

PSGP 2007
Project #2

**Port of Honolulu
Hawaii State Department of Transportation – Harbors Division
Hawaii Homeland Security Command Information Systems (H2SCIS) –
Port of Honolulu Kahului Harbor
Investment Amount \$1,391,431.49**

I. BACKGROUND

COTP Zone: Port of Honolulu.

Honolulu, Hawaii is an eligible port, as listed in table 2 of FY07 PSGP Program Guidance and Application Kit.

Although smaller in population than the majority of states in the nation, the unique geography and the heavy reliance on harbor operations as a primary source of transportation for people and goods underline the need for a strong security infrastructure in the State of Hawaii. The State of Hawaii is comprised of seven main islands with ten state commercial harbors covering six of those islands (Oahu, Maui, Kauai, Molokai, Lanai, and Hawaii) (*Figure 1: Hawaii State Commercial Harbors*). The Port of Honolulu includes all ten of the state commercial harbors. Each of these harbors experience significant daily cargo handling operations and are critical components of the economies of each respective island as well as that of the entire state. The State of Hawaii also plays a key role as a link to other Pacific Rim economies. The Port of Honolulu has received funding and has completed phase 1 of H2S CIS. Phase 2 H2S CIS funding is in progress. Upon completion of Phase 2, the Hawaii DOT will have installed H2S-CIS on three out of ten state commercial harbors. The proposed Phase 3 funding (FY07) includes Kahului Harbor. Kahului Harbor is the second most significant cargo/passenger ship terminal in the State of Hawaii. In addition, the Hawaii State Civil Defense is in the process of installing the H2S-CIS system at the Hawaii State Capitol building, hence providing a seamless integration of Maritime Domain Surveillance capability throughout this geographically disparate State. In addition, the integration of the Command Centers at critical locations such as the State Civil Defense, State Law Enforcement Coalition, Harbors, and the State Capitol provide the critical information to the decision makers of the State of Hawaii for fast response in case of man-made or natural disasters.

Ten State Commercial harbors	Status
Kewalo Basin	Phase 1 Complete
Honolulu Harbor, Kalaeloa Barbers Point Harbor	Phase 2 FY 06 Grant approved
Kahului Harbor	Planned for Phase 3
Hilo Harbor and Kawaihae Harbor	Planned for Phase 4
Nawiliwili Harbor and Port Allen Harbor	Planned for Phase 5
Kaunakakai Harbor, Kaunapali Harbor	Planned for Phase 6

Figure 1: Hawaii State Commercial Harbors

Organization’s authorizing official for entering into grant agreement:

Mr. Glenn Okimoto, Harbors Administrator
(808) 587-1927 Glenn.Okimoto@hawaii.gov

Organization’s primary point of contact for management of the project(s):

Mr. Kelvin Ogata, Authorized Organizational Representative
(808) 587-2100 (Ph) (808) 587-2065 (fax) Kelvin.Ogata@hawaii.gov

Ownership or Operation:

The Hawaii State Department of Transportation (DOT) - Harbors Division is responsible for the statewide commercial harbor system. DOT - Harbors Division administers harbor facilities, and is responsible for the overall security of harbor areas.

Role in providing layered protection:

DOT-Harbors Division administers the statewide commercial harbor system which encompasses ten commercial harbors over on six islands – this is represented by four separate districts (Oahu, Maui, Kauai, Hawaii/Big Island). Basic landside protection is provided by Harbors Enforcement Officers and contract security.

DOT-Harbors division works closely with the Department of Public Safety (DPS) – Sheriffs Division, Department of Land and Natural Resources (DLNR) – Conservation Enforcement, State Attorney General Enforcement Office, State Department of Defense (National Guard), and State Civil Defense (SCD) and is part of the State Law Enforcement Coalition (SLEC), which will provide law enforcement support during times of special events or heightened MARSEC levels.

Infrastructure:

The State of Hawaii is dependant on ocean shipping to supply everyday needs, and as a result, the ten commercial harbors within the state are the primary life-sustaining enterprises. The State imports 80% of necessary goods, with 98% of those goods arriving by sea. The commercial harbors on each island receive a wide array of shipping containers that demand a variety of cargo handling methods, appropriate facilities, space, utilities and necessary roadway infrastructures. In addition to receipt of cargo, the State of Hawaii is also heavily reliant upon the tourism industry as a main stay of the local economy. The importance of the harbors continues to grow as residential and tourist populations rapidly expand every year.

Port of Honolulu, Kahului Harbor: One of the critical ports of Honolulu is the Kahului Harbor, which has not been a focus of previous grant investments. As the Hawaii has increased in popularity, the tourist and residential population continue to grow in leaps and bounds. As a result, passenger and cargo handling operations have substantially increased in and around the harbor area. Kahului Harbor is a key stop for passenger cruise ships and the principal logistics support center for major Hawaiian Island chains. In a few mile radius around the harbor is the city of Kahului, the industrial and commercial center, and Wailuku, the Island’s largest city and the county seat. The harbor is also within two miles of the Kahului Airport and has ready access to the island’s highway transportation system.

