

# Coast Guard

Ready today, preparing for tomorrow



August  
2002

## DEEPWATER

The impact of Deepwater  
and a glimpse into what  
the Coast Guard *will* look  
like in the future

## The rockets red glare

Coast Guard personnel stand guard on the East River in New York City during a fireworks display July 4.

PHOTO BY PA2 TOM SPERDUTO, PADET NEW YORK





# Coast Guard

August 2002

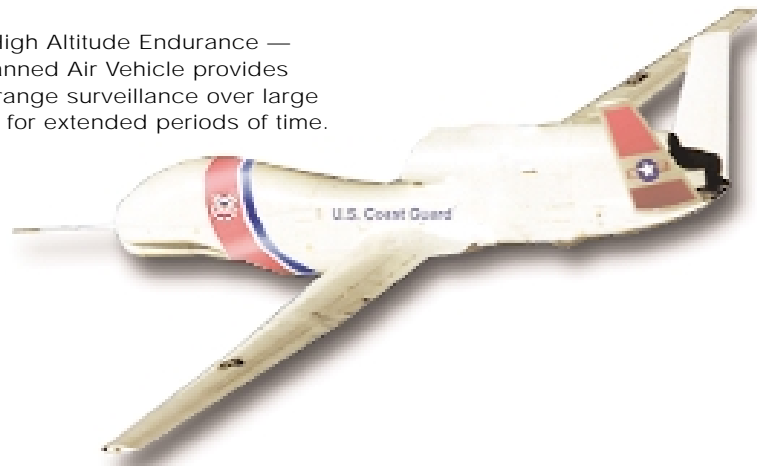
U.S. Department of Transportation

Celebrating 212 years of service 1790-2002

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The High Altitude Endurance — Unmanned Air Vehicle provides long-range surveillance over large areas for extended periods of time.

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Check out **Coast Guard** magazine on the web.  
[www.uscg.mil/hq/g-cp/cb/magazine.shtm](http://www.uscg.mil/hq/g-cp/cb/magazine.shtm)

President Bush waves at onlookers during his visit to the Port of Newark June 24.

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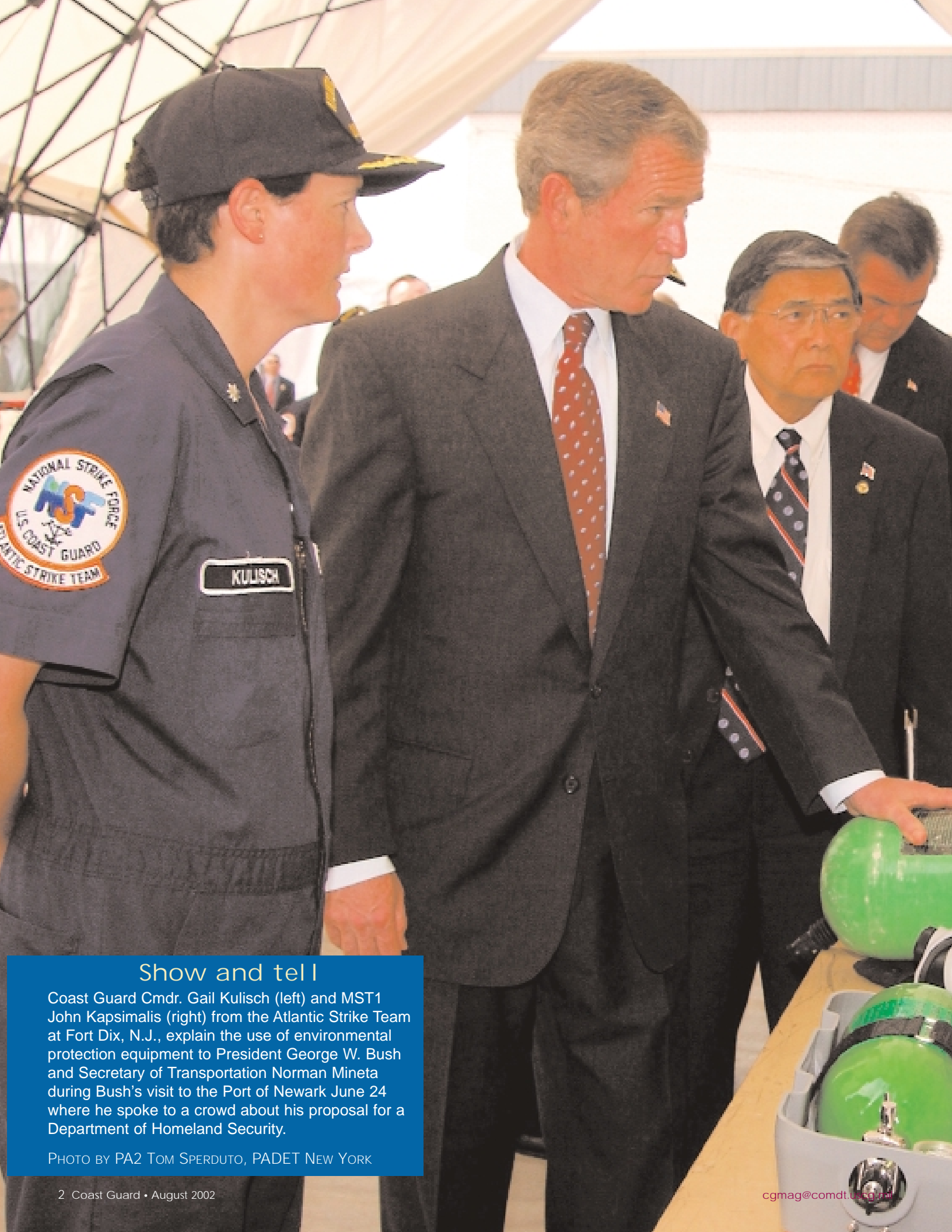
The Unmanned Air Vehicle, scheduled to be introduced within the first five years of Deepwater, supports early retirement of legacy aircraft.

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#### ON THE COVER

The Deepwater contract has been awarded, now the Coast Guard prepares for the impact of Deepwater and takes a look ahead to what the service will look like in the future.



## Show and tell

Coast Guard Cmdr. Gail Kulisch (left) and MST1 John Kapsimalis (right) from the Atlantic Strike Team at Fort Dix, N.J., explain the use of environmental protection equipment to President George W. Bush and Secretary of Transportation Norman Mineta during Bush's visit to the Port of Newark June 24 where he spoke to a crowd about his proposal for a Department of Homeland Security.

PHOTO BY PA2 TOM SPERDUTO, PADET NEW YORK







## Building a team

Dr. Vance Coffman, CEO of Lockheed Martin, Adm. Thomas Collins, Coast Guard commandant and Dr. Ronald Sugar, COO of Northrop Grumman, embrace in a handshake after the signing ceremony awarding Lockheed Martin and Northrop Grumman the Coast Guard's Integrated Deepwater System contract June 25.

PHOTO BY TELFAIR BROWN, G-IPA



## Chatting it up

Director of Homeland Security Tom Ridge chats with members of the CGC Escanaba in Port Elizabeth, N.J., after President Bush's speech to a crowd of several hundred Coast Guard members, Port Authority police officers, officials and guests on his plan to create a Department of Homeland Security now before Congress.

PHOTO BY TELFAIR BROWN, G-IPA









## Chatting it up

President George W. Bush gives a thumbs up to a Coast Guard boat crew providing security during his visit to the CGC Escanaba June 24.

PHOTO BY PA2 TOM SPERDUTO, PADET NEW YORK

The Coast Guard has a new direction.  
**Readiness, People** and **Stewardship**  
will be the focus for the next four years.  
What does that really mean for the service?  
Learn the answers in an...

# Interview

with the

# Commandant

By PA2 Jacquelyn Zettles, G-IPA

Change is upon the Coast Guard. Deepwater is the largest contract for new assets ever awarded in Coast Guard history, with an estimated \$17 billion being spent over the next 20 years. National security has been brought to the forefront of the service's missions since Sept. 11. Greater port safety and security responsibilities include escorting vessels and enforcing safety zones around Navy ships. The wheels of the Coast Guard's traditional missions — search and rescue, drug and migrant interdiction, environmental protection and aids to navigation — continue to spin as well. In addition, President Bush's proposed Department of Homeland Security would mean even more challenges for the Coast Guard, which would merge with other federal agencies under the new department.

The magnitude of these changes are the greatest ever seen by the Coast Guard, and it is appropriate, for

the service is being launched into this sea of change during the formative years of the 21st century. On the brink of so many changes, it is necessary to have a strong and dedicated leader; one who will ensure the success of an already accomplished service at such a critical time in our nation's history. This man, who was nominated by the president and confirmed by the Senate, has already devoted 38 years of his life to the Coast Guard. He served from 2000-2002 as the service's vice commandant, from 1998-2000 as the Coast Guard's Pacific Area and 11th District commander, and from 1996-1998 as the Coast Guard's 14th District commander. He is Adm. Thomas H. Collins, the 22nd commandant of the United States Coast Guard. This is what he had to say about his professional ideals; his new direction that emphasizes readiness, people and stewardship; and his personal goals.



PHOTO ILLUSTRATION BY PA2 JACQUELYN ZETTLER, G-IPA

**CG Mag:** What is your number one concern coming into this job?

**Collins:** Homeland security, being ready, and living our motto clearly have to be front and center for any service chief.



Coast Guard to find people to really look up to and emulate. My department head at the academy, Ron Wells, was a great mentor, as was Jack Hayes (16th Coast Guard commandant) and Jim Loy (21st Coast Guard commandant). I find inspiration in the historical leaders who really made a mark and a difference in this country like Abe Lincoln, Theodore Roosevelt and FDR.

**CG Mag:** How have the events of Sept. 11 changed the role of commandant?

**Collins:** Sept. 11 has changed everyone's role within the government and private sector. It predominates your thinking, strategy and how you allocate resources. Sept. 11 has catapulted to the forefront a certain part of our mission set and made it a priority to rebalance our mission without excluding any of our missions. Failure is not an option.

## Professional ideals:

**CG Mag:** What are the characteristics of a good leader?

**Collins:** Great leaders are great communicators. They set the right priorities, challenge existing conditions, create a workplace environment that rewards teamwork, practice what they preach, push accountability and authority, and put people first.

**CG Mag:** Who has inspired you throughout your life?

**Collins:** You don't have to look too far beyond the

**CG Mag:** What is your number one concern coming into this job?

**Collins:** Homeland security, being ready and living our motto clearly have to be front and center for any service chief. I want to ensure the people are properly equipped, trained and motivated to provide the services the American people expect and deserve from us. We need to maintain current readiness and prepare for future readiness while remembering that people are the most important dimension of getting readiness right.



**CG Mag:** Does the CG have the money and resources to accomplish its increased homeland security missions in addition to its traditional missions?

**Collins:** We've received tremendous support from Secretary Mineta. He recognizes the importance of the Coast Guard in all our missions. There will be unprecedented growth in our future budget.

## Readiness

**CG Mag:** *Your direction notes the many ways the Coast Guard is ensuring its future readiness. What would you say to a concerned public about the Coast Guard's current readiness, specifically in terms of the safety and security of the nation's ports and waterways?*

**Collins:** Our response has been tremendous, and I think we've done the most with what we have, but we have not solved this by any stretch of the imagination. There are still incredible vulnerabilities in the maritime sector. We are putting our assets and energies to the highest risk areas while building out and improving our capabilities so we can determine and deal with the real risks.

**CG Mag:** *Are there plans to expand the auxiliary and reserve forces to accomplish your readiness goals?*

**Collins:** The reservists and auxiliarists will figure materially in any of our plans. We mobilized 2,800 reservists at one time, and 50 percent of our selected reserves have been mobilized at one time or another. Auxiliarists augmented us in many ways, including administratively. We want to add roles for the auxiliary and figure how they can help really configure units under our homeland security plan.

**CG Mag:** *Does the CG have the money and resources to accomplish its increased homeland security missions in addition to its traditional missions?*

**Collins:** We've received tremendous support from Secretary Mineta. He recognizes the importance of the Coast Guard in all our missions. There will be unprecedented growth in our future budget. We have improved maintenance accounts and have been able to avoid laying up some ships and airplanes that otherwise would have been laid up. We have great support from our supplementals in the fiscal year 02 budget and strong support from the secretary, president and congress in the fiscal year 03 budget.

**CG Mag:** How will you maintain or increase Coast Guard diversity?

**Collins:** Diversity is terribly important. We need to be active in recruiting geographically and across different ethnic, cultural, racial and educational backgrounds.





**CG Mag:** In your opinion, what are the greatest challenges the younger Coast Guard generation faces?

**Collins:** The young people need to have the ability in today's world to manage and balance personal, professional and family goals.

## People

**CG Mag:** *How will you maintain or increase Coast Guard diversity?*

**Collins:** Diversity is terribly important. The best way to stimulate innovation with positive change is to have a different set of eyes and different viewpoints, whether it's a racial, gender or education perspective. We need to do more of the same to increase diversity. We need to be active in recruiting geographically and across different ethnic, cultural, racial and educational backgrounds.

**CG Mag:** *What qualities do you possess that will help you reach and connect with such a diverse workforce?*

**Collins:** I listen well, am tolerant, and I crave different ideas. I like people to think crazy - not stupid, but crazy. I challenge convention and the status quo. I also have two daughters. I'm outnumbered in a diverse household.

