153	2	Mr. Kurt Hansen	Mr. Shannon Jenkins

[Anticipated Classification: UNCLAS**]**

Response to Oil In Ice

Gap: There is not a detailed and accepted group of methodologies to minimize the damage to the environment caused by spilled oil in extreme cold in the Arctic Region nor the Northern U.S.

Project Objectives:

- To develop equipment and techniques that can be used successfully to detect, track and recovery oil in ice filled waters in all conditions.
- Conduct a series of exercises in the Great Lakes and the Arctic of increasing complexity to test operational deployments of equipment.
- Support National Academy of Science (NAS) Arctic Response Assessment

Project Sponsor:	Acquisition:
D9, D17, CG-MER-3, EPA	None

Key Milestone / Deliverable Schedule:

	Project Start……	2 Nov 09	✓
	Workshops ……..	27 Aug 10	✓
★	**Gap Analysis for Response to Oil-in-Ice…..... **	**22 Dec 10**	✓
	Oil in Ice Exercise……	22 Apr 11	✓
★	**Final Great Lakes Exercise 1 Report..……..…**	**15 Jul 11**	✓
	KDP on Project Way Ahead……..	22 Jul 11	✓
	Exercise 2 - Great Lakes ……..……....	27 Jan 12	✓
★	**Great Lakes Demonstration 2 Final Report.…**	**11 May 12**	✓
	Great Lakes Demonstration 3 ……..……..…	Jan 13	
★	**Great Lakes Demonstration 3 Final Report……. **	**May 13**	
★	**Review Recommendations for NAS Responding to Oil Spills in Arctic Environments Study……. **	**Oct 14**	
	Project End…….	Oct 14	

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4701	2	Mr. Kurt Hansen	Mr. Shannon Jenkins

[Anticipated Classification: UNCLAS]

Detection and Collection of Oil within the Water Column

Gap: The current spill technology is not capable of accurately detecting and mitigating subsurface oil within the water column up to 10,000 feet.

Project Objectives:

- To develop new spill response technologies that detect and mitigate oil within the water column down to 10,000 ft.
  - Operate in all environmental conditions.
  - Locate and mark subsurface oil for possible removal.
  - High resolution for detecting small droplets of oil.
- Technology to be capable of operating off vessels of opportunity.
- Addresses near shore and rivers.

Project Sponsor:	Acquisition:
CG-MER-3	None

Key Milestone / Deliverable Schedule:

	Project Start ……	4 Aug 11 ✓
	Start Design Phase ……	2 Apr 12 ✓
★	**Detection of Oil in Water Column: Sensor Design……..**	**Jan 13**
★	**Detection of Oil in Water Column, Final Report: Detection Prototype Tests……**	**May 14**
★	**Detection of Oil in Water Column, Presentation: Mitigation design……..……**	**Dec 15**
★	**Detection of Oil in Water Column, Final Report: Prototype Mitigation Tests……..……**	**Dec 16**
	Project End ……	Jan 17

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4702	3	Mr. Alexander Balsely	Mr. Shannon Jenkins

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

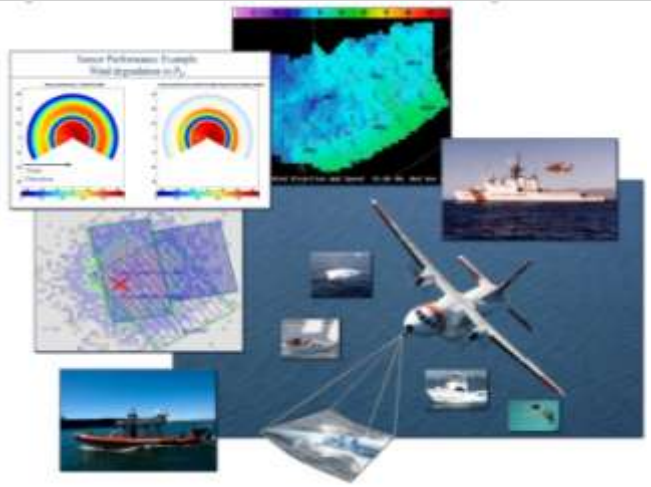
Optimizing RADAR & Electro-Optical Sensors

Gap: The RDC seeks to review its approach to providing sensor performance decision support to the operational and acquisition communities by developing a cost effective path forward to achieve the enduring capability desired from Sensor Performance Modeling.

Project Objectives:

- Assess the design and capabilities of current USCG sensor performance applications and prediction tools in order to enhance existing or develop new digital sensor, target, and environment models.
- Identify a scalable and maintainable path forward that allows for cost effective improvements for future growth.

Project Sponsor:	**Acquisition:**
CG-926	None



Key Milestone / Deliverable Schedule:

Project Start…… 10 Mar 09 ✓

★ **Summary Report: Sensor M&S - Phase I……. 11 May 10** ✓

★ **Briefing – Validation of RADAR/EO/IR testing……23 Mar 12** ✓

NATO Partnered Validation Test…….…… 15 Jun 12 ✓

★ **Sensor Model Accreditation Summary Report..… Apr 13**

Project End…. …… Jul 13

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
7507	1	Ms. Judith Connelly	LT Derek Storolis

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

CG Modeling and Simulation (M&S) Center of Expertise

Gap: Current piece-meal strategy of funding and supporting critical M&S tools within individual CG Program Offices severely constrains the efficient development and maintenance of effective M&S capability.

Project Objectives:

- Develop centralized Location where major units will go to when analytical M&S is needed.
- Develop CG M&S tools that can be maintained and accessed to support R&D analysis.
- Provide customers with pre-designed M&S tools that have been proven.

Project Sponsor:	Acquisition:
CG-926, CG-0954	None

Key Milestone / Deliverable Schedule:

	Project Start	12 May 11 ✓
	IOC	1 Oct 11 ✓
★	**M&S COE CONOPS**	**14 Oct 11** ✓
★	**CGTME Reaccreditation Support**	**Jul 12**
	Data Management Infrastructure Plan	Sep 12
	Management/Administrative support for M&S	Sep 12
★	**M&S COE Business Plan**	**Mar 13**
	FOC	Mar 13
	Project End	Apr 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7513	1	CDR Sean Lester	LT Derek Storolis

[Anticipated Classification: UNCLAS]

Operation Research Tools for C4ISR

Gap: RDC has insufficient analytic tools for evaluating or optimizing C4ISR investments.

Project Objectives:

- Develop improved C4ISR analysis capabilities to provide timely and accurate decision support for effective asset employment and technology investments.

Project Sponsor:	Acquisition:
CG-926	None

Key Milestone / Deliverable Schedule:

Project Start …… 1 Nov 10 ✓

Problem Definition and Methodology Research…. 28 May 11 ✓

★ **OR Tools for C4ISR Development Strategy Brief…… 8 Aug 11** ✓

Data and Prototype Tool Development…… 5 Oct 11 ✓

★ **OR Tools for C4ISR Demonstration…… 1 Mar 12** ✓

Project End …… 3 May 12 ✓

Completed

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7515	3	LT Helen Millward	LT Derek Storolis

[Anticipated Classification: UNCLAS**]**

★ Indicates RDC product.

Operational Testing of Alternative Fuels

Gap: The CG must prepare to adopt suitable alternative fuels that reduce the CG's carbon footprint.

Project Objectives:

- Identify benefits from CG use of alternative, lower carbon footprint diesel and gasoline replacement fuels in its boats based on materials, bench and operational tests.
- Cooperative Research and Development Agreements (CRADA) with engine manufacturers Honda, Mercury and Cummins and a MIPR with Oak Ridge National Laboratory will be leveraged to provide technical expertise on alternative fuels.

Project Sponsor:	**Acquisition:**
CG-731, CG-453	None

Key Milestone / Deliverable Schedule:

Project Start ……	16 Feb 11	✓
CRADA with Honda……..……	9 Jun 11	✓
CRADA with Mercury Marine…….....	12 Jan 12	✓
CRADA with Cummins……..	2 Feb 12	✓
Conduct Diesel Testing……..….	Sep 12	
★ **Evaluation of a Diesel Fuel Alternative for Coast Guard Boats……**	**Mar 14**	
Conduct Gasoline Testing…….…….	Apr 13	
★ **Evaluation of a Gasoline Fuel Alternative for Coast Guard Boats……**	**Oct 14**	
Project End ……...……..…….	Nov 14	

★ Indicates RDC product.