The harbor itself is a manmade port, dredged from the naturally formed Kahului Bay. The harbor basin is 2,050-wide by 2,400-feet long and has a project depth of 35 feet. The entrance channel is 660-feet wide and 40-feet deep (*Figure 2: Kahului Harbor Aerial View*). Principal cargo and pier use revolves around overseas containers, cruise ship terminal, liquid-build cargo and pipelines, and inter-island cargo. During the numerous overflow operations, passenger ships are routinely docked on the pier located adjacent to but outside the harbor secure area.

Kahului Harbor continues to experience growth with both passenger and cargo handling operations. The Super Ferry is slated to begin operations in May 2007 and will travel between Kahului Harbor and Honolulu Harbor on a daily basis, again, increasing the traffic flow of passengers and automobiles in the harbor area. Cargo handling operations are also expanding service – one commercial carrier alone

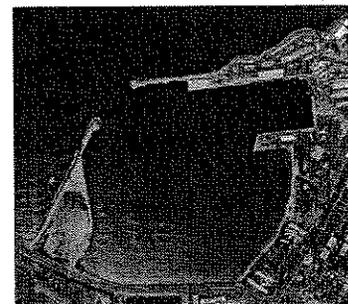


Figure 2: Kahului Harbor Aerial View

has plans to expand service through the addition of eight new barges which will be able to carry 40% more cargo or double the amount of automobiles within the current port capacity, six new tug boats, and containers and cargo handling equipment. Current plans designate Pier 1 as both the Super Ferry passenger unloading zone and the cargo handling areas. While commercial operations have ballooned over the last few years, Kahului Harbor is more vulnerable today than ever before.

Nature of Operations:

Like the rest of the State, the island of Maui is heavily reliant on the shipping industry for transport of necessary daily goods as well as to support the tourism industry, a major part of the local economy. The majority of imported goods for the island of Maui are transported through Kahului Harbor. In 2006 alone, Kahului Harbor received 3,129,252 tons of cargo.

In addition to cargo transport and handling, Kahului Harbor is also the cruise ship port and is slated to be the harbor to handle the new passenger ferry service beginning in May of 2007. There are weekly and sometimes daily cruise liners utilizing the harbor. Overflow cruise liner docking, when the harbor is at capacity, which often happens, is around Pier 1, and a tertiary pier outside of the harbor, creating several areas vulnerable to attack.

The Hawaii Super Ferry, a "fast-ferry" operation, will serve out of the harbor as an inter-island transport with initial service between Kahului Harbor and Honolulu Harbor. Currently, each Super Ferry has the capacity for 900 passengers and 282 passenger cars. This will cause a significant increase in harbor and pier loading.

Describe the applicant's current and required capabilities:

DOT-Harbors Division currently has only pier camera surveillance of the harbors. The only detection and surveillance capability exists with SCD at Kewalo Basin on Oahu Island. Current IED prevention, detection, response and recovery capability is limited to harbor enforcement officers and contract security personnel. However, the expansion of the H2S CIS program to build 2 additional command and control centers, 2 sensor sites, and 1 unmanned aerial vehicle is scheduled this year and will greatly improve Maritime Domain Awareness.

Brief abstract of investment:

Through expansion of the current system beyond the shores of Oahu, neighbor islands will be well equipped to meet Improvised Explosive Device (IED) threats by providing the Department of Transportation (DOT) Harbors Division, State Law Enforcement Coalition (SLEC) Quick Reaction Force and State Civil Defense (SCD) with a sophisticated electronic search and surveillance system (radar, cameras, UAV), wireless networking and communications capability as well as a correlated and fused distributed common situation display/information system. The addition of Credentialing and Radiation-Free IED Detection Systems (RFIEDS) Radiological Ambient Monitoring System (RAMS)/Radiation-Free IED Detection Systems (RFIEDS) will enhance the Surveillance capability. Hawaii Homeland Security Command Information System (H2S CIS) is critical to providing a first ever web/network based command, control and surveillance system monitoring harbor traffic throughout the Port of Honolulu. Each sensor site includes an Automatic Identification System (AIS), radar, Electro Optical and/or Infrared (EO/IR) sensors, video cameras and Digital Video Recorder (DVR), hence providing surveillance to strategic areas. Additional surveillance will be attained through a UAV with an optical sensor. Each command and control center fuses data with H2S CIS software and server and then displays it using six large plasma displays, four operator displays and a server.

The H2S CIS system is needed for all ten regulated state commercial harbors. Currently, only three harbors on Oahu island are operational and/or funded – Honolulu Harbor, Kewalo Basin and Kalaheo Barber’s Point Harbor – with surveillance coverage (video, AIS and radar sensor sites) and command centers that fuse video (from PTZ cameras and a UAV), AIS and radar data which is located at the Oahu District SCD, State Capitol SLEC location and DOT-Harbors Division.