**CG Mag:** *In your opinion, what are the greatest challenges the younger Coast Guard generation faces? What do you propose to do to alleviate some of the challenges?*

**Collins:** Let me start off by saying I'm terribly impressed by the young Coast Guard generation. They are a knock-your-socks-off group of people. They're

smart and they want to know the conflicts that are out there. They also want to understand how they fit in. The challenge is for seniors to communicate the big picture. The young people need to have the ability in today's world to manage and balance personal, professional and family goals. There is so much opportunity and desire to make a contribution, but there are real obligations at home. I've got to work to reduce the burden where a Coast Guard program can do that. We can also be mentors to them and provide an atmosphere that has a work environment with supervisors and leaders who are concerned about where that individual is in his or her personal and professional life and can provide some guidance and support to enhance that.

**CG Mag:** *How will you further education, training and professional growth?*

**Collins:** One of our objectives is to become a learning organization, and we're going to ensure budget decisions we make contribute to that goal. By investing in training, education and the professional development of our people, we are being a little selfish because people who belong to a learning organization will perform better, and we'll get a better outcome. To further education and training, we have partnered with the Department of Defense to create opportunities. There's also opportunity to get non-appropriated funds. The Coast Guard Foundation has expanded their scholarship programs and e-learning opportunities are growing.



**CG Mag:** *What can people expect in terms of pay and quality of life in general?*

**Collins:** We want to ensure as pay compensation goes up in DOD we at least have equivalency in pay and compensation such as medical, BAH and Tri-care for dependents. We will also look at various options in the private sector so there is less out-of-pocket expense for housing.

## Stewardship

**CG Mag:** *What role do junior enlisted personnel play in regard to stewardship?*

**Collins:** This is an important opportunity to clarify stewardship as it applies to different levels of the organization. For our young people, stewardship means caring for what you've got, planning for what you need, developing public trust and having a concern for public interest and sharing resources. We can practice stewardship at all levels. The person who has to manage the small boat station and decide how he or she spends his or her time on a particular patrol or tasking to get the best operational outcome is exercising stewardship. The person who knows how to manage inventory and a budget to order things, but doesn't overspend and waste is exercising good stewardship. If you live our core values, you are exercising good stewardship.

**CG Mag:** *How will Deepwater directly affect our service and people?*


**Collins:** Deepwater will change the basic fundamental processes we use. How we assign, train and deploy people as well as our doctrine, tactics, logistics and personnel policies will all materially change with Deepwater. We will be able to analyze, acquire and disseminate information across the right platforms and systems, and that's the greatest leap forward. Deepwater will give us the capability we need.

## Personal Goals:

**CG Mag:** *What do you hope will define your watch?*

**Collins:** If we get Deepwater right, build our homeland security and enhance security in the maritime sector, and we do it by being caring and committed to the well being of our people — if we can do those three things at the end of four years, we're doing pretty good.

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And at the start of that four-year legacy the admiral is off to a busy start. During his first month as commandant, Collins visited all the Coast Guard training centers to unveil his "people" initiatives for the upcoming fiscal year. That first month also saw the Deepwater contract awarded after years of planning. It is uncertain what the next four years will hold for the Coast Guard, but what is certain is that under Collins many changes are to come that will set the stage for the future of the service. 

**CG Mag:** *What role do junior enlisted personnel play in regard to stewardship?*

**Collins:** *For our young people, stewardship means caring for what you've got, planning for what you need, developing public trust, having a concern for public interest and sharing resources. We can practice stewardship at all levels. The person who has to manage the small boat station and decide how he or she spends his or her time on a particular patrol or tasking to get the best operational outcome is exercising stewardship.*



PA2 JACQUELYN ZETTLES, G-IPA

Photos by Telfair H. Brown, Sr., G-IPA

**CG Mag:** *What role does your family play in your success as commandant?*

**Collins:** My family, especially my wife, has been a key partner in my career and supporting me while engaged away from home. As a commandant spouse, Nancy is a full partner in representational activities of which there are many both nationally and internationally. She is also a great source to bounce off issues and ideas of significance to Coast Guard families.

**CG Mag:** *What are your hobbies?*

**Collins:** Reading, golf, and I'm a sports enthusiast.

**CG Mag:** *What have been your life's aspirations?*

**Collins:** To do the best I can at the job I have in front of me at the time and to be a leader in work that makes a difference for people and our nation.

**CG Mag:** *What would you say is your greatest accomplishment?*

**Collins:** Having successful and challenging assignments where I can make a difference for the public and the people with whom I work.

**CG Mag:** *What have you not yet accomplished that you still wish to accomplish?*

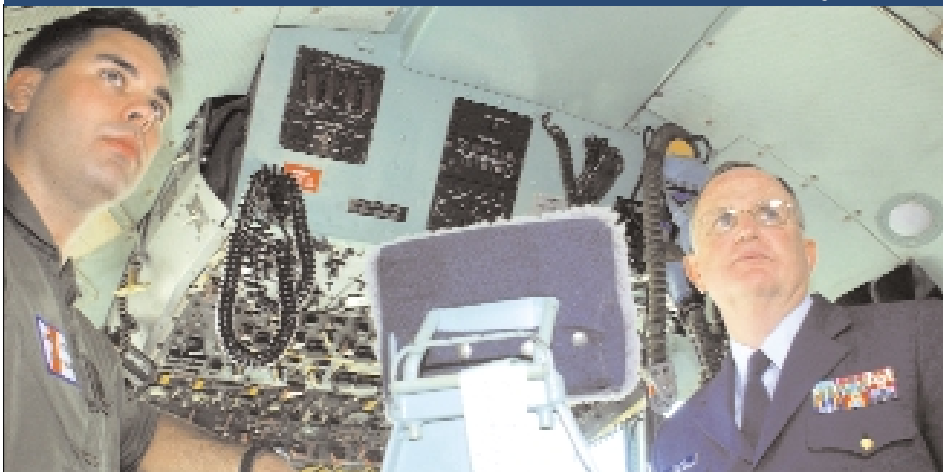


Collins, then vice commandant, shakes hands with a petty officer at the Andrews Air Force Base air show May 17.



Collins shakes hands with the president in Port Elizabeth, N.J., June 24, during the president's visit to discuss his Department of Homeland Security plans.

A Coast Guard member shows Collins, then vice commandant, the inside of a Coast Guard aircraft while on a tour at the Andrews Air Force Base air show May 17.



The admiral salutes members of the CGC Escanaba during his visit to the cutter in Port Elizabeth, N.J., June 24.

# commandant A sneak peek into the personal life of the new boss...

**Collins:** I want to accomplish a productive four-year tenure as commandant where we can successfully build out our homeland security capabilities, get Deepwater off to a running start, and naturally improve workplace and professional development for our personnel.

**CG Mag:** *If you could invite three people, living or dead to dinner; who would they be? What would you have to eat?*

**Collins:** I would invite my grandmother, who I never met because she died before I was born, John Adams, and Abraham Lincoln. I would eat Maine lobster, steamed clams and corn-on-the-cob.

**CG Mag:** *What's your favorite book?*

Collins addresses his sponsor recruit company, Juliet-162 at Training Center Cape May, N.J., June 24.



Collins, signs the Deepwater contract with the CEO of Lockheed Martin, and the president of Northrop ashington D.C. June 25.



**Collins:** "Shackleton's Boat Journey" by Frank A. Worsley and "Trinity" by Leon Uris.

**CG Mag:** *What's your favorite quote?*

**Collins:** "The great thing in this world is not so much where we are, as in what direction we are moving. To reach our goals, we must sail with the wind and sometimes against it-but we must sail and not drift nor be at anchor." — Oliver Wendell Holmes, and Lincoln's speech to congress, "To think and act anew..."

**CG Mag:** *What's your favorite Song?*

**Collins:** "Ghostbusters." 🎧



The admiral and Mrs. Collins tour the visitor's center of a historical crystal plant during a recent vacation to Ireland.

## A letter from the commandant:

*It is with great pleasure that I announce the long-awaited award of the contract for the Integrated Deepwater System (IDS). We are very pleased to welcome Integrated Coast Guard Systems (ICGS) to our team, a joint venture consisting of Lockheed Martin Naval Electronics & Surveillance Systems and Northrop Grumman Ship Systems Ingalls Operations.*

*Even before the events of last fall, we needed more modern offshore capabilities to support all our missions. In the wake of September 11, the need has never been more evident to use new technology and new systems of ships and aircraft to create an effective layered defense of our nation's maritime interests. The Deepwater Program is the solution to this need.*

*Furthermore, investing in the Integrated Deepwater System will allow us to re-capitalize our aging offshore assets to meet the operational and support requirements of the 21st century. When complete, IDS will ensure our future readiness and enable our service to continue its role as the lead federal agency for maritime safety and security.*

*As we move forward, I believe that Deepwater will be important to all three elements of my direction for the next four years, summarized by the watchwords readiness, people, and stewardship. I look forward with great anticipation to see our vision of Deepwater become a reality.*

*I offer a warm welcome to every member of the ICGS team.*

*Semper Paratus,*

*Thomas H. Collins  
Admiral, U. S. Coast Guard*

# A letter from Integrated Coast Guard Systems:

*Greetings from all of us at Integrated Coast Guard Systems (ICGS)! Our joint venture, comprised of Lockheed Martin and Northrop Grumman Ship Systems, was selected to work with you to implement the Deepwater program. We're excited and pleased to be part of the team.*

*We are hitting the ground running, having worked closely with the Coast Guard for the past four years to design a solution that balances the Deepwater program's goals of maximizing operational effectiveness and minimizing total ownership cost while providing the ships, aircraft and technology necessary to fulfill your ever growing maritime missions.*

*We understand that Deepwater is critical to America's maritime safety and homeland security, as well as to the future of the Coast Guard. We are committed to give you the necessary assets and technology to effectively and efficiently perform your missions.*

*We designed a phased solution that provides new assets and upgrades legacy systems with more capabilities during the first 5 years within a network centric command structure offering the quick-start the Coast Guard needs. In subsequent years, we'll work with you to add additional fully integrated assets.*

*Our plan focuses on increasing mission hours, reducing asset crewing requirements, providing higher asset availabilities, integrating the overall support infrastructure, and retiring costly legacy ships and aircraft. This will contribute significantly to lowering operating costs while maximizing operational effectiveness.*

*ICGS looks forward to a long and successful partnership with you. We will be your partners to ensure you fulfill your motto of Semper Paratus -Always Ready.*

*Fred P. Moosally  
Chairman of the Board, Integrated Coast Guard Systems  
President, Lockheed Martin  
Naval Electronics & Surveillance Systems-Surface Systems*

*David B. Wright  
Vice Chairman of the Board, Integrated Coast Guard Systems  
President, Northrop Grumman Ship Systems*

# INTEGRATED COAST GUARDS

# DEEPWATER

By the Deepwater Communications Team

## *How We Came to Deepwater*

For decades, Coast Guard crews have dealt with aging cutters and aircraft by giving a little more of their blood, sweat and tears to meet the challenge of the mission at hand. For the deckplate seaman, the power tools of choice may have been the grinder or the needle gun.

Like the tools of a plastic surgeon, the grinder and needle gun are just a few of the tools used in the effort to make the old look new again, but for those aging cutters and aircraft that perform deepwater missions, something more than power tools and sweat was needed to keep the fleet in shape.

In recent years, the limited capabilities of these craft became more visible. Availability due to dockside periods or maintenance became a much larger issue for forward planners as the fleet aged beneath their feet.

## *Origins*

Nearly 10 years ago, the Coast Guard took a hard look at the capability of the aging fleet of deepwater cutters and aircraft. In 1993, the commandant's office of operations formally acknowledged that a problem was looming for the deepwater assets.

More than two-thirds of the existing deepwater assets were expected to reach the end of their planned service life over the next 15 years. To put it in perspective, the Coast Guard's fleet of high and medium endurance cutters is the third oldest of the world's 39 similar naval fleets.

As a result of this acknowledgment, the Deepwater Mission Analysis Report, completed in the fall of 1995, reviewed all missions performed in a deepwater environment and provided an estimate of what capabilities the Coast Guard would require to effectively carry out these missions.

This analysis confirmed that the Coast Guard would continue to have deepwater responsibilities well into the future but would suffer major shortcomings in both resource availability and capability.

Next, a mission need statement documenting the

continuing need for cutters and aircraft and their supporting command, control, communication, computers, intelligence, surveillance, and reconnaissance systems (C4ISR), was developed and approved in August 1996. The statement reported that deepwater assets lacked the ability to fully communicate and operate with each other and other agencies or services.

The statement further reported that the Deepwater Project would be developed as a system that integrated surface, air and sensor components.

As a result of the statement, the project was designated a major system acquisition and authorized to proceed.

It became clear that in order to secure an optimal mix of assets to meet mission needs, input from an increased number of sources and a variety of proposed concepts would be needed. The Coast Guard used full and open competition in order to garner the best assortment of designs from the best in the industry.

The Deepwater Program approached this acquisition in a way that was truly unique in the federal government. Traditionally, major acquisition programs purchase a single type of asset or specific service. If more than one asset or service is needed, then the program typically charters separate projects for each. The Deepwater Program broke that tradition by implementing a mission-based performance acquisition approach.