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
4103	3	Mr. Mike Coleman	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

Notes:

CRADAs will be used on this project.

Cost Benefit Analysis of CG Using Boat Lifts

Gap: Maintenance costs associated with in water storage of Coast Guard Boats is high.

Project Objectives:

- Determine if boat maintenance and repair costs are reduced sufficiently by storing Coast Guard boats out of water on a boat lift or similar system to offset the costs of installation, maintenance, operation and training of the storage system.

Project Sponsor: CG-926

Acquisition: Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start	8 Dec 11	✓
Investigate boat lifts and costs	1 Mar 12	✓
Install Boat Lifts for Evaluation Period	Aug 12	
Execute Technology Transfer Agreement	Oct 13	
★ **Boat Lift Evaluation Report**	**Nov 13**	
Project End	Dec 13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5103	3	Mr. Christian Lund	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

JNLWD Small Vessel Entanglement

Gap: CG, DHS and DOD lack capability to non-lethally stop a non-compliant vessel.

Project Objectives:

Team with NSWC Dahlgren and Carderock to:

- Continue to conduct tests on outboard and inboard vessels,
- Continue to optimize full-scale net design, and
- Develop and demonstrate launcher capabilities.

Project Sponsor: JNLWD & CG-721

Acquisition: Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start	12 Dec 07	✓
Net Optimization Tests vs. Inboard Vessels	21 Jan 11	✓
Net Optimization Tests vs. Outboard Vessels	2 Aug 11	✓
Launcher Modification	2 Oct 11	✓
SVSE Prototype System Delivered / DT&E	26 Mar 12	✓
SVSE TTA signed	Aug 12	
★ **SVSE SNARE Operational Suitability Assessment**	**Jan 13**	
Project End	Jan 13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
56411	3	Ms. D. J. Hastings	CDR Patrick Dozier

[Anticipated Classification: UNCLAS **]**

★ Indicates RDC product.

Arctic Craft Investigation

Gap: The CG has limited boat capability to support mission operations in the Arctic.

Project Objectives:

- Conduct technical and market research on craft that could provide the CG with Arctic capability.
- Conduct a demonstration of Arctic craft to evaluate their effectiveness to execute CG missions on the North Slope of Alaska.

Project Sponsor:	Acquisition:
CG-731	None

Key Milestone / Deliverable Schedule:

	Project Start ……..	20 Oct 10 ✓
	Conduct Research……	11 Feb 11 ✓
	CG-731 & D17 Go/No Go Decision on Demonstration……	14 Jul 11 ✓
★	**Arctic Craft Investigation Report and Recommendations……..…**	**15 Aug 11** ✓
	Demonstration in Arctic..……	Aug 12
★	**Arctic Craft Demonstration Report ……**	**Nov 12**
	Project End ……	Dec 12

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6204	1	Mr. Jason Story	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Arctic Shield 2012 Capabilities Documentation

Gap: The CG lacks scientific analysis (R&D) on the affects of the Arctic environment on the performance of CG Programs of Record capabilities.

Project Objectives:

- Establish RDC as the CG go to organization for R&D efforts in the Arctic.
- Document and analyze the SORS deployment under Arctic Shield 2012 and make recommendations for planning necessary R&D to support Arctic oil spill capability.
- Obtain information on authorized communications demonstration activities to support planning future R&D efforts.

Project Sponsor: CG-761, CG-5RI, and CG-926

Acquisition: Pre-acquisition

Key Milestone / Deliverable Schedule:

	Project Start	4 Apr 12 ✓
	SORS Deployment Exercise.....	Jul 12
	Arctic Shield Deployment ends.....	Oct 12
★	**SORS Deployment Report Delivered.....**	**Dec 12**
★	**Comms Report Delivered.....**	**Apr 13**
	Project End	Apr 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
6207	3	Mr. Scot Tripp	CDR Patrick Dozier

[Anticipated Classification: FOUO]

★ Indicates RDC product.

Anti-Icing Coatings Investigation

Gap: Ice accumulation can significantly impact Coast Guard vessel missions and shore communication effectiveness in cold weather and Arctic operations.

Project Objectives:

- Establish current Coast Guard anti-icing capabilities.
- Review requirements for anti-icing.
- Anti-icing capabilities market research.
- Develop roadmap for testing and evaluation of promising anti-icing coatings.

Project Sponsor:	**Acquisition:**
CG-WWM, CG-731, CG-751	Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start ……...	14 Nov 11	✓
Market Research Complete ……..….	Sep 12	
★ **Vessel Anti-icing Roadmap……...**	**Jan 13**	
Project End ……	May 13	

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
6507	3	Mr. Scot Tripp	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

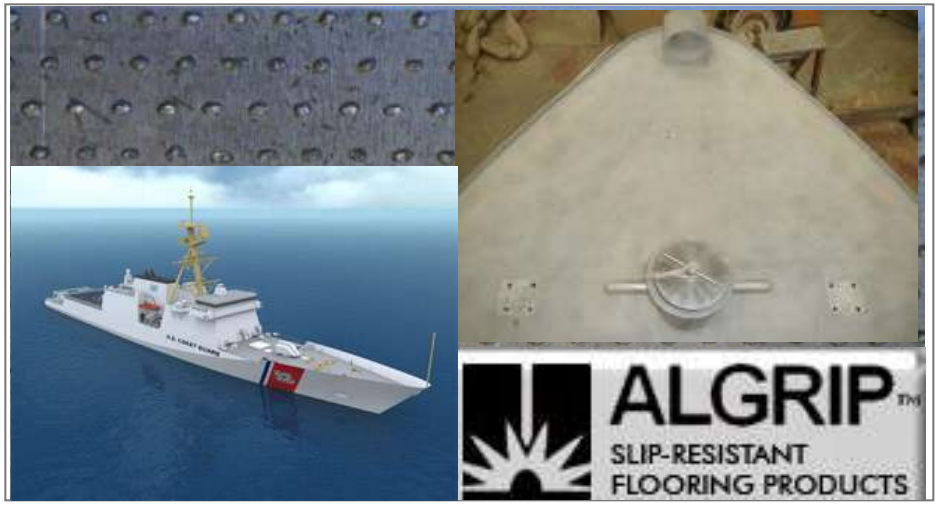
Laser Deposited Nonskid (LDN) Analysis

Gap: The Coast Guard needs a more cost effective and reliable non-skid technology.

Project Objectives:

- Research characteristics of LDN plate (aluminum & steel) with OGA (e.g. Navy) and academia, with regard to:
  - Weld quality after LDN application;
  - Effects of Corrosion to LDN, as evident in a marine environment; and
  - Determine if this emerging technology offers a significant Life-Cycle Cost (LCC) savings.

Project Sponsor:	**Acquisition:**
CG-45	Pre-acquisition



Key Milestone / Deliverable Schedule:

Project Start …… 18 Nov 11 ✓

★ **Laser Deposited Nonskid (LDN) Analysis Report…….. Oct 12**

Project End …… Nov 12

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
7747	3	Ms. D.J. Hastings	CDR Patrick Dozier

[Anticipated Classification: UNCLAS**]**

★ Indicates RDC product.