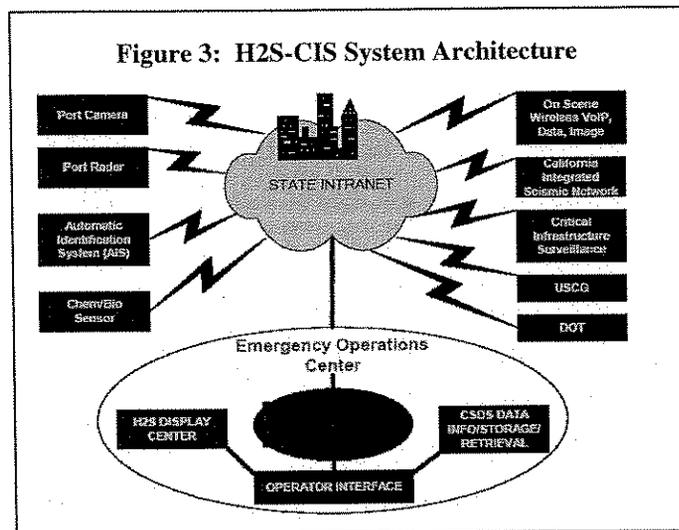
In order to provide basic harbor surveillance, H2S CIS is required on Kahului Harbor. With an increasing number of passengers and reliance on imported goods to maintain the economic lifeline on each of this island, the capability to prevent and protect through real time information is critical. A total of seven additional sensor sites, three UAVs and three command centers need to be installed to provide basic coverage for the State of Hawaii.

H2S CIS provides the most current technology available for long term use while seamlessly interfacing with the existing state intranet (Next Generation Network – NGN). The investment total covers equipment, training and exercises.

II. STRATEGIC AND PROGRAM PRIORITIES

H2S CIS will allow DOT-Harbors Division, along with the State Law Enforcement Coalition (SLEC) and State Civil Defense (SCD) to increase surveillance capacities necessary to protect the waterways crucial to the State of Hawaii. H2S CIS also interfaces seamlessly with the State of Hawaii’s intranet thus allowing and promoting inter-agency collaboration.

The operation of the radar, AIS, camera system and UAV will require basic operator training to provide reliable, accurate and useful information to the operator at the command and control center. However, operating these systems is not complex and is designed to be managed by persons with a minimal technical background. It is anticipated that the training requirements for all system operations should require no more than one week. Actual operation of the system should take no more than 16 hours of training; all system software is Windows based with GUI interface, making the system intuitive and easy to learn and operate.



Describe how the Investment will support priorities outlined in the applicable Area Maritime Security Plan (mandated under the MTSA):

The H2S CIS system allows for real time surveillance of critical harbor infrastructure and tracking of all waterborne traffic within this area, a capacity not currently available to the State of Hawaii outside of Kewalo Basin on Oahu Island, or to the United States Coast Guard. This surveillance and situational awareness capability is the initial backbone security system for Hawaii State Civil Defense and due to the sensitive nature and growing use of harbor facilities and piers needs to be incorporated in to the DOT-Harbors Division security plans. Harbors

personnel will have access to information and data from sensors to conduct monitoring of port wide shipping while maintaining historical records of surveillance and tracking information.

Describe how the investment supports any COTP Port-specific security priorities:

The prevention and detection of potential IED attacks by small watercraft is fulfilled by this investment through real-time surveillance and tracking of threats through radar, AIS, and camera surveillance. As part of a larger security plan that also includes training and exercises for individual harbor personnel, H2S CIS supports the overall goal to reduce vulnerabilities at our ports as mandated by the COTP zone for the Port of Honolulu (all ten commercial ports that are the responsibility of the DOT-Harbors). Additionally, the Honolulu-based US Coast Guard has expressed interest in obtaining the surveillance data/information provided by H2S CIS.

Describe how this Investment will support one or more of the Priorities of the National Preparedness Goal:

With this investment, DOT-Harbors division will be able to utilize integrated intelligence to protect infrastructure in the harbors area critical to the State of Hawaii. The H2S CIS system, utilizing a multi-layered approach to surveillance (radar, AIS, camera), integrates in to the statewide intranet which provides a common operational picture.

III. IMPACT

The importance of harbor and pier side security cannot be overstated for the State of Hawaii. Existing capacities do not mitigate the vulnerabilities that could cause loss of life, threaten critical infrastructure and/or take down the economic lifeline of the State: With the implementation of the H2S CIS system in Kahului Harbor and vicinity, the fastest growing tourist destination in the state, harbors personnel will be able to monitor, detect, and track both waterborne and pier side activity.

IV. FUNDING AND IMPLEMENTATION PLAN

	FY07 PSGP Request Total	Cash Match	Grand Total
<i>Maritime Domain Awareness</i>	\$834,858.89	\$208,714.72	\$1,043,573.61
<i>Prevention, Protection, Response and Recovery Capabilities</i>	\$222,629.04	\$55,657.26	\$278,286.30
<i>Training</i>	\$55,657.26	\$13,914.31	\$69,571.57
<i>Exercises</i>			
<i>TWIC Implementation</i>			
<i>National Preparedness Architecture</i>			
<i>M&A</i>			
<i>Total</i>	\$1,113,145.19	\$278,286.30	\$1,391,431.49

Potential implementation challenges:

The only significant challenges to this project are the State of Hawaii's Intranet (NGN capability that must be used as a backbone for this Command Information System. Because the H2S-CIS will generate a tremendous amount of data from the sensors installed on various locations, there must be an adequate State infrastructure (access and bandwidth) that can move this data from the

ports/harbors to the command centers. This is being addressed by separate projects within the State of Hawaii. We will work closely with this project to ensure that the needs of H2S-CIS are built into any/all upgrades to the State of Hawaii's broadband internet communications capability. The other potential challenge is that if Hawaiya Technologies, LLC is not chosen to install the H2S-CIS system, then a significant interoperability issues with the current installed Surveillance systems at Hawaii State Civil Defense, Oahu ports, and the State Capitol Buildings may occur. To ensure that this does not happen, we have provided a sole source justification for Hawaiya Technologies, LLC to become the integrator/developer of this system for this proposal.