The benefit of this approach is that competing industry teams were able to design the whole package of deepwater assets — cutters, aircraft, sensors, communications, and logistics, — and not just individual components.

Industry was given great latitude in developing the best equipment needed for the deepwater mission.

This flexibility fostered questions about the type and number of ships, aircraft, and unmanned aerial vehicles necessary to do the job and whether a vastly improved C4ISR capability could reduce the number of assets actually needed.

Addressing the deepwater needs as an entire package

# DEEPWATER

helped to guarantee interoperability with other Coast Guard assets and Service branches from the beginning. Instead of replacing assets individually, the replacement program became system-wide.

## *The People Connection*

From the beginning, the Deepwater program made it a priority to have the industry teams work closely with the customer — the Coast Guard men and women who will be directly affected by the Deepwater program. A four-day summit between industry and Coast Guard personnel was held in September 1998.

The operations, logistics, and C4ISR summit enabled operators to interact directly with industry members and provide them with information on the strengths and weaknesses of Deepwater initiatives and assets.

Additionally, industry teams were given access to Coast Guard people at the unit level to see firsthand the deficiencies they are faced with daily. Of particular importance though, was that industry people learned directly from the user exactly what the operational realities and needs were.

## *The Validation*

In October 1997, then Rear Adm. Thomas Collins led a group of 11 senior personnel who made up the Deepwater Capability Replacement Analysis Review Team. The team's role was to review the acquisition strategy, organizational arrangement and staffing of the Deepwater project.

The "Collins Report" not only validated a majority of the program's efforts, it also identified areas of improvement that the program subsequently acted upon. For example, the program adopted a two-phased approach based on the report's recommendation. Deepwater has continued to improve with further reviews of the program.

In December 1999, the Interagency Task Force on Coast Guard Roles and Missions provided their report entitled, "A Coast Guard for the Twenty-First Century." The report focused on long-term maritime issues and

the environment in which they expected the U.S. Coast Guard to operate in 2020.

The report stated that Coast Guard roles and missions support national policies and objectives that will endure into the 21st century. They concluded that the recapitalization of the Coast Guard's Deepwater capability was a near-term national priority and that the acquisition project was a sound approach which they endorsed.


Several teams of independent experts and government agencies, including the Office of Management and Budget and the General Accounting Office, also validated the Deepwater Program's approach.

Acquisition Solutions, Inc., at OMB's request, completed its independent assessment of the Deepwater acquisition strategy in June 2001, giving it high marks. The final report stated, "The Deepwater project has been well conceived, developed, and managed. We laud its focus on mission and the freedom it has given the competing contractor teams to innovate."

## *At the Sea Buoy*

The first phase of the Deepwater program was completed on June 15, 2001. As a result of the innovative partnering and communication efforts between the Coast Guard and industry, the program achieved its goal of having three industry teams poised to develop final proposals with comprehensively priced and scheduled Integrated Deepwater System implementation plans.

The competing industry teams were invited to submit proposals in a limited competition for Phase two of the program: system implementation.

While that seaman works away at the deck with paint scrapers and grinders, he or she can be assured that a system is in place to grind away the old deepwater craft and replace them with an integrated system of cutters and aircraft that have smarter and more innovative technology. As for repainting the cutter after a long deployment, some things may never change — then again, that may be the subject of another study some day. 

# The way forward

By Paul Kerr, G-D

In the past, the Coast Guard replaced its assets on a class for class basis. A helicopter was replaced with a helicopter; a ship was replaced with a similarly sized ship. This strategy had several deficiencies. First, assets for the future were based on the missions of the past. Second, because they were acquired on a class-by-class basis, Coast Guard assets were not interoperable. Third, acquiring the assets on a class-by-class basis resulted in inefficient overlaps and gaps in Coast Guard capabilities.

In an effort to overcome these deficiencies, the Deepwater Program decided to go beyond the traditional acquisition approach to replace and improve its legacy assets. Seeking the optimal system that would best allow the Coast Guard to most effectively and efficiently carry out its fourteen federally-mandated deepwater missions, the program decided to implement an innovative performance-based acquisition approach. The Federal Acquisition Regulation defines performance-based contracting as:

- Structuring all aspects of an acquisition around the purpose of the work to be performed with the contract requirements set forth in clear, specific, and objective terms with measurable outcomes as opposed to either the manner by which the work is to be performed or broad and imprecise statements of work.
- Leveraging the creativity and expertise of industry to design an effective, integrated system allows the Deepwater Program to maximize performance while minimizing total ownership cost.

The Coast Guard established three principles for its acquisition strategy:

- A performance-based systems engineering approach would be applied to a system of systems with which the Coast Guard will perform its Deepwater missions.

- Commercially available and non-developmental items would be used as the building blocks, components and assets of the Integrated Deepwater System. Asset and system readiness would be used as indicators of future operational effectiveness.

- Success would be measured by Deepwater-wide mission operational effectiveness and cost and not individual asset performance.

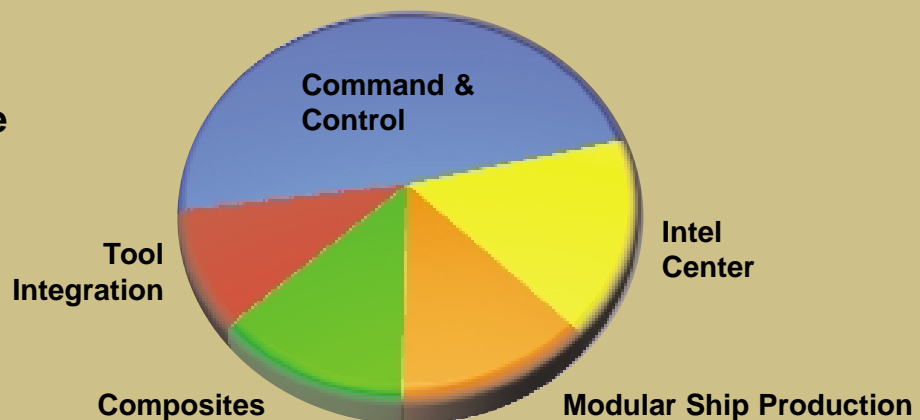
Affordability is a major consideration in developing a viable program strategy. With a large portion of the Coast Guard's annual budget going towards life cycle support, the best means of saving on these long term costs involve:

- integration across assets
- using state-of-the-market technology in new, integrated designs, and
- consideration of the entire system capabilities and costs, including people, equipment, infrastructure and operations.

The initial Deepwater contract is for five years. Based on the selected system integrator's performance, the contract can be renewed for up to five more five-year terms. This process allows Deepwater to establish a relationship with the systems integrator to gain a deeper understanding of the program and its requirements. At the same time, it allows for "exit ramps" to avoid the potentially excessive costs of a

## Lockheed Martin and Northrop Grumman

Over \$55 million investment in the first five years





long-term, single-source contractor relationship.

In developing their proposals, the competing industry teams provided specific asset performance and cost information, prepared a phased plan for the acquisition and deployment of the proposed IDS concepts, and established the capability to construct, modify and/or acquire the individual assets. Industry was also required to include a performance measurement and tracking plan integrated around their solutions.

### *The Balanced Scorecard (BSC)*

The Deepwater Program has adopted the balanced scorecard approach to strategically manage the program via performance measurement. A popular management system, the BSC aims to provide complete measures of the program's success by balancing four perspectives: customer, internal processes, learning and growth, and financial. The BSC allows for an organization to continually evaluate its progress and easily make appropriate adjustments. Routine reports, called trend analysis, facilitate decisions and action plans to meet the stated goals.

The BSC will identify output and outcome measures for three levels of the IDS: the system (Coast Guard wide), program (Deepwater/System Integrator), and organization (Deepwater/Workforce Operating Levels). The four perspectives of the BSC fit into this concept:

System — Coast Guard fleet and aircraft (customer)

Program — partnership with the System Integrator (internal processes)

Organization — Deepwater workforce (learning & growth/financial)

### *The system integrator (SI)*

In working with the SI, the Deepwater Program will rely less on management by contract, and more on management by relationship. Integrated Product Teams (IPTs) will be used to ensure alignment and a shared vision across the Coast Guard's internal directorates. Contractor personnel will be integral mem-


bers of these teams.

The relationship with the SI will also be essential to making the BSC concept work. The procedure used to measure progress will be integrated with measurement of the SI's progress. Additionally, the BSC will be used for both contract management and award term and fee determinations. Contractor profit is dependent on performance through cost plus award fee and incentives linked to contractor-provided metrics. The contractor will also be rewarded for suggestions that improve performance or reduce cost.






Adopting appropriate metrics is obviously essential for making this process work. Mission requirements and performance objectives were linked to the request for proposals and proposed industry solutions. Deepwater required the proposals to include a performance measurement and tracking plan integrated around the proposed solutions. Additionally, 66 measures of effectiveness were identified for all Deepwater mission areas.

### *Other Cooperative Efforts*

Deepwater is also cooperating with other federal agencies to incorporate as much expertise and experience into the acquisition process as possible. For example, the Deepwater Program signed a Memorandum of Understanding with Defense Acquisition University March 19, 2002. This agreement formalized a cooperative role between the two organizations that will leverage their respective capabilities and allow them to share their extensive knowledge and experience. Furthermore, the Federal Projects Acquisition Study examined two dozen acquisition programs with full or partial implementation of Total Systems Integration Responsibility to identify useful ideas.

The Deepwater Program is committed to creative, innovative acquisition solutions to make certain that the program is as successful as possible. The Deepwater team will be working to deliver the system that hard-working men and women of the Coast Guard deserve. 

## investment continues to reduce risk

-  Command and control modular DII-COE software segment integration including sensor correlation and system alerts.
-  A full capacity Intelligence Data Analysis Center prototype to collect, process, analyze and disseminate multiple types of intelligence data.
-  Modular shipbuilding processes and insertion of commercial standards and practices to reduce cost.
-  Advanced composite material to reduce weight and increase structural integrity of shipbuilding components.
-  Integration of high-fidelity toolset including NSS-PE to provide system-of-systems cost/performance assessments.

# Maritime homeland security

By G-D and G-O

Following the Sept. 11 attacks on the World Trade Center and the Pentagon, our vulnerability to future attacks on the U.S. homeland has been closely scrutinized. While the Sept. 11 attacks came from the air, many experts have focused their concern on the vulnerability of our coasts and waterways. The U.S. coastline presents an array of attractive targets to terrorists who may exploit our relatively open borders and waterways to infiltrate weapons and operatives into the United States. These targets are a complex, interdependent system of critical infrastructure located within the Marine Transportation System which encompasses a network of navigable waters, publicly and privately owned vessels, port terminals, intermodal connections, shipyards, vessel repair facilities, and a trained labor pool operating and maintaining this infrastructure. Attacks on these targets could damage critical military facilities, shut down vital economic hubs and cause economic and environmental disasters.

The maritime homeland security mission requires the United States to strike a vital balance between facilitating the free flow of goods and services and protecting national security. This presents a formidable task. Thousands of watercraft in an enormous area — the United States has more than 95,000 miles of coast and an Exclusive Economic Zone covering more than 3.5 million square miles — make it extraordinarily difficult to sort out illicit traffic.

The U.S. Commission on National Security/21st Century recently described Deepwater assets as an essential component of the maritime homeland security mission. While many people believe that homeland security missions only take place close to shore (such as port security missions), the truth is that a successful maritime homeland security strategy pushes out our borders, detecting and eliminating threats well before they reach the shores. Interdicting threats to homeland security as far from shore as possible has become more vital as potential adversaries have lengthened their reach. Any other strategy takes unnecessary risks with our national security.

Deepwater assets will contribute important capabil-

ities to each of the Coast Guard's five principles of Homeland Security Strategy:

- Build maritime domain awareness
- Ensure controlled movement of high interest vessels
- Enhance presence and response capabilities
- Protect critical infrastructure and enhance Coast Guard force protection
- Increase domestic and international outreach



Achieving maritime domain awareness — effective knowledge and understanding of the vessels, cargoes, and people within the maritime environment (as well as their activities and intent) allows the Coast Guard to anticipate and respond to potential threats in a timely fashion, as well as optimize the deployment of valuable assets. Deepwater will improve the Coast Guard's existing Command, Control, Communications, Computers, Intelligence, Sensors and Reconnaissance (C4ISR) capabilities, enabling a common operational picture (targets of interest, ships, geo-spatial data, cargoes, port facilities, trade routes, personnel manifests, etc), thereby improving risk assessments of terrorist and criminal activity in the maritime domain. In addition, Deepwater's improved C4ISR will be interoperable with the Navy and other federal agency systems to provide maritime domain awareness and improve domestic interagency communication and coordination.

IDS assets are designed to provide enhanced speed and weaponry to interdict identified threats. Deepwater assets require the flexibility to confront a wide range of challenges. The multi-mission design of Deepwater assets enables the Coast Guard to respond

to an array of threats, protecting our infrastructure in our ports and harbors as well as far out to sea.

Deepwater assets are designed to maintain an extended on-scene presence and provide optimal command and control capability. Finally, the IDS solution provides an affordable means for our allies to purchase interoperability. Each of these capabilities contributes to the Coast Guard's Homeland Security Strategy, and is an essential element of American safety and security on our maritime front lines.