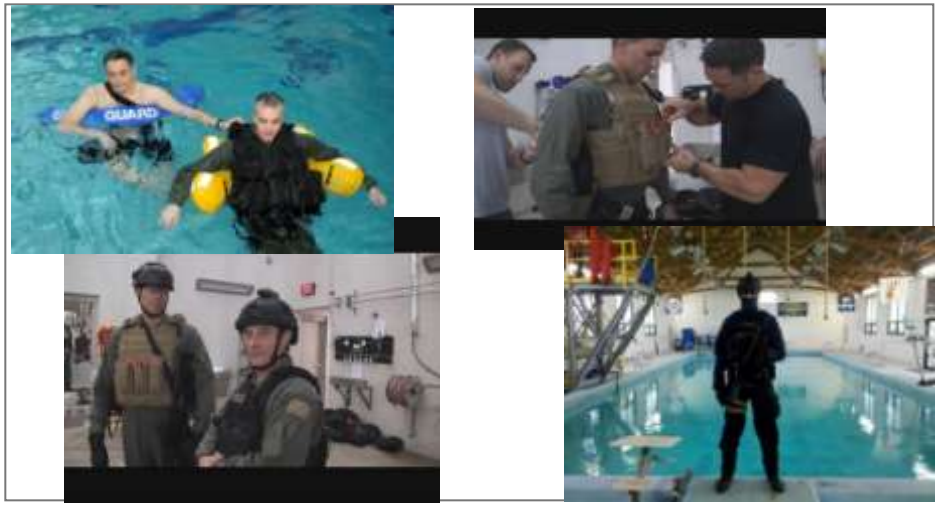
Tactical Flotation & Buoyancy

Gap: Unconscious (or incapacitated) tactical operators do not have a heads-up flotation system and equipment kits weigh too much.

Project Objectives:

- Develop a heads-up flotation solution for the unconscious or incapacitated member.
- Identify lighter, more streamlined and cost effective DSF Tactical Operator equipment.

Project Sponsor:	Acquisition:
DG-4, CG-731	None



Key Milestone / Deliverable Schedule:

Project Start ……...	1 Nov 11	✓
Key Decision Point (Flotation System)……	28 Mar 12	✓
★ **Heads-Up Flotation System Report ……..…**	**Nov 12**	
★ **50 lbs Gear Weight Kit Report ……..…**	**Nov 12**	
Project End ……	Dec 12	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7924	3	Mr. Brian Dolph	LCDR Anthony Erickson

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

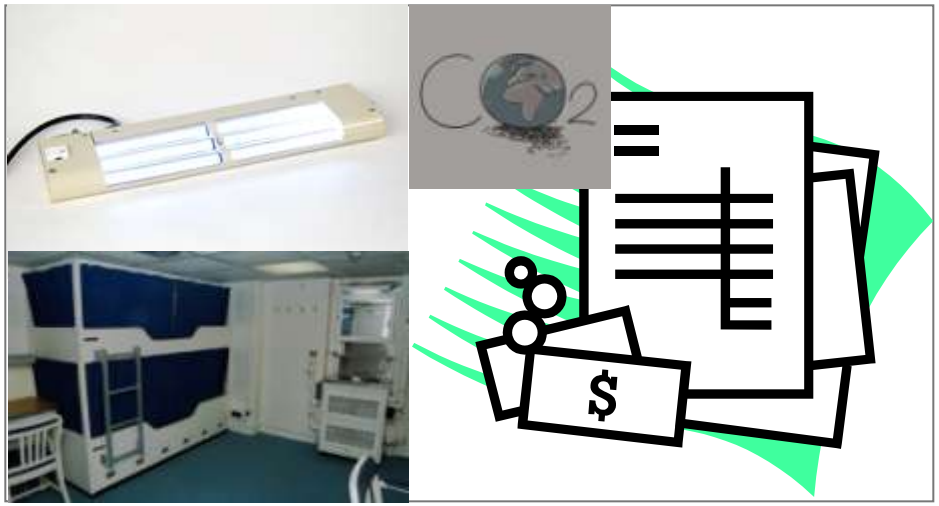
Cutter Energy Efficient Lighting Study

Gap: CG needs a targeted cost analysis of energy efficient lighting for existing/planned cutters.

Project Objectives:

- Review US Navy/ONR program for LED vessel lighting.
- Conduct CG cutter lighting survey.
- Determine the cost factors and develop a cost model analysis of the use of LED lighting on CG cutters.
- Develop LED lighting specifications, if required.

Project Sponsor:	Acquisition:
CG-45	Pre-acquisition



Key Milestone / Deliverable Schedule:

Project Start	13 Oct 11	✓
CGC Lighting Survey	8 Nov 11	✓
USN Ship Lighting Evaluation	19 Dec 12	✓
CG LED Cost Model	20 Apr 12	✓
CG LED Lighting Specifications (optional)	25 Apr 12	✓
★ **LED Lighting Evaluation Decision Report**	**24 May 12**	✓
Project End	Jul 12	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8402	3	Dr. Thomas Amerson	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Short Term Modeling & Simulation Support Efforts (M&S COE Tasks)

Purpose:

Provide Modeling, Simulation or Analysis to focused operational or business questions. Short term efforts are characterized by limited complexity with the need for standard technical and contracting approaches.

FY12 Efforts:

Submission Date	Task	Title	Office Supported
Ongoing	7400001	Tender Sustainment Analysis (Unfunded)	CG-751
23-Jan-12	7400003	Transit Protection System Visualization	PAC-331

Short Term Analytical Support Efforts (REACT Reports)

Purpose:

Provide short term analytical to support CG decision makers with a means to access quick (typically under 30 days), inexpensive (typically under $25K) analyses to investigate a wide range of technology issues relating to current or planned CG operations or procurements. Larger analytical support projects will typically require funding to cover the cost of R&D Center labor & overhead and other direct costs.

FY12 Efforts:

Submission Date	Title	Office Supported
07-Nov-11	21st Century ATON System: "Real World Validation"	CG-9
01-Feb-12	A Quick Assessment of Raptor Detection Technologies' SAFE-T Product	CG-7

Acquisition Directorate

Research & Development Center

RDC FY12 Project Portfolio

Externally Funded Projects

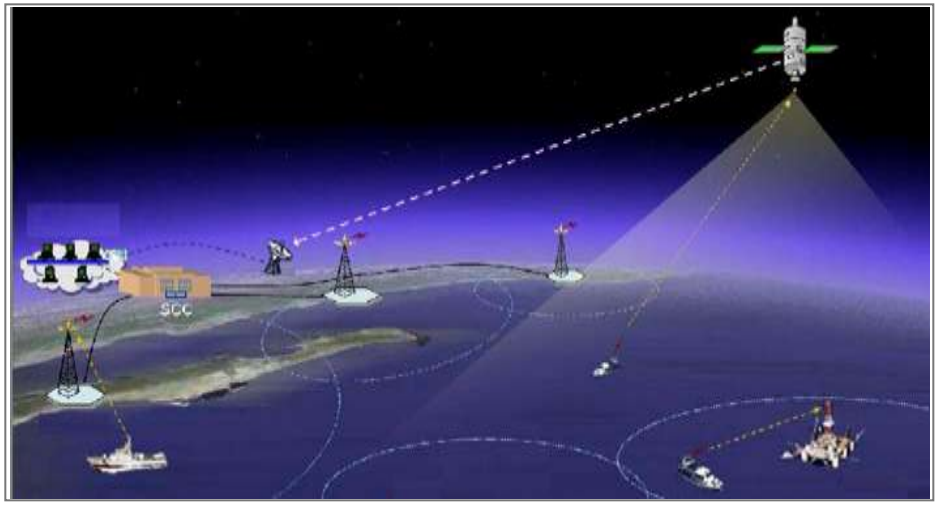
Nationwide Automated Information System (AIS) Acquisition

Gap: Analyses to support acquisition of the NAIS I-2 network are incomplete. Tools and methods to monitor proper site operation and validate I-2 IOC network performance require development.

Project Objectives:

- Develop software and methods needed to support transition to Initial Operation Capable (IOC) I-2 network from Full Operation Capable (FOC) Increment 1 (I-1) network.
- Monitor and participate in I-2 IOC testing.
- Assist with efforts to assess the performance of I-2 components as AIS VDL loading is increased.

Project Sponsor:	Acquisition:
CG-9332	NAIS



Key Milestone / Deliverable Schedule:

	Project Start	Jun 05 ✓
	Implement Temporary System Operation Center	Oct 06 ✓
	Deploy Increment-1 NAIS Network	24 Mar 08 ✓
★	**Technical Assessment of AIS Reception from Orbcomm Satellites**	**1 Jul 09 ✓**
★	**Implementation of Increment-1 Software in NAIS**	**3 Mar 08 ✓**
★	**Incorporation of Existing VTS AIS Interface**	**11 Dec 07 ✓**
★	**Increment-1 Software Documentation**	**20 Jan 09 ✓**
★	**Increment-1 Interface Control Document (ICD)**	**27 May 09 ✓**
★	**Modifications to I-1 Software suitable for use with the I-2 NAIS Network**	**Sep 12**
	Project End	Sep 13

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2411	2	Mr. Lee Luft	CDR Tung Ly

[Anticipated Classification: UNCLAS**]**

NSC,FRC,& OPC Cutter Boat IPT Support

Gap: Establish solid baseline for acquisitions decisions by Cutter Boat IPT.