Management team:

This project will be managed by the Hawaii State Department of Transportation, Mr. Kelvin Ogata. The Program Management team will keep track of the contractor's spend plan in accordance with the Program Management Plan which the contractor will deliver within 1 month of the contract award. The contractor will utilize a simplified Earned Valued Management (EVM) system in which each task will be assigned cost and schedule values. By tracking the schedule/cost, the Program Manger will easily assess cost/schedule impact of the project. The contractor has a lot of experience executing programs such as this using a comprehensive Program Management Plan and Earned Value Management concept (as was done for previous H2S-CIS programs). In addition, we have planned quarterly reviews and technical interchange meetings to determine the progress of the program. Based on the past experience, we have full confidence that this project will be executed within time and budget.

Other funding resources:

Beyond this investment request, no additional funding resources have yet to be identified for additional funding. We will be submitting proposals for future year PSGP requests to complete the H2S-CIS integration into the rest of the 10 Honolulu Harbors. Investments from FY06 and FY07, should we be fortunate enough to be awarded the grant, will complete 4 out of the 10 critical ports within the Port of Honolulu. In addition, the US Coast Guard has shown a serious interest in collaborating with the Hawaii DOT to collect data using the H2S-CIS technology. Furthermore, the State of Hawaii is looking into a long term maintenance contract for the system once all the systems have been installed.

Timeline and milestones:

All milestones and dates for the implementation of this investment will begin when the award is posted: We are proposing an 18 month project.

Month 0	Kickoff meeting
Month 1	Program Management Plan Complete
Month 4	Procurement of H2S CIS equipment & 1 st Quarterly Program Review (QPR)/Technical Interchange Meeting (TIM)
Month 8	2 nd QPR/TIM & Start Integration of H2S CIS equipment at Harbors
Month 12	3 rd QPR/TIM & Complete Integration of H2S CIS equipment
Month 16	4 th QPR/TIM & Complete Integration of Command Centers
Month 17	Training complete
Month 18	Final Program Review & Final Report

Planned duration:

We are proposing an 18 month project. We are proposing Phase 3 of H2S CIS to provide increased capacity of maritime domain awareness in one of the key areas with growing vulnerabilities. We plan to propose future PSGP proposals to complete rest of the 10 Port of

Honolulu's harbor installations. Once the installations are complete, the State of Hawaii will fund the maintenance of the systems.

Technical implementation plan:

The key technical implementation of this investment is the ability to obtain Maritime Domain Situational Awareness of very geographically diverse ports of Honolulu by using state-of-the-art sensors and sensor fusion and correlation capabilities of H2S-CIS. It is the only system that provides such capability to the State of Hawaii. Many systems provide surveillance of discrete ports/harbors without showing an integrated picture. In addition, this system will seamlessly pull in other capabilities such as Credentialing and Radiological Ambient Monitoring System (RAMS)/Radiation-Free IED Detection Systems (RFIEDS) to provide the Port of Honolulu authorities a complete Surveillance picture. Furthermore, this system pulls in other important capability such as Tsunami warning, earth quake warning, and weather information, that are critical to the Island living. All these extraneous information in addition to real time sensor/data picture being generated by H2S CIS at various ports provide a complete picture needed by the authorities of Ports of Honolulu to keep them secure.

H2S-CIS SYSTEM: The Hawaii Homeland Security Command Information System (H2S-CIS) began as a demonstration project for Hawaii State Civil Defense (SCD), sponsored by the Office of Domestic Preparedness (ODP), Department of Homeland Security, then subsequently has been integrated into the Hawaii State Capitol Building and is part of the planned integration for DOT – Harbors Division from FY2006 PSGP grant. The objective of H2S-CIS was to develop an integrated Homeland Security command, control and surveillance capability for the State of Hawaii by demonstrating how to capture widely dispersed, disparate sensor data and images generated at remote sites and transmit this information via secure Internet or Intranet connection to the various Command Centers. It is a command and control system that integrates Maritime surveillance radar, a camera (co-located with the radar), the Automatic Information System (AIS), as well as a separate surveillance camera system located at a State Critical Infrastructure facility. In addition, the California Integrated Seismic Network (CISN) is integrated, providing region wide earthquake information. A UAV will also be integrated into H2S-CIS system to provide an enhanced longer range optical surveillance. H2S-CIS utilizes existing state infrastructure, the Hawaii State Intranet system. This was important to maintain security and system control. The maritime radar, camera, AIS, and CISN are all tied into the State network to provide a common operational picture. These sensors are then controlled by operators located at the EOC. We have installed H2S-CIS sensor suite at Kewalo Basin. Both Radar and camera are strategically located to provide a comprehensive surveillance and situational awareness of the area of interest.