An explanation of the Deepwater task sequence — surveil, detect, classify, identify, and prosecute — is important to understanding how Deepwater's design contributes to maritime homeland security. All of the Coast Guard's missions performed in the Deepwater environment follow the SDCIP task sequence. We derived this sequence from a review of tactics past and present, across all missions, and across all maritime services. The process starts with surveilling vast areas of the seas. Surveillance detects and identifies objects. If the object is still of interest, we then invest resources to classify it as a target of interest or as friendly. Those objects classified as targets mandate some form of prosecution. Prosecution can be saving someone in the water, sending an armed boarding party for law enforcement action or delivering ordnance on the target. A combination of air and surface assets allows the Coast Guard to execute these missions. The System Integrator's system concepts, developed in accordance with IDS minimum performance requirements, are designed to provide the Coast Guard with a system of assets to better execute this task sequence.

Consequence management is another important aspect of the maritime homeland security mission. The Deepwater Program's investments in command and control infrastructure, as well as cutter and aircraft capabilities, will enable faster, better-coordinated responses to possible future terrorist incidents. These capabilities will be essential for the Service to build on its impressive track record of consequence management.

Cooperation between the Navy and Coast Guard is an essential component of safeguarding maritime homeland security. Deepwater will enhance this cooperation, enabling the Coast Guard to meet its obligations under the National Fleet agreement, which governs cooperation between the two services. Modernizing the Coast Guard fleet will enhance joint missions, including enforcement of economic sanctions and force protection.

The Coast Guard has always played a critical role in securing the U.S. homeland. The Deepwater program provides an unprecedented opportunity to strengthen the fleet so it can perform these missions well into the 21st century.



# Partnership for a promising future

By Cmdr. Judith Keene and Paul Kerr, G-D

While contract award marks a significant milestone for the Deepwater program, it is important to acknowledge the importance of the partnership between the Navy and Coast Guard that helped make the Deepwater vision a reality. The two services have a long history of cooperation in national security missions, but the Deepwater program is the product of a new level of collaboration, continuing the tradition of productive Navy-Coast Guard cooperation, producing benefits for both services and enabling them to execute the security missions of the 21st century.

For more than five years, the Navy has been an active participant in several parts of the Deepwater effort. As early as 1997, the chief of naval operations staff issued naval operational capabilities for the National Security Cutter in order to ensure interoperability with Naval assets. Additionally, Naval personnel have made significant contributions to tests and evaluations, design feasibility assessments, and are members of several Deepwater management teams.

## *A History of Cooperation*

Cooperation between the Navy and Coast Guard has been strengthened and formalized over the years through several agreements. The 1987 Basic Agreement between the Navy and the Coast Guard for Interservice Logistic Support provides guidelines for logistics procedures, being designed to “codify, simplify and modernize into a single agreement the basic logistic support policy of the U.S. Navy and the U.S. Coast Guard.” This agreement followed the 1980 establishment of the Navy and Coast Guard Board, which consists of senior officers from both services. The 1987 Basic Agreement describes the board’s functions as [making] recommendations to the chief of Naval operations and the commandant of the Coast Guard on naval warfare doctrine, objectives, capabilities, and related requirements to support the national strategy. Day-to-day interservice logistic support derives directly from policy decisions of the NAVGARD board. The board is co-chaired by the vice commandant of the Coast Guard and vice chief of Naval operations. Other members of the board include:

- chief of staff
- assistant commandant for operations
- director of operations policy

- assistant commandant for human resources
- assistant commandant for marine safety and environmental protection
- assistant commandant for systems
- director of information and technology
- assistant commandant for acquisition

The NAVGARD board has been important to the Deepwater program since its creation. For example, the May 1994 NAVGARD board directed the 1995 Memorandum of Agreement between the Department of Defense and the Department of Transportation to validate maritime interception operations; deployed port operations, security and defense; and environmental defense operations as Coast Guard missions.

The 1995 MOU is another important agreement. Its stated purpose is to identify national defense capabilities of the Coast Guard and to improve Coast Guard responsiveness as a force provider. This MOA established missions and roles where the Coast Guard augments the DoD’s capabilities:

- Maritime Interception Operations
- Military Environmental Response Operations
- Port Operations, Security, and Defense
- Peacetime Military Engagement
- Coastal Sea Control

Furthermore, the NAVGARD board recommended that the Permanent Joint Working Group act “as lead agent” for developing the maritime domain awareness mission.

The Board also identified areas for future cooperation:

- Refine maritime domain awareness concept and architecture
- Identify information requirements for Common Operational Picture
- System integration to achieve full capability
- Forge strategic partnership to achieve maritime domain awareness

## *National Fleet*

The National Fleet Policy Statement, signed by the Coast Guard commandant and the chief of Naval operations Feb. 27, 2001, commits the two services “to shared purpose and common effort focused on tailored operational integration of our multi-mission platforms”. The

NFPS describes its purpose:

The Navy and Coast Guard, under the leadership of the NAVGARD Board, will work together to plan and build a national fleet of multi-mission assets, personnel resources and shore command and control nodes to optimize our effectiveness across all naval and maritime missions. The Navy and Coast Guard will coordinate — research and development, acquisitions, information systems integration, resourcing, force planning, as well as integrated concepts of operations, intelligence, logistics, training, exercises, and deployments. The Coast Guard and Navy will work together to plan, acquire and maintain forces that mutually support and complement each Service's roles and missions.

The NFPS emphasizes three main attributes of the National Fleet. The first requires shore command and control nodes, surface and air assets that are “affordable, adaptable, interoperable, and with complementary capabilities.” The second mandates that forces be designed “around common equipment and systems, and include coordinated operational planning, training, and logistics”. The third states that the fleet should “be capable of supporting the broad spectrum of national security requirements”.

The NFPS was revised in 2002 to incorporate recommendations from the Joint Coast Guard-Navy National Fleet Policy Review Team designed to strengthen and enhance the relationship between the two services. It includes a new reference to the homeland security mission, a specific statement of Coast Guard support to the

Navy's Naval Coastal Warfare Program, and more specific language emphasizing the importance of joint interoperability.

The CNO has conducted several studies on national operational capabilities for future Coast Guard assets, including requirements for the national security cutter, as well as joint plane operations for the Deepwater program.

The National Fleet Deep-

water Working Group developed national operational capabilities for the medium endurance cutter and patrol boat replacements, addressing such issues as interoperability, anti-ship cruise missile defense, and information technology compatibility, and C4ISR requirements.

### *The Littoral Combat Ship Program*

The Navy Littoral Combat Ship Program is an excellent example of the joint cooperation that Deepwater has fostered.

A May 2002 Memorandum Of Understanding describes the ship as an “agile combatant capable of defeating enemy littoral defenses.”

The ship is part of the Naval Surface Combatant Family of Ships, which is to “project power forward, provide assured access in the littoral environment and support a wide range of joint and combined operations.”

This memorandum also establishes a formal relationship between Deepwater and the LCS program. There are several important similarities between the two programs:

- Each seeks to maximize interoperability both within its own forces and with other armed forces.
- Each emphasizes salability and open architectures in the development process.
- Each aims to develop small, fast, maneuverable ships capable of operating and surviving in difficult littoral regions.
- Each program will incorporate cutting-edge technologies. Examples include Unmanned Aerial Vehicles, sophisticated C4ISR systems, and the ability to launch and recover helicopters as well as smaller ships and aircraft.

The Deepwater and LCS programs will be of mutual benefit to the Navy and the Coast Guard. The LCS program provides an opportunity for the Coast Guard to leverage the Navy's research and development efforts, permitting cost savings in technology acquisition and integration that would not otherwise be affordable.

Deepwater provides opportunities for the Navy such as a faster design spiral and a robust C4ISR architecture development.

Potential areas of cooperation include:

- Joint acquisition of common systems, including weapons and C4ISR systems.
- Identifying and cooperating on overlapping areas of logistical support.
- Adaptation of new hull designs.
- Sharing and transfer of technology and expertise.

However, both services recognized the Coast Guard's need to award the Deepwater Program on schedule.

“...The two services recognize that the Deepwater Program was very close to contract award and that the current condition of the Coast Guard's surface fleet does not permit the Coast Guard to delay executing its Deepwater program.” Both services are aware of the associate risks involved with a collaborative effort, and will make informed decisions regarding expanded cooperation once more is learned.



PAT PATRICK MONTGOMERY, LANTAREA

A crewmember aboard a Navy patrol boat under the tactical control of the Coast Guard looks out to the CGC Campbell. The Navy and Coast Guard are working to ensure the safety of ports and waterways.



A glimpse into  
Deepw



ater

**W**e have been telling the same Deepwater story for several years — the Coast Guard needs to replace its aging assets while improving their technological capabilities. While we have been doing so, the same question has been on everyone's mind... "What new ships and aircraft will the Coast Guard be getting through the Deepwater program?"

Unfortunately, because three separate industry teams were competing for award of the contract to build their proposed system, that information could not be shared. However, that now has changed with the contract award. This section will provide details about future Deepwater assets that we have not been able to discuss until now.

## THE FIRST FIVE YEARS

The first five years will see significant progress for the Deepwater Program, as the winning contractor, Integrated Coast Guard Systems, will upgrade several existing asset classes and lay the foundation for the future system. Think of Deepwater as not just "new ships and aircraft" but an integrated approach to upgrading existing assets while transitioning to newer, more capable platforms, with improved Command, Control, Communication and Computers, Intelligence, Surveillance, Reconnaissance and a new way of addressing logistics. The first five years will see a combination of retrofitting equipment on several classes of cutters and aircraft and finalization of detailed designs on the new cutters and aircraft to be built. Deepwater will also retire aging assets that are costly to operate and maintain. This process will

increase mission capability, increase operational hours and reduce operating expenses.

### In the first five years, the Deepwater proposal is slated to deliver the following:

- \* Upgrades to 42 existing major cutters, all C-130s, HH-60Js, HH-65s, and 17 command facilities ashore.
- \* Beginning in 2003, 15-year service life extensions to 25 110-foot patrol boats (lengthened by 12 feet and fitted with stern ramps to enhance small boat launch and recovery operations). This will include hull repairs.
- \* Beginning in 2005, the delivery of 12 Maritime Patrol Aircraft.
- \* Beginning in 2006, the delivery of eight Vertical Take Off and Landing Unmanned Aerial Vehicles.
- \* Beginning in 2006, the delivery of the first National Security Cutter.
- \* Improved performance due to increased surface/air OPTEMPO.

## THE FUTURE OF DEEPWATER

As noted above, the Deepwater program will initially upgrade some legacy assets, and eventually replace the fleet with a new system of systems. By 2022, all current surface legacy assets will be retired. The following pages will give you a glimpse into Deepwater.







COMMAND, CONTROL, COMMUNICATION AND  
COMPUTERS, INTELLIGENCE,  
SURVEILLANCE, RECONNAISSANCE (C4ISR)

**Command, Control and Computers:**

- \* Links mobile and shore assets to enable logistics support.
- \* Reduces training and support costs.
- \* Provides access to strategic, tactical and management information.
- \* Common operating picture with core command and

control on cutters, aircraft and ashore.

**Communication:**

- \* Broad spectrum, reliable and integrated communications ensure asset interoperability.
- \* Automation reduces operational workload and maintenance.

**Intelligence:**

- \* Integration of intelligence data into the common operational picture and rapid secure communication provide intelligence products to operating assets.
- \* Establishes avenues to connect to FBI, DEA and other agencies.

**Surveillance & Reconnaissance:**

- \* Data from multiple sources is fused into one common operating picture.
- \* Surveillance, detection, classification and identification performance increases over legacy systems.

**Key Legacy Improvements:**

- \* Implementation evolves the legacy C4ISR systems into the Deepwater System-of-Systems to increase performance.
- \* Leverages ongoing Coast Guard upgrade initiatives.



INTEGRATED LOGISTICS SYSTEMS/PERSONNEL

Deepwater improvements will leverage the use of technology to increase the availability of assets and equipment for Coast Guard personnel in the field. ILS will feature:

- \* Increased automation to reduce operator workload, training requirements and enabling condition-based monitoring.
- \* The Logistics Information Management Systems, which automatically collects and processes logistics

data to project supportability requirements and trends. LIMS feeds a mission capability assessment system to provide instantaneous readiness assessments to operational commanders.

- \* Integrated product data environment to maintain a single, authoritative data set program-wide for program performance.
- \* Equipment selection, sparing and training to improve readiness, availability and supports system response. This will reduce expenses.

MAINTENANCE

Our maintenance philosophy has a singular overarching goal: maximizing the availability of mission-critical equipment so that the Coast Guard spends more time performing missions and less time on repairs and maintenance.

- \* Step-by-step computer generated instructions, augmented by "hands free" voice commands and video on a nearby screen or headset viewer and 24-hour help.
- \* Live, interactive video Internet with a camera attached to a headset so the expert can see the conditions and better provide instructions.
- \* Virtual reality walk-through.
- \* Shipping components or dispatching a maintenance assist team to the site.

# Air asse

Deepwater will replace the existing fleet of air assets with a mix of unmanned and more capable manned aircraft. Important legacy upgrades include mid-life upgrades to the HH-65 and Command and Control upgrades to the HC-130.