Project Objectives:

- CG-935 needs technical support to conduct acquisition related analysis and studies for the follow-on LRI/IDS Small Boat IPT. These analysis and studies will be used to support acquisition decisions. The studies need to be initiated and conducted within a time frame that will support the IPT's aggressive schedule for having a construction contract underway.

Project Sponsor:	**Acquisition:**
CG-9323	MK IV Cutter Boat

Completed

Key Milestone / Deliverable Schedule:

Project Start	29 Oct 08 ✓
Requirement Support	10 Mar 09 ✓
★ **Follow-on Long Range Interceptor and IDS Small Boat IPT Market Research**	**7 May 09** ✓
Incremental Support	30 Nov 11 ✓
Project End	27 Jan 12 ✓

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
5112	3	Mr. Scot Tripp	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Polar Icebreaker Business Case Analysis

Gap: No current summary of information is available to support decision makers with regards to the requirements, options, and costing of sustainment of CG Polar icebreaking capability.

Project Objectives:

- To conduct a BCA using preliminary MAR results on demand projections, incorporation of the latest climate data and evaluate alternative Polar Ice Operations force structures in order to identify the most cost effective means of satisfying all U.S., CG, and OGA High Latitude interests via an appropriately structured acquisition program.

Project Sponsor:	**Acquisition:**
CG-9323	Pre-acquisition

Key Milestone / Deliverable Schedule:

	Project Start ……	10 Dec 09 ✓
	Preliminary Briefing……	14 Mar 10 ✓
	Stakeholder Summit……	7 Jun 10 ✓
★	**Coast Guard Polar Icebreaker Business Case Analysis Final Report……..……**	**7 Jun 10** ✓
	Additional Option Added……	10 Jul 10 ✓
	Additional Tasking for CG Authorization…….	10 Oct 10 ✓
	EOC Presentation……..	18 Jun 11 ✓
★	**U.S. Polar Icebreaker Recapitalization ……**	**19 Jul 11** ✓
★	**Leasing Options for U.S. Polar Icebreaking Capability……..…**	**11 Jun 12** ✓
	Project End ……	Jul 12

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
6202	3	Mr. Scot Tripp	CDR Patrick Dozier

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

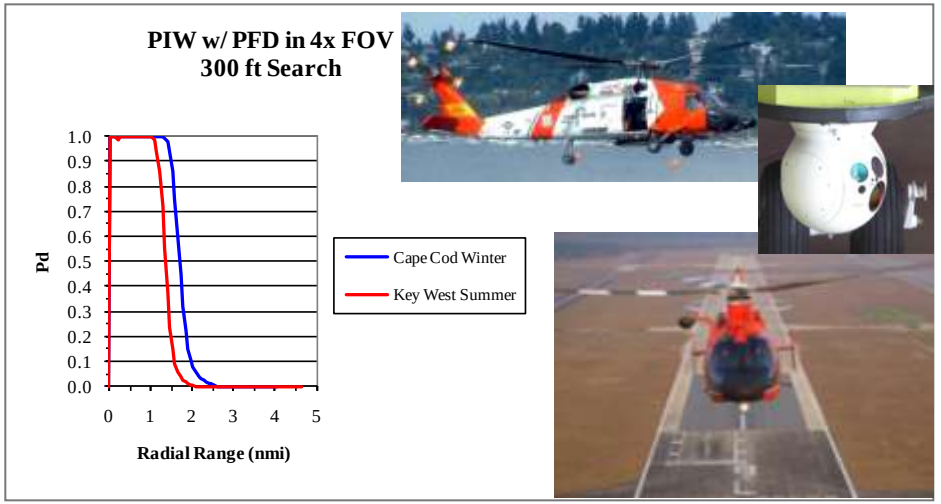
Operational Testing of ESS

Gap: USCG Rotary Wing fleet lacks TTPs and field-validated operational performance data for the Electro-Optical Infrared Sensor System (ESS).

Project Objectives:

- Validate effectiveness and provide recommendations to improve current ESS settings, configurations and employment techniques on the MH-60T and MH-65C/D helicopters.
- Develop lateral range curves and sweep widths for the ESS Thermal Imager against typical SAR targets.
- Characterize operational performance and provide TTP input for all ESS components.

Project Sponsor:	Acquisition:
CG-931	MH-60T & MH-65C/D



Key Milestone / Deliverable Schedule:

	Project Start	9 Dec 10 ✓
	Phase 1 At-sea Sensor Setting Verification	1 May 11 ✓
★	**Post-test Briefing on ESS Validation Test.....**	**15 Jun 11** ✓
	Phase 3 At-sea Operational Performance Testing ..	14 Oct 11 ✓
★	**Interim Report & Brief on FY11 ESS Operational Performance Testing.....**	**28 Mar 12** ✓
	Phase 4 At-sea Operational Test Event 1.....	Oct 12
	Phase 4 At-sea Operational Test Event 2.....	Apr 13
★	**Final Report & Brief on FY11 ESS Operational Performance Testing.....**	**Dec 13**
	Project End	Jan 14

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7603	3	LT Stephen Dunn	Mr. Charles Hall

[Anticipated Classification: SSI**]**

Evaluation of Douglas MANTIS/SHH Systems

Gap: A technology demonstration and analysis of the MANTIS & SHH RAM traverse systems is needed to validate the STS Alternatives Analysis and support final STS selection for the NSC.

Project Objectives:

- Modify MANTIS & SHH system to enable compatibility with H-65 nose wheel tire assembly.
- Demonstrate MANTIS & SHH ability to traverse H-65 on airfield ramp (land-based demonstration).
- Conduct preliminary pier side and underway shipboard demonstration aboard a USCG hangar equipped cutter.
- Report on activities and findings.

Project Sponsor:	**Acquisition:**
CG-9315	Cutter-based STS

Completed

Key Milestone / Deliverable Schedule:

Project Start	31 Mar 11 ✓
Test Planning and Cards	22 Jun 11 ✓
Ramp Testing AAR	29 Jul 11 ✓
Pier Side NSC Testing AAR	25 Aug 11 ✓
Underway Testing AAR	26 Aug 11 ✓
★ **Evaluation of Douglas MANTIS/SHH Systems Final Report**	**10 Nov 11** ✓
Project End	12 Jan 12 ✓

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
7744	3	Dr. Andrew Niccolai	CDR Tom Meyer

[Anticipated Classification: UNCLAS]

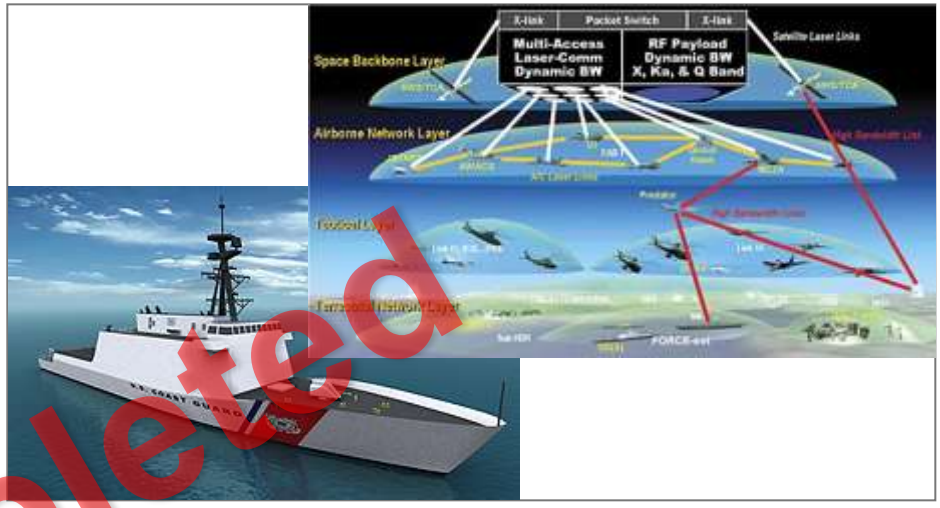
★ Indicates RDC product.