The video Surveillance and capability include: tracking of vessel movements into and out of Honolulu Harbors; tracking of targets identified by events; ability to capture still and streaming video images for real time viewing; attaching to event files or archiving; and archiving 30 days of images for future image and data analysis. Furthermore, images are obtained from a remote site using web based browser technologies, hence many of the operations are conducted at the Command Center vice at the individual ports/harbors.

Radar Surveillance: The radar provides detection ranges up to 48 nautical miles; it can target vessels within a specified area as well as identify targets exhibiting pre-determined behaviors (important for change detection); assigns automatic time and date stamps to all images allowing for historical data archiving and retrieval; and of significance, the radar is linked with the co-located camera, and is able to trigger video surveillance of a specific radar target, providing simultaneous radar and video surveillance.

Automatic Identification System (AIS): The AIS provides for automated tracking and identification of vessels having an installed AIS transceiver. It is capable of providing course speed and positional information, time stamp, radio call sign, name, type of ship/cargo, dimensions of ship, draught of ship, destination, and estimated time of arrival (ETA) at destination.

Display capabilities include: Six desktop monitors and six 50" Flat Panel monitors which enable operators to simultaneously view; Radar, AIS, Camera, alert logs, and stored database information.

Unmanned Aerial Vehicle (UAV): H2S-CIS will integrate an extended Surveillance System by incorporating a UAV into its architecture. This UAV will be equipped with a high end EO/IR sensor for extended range. This picture will be correlated and fused by the H2S-CIS Integrated Software.

H2S-CIS integrated software: A central feature of H2S CIS is the software that integrates the various sensors and data (radar, camera, AIS, and seismic) and provides the common operational picture. For example, the software provides: event reporting and tracking; event archiving and tracking; trigger time stamped and color coded new events by priority; sound audible alert tones; track events archived by year, month and day; filtered track events listed by date and time range; and allows for adding additional information easily by an operator, including the attachment of video and radar images to any event file. This software correlates and fuses disparate sensor data/information. Therefore, it is the heart of this Command and Control system that will meet the Port of Honolulu's needs.

This H2S-CIS demonstration system for SCD delivered significantly more than what was stated in the Hawaii SCD H2S-CIS proposal within budget and schedule; the radar and seismic information network provided a significant increased maritime security for the State of Hawaii.

BENEFITS OF THE H2S-CIS: The H2S-CIS system installed at the Port of Honolulu will provide a coordinated centralized surveillance and intelligence, including streaming video, radar tracking, and AIS data of maritime traffic. This information will enhance Harbor Division's ability to identify, track, and intercept potentially hostile small boat and waterborne threats, including those which may be carrying improvised explosive devices (IEDs). It will also allow for multi-sensor integration of information to include radar, Automatic Information System (AIS data) and EO/IR camera data. This will allow better vessel traffic management, in turn, provides a higher level of situational awareness – better management tools, hence improved port security. This management capability also allows for vessel tracking outside of the harbor area as well as small boat and fishing boat traffic inside the harbor, a capability the harbors division currently does not have. This improved situational awareness will aid in the detection and countering of IEDs. In addition, sensor tracking of vessels will allow for Harbor Division to develop vessel traffic patterns and trend analysis which could be used as key threat indicators if a vessel deviates from standard patterns, thus providing additional indications of a potential threat – determining the enemy's intent from behaviors is a method currently learned from and used in the Iraqi/Afghanistan theater of operation for IED search and detection. These patterns will allow for comparisons to national intelligence indicators to provide an added level of situational awareness in the event of out of the ordinary actions by small boats or vessels with unknown intentions. These traffic schemes and patterns will allow for pattern analysis and "Change Detection" - the ability to identify differences and possible IED indicators along standard shipping transit routes).

COMPATIBILITY WITH EXISTING SYSTEMS AT HARBORS: Hawaii State Civil Defense has installed H2S-CIS sensors at Kewalo basin as well as a planned installation at Barbers point and Honolulu Harbor. The proposed system would be integrated into the Hawaii State Civil Defense system and provide surveillance of the key Hawaii State Harbors. Currently, the H2S-CIS radar and camera system are located in a position to provide coverage at Kewalo basin located just outside of the Honolulu Harbor, in addition to planned installations at the Honolulu Harbor and Barbers point. With the addition of Kahului Harbor, the H2S-CIS system will allow for continuous and automated surveillance and recording of these vessel movements 24 hours a day, 7 days a week, allowing for a significant improvement in harbor security. The inherent compatibility of this system, would allow for seamless integration and a coherent common picture of the important ports of Honolulu.