The Integrated Deepwater System concept features several other improvements, such as increased communications, Common Operational Picture capability and night/all-weather capability with radar and Electro-Optic/Infrared sensors in all air assets. The introduction of the maritime patrol aircraft and the unmanned air vehicle in the first five years supports retirement of high-cost legacy aircraft, further decreasing costs. These introductions will improve cutter surveillance.



## Proposed Deepwater additions

- \* 35 Maritime Patrol Aircraft (MPA)
- \* 7 High Altitude Endurance Unmanned Aerial Vehicles (UAV)
- \* 69 Vertical Takeoff and Landing (VTOL)
- \* 34 Vertical Recovery and Surveillance Aircraft (VRS)
- \* 93 Multi-mission Cutter Helicopters

# ets

These acquisitions will improve the air fleet's overall performance, providing up to 80% additional flying hours.



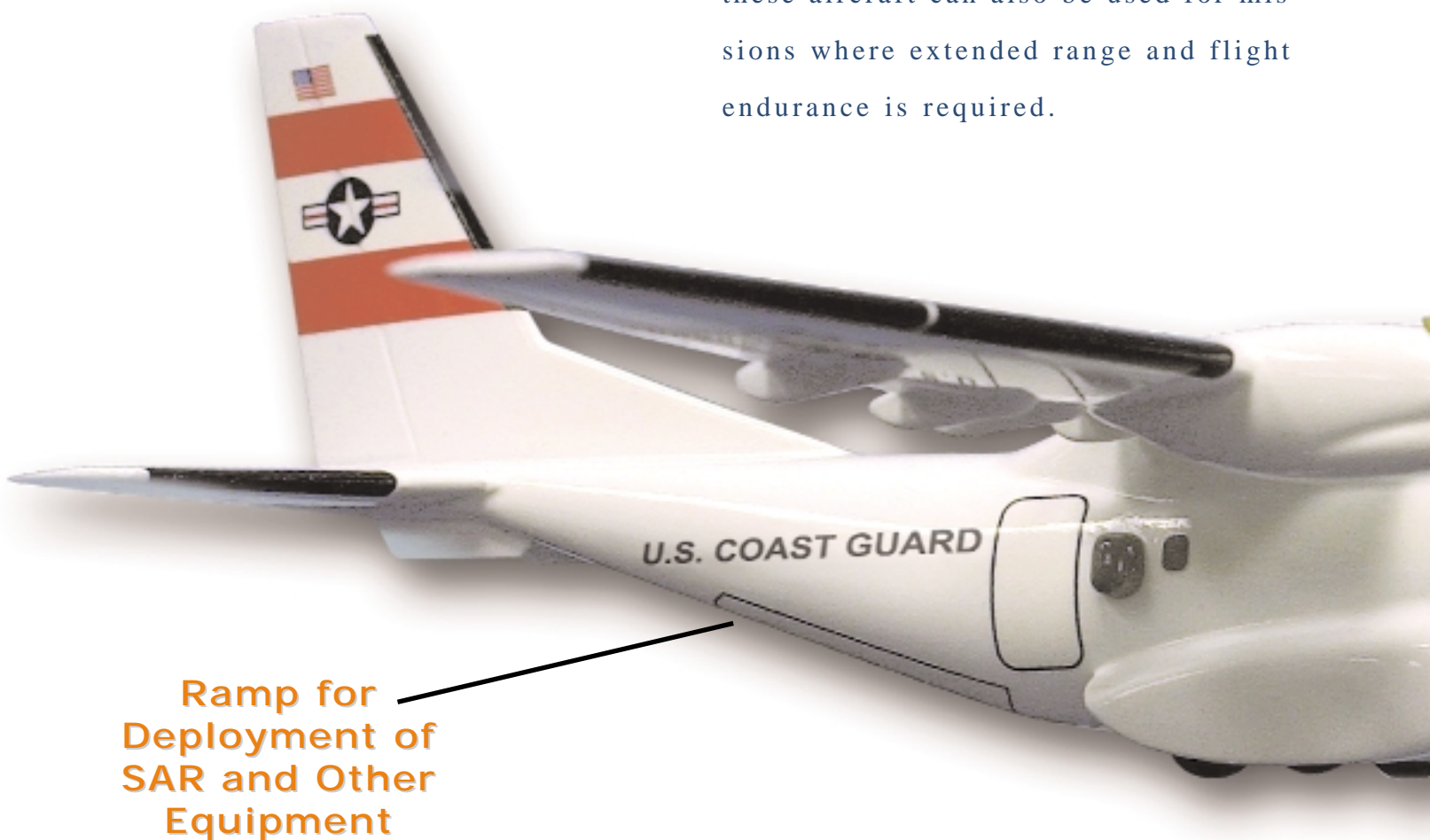
# CASA 235

## Maritime Patrol Aircraft

Upon retirement of certain HC-130 Hercules aircraft, the MPA will assume some of the Coast Guard's long-range surveillance and transport requirements. It can perform aerial delivery for search and rescue equipment such as rafts, pumps and flares, and it can be used as an on scene commander platform.

An MPA is particularly effective at locating targets in a large search area and vectoring prosecution assets to the target. These aircraft can act as responders for offshore search operations, but they have limited prosecution capabilities.

With their cargo carrying capacity, these aircraft can also be used for missions where extended range and flight endurance is required.



## Key Characteristics

- \* Proven military twin turboprop
- \* Extended range fuel system
- \* Palletized fully integrated tactical system
- \* Quick change to cargo or passenger role
- \* Rear cargo ramp
- \* Long reach and performance for SAR and surveillance
- \* Significantly lower operating expense than HC-130 and HU-25

Length: 70' 2"

Wing Span: 84' 8"

Cabin Length: 31' 8"

Cabin Height: 6' 2"

Cabin Width: 8' 11"

Maximum Takeoff Weight: 38,140 lbs

Maximum Landing Weight: 38,376 lbs

Fuel Capacity: 2,025 gallons

Maximum Air Speed: 246 kts

Cruise Speed: 208 kts

Loiter Speed: 141 kts

Maximum Range: 3055 nm

Maximum Endurance: 15.2 hrs

Engines: 2

An MPA is particularly effective at locating targets in a large search area and vectoring prosecution assets to the target.

High-Efficiency  
Turboprops



EO/FLIR Turret

# HAE-UAV

## High Altitude Endurance Unmanned Air Vehicle

The HAE-UAV provides long-range surveillance over large areas for extended periods of time. These assets will provide a portion of the long-range surveillance capability that will be lost when legacy HC-130s are retired at the end of their economic service life.

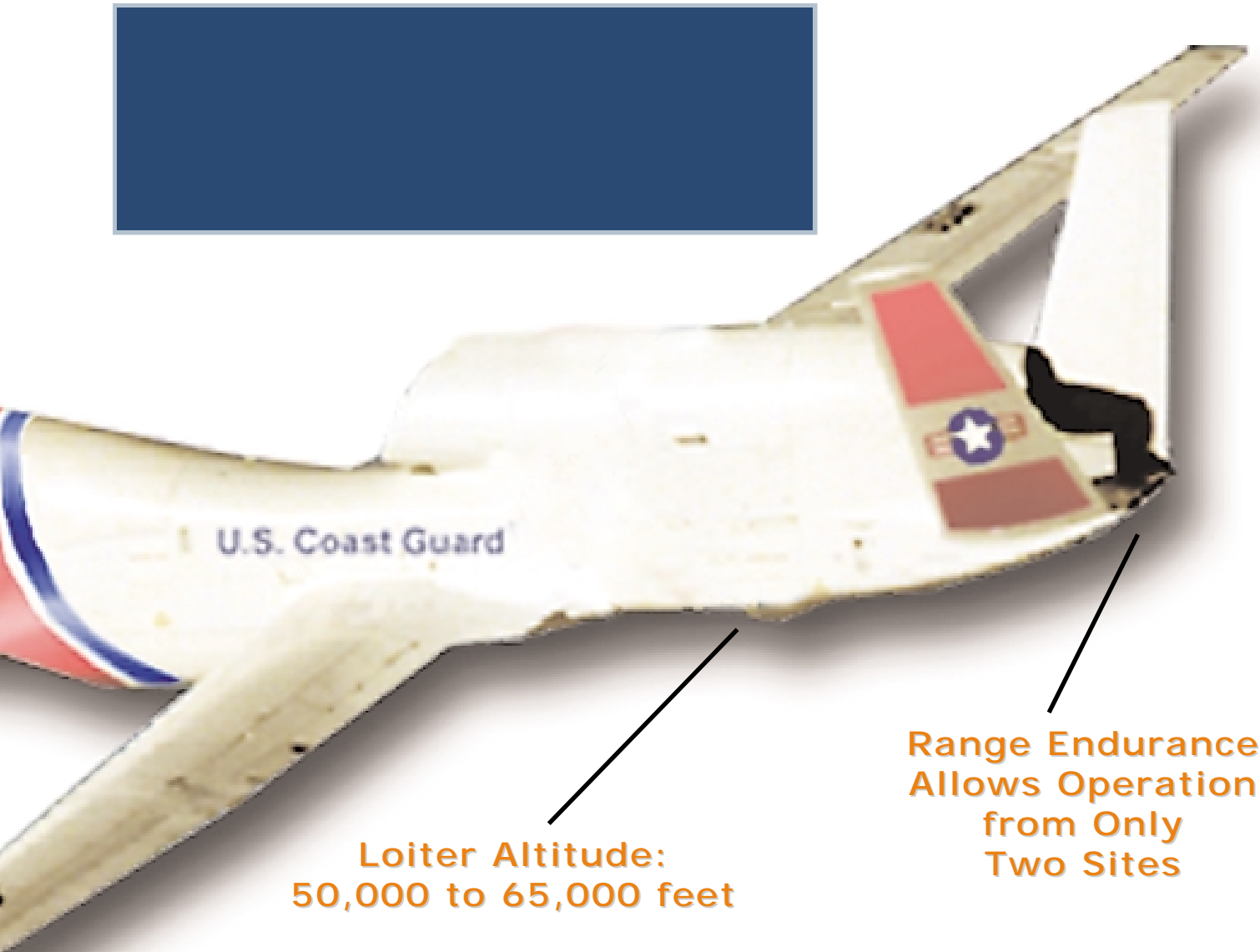
HAE-UAVs will possess the ability to transmit EO/IR imagery to cutters, MPAs, and shore-based command and control centers as part of the common operational picture.



**High-Resolution  
Sensors**

### Benefits of Approach

- \* Low risk introduction after USAF production, testing and fielding.
- \* Expansive surveillance area coverage with 30-hour endurance.
- \* Payloads tailored to mission requirements promote flexibility.



**Loiter Altitude:  
50,000 to 65,000 feet**

**Range Endurance  
Allows Operation  
from Only  
Two Sites**

### Key Characteristics

- Range: 12,500 nautical miles**
- Endurance: 38 hours**
- Loiter Speed: 343 knots**
- Cruise Speed: 343 knots**
- Maximum Air Speed: 343 knots**

# VUAV

## Unmanned Air Vehicle



The VUAV, introduced within the first five years, supports early retirement of high-cost-to-operate legacy aircraft.

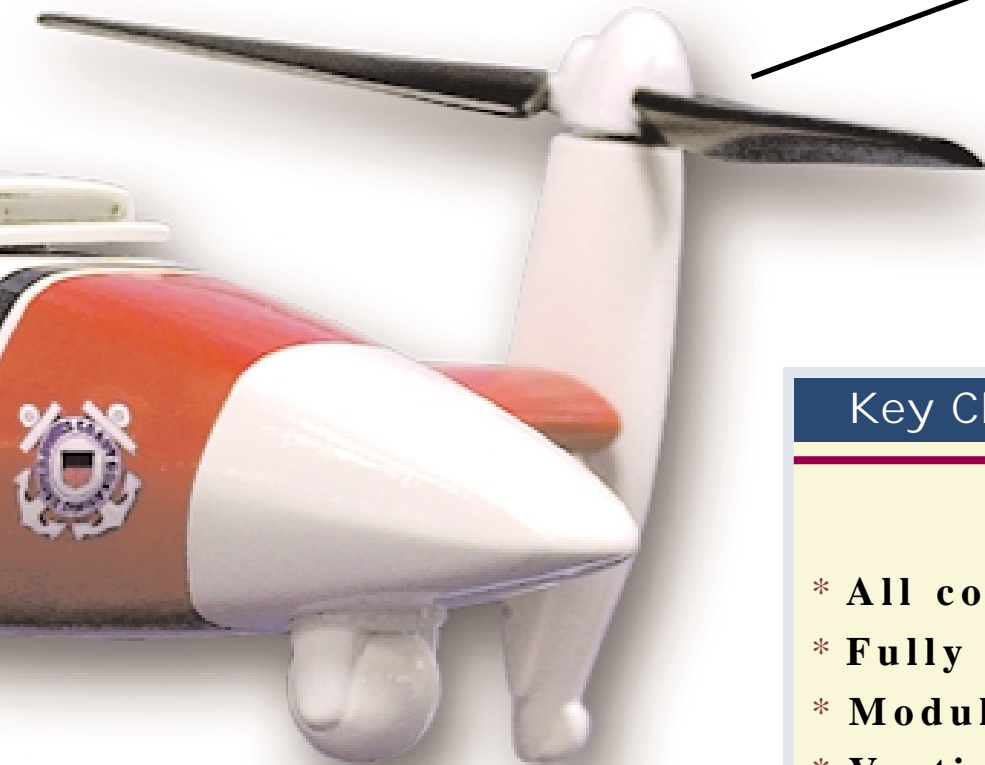
**High Speed Dash:**  
220 knots  
**Cruise Speed:**  
200 knots



## Benefits of Approach

- \* Modular mission payloads provide flexibility.
- \* Two-person deployed detachment minimizes crewing requirements.
- \* Increases cutter organic air quality.