C4ISR Alternatives Analysis

Gap: There is no Alternatives Analysis that addresses/supports the CG desire to have the OPC outfitted with a C4ISR suite with capabilities ranging between those of the NSC and the FRC.

Project Objectives:

- Phase I: Conduct OPC C4ISR requirements, design budget (space, weight & power), market survey and capabilities analysis to support an Alternatives Analysis.
- Phase II: Perform the formal OPC C4ISR Alternatives Analysis.



Project Sponsor:	Acquisition:
CG-9335	Pre-acquisition

Key Milestone / Deliverable Schedule:

	Project Start ..... 26 May 09	✓
★	**Design Budget Parametric Report..... 9 Oct 09**	✓
★	**Preliminary AA Report..... 23 Dec 09**	✓
	Pugh Analysis..... 9 Mar 10	✓
★	**C4ISR Alternatives Analysis Study Plan..... 28 Jan 11**	✓
★	**C4ISR Alternatives Analysis..... 9 Apr 12**	✓
	Project End ..... 17 Jul 12	✓

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7908	3	Mr. Craig Baldwin	CDR Tung Ly

[Anticipated Classification: SSI]

Completed

★ Indicates RDC product.

CGMOES Analysis Support

Gap: The CGMOES Modeling and Simulation Master Plan (MSMP) and Modeled CONOPS must remain current in order to keep a valid and accredited campaign modeling tool.

Project Objectives:

- Update the CGMOES Modeling and Simulation Master Plan (MSMP).
- Update the CGMOES Modeled Concept of Operations (CONOPS).
- Create a list describing area of CGMOES that would benefit from changes.

Project Sponsor:	Acquisition:
CG-771, CG-926	NSC, OPC, C4ISR

Key Milestone / Deliverable Schedule:

Project Start ..... 9 Mar 11 ✓

List of Areas of CGMOES that Benefit from Changes..... 30 May 12 ✓

★ **Updated CGMOES MSMP Report..... Aug 12**

★ **Updated CGMOES CONOPS Report..... Aug 12**

Project End ..... Aug 12

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7921	2	Ms. Monica Cisternelli	LT Derek Storolis

[Anticipated Classification: SSI**]**

★ Indicates RDC product.

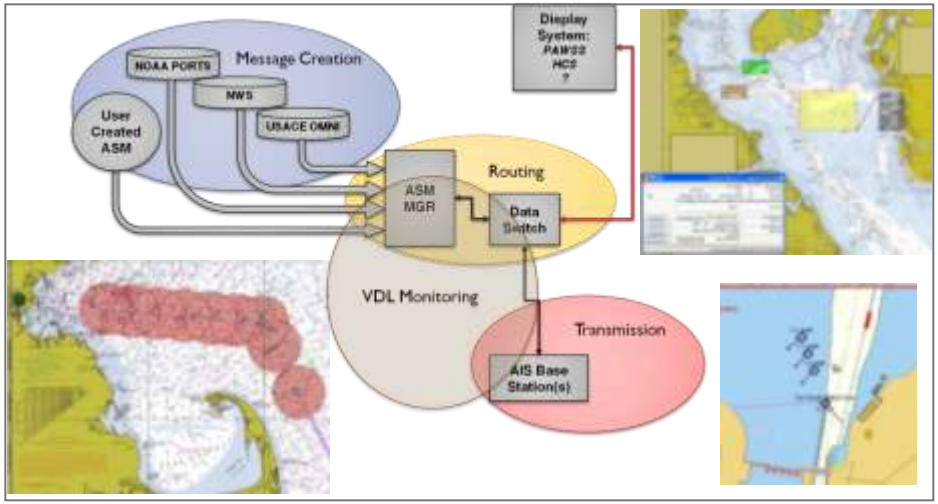
AIS Transmit Capability

Gap: Investigation and evaluation of the AIS transmit capability is incomplete.

Project Objectives:

- Investigate requirements of users (government and commercial) for AIS binary message transmit.
- Evaluate the effectiveness of information disseminated from USCG Vessel Traffic Services (VTS) and other providers.
- Demonstrate and develop AIS binary message transmit capability.

Project Sponsor:	Acquisition:
CG-7413	NAIS



Key Milestone / Deliverable Schedule:

	Project Start ……	2 May 07 ✓
★	**Technical Clarifications to IMO SN/Circ. 289**	**14 Feb 11 ✓**
★	**Input Paper to IALA eNav9 on AIS ASM's….**	**17 Mar 11 ✓**
★	**Input Paper on AIS ASMs to IMO Nav57……..**	**11 Apr 11 ✓**
★	**Transition Plan for Tampa……**	**8 Sep 11 ✓**
★	**Operational Framework for AIS Transmit……**	**Sep12**
★	**Operational Implementation Plan for AIS Transmit……..…**	**Aug 13**
	Project End ……	Dec 14

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2413	3	Ms. Irene Gonin	CDR Tung Ly

[Anticipated Classification: UNCLAS]

NAIS Increment 1 Technical Forum and Performance Analysis Support

Gap: CGHQ requires review of and modification to international AIS standards, assistance conducting spectrum and network performance analysis, and support for sustainment of the NAIS I-1 Network.

Project Objectives:

- Provide project sponsor with VHF Data Link (VDL) Network Spectrum and I-1 Network Performance analyses critical to maintaining the integrity of the NAIS.
- Participate in AIS standards development.
- Provide project sponsor with technical and field support of the I-1 Network primary to preserving the stability and performance of the NAIS.

Project Sponsor:	Acquisition:
CG-761	None

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
2419	3	Mr. Lee Luft	CDR Tung Ly

[Anticipated Classification: UNCLAS]

Key Milestone / Deliverable Schedule:

Project Start…… 5 Dec 08 ✓
Attend AIS Standard Committee Meetings…. Oct 08–Sep 12
⋮
★ **Assist C3Cen Upgrade and Transfer R21 Site Orleans, MA to NAIS I-1…….. 21 Mar 12** ✓
★ **AIS-Satellite to NAIS Performance Comparison in Alaska…….. 27 Mar 12** ✓
★ **Assist OSC in Development of an NAIS Analysis Website System and Build Requirements Document……. Aug 12**
★ **Technical Inputs to NMEA 2000 v2.0……..... Sep 12**
★ **Technical Inputs to IEC 61162 Series……... Sep 12**
★ **Study of Effect of Expanded AIS Technologies on AIS VDL…… Oct 12**
Project End……..…… Sep 13

★ Indicates RDC product.

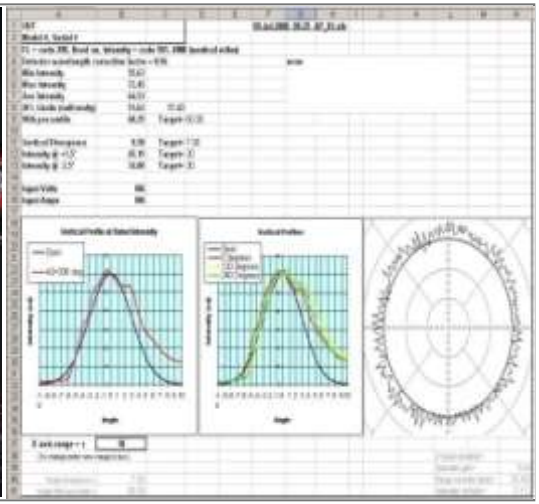
General Engineering Laboratory Support

Gap: Supports Test and Evaluation of Aids to Navigation to improve performance, lower costs and extend maintenance intervals.

Project Objectives:

- Provide a laboratory and test and evaluation services in support of the CG Aids to Navigation (AtoN) program.
- Conduct test and evaluation of AtoN to ascertain conformance with established regulatory and certification criteria.
- Evaluate the viability of emerging technologies to reduce CG operating/maintenance costs or alleviate (AtoN signal) problem areas.