SCALABILITY/EXTENSIBILITY: The H2S CIS is extensible and scaleable without system modification as an inherent part of its architectural design: (1) *Extensibility*: Extensibility is simply the ability of the system to expand its capabilities as requirements change or incorporate improved/new technologies as they become available. This system was designed with an open architecture software shell which allows for the incorporation of additional disparate sensor types as technology improvements in sensors occur, e.g., chembio, remote explosive detection systems or inclusion of more capable sensors to replace existing sensors as funding and requirements change. We will showcase this capability by integrating other projects proposed (Credentialing, PS3); (2) *Scalability*: H2S-CIS Architecture is also scaleable in that as the number of sensors or geographic area coverage increases, the system is capable of easily expanding by inclusion of additional sensors. The system can easily incorporate added sensors – the limitation becomes bandwidth and display screens, both of which can be increased as their upper limits are reached. For this project, we intend to incorporate the existing cameras, radars, EO/IR sensors, and a UAV fed optical sensor. As requirements are developed and additional funds become available, the system can be scaled up to include other existing port camera systems, incorporate additional camera installations, as well as add radars to provide coverage in other areas. Therefore, we can easily incorporate the Kahului Harbor into the total H2S-CIS capability of the State of Hawaii.

TRAINING CONSIDERATIONS AND REQUIREMENTS: The operation of the radar, AIS, the camera system, and UAV will require basic operator training to provide reliable accurate useful information to the operator. However, the systems are not complex and designed to be operated by persons with a minimal technical background. It is anticipated that the training requirements for all system operations should require no more than 1 week of training for the total system to include all hardware and software. Actual operation of the system should take no more than 16 hours of training: all system software is Windows based with GUI interface it will be intuitive and easy to learn and operate.

Hono_Honolulu_HawaiiStateDOTHarbors_IJ#2_Budget

We will contract with Hawaiya Technologies, LLC to implement the H2S CIS System. H2S CIS is Hawaiya Technology, LLC's product and is currently installed at the Hawaii Civil Defense and 3 of the 10 ports of Honolulu. We need this system in order to be compatible with the State Command and Control System as well as the State Capitol Command Center. Hawaiya Technologies, LLC pricing is based on the currently installed system at the Hawaii Civil Defense EOC and DCAA approved loaded rate. A sole source justification is provided below.

BUDGET DETAIL

Budget Category: Equipment

H2S-CIS Phase 3 Installation	Kahului	Kahului 2	Total
Software for Existing Cameras	\$6,325.00	\$6,325.00	\$12,650.00
AIS Antenna	\$220.11		\$220.11
AIS Receiver	\$1,201.75		\$1,201.75
Radar Power Supplies	\$374.62	\$374.62	\$749.24
Quad Flat panel Screens	\$30,360.00		\$30,360.00
Quad Flat panel Mounts	\$800.11		\$800.11
MISC Wires/Ethernet, etc.	\$1,265.00	\$1,265.00	\$2,530.00
Wireless Integration of Remote Sensors	\$63,350.00	\$63,350.00	\$126,700.00
Radar	\$9,487.50	\$9,487.50	\$18,975.00
EO/IR Sensor	\$25,300.00	\$25,300.00	\$50,600.00
Surveillance Camera	\$3,795.00	\$3,795.00	\$7,590.00
UAV	\$75,900.00		\$75,900.00
Sensor Mounting System	\$6,325.00	\$6,325.00	\$12,650.00
Matrix Card	\$822.25		\$822.25
Quad Operator Display	\$2,371.88		\$2,371.88
Server	\$5,060.00		\$5,060.00
8x8 Video Matrix Switch	\$4,237.75		\$4,237.75
Matrix Switch Input/Output 16 Devices	\$4,427.50		\$4,427.50
Digital Video Recorder	\$8,222.50		\$8,222.50
CIS Workstation	\$3,795.00		\$3,795.00
Total Material Cost:	\$253,640.97	\$116,222.12	\$369,863.09

The pricing includes One (1) command center and two location sensor integrations. This also includes a UAV for extended Surveillance Range. This is the list of equipment and materials necessary to install the Hawaii Homeland Security Command Information System (H2S CIS) in three of ten Port of Honolulu Harbors. This list will be purchased as an integrated working product as part of the product purchase with Hawaiya Technologies, LLC.

The success of this project depends on the procurement of this system in order to fully exploit waterside protection requirements against the high potential of a waterside attack by small watercraft. This system will also be complimented in the future by waterside barrier systems that are currently in the research and development stages. Because of this, waterside protection provided by these boats will greatly enhance our capability to patrol, provide surveillance, and respond to this vulnerability at the Maui County's most important ports.

Budget Category: Contracts

Port of Honolulu - Kahului Harbor H2S CIS Integration	Hours	Loaded Hrly Rate	Total
Program Manager/Systems Engineer	1880	\$147.17	\$276,685.00
Systems Analyst	1880	\$55.19	\$103,756.87
Sr Software Engineer	1200	\$64.39	\$77,265.76
RF Engineer	940	\$59.79	\$56,201.64
Hardware Engineer	1880	\$50.59	\$95,110.47
Operations Analyst	1880	\$36.79	\$69,171.25
Total Labor			\$678,190.99
Materials			\$369,863.09
Inter-Island TDY for Installation	5 Trips, 3 People, 5 Days		\$15,000.00
Total Before Hawaii GET			\$1,063,054.08
Hawaii General Excise Tax		4.7120%	\$50,091.11
Total Port of Honolulu Kahului Harbor			\$1,113,145.19

The State procurement system will be used allowing for a sole source request. The following information is provided on the request for sole source justification. If this project is approved, a Governor's message will be prepared for all projects approved by this grant.