Four VUAVs per new  
National Security  
Cutters and Offshore  
Patrol Cutters



## Key Characteristics

- \* **All composite construction**
- \* **Fully shipboard deployable**
- \* **Modular missions payload**
- \* **Vertical takeoff and landing**

**Maximum Air Speed: 220 knots**

**Cruise Speed: 200 knots**

**Loiter Speed: 90 knots**

**Range: 750 nautical miles**

**Endurance: 5 hours**

# AB-139 VRS

## Recovery and Surveillance Aircraft

The AB-139 VRS is the Integrated Deepwater System medium-range recovery aircraft. They are used as medium range responders for offshore operations and can provide some shore-based aviation surveillance capability.

In addition, these aircraft are used to meet rotary-wing, non-Deepwater aviation demand missions and are capable of deploying aboard National Security Cutters and Offshore Patrol Cutters as well as legacy cutters.

**Composite main and tail rotor blades**

**High tail rotor  
8 in. ground clearance**

The VRS flies to 20,000 feet with all weather capability.

## The VRS Avionics System

- \* Fully integrated "glass cockpit."
- \* Dual duplex digital automatic flight control system.
- \* Integrated radio-communication and navigation system controlled through two multifunction control and display units.
- \* Modular avionics
- \* Transfer of information through the avionics system communication bus.

## The VRS:

- \* Operates in transient light icing conditions.
- \* Features durable fuselage and energy-absorbing crew and passenger seats.
- \* Contains dual hydraulic systems.
- \* Contains durable fuel system.



Spacious cabin, roomy baggage compartment and side-by-side pilot and co-pilot seating

A tricycle, retractable, durable, high energy absorption landing gear

# MCH

## Multi-mission Cutter Helicopter

The first proposed rotary-wing aircraft is an upgraded version of the legacy short-range recovery helicopter, HH-65, and has been redesignated as the MCH. They will be capable of deployment from flight deck equipped cutters like the National Security Cutter and the Offshore Patrol Cutter.

They have a rapid response capability and are used to extend the classification and identification ability of the cutter to which they are embarked. They can also pick up personnel from the water.

They meet the requirement associated with cutters deploying on defense operations and peacetime military engagements, and they may also be used to meet non-Deepwater aviation demand missions currently being conducted by existing HH-65s.

Maximum air speed:  
165 knots

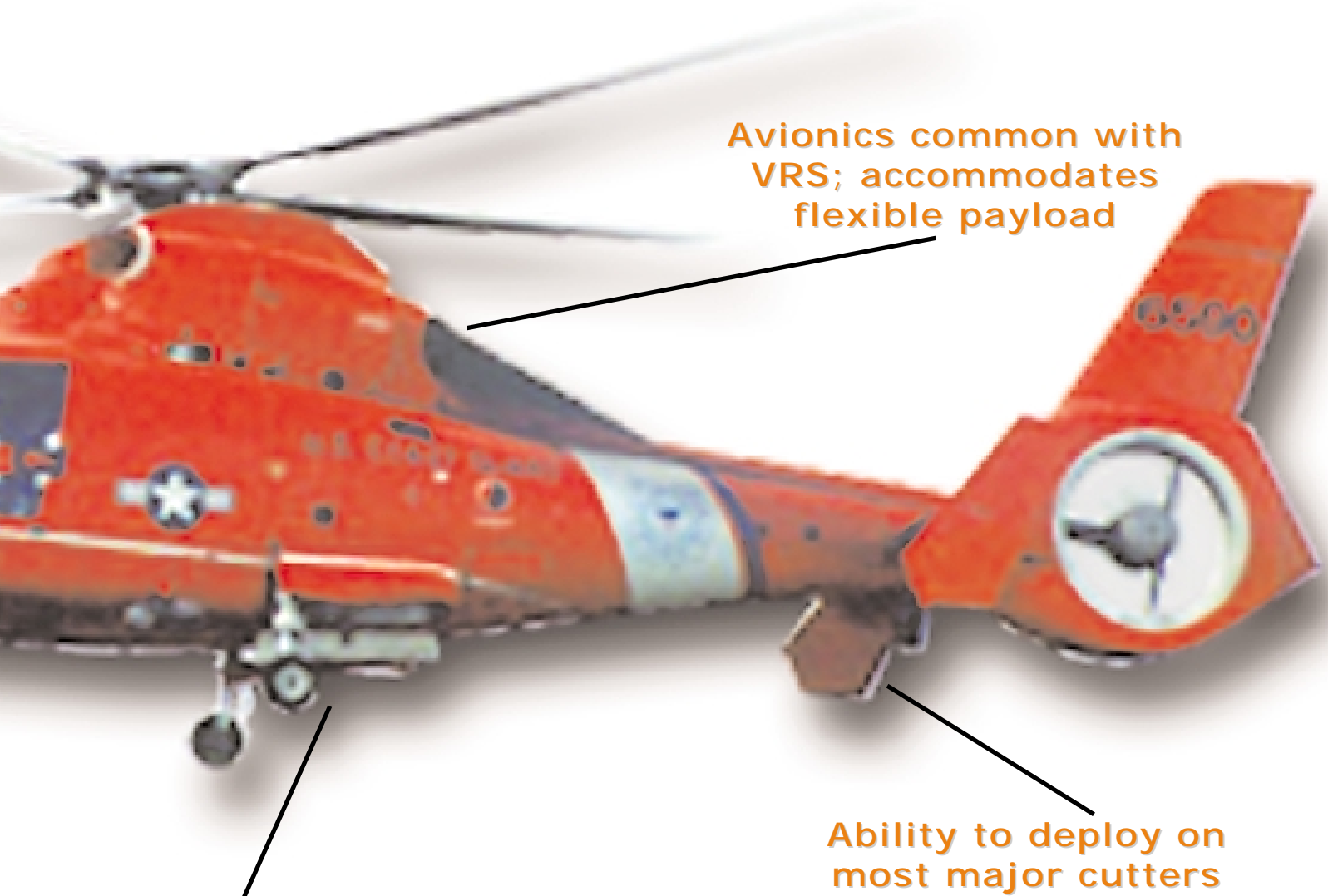


The MCH is an upgraded version of the HH-65. Upgrades yield a like-new aircraft.

## Key Characteristics

Length: **46.91'**  
Wing Span: **41.33'**  
Maximum Takeoff Weight: **10,582 lbs.**  
Payload weight (w/fuel): **3,190 lbs.**  
Empty Weight: **6,333 lbs.**  
Fuel Capacity: **2,164 lbs.**  
Cargo Hoist Capability: **1,500+ lbs.**  
Rescue Hoist Capability: **600 lbs.**

Maximum Air Speed: **165 knots**  
Cruise Speed: **120 knots**  
Economical Speed: **75 knots**  
Maximum Range: **467 nautical miles**  
Operating Radius: **178 nautical miles**  
Endurance: **3.5 hours**  
Engines: **2**



Avionics common with  
VRS; accommodates  
flexible payload

Ability to deploy on  
most major cutters

Low-cost, low-risk  
major airframe upgrade

# Surface

Three new cutter classes, the National Security Cutter, the Offshore Patrol Cutter, and the Fast Response Cutter, were designed from the keel up solely to perform Coast Guard missions. The new cutters are more seaworthy and comfortable, with spacious personal accommodations, greater privacy, individual Internet connections, lounges, training centers, and exercise facilities. They will include mission-configurable spaces that can be tailored for specific missions. Small boat launches, helicopter/UAV launches and handling large numbers of embarked migrants will be conducted with fewer crew and with better equipment and procedures. Large passageways will facilitate the movement of people and equipment.

## **Other improvements include:**

- \* Large hangars that will accommodate a mix of helicopters and UAVs
- \* 360 degree bridge to enhance operational awareness and safety
- \* System automation to reduce watchstander workload

The new cutters will take into account everyday activities and build in efficiencies for these activities.



# assets

## Proposed additions

- \* 8 National Security Cutters
- \* 25 Offshore Patrol Cutters
- \* 58 Fast Response Cutters
- \* 49 Modified 123-foot Patrol Boats
- \* 82 Short Range Prosecutors
- \* 42 Long Range Interceptors



# NSC

## National Security Cutter

Upon departure for patrol, each cutter will be outfitted with the small boat package and aviation detachment most appropriate for that particular patrol. NSCs will deploy with two small boats. Two Long Range Interceptors will be carried when assigned patrol areas that typically experience relatively benign sea conditions. One LRI and one Short-Range Prosecutor will be carried when

patrolling in areas that normally experience rougher sea conditions, as the SRP is envisioned to be a better "sea keeping" small boat. However, these assignments are just general guidelines - any major cutter can carry any combination of the two boats on a given patrol.

NSCs will normally deploy with two Unmanned Aerial Vehicles.

**Large hangars that will accommodate a mix of helicopters and unmanned air vehicles**



**Stability to enable small boat and air operations in higher sea states**



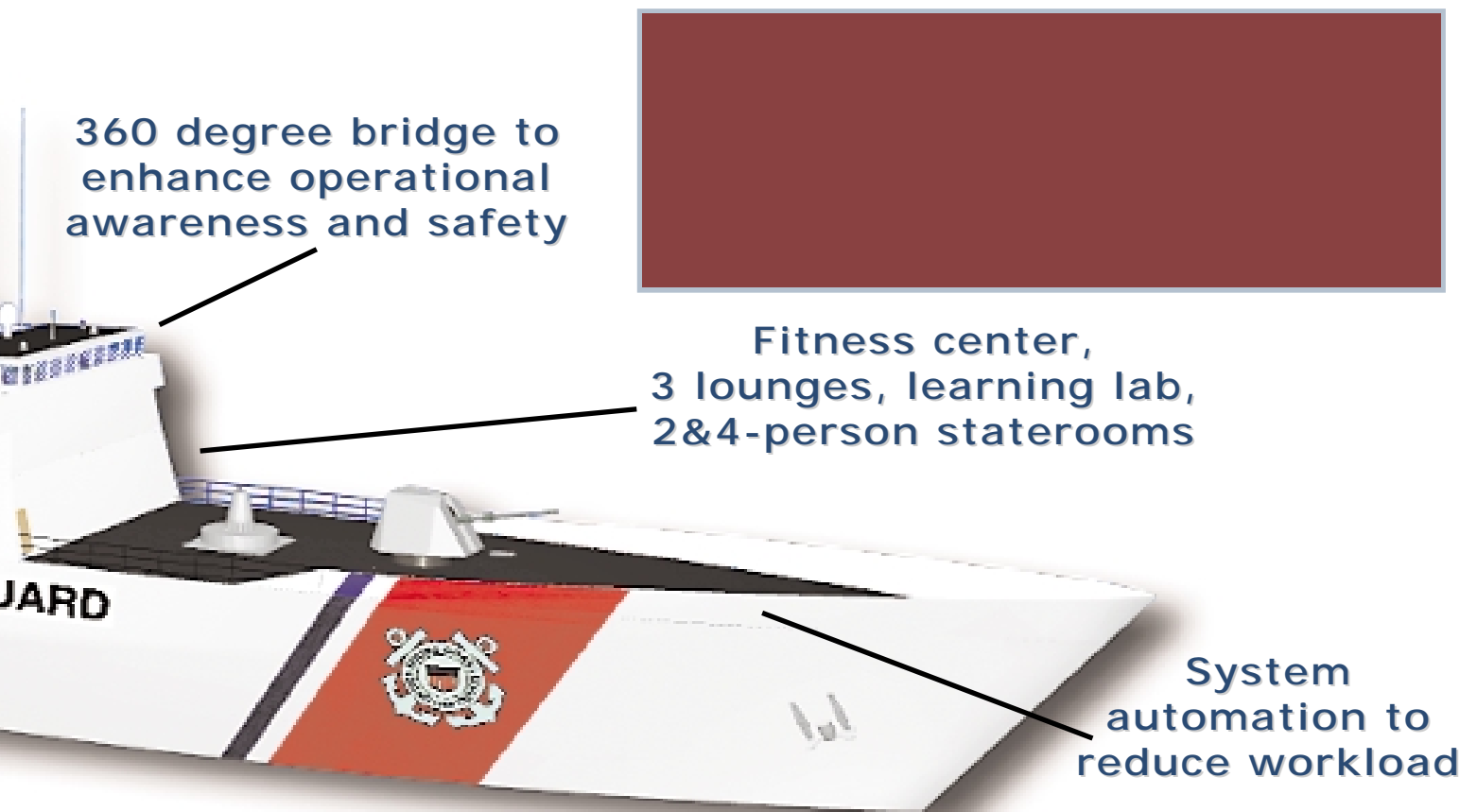
Those cutters that will be forward deployed (i.e. beyond the range of routine and frequent land-based Coast Guard manned surveillance flights) will also embark a Multi-mission Cutter Helicopter or Vertical Recovery and

Surveillance Helicopter. Additionally, NSCs can deploy with two armed helicopters. Aviation operations and maintenance personnel appropriate to the combination of aircraft embarked will deploy with the cutter.