Project Sponsor:	**Acquisition:**
CG-432	None



Key Milestone / Deliverable Schedule:

Project Start…… circa 72 ✓

★ **GELS FY12 Activity Summary 1st and 2nd Qtr….9 Apr 12** ✓

★ **GELS FY12 Activity Summary 3rd and 4th Qtr …. Sep 12**

Project End ……TBD

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
2784	3	Mr. Vincent Reubelt	CDR Thomas Meyer

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Command Center Capability Analysis Support

Gap: Command Center Program lacks a comprehensive understanding of the essential /core set of Command Center capabilities, resulting in tools that don't fit the watchstanders' needs.

Project Objectives:

- Establish a set of "baseline" (core) Command Center capability requirements (Phase 1).
- Use capability requirements to perform "gap analyses" for Sector, District, and Area Command Centers (potential Phase 2).

Project Sponsor:	**Acquisition:**
CG-7412	Various

Key Milestone / Deliverable Schedule:

Project Start …….....	3 Apr 12 ✓
Draft Capabilities Framework (2 missions)	Jul 12
KDP: Continue with Remaining Missions….....	Jul 12
Validate Complete Framework	Sep 12
KDP: Continue to Phase 2.....	Sep 12
★ **Command Center Capabilities Framework..…...…**	**Oct 12**
Conclude Phase 1 .....…….....……	Oct 12
Project End…….	TBD

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
3402	3	Dr. Anita Rothblum	Mr. Jaurin Joseph

[Anticipated Classification: FOUO**]**

★ Indicates RDC product.

Vessel Energy Efficiency Baselining Tool

Gap: CG requires the means to improve energy efficient operation of cutters to meet greenhouse gas (GHG) emission reduction goals.

Project Objectives:

- Exploit digital data capabilities of post-MEP 270' WMEC main propulsion control & monitoring system (MPCMS) by incorporating enhanced data logging and fuel oil metering into available data stream for future analysis.

Project Sponsor:	Acquisition:
CG-46	None

Key Milestone / Deliverable Schedule:

Project Start ………………………………………..….. 6 Jun 11 ✓

Data Logging Expansion and Testing…………….. Aug 12

Fuel Oil Meter (FOM) Integration and Testing…….. Aug 12

★ **Vessel Energy Efficiency Baselining Tool/ Letter Report……………….……...........…………. Sep 12**

Project End ……………………………….………… Sep 12

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
4109	3	Mr. Jay Carey	CDR Patrick Dozier

[Anticipated Classification: UNCLAS**]**

★ Indicates RDC product.

Point Defense Mission Analysis

Gap: The Coast Guard does not have point defense requirements for a new PWCS toolkit.

Project Objectives:

Conduct a limited scope Mission Analysis of point defense requirements. Findings will be documented in a Mission Analysis Report to provide Coast Guard decision makers with input to provide Coast Guard decision makers with input to support Program of Record and Acquisition Development (ADE-0).

Project Sponsor:	**Acquisition:**
CG-721	Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start ……	22 Mar 11	✓
Point Defense Assessment Workshop……....	20 Sep 11	✓
Teleconferences……	20 Dec 11	✓
Analysis of Mission Capability Gaps…….	1 Mar 12	✓
Development of Mission Analysis Report…….	15 Mar 11	✓
Review Cycles of MAR Begin……....	16 Mar 12	✓
★ **Point Defense Point Defense Mission Analysis Report…..... 28 Jun 12**		✓
Project End…….....	Jul 12	

★ Indicates RDC product.

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
5918	3	LT David Moser	CDR Patrick Dozier

[Anticipated Classification: SBU**]**

iceBerg Analysis and Prediction System (BAPS) Improvement

Gap: BAPS is becoming obsolete and an Alternatives Analysis iaw SDLC process is required to inform decision makers in support of BAPS recapitalization efforts.

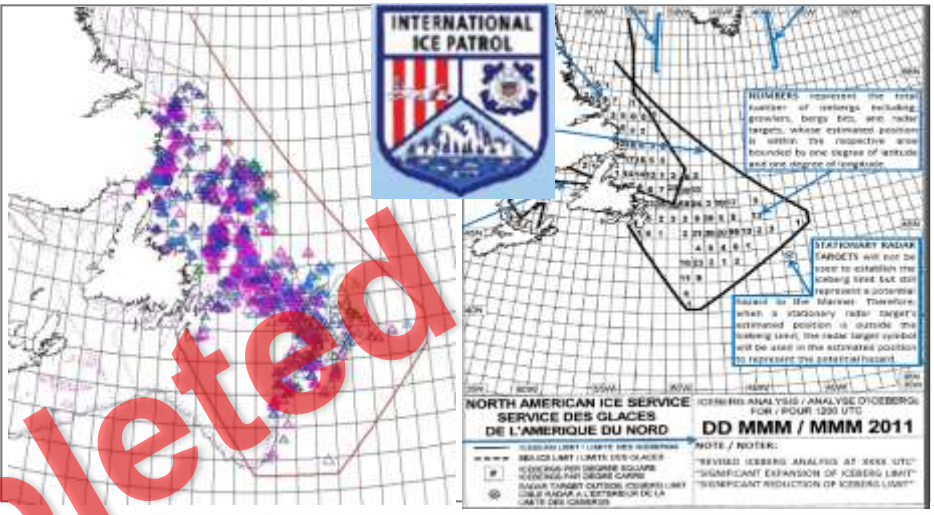
Project Objectives:

- Conduct a requirements/capabilities analysis.
- Develop system architectural views that document the "as is" and "to be" state of BAPS.
- Evaluate the feasibility of BAPS alternatives in terms of risk, life cycle cost, supportability and cost-benefit.

Project Sponsor:	**Acquisition:**
CG-5523, IIP	BAPS

Key Milestone / Deliverable Schedule:

	Project Start	21 Jun 11 ✓
	Site Visits (CIS, IIP, NIC)	25 Sep 11 ✓
★	**BAPS AA Study Plan**	**22 Sep 11** ✓
	Conduct Requirements/Capabilities Analysis	31 Oct 11 ✓
★	**BAPS Alternative Analysis Report**	**23 Jan12** ✓
	Project End	7 Mar 12 ✓



Completed

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
6501	3	Mr. Timothy Ledbetter	LT Derek Storolis

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

ORAM DOMICE Model Improvement

Gap: Inaccuracies in the prototype DOMICE risk model limit its usefulness for communicating CG resource decisions.

Project Objectives:

- Modify the prototype DOMICE risk model to improve accuracy and fidelity for the time step.

Project Sponsor:	Acquisition:
LANT-7, CG-926	None

Key Milestone / Deliverable Schedule:

	Project Start ……	Sep 12
★	**Domestic Icebreaking Simulation Model ……**	**Feb 13**
★	**Domestic Icebreaking Simulation Model User Guide ……..……...**	**Feb 13**
	Project End ……..……	Mar 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7519	3	Mr. Mark VanHaverbeke	LT Derek Storolis

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

CG Mission Analysis Report (MAR) Support

Gap: The CG lacks a standardized approach to conducting Mission Analysis

Project Objectives:

- Develop a Maritime Security Operations (MSO) MAR Study Plan.

Project Sponsor:	Acquisition:
DCO-81	None

Key Milestone / Deliverable Schedule:

Project Start ..... 11 Jul 11 ✓

★ **Maritime Security Operations Mission Analysis Study Plan..... 16 Mar 12** ✓

Project End ..... Apr 12

Completed

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7746	3	Mr. Mark VanHaverbeke	Mr. Shannon Jenkins

[Anticipated Classification: FOUO **]**

★ Indicates RDC product.

Underwater Imaging System Transition Evaluation

Gap: The Coast Guard needs information to determine how and where the UIS system would be integrated into the CG's underwater detection and imaging needs as an organic CG capability.

Project Objectives:

- Identify where the UIS could add value/improve the operational efficacy of CG Missions relating to underwater operations.
- Provide opportunity for CG field and HQ personnel to observe and provide feedback on UIS performance as part of an overall assessment.
- Summarize operational observations.