SOLE SOURCE JUSTIFICATION FOR HAWAIIA TECHNOLOGIES

1. A brief description of the procurement and what is being purchased for:

The State of Hawaii is unique among all the states. Hawaii has a particularly challenging problem in the protection of ports and critical infrastructure because of its dispersed islands and unprotected borders. It is the only island state with seven principal islands surrounded on all sides by international borders, open ocean, and hundreds of miles of often rugged coastline.

Currently, the State of Hawaii has no integrated coastal surveillance systems nor ANY integrated port or port approach surveillance capability, incorporating sensors to detect such threats as Improvised Explosive Devices (IED). At the present time, Kahului Harbor has an array of cameras installed to conduct surveillance in a variety of areas but without the benefit to correlate, fuse, or produce a composite picture. An integrated command system could accomplish this. While the Navy provides surveillance of Pearl Harbor and the Air Force and FCC have approach radars for Honolulu International Airport, there exists no other surveillance coverage for the Port of Honolulu, borders or of the international sea lanes

approaching the state. Therefore, protection of tourism, security of trans-shipments through the Kahului Harbor, and counter-terrorism, create a need for an interoperable and robust surveillance, and command and control (C2) capability that can tie various DHS, DOD, and first responder local agencies in the event of a natural or man-made disaster.

Hawaiya Technologies, LLC will install a command, control and surveillance system, the Hawaiian Homeland-Security Common Information System (H2S CIS), which was procured by Hawaii State Civil Defense for the integration of widely dispersed, disparate sensors (including both electro-optical and radar-with a potential for incorporating chemical and biological sensor data) and display those sensors data in a Command Center. We are proposing this system since we must be compatible with Hawaii State Civil Defense, planned DOT Harbors installations on Oahu, as well as to take advantage of an already proven technology.

2. An explanation of why it is necessary to purchase non-competitively:

H2S CIS employs state-of-the-art information technology in delivering a unique low cost homeland defense port security command and control surveillance system not available elsewhere and is currently filling a significant technology and security gap for the State of Hawaii. As with many commercial technologies, H2S CIS was initially developed internally by Hawaiya Technologies, LLC for the adaptation of command and control technologies to the Hawaii specific needs. Hawaiya Technologies, LLC has in-depth knowledge of the state of Hawaii homeland defense needs, specifically the port security needs, and as such is the only company who is qualified to install H2S CIS for Kahului Harbor Surveillance Port Security System. Therefore, H2S CIS is based on a system developed by Hawaiya Technologies and, hence there is no other entity that can take this product and adapt it for Honolulu Port Security use within the timeline and funding allocated for the implementation. Lastly, this is a readily available system at this cost and value that can provide the capability we need. We have installed the same system at the Hawaii State Civil Defense and are planning to install H2S CIS on two of our major harbors on Oahu. Installing the same system is vitally important to address the very important compatibility issues of integrated Homeland Security needs of State of Hawaii. H2S CIS is the only system that will preserve the compatibility among the command, control, communications, surveillance, and intelligence needs of State of Hawaii.

- a. Expertise of the Vendor:** The Hawaiya Technologies, LLC team is composed of personnel with a broad mix of operations, business, management, technical, and engineering expertise. The Hawaiya Technologies, LLC team possesses extensive military operational, future requirements, and Command, Control, Communications, Computer, Intelligence, and Surveillance (C4ISR) expertise as well as extensive software and project security technical expertise. The extensive military experience is vitally important to understand and implement a security system that will target Improvised Explosive Devices (IED). In addition, the key members of the Hawaiya Technologies Team have extensive experience with Maritime and Naval operations (over 60+ combined years of experience). In addition, Hawaiya Technologies, LLC is currently developing a mobile command and control system for the Navy/Marine Corps that can be transported anywhere in the world by a V-22 Osprey. This is the only system of its kind in the Department of Defense. Therefore, the vendor is highly capable and competent to execute this program to meet the Kahului Harbor's needs.