## Key Characteristics

**Length: 421 feet**  
**Crew: 82**  
**Berth: 118**  
**Endurance: 60 days**  
**Range: 12,000 nautical miles**  
**Fuel: 650 tons**

**Ship Control: Integrated Bridge**  
**Draft: 20.9 feet**  
**Beam: 54 feet**  
**Displacement: 3,886 tons**  
**Full Load Speed: 28.1 knots**



# OPC

## Offshore Patrol Cutter

30 percent reduction in OPC crew size compared to legacy major cutters, lowers operating expense.



Just as the NSC, upon departure for patrol, each OPC will be outfitted with the small boat package and aviation detachment most appropriate for that particular patrol. OPCs will deploy with two small boats. Two Long Range Interceptors will be carried when assigned patrol areas that typically experience relatively benign sea

conditions. One LRI and one Short-Range Prosecutor will be carried when patrolling in areas that normally experience rougher sea conditions, as the SRP is envisioned to be a better "sea keeping" small boat. However, these assignments are just general guidelines - any major cutter can carry any combination of the two boats

## OPC Characteristics

- \* The ability to carry more fuel, personnel, evacuees and provisions than any legacy asset.
- \* The ability to carry two helicopters, or one helo and two unmanned air vehicles, or four unmanned air vehicles.
- \* Enhanced seakeeping capability through rudder roll stabilization.
- \* Enhanced situational awareness through the Coast Guard Common Operational Picture.



on a given patrol.

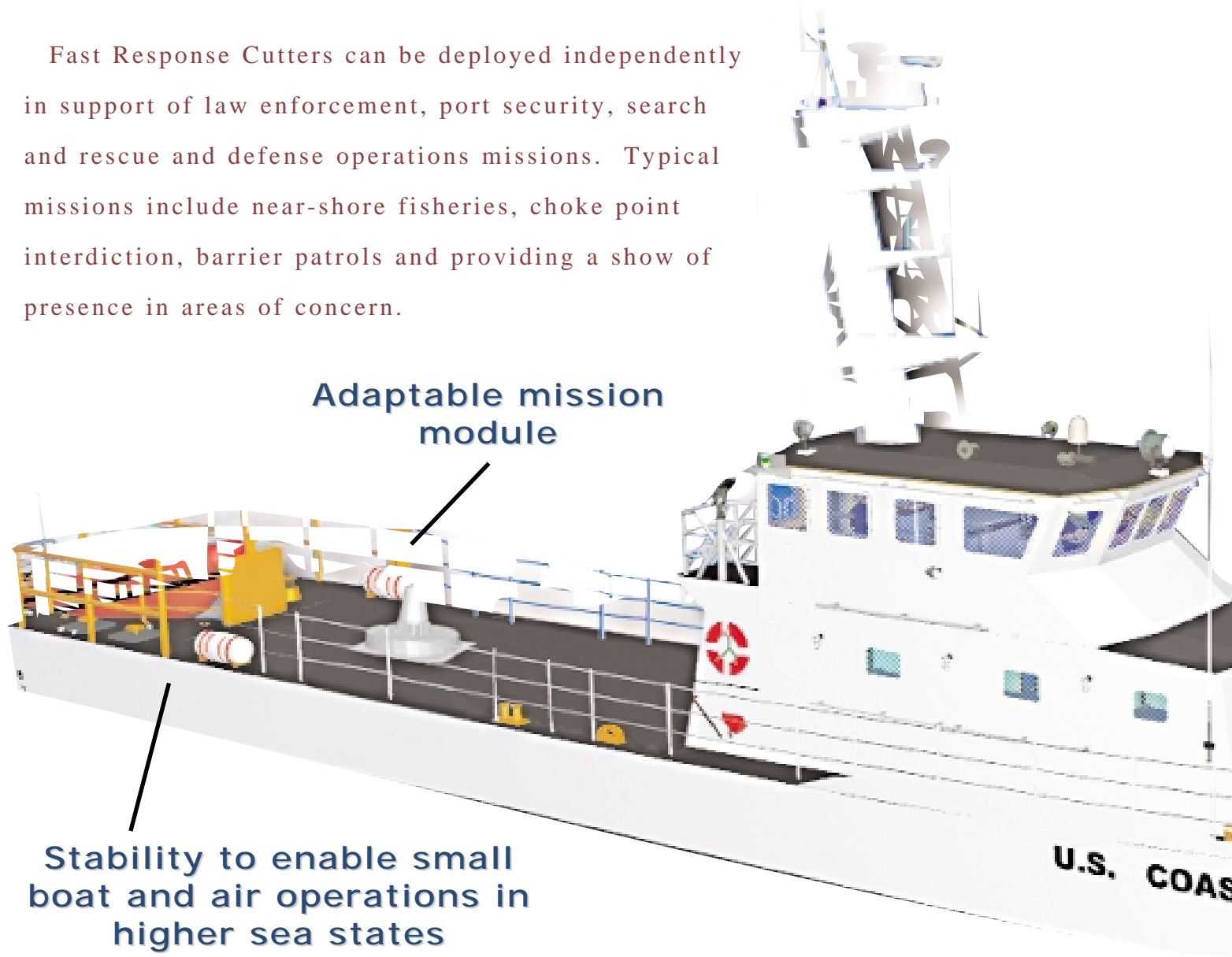
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Cutter Helicopter or Vertical Recovery and Surveillance Helicopter. Additionally, OPCs can deploy with two armed helicopters. Aviation operations and maintenance personnel appropriate to the combination of aircraft embarked will deploy with the cutter.

# FRC

## Fast Response Cutter

Fast Response Cutters can be deployed independently in support of law enforcement, port security, search and rescue and defense operations missions. Typical missions include near-shore fisheries, choke point interdiction, barrier patrols and providing a show of presence in areas of concern.



Adaptable mission module

Stability to enable small boat and air operations in higher sea states

crew

## FRC Characteristics

- \* High speeds allow for fast response time.
- \* The ability to maintain a high state of readiness.
- \* The ability to sprint to intercept targets of interest.
- \* The ability to patrol near-shore operational areas.
- \* Enhanced seakeeping through an active fin stabilization system.

## Key Characteristics

**Length: 130 feet**

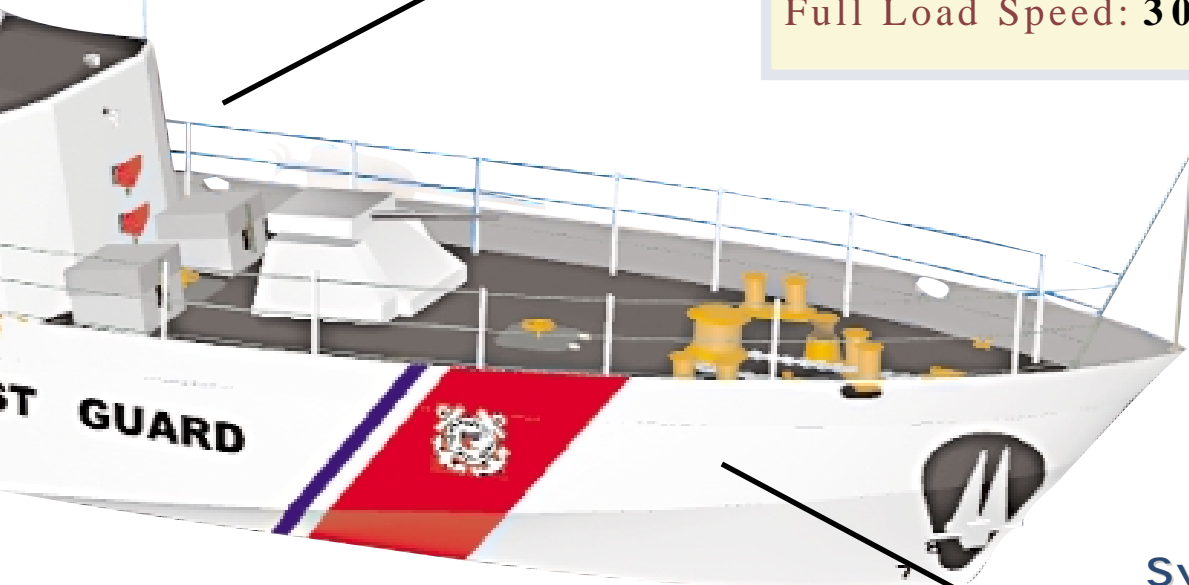
**Crew: 15**

**Berth: 19**

**Displacement: 198 tons**

**Full Load Speed: 30 knots**

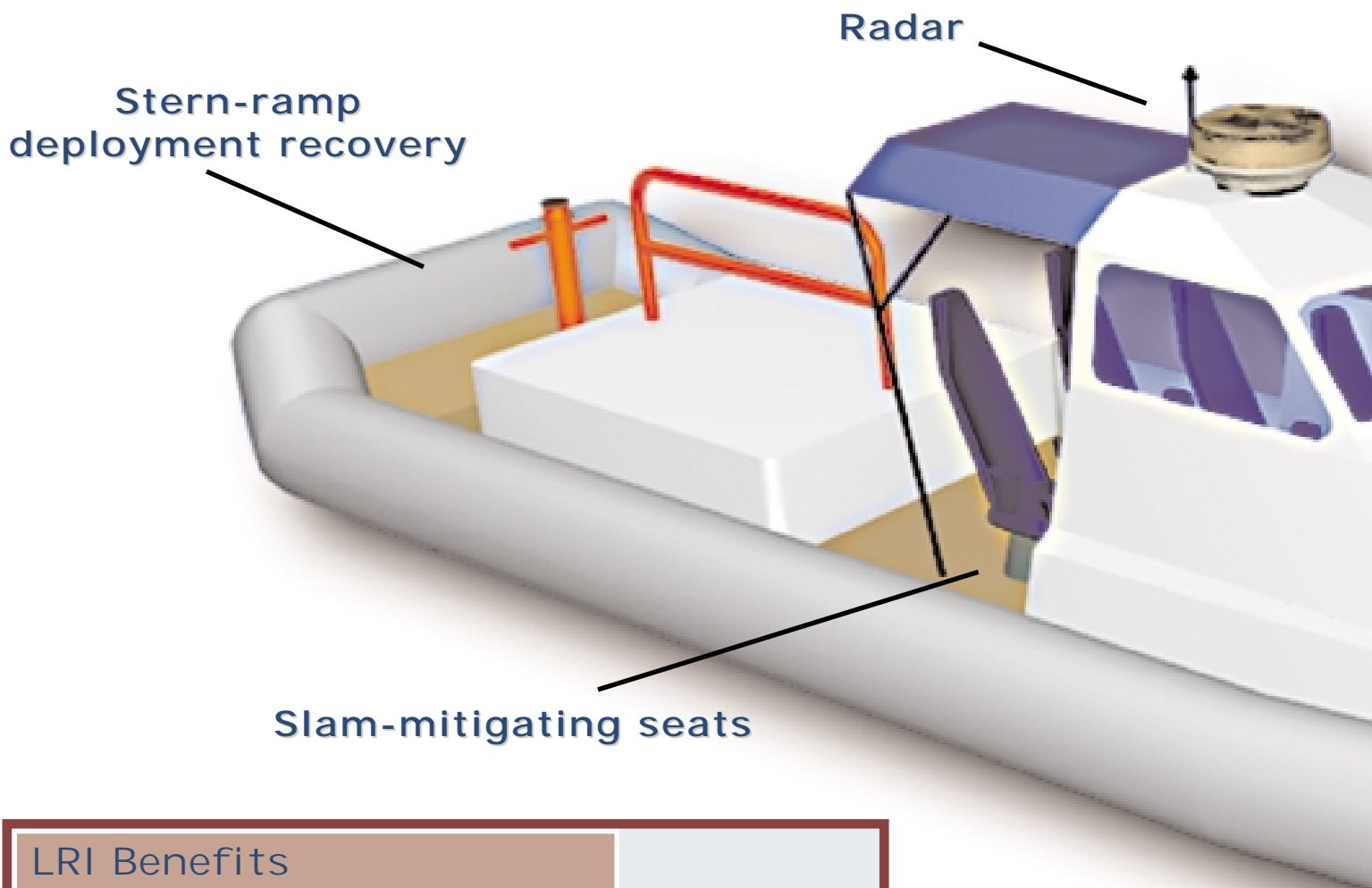
**Maximum range:  
5,000 nautical miles at  
economical speed**