Project Sponsor:	**Acquisition:**
CG-5R	Pre-acquisition

UIS on a TANB

Key Milestone / Deliverable Schedule:

Project Start …….	1 Jun 12	✓
Technology Transition Agreement Signed…….	Jul 12	
★ **Mission Applicability Matrix…….**	**Aug 12**	
Facilitate Observation of UIS …….	Aug 12	
★ **Operational Observation Summary……..**	**Sep 12**	
Project End ……	Sep 12	

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
7748	3	Mr. Scot Tripp	CDR Tung Ly

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Tactics, Techniques, and Procedures (TTP) Development Analysis Support

Gap: FC-Pi lacks ready access to experienced analysts and associated tools to support certain operational TTP development.

Project Objectives:

- Implement and pilot a process that provides FC-Pi ready access to RDC professional analytic services and associated tools in support of TTP development.

Project Sponsor:	Acquisition:
FC-Pi, CG-926	None

Key Milestone / Deliverable Schedule:

Project Start ..... 20 Jun 11 ✓

Implement TTP Development Support Process..... 22 Jun 12 ✓

★ **TTP Baseline Model Excursion Analysis…..... Sep 12**

Project End ..... Sep 12

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
7920	3	Mr. Tim Ledbetter	LT Derek Storolis

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Maritime Security Operations Mission Analysis Report

Gap: The MSO Program lacks a mission analysis.

Project Objectives:

- Prepare a MSO Program MAR.
- Deliver a briefing.
- Deliver a final report.

Project Sponsor:	**Acquisition:**
DCO-81, CG-532	Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start …… 16 May 12 ✓

★ **Maritime Security Operations Mission Analysis Briefing……..…….. Nov 12**

★ **Maritime Security Operations Mission Analysis Report……...……. Apr 13**

Project End …… May 13

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
7926	2	Mr. Mark VanHaverbeke	LT Derek Storolis

[Anticipated Classification: SECRET**]**

★ Indicates RDC product.

C4ISR Roadmap

Gap: The CG lacks a C4ISR Roadmap backed by a repeatable methodology.

Project Objectives:

- Develop a methodology for C4ISR roadmap generation that is repeatable, compliant with relevant authorities, and leverages the Navy's roadmap process.
- Develop a roadmap for select portfolio-based systems as use cases for the methodology and to identify gaps in the information infrastructure.
- Link C4ISR Roadmap project artifacts and lessons-learned primers to graceful shutdown summary package.

Project Sponsor:	Acquisition:
CG-761	None

Canceled

Key Milestone / Deliverable Schedule:

Project Start ..... 25 Jan 11 ✓

★ **C4ISR Roadmap Summary – Way Forward.... 2 Apr 12** ✓

Project End ..... 2 Apr 12 ✓

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8102	1	Ms. Val Arris	CDR Tung Ly

[Anticipated Classification: UNCLAS / SBU]

Notes:

Project canceled due to lack of funding.

★ Indicates RDC product.

C4ISR Overarching CONOPS Plan

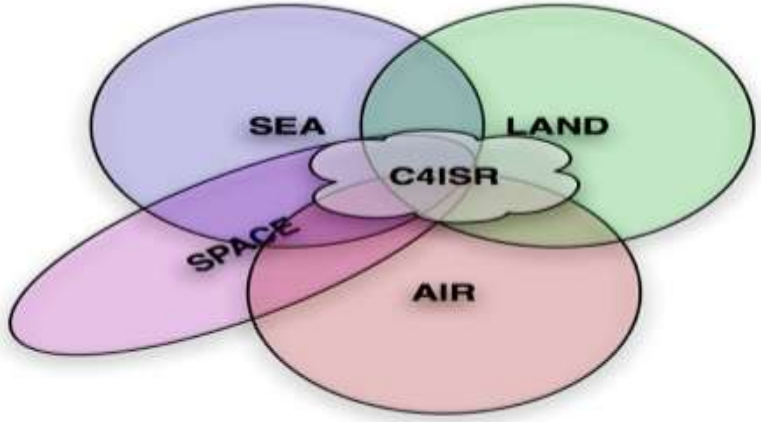
Gap: The CG requires an overarching C4ISR CONOPS to improve effective development, assessment, implementation, and sustainment of information management, communications and sensing.

Project Objectives:

- Identify and analyze gaps in present C4ISR systems and mission needs/requirements to define an execution plan, including: scope, timeline, and roadmap to produce an overarching C4ISR CONOPS.
- Using and enterprise approach, develop a C4ISR CONOPS, including a POAM, to be used as a ten-year, strategic level initiative to institutionalize a CG-wide C4ISR framework.

Project Sponsor:
CG-761, C4IT-SC

Acquisition:
Pre-acquisition



Key Milestone / Deliverable Schedule:

Project Start ……	29 Jun 11	✓
Workshop on Existing C4ISR Capabilities and Desired End-state ……	8 Nov 11	✓
Validation Workshop for Assessment of Gaps….	19 Apr 12	✓
Sponsor Provides "Go/No-Go" Decision ……	19 Apr 12	✓
★ **C4ISR CONOPS Gap Assessment & Recommendations for C4ISR CONOPS……. **	**20 Jun 12**	✓
★ **C4ISR CONOPS…….……**	**Sep 12**	
Project End……	Sep 12	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
8304	1	CDR Octavia Ashburn	CDR Tung Ly

[Anticipated Classification: FOUO**]**

★ Indicates RDC product.

Chicago Sanitary Ship Canal (CSSC) Marine Safety Risk Analysis

Gap: The local commander needs to conduct a review of marine safety risks associated with the fish barrier; determine adequacy of present risk mitigation strategies; and make recommendations for alternatives.

Project Objectives:

- Conduct an analysis of risks to marine safety for commercial and recreational mariners that transit the Chicago Sanitary and Ship Canal (CSSC) in the vicinity of the fish barrier.
- Determine adequacy of present risk mitigation strategies.
- If necessary, recommend alternatives to the present strategies.

Project Sponsor:	**Acquisition:**
EPA GLNPO; CGD9 (dpi)	None

Key Milestone / Deliverable Schedule:

	Project Start	8 Nov 11 ✓
	Data Collection and Analysis	Aug 12
	Consequence Investigation and Scientific Measurements	Nov 12
	Risk Analysis and Mitigation Strategies	Mar 13
★	**CSSC Marine Safety Risk Analysis Report**	**Apr 13**
	Project End	Jul 13

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
3329	3	Mr. M. J. Lewandowski	Mr. Jaurin Joseph

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

GLRI BWT Shipboard Approval Tests

Gap: CG lacks capability to verify that ballast water treatment systems installed aboard ships meet discharge standards.

Project Objectives:

- Develop methodology and test protocols for approval/certification testing of BWT systems aboard ships.
- Coordinate with CG-5224 and MARAD to test BWT system aboard Laker.
- Evaluate BWT system in Fresh Water.

Project Sponsor:	Acquisition:
USEPA- GLNPO; CG-OES-4	None

Key Milestone / Deliverable Schedule:

Project Start ..... 10 Jan 11 ✓

★ **Generic Protocol for Filtration Skid ..... 8 Jun 12** ✓

Begin Shipboard Tests..... Aug 12

★ **Validation of Filtration Skid During Land-Based & Shipboard Tests.....Oct 12**

Key Decision Point to Pursue Additional Tests ..... Apr 13

★ **Results of Shipboard Approval Tests of Ballast Water Treatment Systems in Freshwater..... Oct 14**

Project End ..... Nov 14

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
41012	2	Ms. Penny Herring	Mr. Jaurin Joseph

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Shipboard Compliance of Ballast Water Discharge Standards (BWDS)

Gap: CG lacks the tools to quickly and reliably determine vessel compliance with the Phase One and the proposed Phase Two ballast water discharge standards.

Project Objectives:

- Determine the availability and capabilities of existing technologies that could be utilized for compliance verification of Phase One and the proposed Phase Two ballast water discharge standards.