- b. Management:** This program will be managed by State of Hawaii, Department of Transportation, Harbors Division. Hawaiya Technologies, LLC will be the prime vendor as Hawaiya Technologies, LLC has in-depth understanding of Honolulu Port Security needs. Hawaiya Technologies, LLC as the system engineers will be responsible for integrating other sensors and information technologies into the Harbor's and SLEC's command and control center. Therefore, we plan to contract to Hawaiya Technologies, LLC to provide the overall management of Kahului Harbor's Port Security grant projects. Hawaiya Technologies, LLC will be submitting a comprehensive project management plan as its first deliverable, which will clearly outline the tasks, metrics, and costs. This will be used by Honolulu Harbor Security to manage and assess the project.
- c. Responsiveness:** Hawaiya Technologies, LLC has shown exceptional responsiveness through various activities with Hawaii State Civil Defense as well as key Department of Defense command and control projects, and recently for the Hawaii State Capitol Building, where Hawaiya Technologies, LLC is installing the Capitol Building Surveillance System on time and on budget . Examples are the execution of H2S CIS system and the company's extensive commitment for developing a DHS training capability for the state of Hawaii, Alaska, and the US Territories in the Pacific. Additionally, a key member of Hawaiya Technologies, LLC was a moderator and provided support at the Asia Pacific Homeland Security.
- d. Knowledge of the Program:** As this technical concept was originated and implemented by Hawaiya Technologies LLC, there is no other organization in the state of Hawaii that matches the capability of Hawaiya Technologies, LLC in implementing this technology within the cost and timeline proposed. The key members of the company were instrumental in determining the requirements, identifying the technical concepts, approach, demonstration plan, and implementing the system. Therefore, there is no other entity that matches the knowledge of the program as that of Hawaiya Technologies, LLC.
- e. Expertise of staff personnel:** Hawaiya Technologies LLC's technical team is led by a Systems Engineer with over 30 years of Maritime and Naval operational leadership and technical program lead experience in C4ISR. Specifically, the lead engineer has significant technical knowledge in advanced sensor development, communications and intelligence engineering architectures, mechanical engineering, as well as implementing operational capabilities from over 30 years of military service (Naval). The Program Manager was responsible for successfully managing multi-million dollar projects for the department of the Navy, in addition to having extensive background on Naval Operations. The Program is also a formal naval officer with over 30+ years of experience in underwater mines and explosive devices, which is needed to understand the scope of IED threats. In addition, the program manager has extensive experience with program security plans for complex DoD technologies and operational security issues. The lead software engineer, a prior Army intelligence specialist, has over 15 years of technical software development experience in the fields of object tracking, Geo-location, and spatial mapping. This collective experience is the essential expertise necessary to successfully execute this project.

3. Time Constraints:

When procurement coverage is required and why: As Kahului Harbor in Maui County does not have an integrated surveillance system such as the H2S CIS, implementation of this system is time critical in combating threats such as IED. In addition, Kahului Harbor

must be integrated with Hawaii State Civil Defense as part of a baseline program for a statewide security infrastructure. Hawaiya Technologies, LLC is the only performer who can provide this in a timely manner. Proposed period of performance for the integration of H2S CIS system for the Oahu District is 01 September 2007 through 31 December 2008, duration of 18 months. As stated in the proposal, currently, the Kahului Harbor has no integrated coastal surveillance systems nor ANY port or port approach surveillance tracking capability, visual or radar. It is the only island state with seven principal islands surrounded on all sides by international borders, open ocean, and hundreds of miles of often times rugged coastline. This makes securing the borders of the Hawaiian islands very difficult – making Hawaii vulnerable to potential terrorist threats. Therefore, we need H2S CIS capability now and the implementation should begin as soon as possible and the only performer that can make this happen is Hawaiya Technologies, LLC.

Impact on the program if dates are not met: Of all the states, because of our unique geography, we remain one of the most vulnerable areas within our country. But more importantly, Kahului Harbor has been identified by the Office of Domestic Preparedness (ODP) as one of 66 critical ports that need to be protected based on an extensive threat study performed by ODP. Therefore, if the dates are not met, we continue to be vulnerable to external threats.

How long it will take another vendor to reach the same level of competence: H2S CIS is installed at Hawaii Civil Defense and it is based on a Research & Development Prototype and proven technologies. H2S CIS has also been demonstrated to by the Coast Guard in the State of California. The system is based on commercial displays, PCs, cameras, and open architecture software. The software developed is already developed by Hawaiya Technologies, LLC, for rapid technology transition to other command centers within the state of Hawaii, such as the Kahului Harbor as well as other state and local government entities. Hawaiya Technologies, LLC developed the H2S CIS system for the past few years – but the knowledge and the system concept have been in development for the past seven years by the principals of Hawaiya Technologies, LLC. The cost of reinventing this concept and the technology would exceed triple the cost of the grant, not to mention the extended duration of the contract in order for Kahului Harbor security to obtain and implement the capability if it were to be recreated. Should a different system be procured, then it would not be compatible with the Hawaii Civil Defense System, nor the currently planning installations on two major harbors on Oahu, and would make scalability and extensibility very difficult and costly. Based on this, it would take in the order of three times the length as well as approximately three times the cost of implementing this capability if another vendor were chosen. We have canvassed the technical community and have determined that no other company has the capability to implement the H2S CIS system other than Hawaiya Technologies, LLC.

4. Uniqueness:

This proposal is unique on many fronts: Hawaiya Technologies, LLC's unique ability to fully understand the needs of defense of Kahului Harbor; Hawaiya Technologies unique implementation of state-of-the-market technologies with proven capability; Hawaiya Technologies key technical and management team; Hawaiya Technologies proven ability to install this system by December 08 for the Maui District, where no other vendor can provide this within the proposed cost and time.

5. Other. Any other points that should be covered to "sell the case":

The Hawaiya Technologies team has proven in-depth understanding of the needs, the technical solution, and an approach for successful demonstration, as they have successfully demonstrated the H2S CIS system for Hawaii Civil Defense and planned for installation on major Oahu harbors. Changing a vendor to implement H2S CIS at this point would be detrimental to the protection of the state of Hawaii, especially the most critical border, the Kahului Harbor. We should not delay the implementation of this critical technology.

6. Declaration:

This action is in the best interest of the Agency and defense of Hawaii homeland defense, i.e., Honolulu Port Security.

G. Other Costs: Not Applicable

H. Indirect Costs: Not Applicable