**System  
automation to  
reduce workload**

# LRI

## Long-Range Interceptor

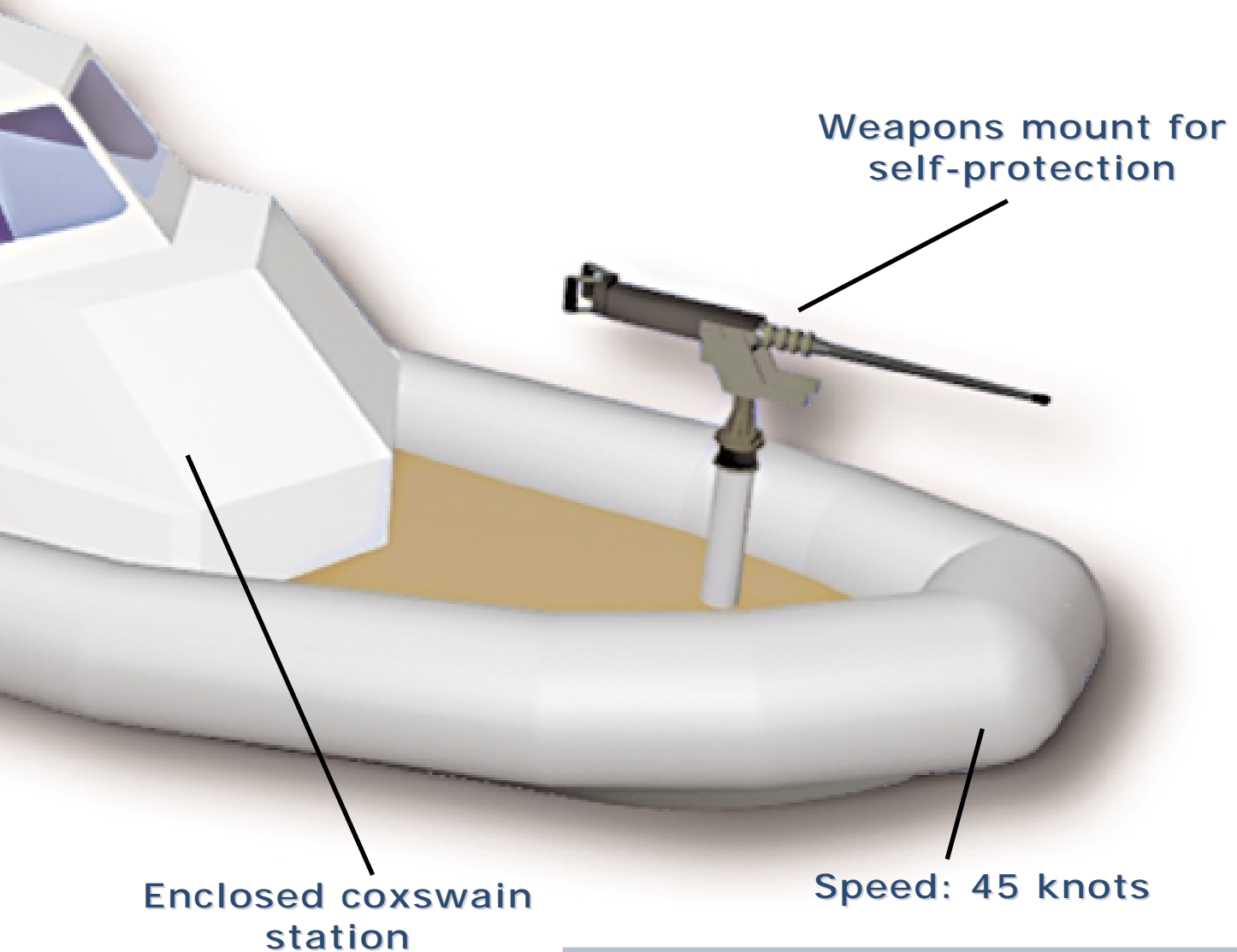


### LRI Benefits

- \* Decreased fatigue for boarding teams
- \* Increased control and handling
- \* More effective prosecution
- \* Extended cutter reach
- \* Faster, safer operations with less crew

## Key Characteristics

- \* **Small boats launch and recover faster with fewer crew to improve operational effectiveness.**
- \* **Can hold up to 14 personnel with 150 pounds of cargo.**
- \* **Over-the-horizon prosecution capability with SATCOM and GPS.**
- \* **Compatible with NSCs and OSCs.**



The LRI provides faster and safer operations with less crew.

# SRP

## Short-Range Prosecutor

Stern-ramp  
deployment recovery

Slam-mitigating seats

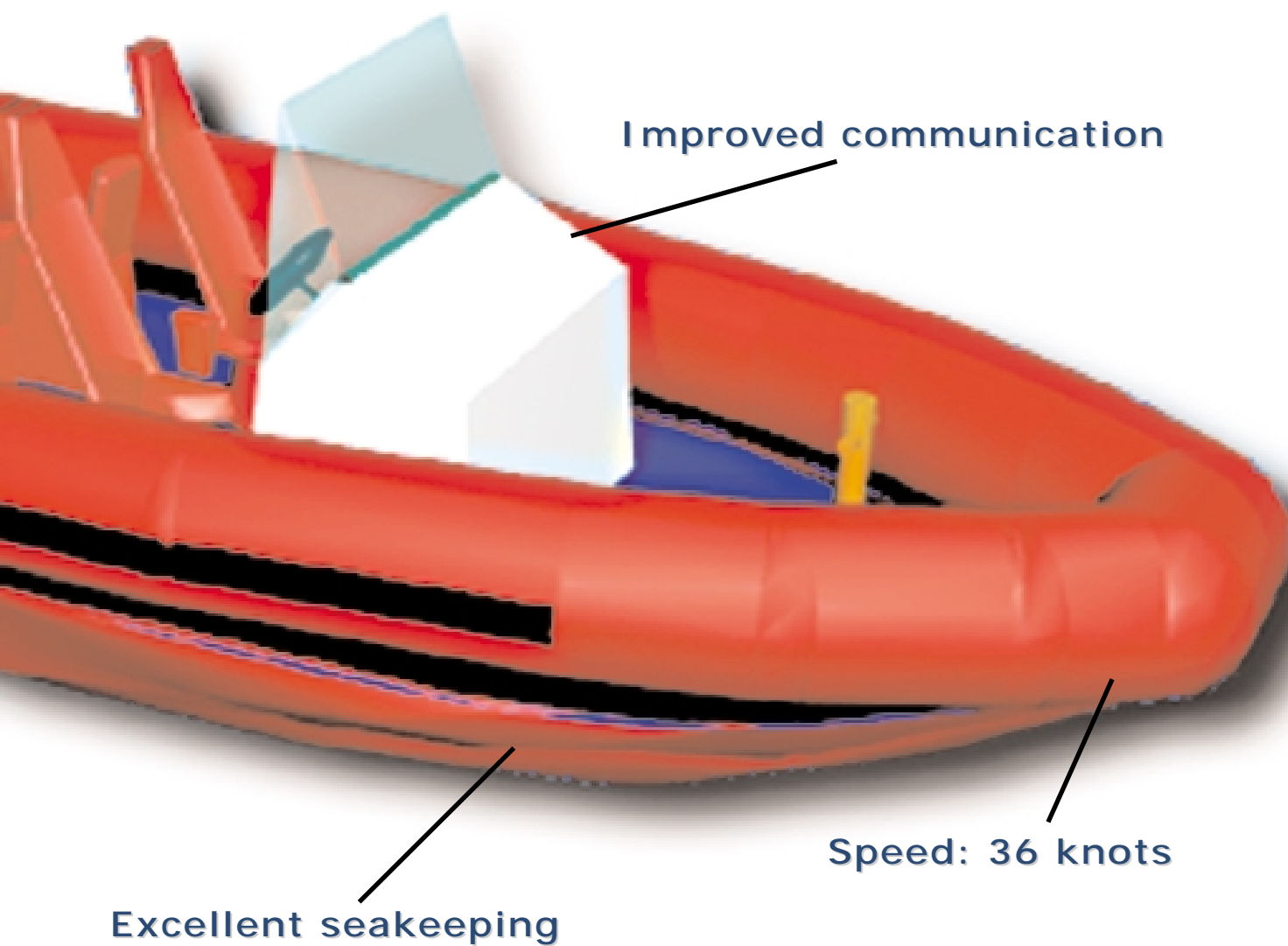
### Key Characteristics

- \* **Small boats launch and recover faster with fewer crew to improve operational effectiveness.**
- \* **Can hold up to 10 personnel with 150 pounds of cargo.**
- \* **Over-the-horizon prosecution capability with SATCOM and GPS.**
- \* **Compatible with NSCs, OSCs, 123-footers and FRCs.**

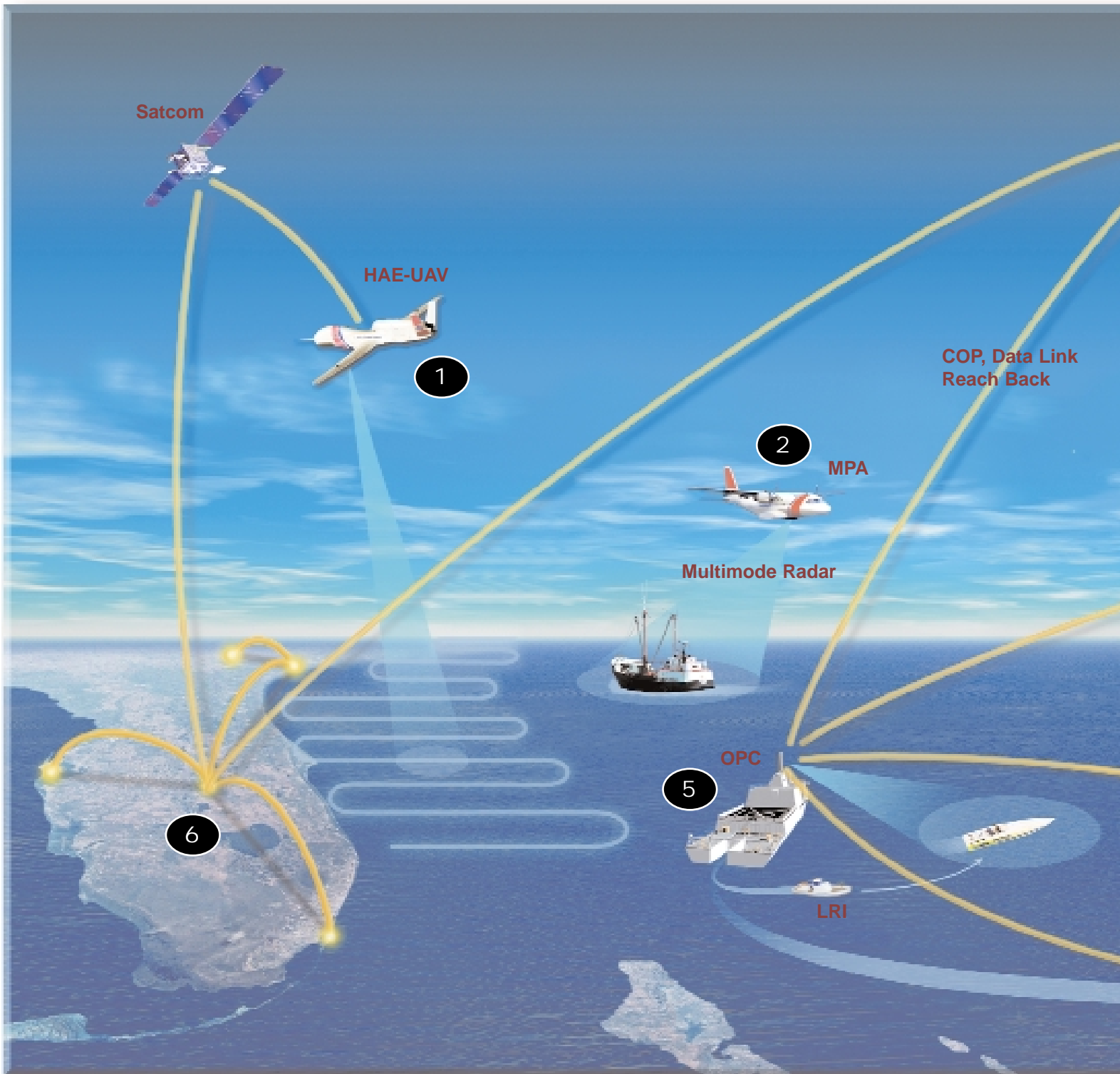


## LRI Benefits

- \* Decreased fatigue for boarding teams
- \* Increased control
- \* More effective prosecution in rough water
- \* Faster, safer operations with less crew



# How they all work together



# Interoperability Scenario

- 1 HAE-UAV Wide-Area Surveillance**  
Florida coast is surveyed for drug activity; HAE-UAV then flies to northeast to patrol fisheries and continues north to locate iceberg position; real-time data sent ashore and integrated into common operating picture.
- 2 MPA Prosecution**  
FMPA flies from Cape Cod; detects, classifies and identifies fishery violator; prosecution completed by imaging the boat in closed area.
- 3 NSC Interoperability with DoD**  
FNCS deployed with DoD and participates in NATO exercise in North Sea.
- 4 Multi-Asset Operations**  
FRC receives TOI data from an OPC (including VUAV data) and a VRS; supports rescue mission.
- 5 Over-the-Horizon Operations**  
FOTH prosecution conducted by LRI; Data from VUAV and HAE-UAV allows OPC to perform simultaneous prosecutions
- 6 Shore-Based Command Center**  
HAE-UAV relays surveillance information via Satcom to shore command center; Center relays information and Drug Enforcement Administration intelligence reports into the command operating picture and cues OPC and FRC via Satcom.