Project Sponsor:	Acquisition:
USEPA- GLNPO, CG-OES3, -CVC2	None

Key Milestone / Deliverable Schedule:

	Project Start ……	12 Jan 11 ✓
	Compliance Verification Technology Workshop….	28 Jun 11 ✓
★	**Proceedings of Ballast Water Discharge Standards Compliance Subject Matter Expert Workshop……..…**	**7 Sep 11 ✓**
★	**Market Research Assessment: Verification Technologies for BWDS Compliance…….**	**Sep 12**
	Concept Design of Compliance Tools……..	Aug 14
	Prototype Development of Compliance Tools……..	Jun 15
★	**Independent Field Testing of Prototype Compliance Verification Tools…….**	**Apr 16**
★	**Compliance Tool Transition Plan……**	**Aug 16**
	Project End……..……..	Sep 16

★ Indicates RDC product.

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
410131	2	Ms. Gail Roderick	Mr. Jaurin Joseph

[Anticipated Classification: UNCLAS**]**

Develop CG Guidance to Verify Ballast Water Discharge Standards Compliance

Gap: The CG lacks procedures to verify federal ballast water discharge standards.

Project Objectives:

- Describe CG requirements and future capabilities gaps.
- Companion project provides suitable potential technology solutions and tiered approach to numerical BDWS enforcement.
- Identify policy and non-material solutions that meet requirements.
- Develop guidance for CG enforcement of the new BWDS.

Project Sponsor:	**Acquisition:**
CG-CVC-1, CG-CVC-2, CG-OES-3	None

Key Milestone / Deliverable Schedule:

Project Start …… 15 Dec 11 ✓

Develop Compliance Operating Concept for BWTS Enforcement …….... Dec 12

★ **Guidance to Verify Ballast Water Discharge Standards Compliance…….....May 13**

Project End …….... Aug 13

Project #:	**Tier:**	**RDC POC:**	**CG-926 Domain Lead:**
410132	3	Mr. Chris Turner	Mr. Jaurin Joseph

[Anticipated Classification: UNCLAS**]**

★ Indicates RDC product.

Great Lakes Restoration Initiative (GLRI) Ballast Water Other - Laker Feasibility Study

Gap: No independent assessment of the feasibility or cost to make a laker comply with standards.

Project Objectives:

- Analyze and report on capability, feasibility, and costs of configuring different categories of lakers to treat all ballast water.

Project Sponsor:	Acquisition:
USEPA-GLNPO; CG-OES-4	None

Key Milestone / Deliverable Schedule:

Project Start ..... 1 Jan 11 ✓

Develop Representative Vessel Description..... 1 May 11 ✓

Develop Preliminary Vessel System Configuration..... 1 Aug 11 ✓

★ **Feasibility & Cost Analysis for Laker Ballast Water Treatment..... 27 Dec 11** ✓

Complete Multi-level/Agency Clearance Review.....Sep 12

Project End ..... Sep 12

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
410141	2	Mr. M.J. Lewandowski	Mr. Jaurin Joseph

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Investigation of Ballast Water Treatment's Effect on Corrosion

Gap: CG needs to understand how ballast water treatment affects ballast tank corrosion in order to assess corrosion acceptability as part of type approval.

Project Objectives:

- Determine potential for accelerated ballast water tank corrosion from various ballast water treatments.
- Determine how CG can assess corrosion acceptability as part of type approval.

Project Sponsor:	Acquisition:
USEPA - GLNPO, CG-OES3	None

Key Milestone / Deliverable Schedule:

	Project Start	3 Nov 10 ✓
	Phase 1 – Corrosion Scoping Study	6 May 11 ✓
	Desktop Literature Review	
	Shipboard Surveys (Lakers/Salties)	
	KDP for Phase 2	1 Sep 11 ✓
★	**Interim Report: Corrosion Scoping Study**	**19 Oct 11** ✓
	Phase 2 – Corrosion Rate Assessment Controlled	
	Laboratory Tests	Oct 12
★	**Final Report: Corrosion Rate Assessment**	**Mar 13**
	Project End	Apr 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
410142	2	Ms. Gail Roderick	Mr. Jaurin Joseph

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Great Lakes Restoration Initiative (GLRI) Ballast Water Other - Asian Carp Tow Boat/Barge Sampling Study

Gap: The Coast Guard needs to understand whether barge and vessel operations create a dispersal barrier bypass for Asian carp into the Great Lakes.

Project Objectives:

- Support the Barge/Towboat Work Group research.
- Evaluate towboat/barge potential for transporting Asian carp across the dispersal barrier.
- Evaluate carp survival in ballast tanks.
- Estimate impact of vessel operations on Asian carp movement.

Project Sponsor:	Acquisition:
USEPA, CG-OES-4	None

Key Milestone / Deliverable Schedule:

	Project Start ……..	8 Apr 10 ✓
	Develop Plan with Work Group……	15 Apr 10 ✓
★	**Water Transport During Normal Operations of Towboats and Barges on the Illinois River….. 4 Jan 11**	✓
★	**Survivability of Asian Carp in Barge Tanks in the Illinois River…….. 23 Mar 12**	✓
	Conduct Survey of Local Barges ……	Aug 12
★	**Update "Survivability of Asian Carp in Barge Tanks in the Illinois River"…….. Nov12**	
	Project End …….	Jan 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
410143	2	Ms. Penny Herring	Mr. Jaurin Joseph

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.

Maritime Trace Narcotic Identification/Verification

Gap: Narcotic ID/verification capabilities not effective/efficient to meet NDCS performance goals.

Project Objectives:

- The project objective is to provide boarding team members a more effective and efficient narcotic identification/validation capability for use during maritime counterdrug missions.

Project Sponsor:	Acquisition:
CG-MLE-2, CG-761	Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start ……..…… 6 Jun 11 ✓

★ **Maritime Trace Narcotics Detection Key Performance Parameters (KPP) and Devices…….. 16 May 12** ✓

KDP (Go/No-Go Phase I to Phase II) …… 18 Jun 12 ✓

★ **Maritime Narcotic ID/V Capability Report ……. Jun 13**

Project End ……..…… Sep 13

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5802	3	Mr. Brian Dolph	CDR Patrick Dozier

[Anticipated Classification: SSI**]**

★ Indicates RDC product.

Mobile 10-print Biometric Field Test

Gap: DHS S&T lacks decisional information on mobile 10-print multi-modal biometric systems.

Project Objectives:

- Evaluation using Two Print System Architecture.
- Full 10-Print System Configuration Development.
- Develop Facial Recognition (FR) and Iris Image modalities.
- Implementation and final field test.
- Analyze and report results.

Project Sponsor:	Acquisition:
DHS S&T, CG-7612	Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start ……..	10 Sep 11	✓
Phase 1 System Design and Implementation……..	Jul 12	
Phase 1 Field Deployment (10-print & FR image) …	Aug 12	
Phase 2 System Design and Implementation……	Sep 12	
Phase 2 Field Deployment (Iris Image)……..….	Sep 12	
★ **Mobile 10-Print Biometrics Field Test Brief..…….**	**Jul 13**	
Project End ……	Jul 13	

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5682	2	Dr. Thomas Amerson	Mr. Shannon Jenkins

[Anticipated Classification: SSI]

★ Indicates RDC product.

Low Cost Swimmer Detection System

Gap: Low-cost underwater threat detection systems for protection of critical infrastructure are not available.

Project Objectives:

- Provide technical advice to DHS on SBIR project to develop a low-cost underwater threat detection system.
- Develop an affordable system suitable for semi-permanent installation for protecting key civil and industrial shore facilities, and critical infrastructure such as power plants, chemical plants, intakes, locks, dams, and bridges.

Project Sponsor: DHS S&T, Ms. Shumway; CG-532

Acquisition: Pre-acquisition

Key Milestone / Deliverable Schedule:

Project Start	7 Feb 07 ✓
SBIR Phase I Contracts Awarded (8 vendors)	16 Jun 05 ✓
Phase I, Final Reports/Proposals	10 Dec 05 ✓
SBIR Phase II Contracts Awarded (3 vendors)	12 Apr 06 ✓
Phase II Contracts Complete	20 Nov 11 ✓
Commercial Systems Technical Review	10 Dec 11 ✓
Project End	Jan 12

Completed

Project #:	Tier:	RDC POC:	CG-926 Domain Lead:
5912	3	Mr. Rich Hansen	CDR Tung Ly

[Anticipated Classification: UNCLAS]

★ Indicates RDC product.