



HELICOPTER SAFETY ADVISORY CONFERENCE

May 15, 2014

**Hilton Garden Inn and Lafayette Cajundome
Lafayette, LA**

MINUTES

AGENDA May 14 and 15, 2014 (Attachment #1)

INTRODUCTION

- Chairman Mark Fontenot called the meeting to order at 08:30 and welcomed members and guests.
- Read Antitrust Statement
- Introduction by Attendees

HSAC WORK GROUP COMMITTEE REPORTS

Flight Following / ADSB / UAV – Terry Gambill

- Minutes: *Attachment #2*

Technical Committee – Robert Amedeo

- RP, Draft – Fatigue Management: *Attachment #3*
- RP, Draft – Quality Control: *Attachment #4*

Aerial Observation Committee – Tim Doty

- Tom Buchner – Safety Statistics
- Tim Doty announced to the Committee that this meeting would be his last as Chairman of the Aerial Observation Committee.

RP Committee – Gary Tucker

- Sean Ourso – Panther Helicopters
 - Methane Ingestion
 - Accident Review (NTSB Website)



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- Steve Rauch – BSEE (www.bsee.com)
 - Methane Venting (**Attachment #5**)
 - Aviation Safety Study (**Attachment #6**)
 - Helidecks and Fuel Systems will be included in the review

- Eric Shores
 - New helideck construction
 - Collate and move to API Committee

HSAC COMMITTEE REPORTS

Treasurer's Report – Joe Gross

- Treasurer's Report: **Attachment #7**

Vice Chairman – Bob Hall

- Tony Randall, Bell Helicopter – Manager of Continual Operational Safety
 - BH407 Polycarbonate Windshield Replacement Kit
 - Concept models and prototype on 206L-series mid 2015
 - BH429 windscreens also 2015

Safety – Terry Kaufman

- Mark Fontenot briefed on upcoming hurricane season

Martha Wood & Joe Daniele– Lockheed Martin

- Increased IFR traffic
- If filing flight plan with 3rd party, may have to again file with LM



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FAA ADS-B Program – Glenn Meier

- 800 ADS-B site installed
- 37 Terminal sites using ADS-B
- Presentation *Attachment #8*

HSAC in Trinidad – Mark Fontenot, Chairman

- Add to HSAC website?
- Invite members to attend US meetings

Fish Spotter – Mark Fontenot

- Fish companies do not own aircraft and now contact flight
- No contact or participation in HSAC from fish spotter aircraft

Next HSAC Meeting will be October 15th and 16th – Sheraton North Houston Hotel; 15700 John F. Kennedy Blvd; Houston, TX 77032

HELICOPTER SAFETY ADVISORY CONFERENCE



DATE April 28, 2014
 TO: HSAC Membership
 SUBJECT: **HSAC Meeting May 14th and 15th 2014**

Attached is the agenda for the May meeting of the Helicopter Safety Advisory Conference (HSAC).

Hilton Garden Inn
2350 West Congress Street, Lafayette, La. 70506
1-337-291-1977
<http://hiltongardeninn3.hilton.com/en/index.html>

May 14th

06:30 to 07:45	Agusta Westland Breakfast	Agusta Westland
08:00 to 12:00	Aerial Patrol Work Group	Tim Doty
08:00 to 12:00	Technical Work Group	Robert Patrick
08:00 to 12:00	Flight Following / ADSB/ UAS	Terry Gambill
08:00 to 12:00	RP Work Group	Gary Tucker
12:00 to 13:30	Lunch (On your own for work groups)	
	HSAC Work Group Reports	
13:30 to 16:00	HSAC Work Group Reports	Mark Fontenot
	RP Work Group	
	Flight Following / ADSB / UAS	
	Technical Committee	
	Aerial Observation	
16:00 to 17:00	Steering Committee Meeting	
1700 to 1900	Bell Hospitality Social for all...	

HELICOPTER SAFETY ADVISORY CONFERENCE Contd:

May 15th 2014

06:30 to 07:45 Airbus Helicopters, Inc. Breakfast Don Baenen

07:45 to 08:15 Registration

08:15 to 12:00 Regular HSAC Membership Meeting - **Note; Held at the
Cajun Dome Convention Center**

1. Introductions and Opening Remarks Mark Fontenot
2. HSAC – Work Group reports
 - Flight Following / ADSB / UAS Terry Gambill - Todd Chase
 - Matt Ziska - Aerovironment
 - Technical Committee Patrick Robert
 - Aerial Observation Tim Doty
4. HSAC Committee Reports
 - Treasurer's Report Joe Gross
 - Secretary's Report Ron Domingue
 - Vice Chairman's Report Bob Hall
 - Safety Terry Kaufman
 - Government Liaison Steve Smeltzer
 - Lockheed Martin - Martha Wood and Joe Danielle

HELICOPTER SAFETY ADVISORY CONFERENCE Contd:

May 15th 2014

- Heliports and Airways: RP2L1 Update Ken Kersker
- Industry Liaison Updates - Mark Fontenot
- FAA ADS-B Program Glenn Meier
- Update
4. Fish Spotter Activity TBD
- New Business: General Discussion Mark Fontenot
5. Closing Comments and the next meeting announcements.
6. FAA AIC meeting 13:00-14:00 Glenn Meier , Alan Overbey and Roseanne Albrecht

1200 to 1300 Sikorsky Luncheon for all members.

2014-2015 MEETING DATES	
January 2015 TBD	Four Points by Sheraton New Orleans La
May 2015 TBD	Hilton Garden Inn and Cajun Dome, Lafayette, LA
October 15th and 16th 2014	Sheraton North JFK Blvd Houston, TX

Meeting Minutes

May 14, 2014

Aeronautical Frequency Committee Meeting – February 11-13, 2014

1. Wireless avionics will likely share bandwidth with radar altimeters.
2. Amateur use of wireless bands is being monitored for interference.
3. Movement is being made towards broadband over power lines. This will have to be monitored for interference due to poorly insulated lines.
4. Noise interference is being experienced in some cases on SAR 406.1.
5. FAA DataComm program is moving along.
 - a. They will begin with Clearance Delivery at towers in 2015.
 - b. Trials are being conducted at Memphis and Newark.
 - c. New Orleans is scheduled for 1st Quarter 2016
 - d. ARTCCs will be scheduled for 2017.
 - e. Site surveys are complete at SLC, IAH, and HOU
6. Iridium I-3 satellites end of life is 2016. They are replacing them with I-4, which will not provide all of the services I-3 provides.
7. Radio Station Inspections are being conducted with the following findings:
 - a. Radios being used that are not on license.
 - b. Radios licensed, but not used.
 - c. Frequencies that are not licensed are being used.
8. Update on International happenings that may eventually affect U.S.
 - a. VHF frequencies in the UK cost \$13,000 per year.
9. Future AFC Meetings
 - a. Vancouver, BC – June 10-13, 2014
 - b. New Orleans, LA – October 7-8, 2014

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Frequency Use RP

1. The workgroup finalized an HSAC Recommended Practice for frequency use.
2. The RP addresses use of en-route, ground, CTAF, Fish-Spotter, and Offshore Air-to-Air frequencies.
3. The RP will be presented to the Steering Committee at the October meeting in Houston.

CTAF Frequency at Grand Isle, LA

1. The Grand Isle CTAF frequency 122.90 is not active.
2. PHI Fourchon base monitors 129.10, and if they hear anyone calling Grand Isle traffic on 129.10, they advise them of the new CTAF.

CTAF Frequencies at Galliano and Boothville/Venice areas

1. The issue of Galliano and Boothville/Venice areas having the same CTAF frequency 123.0 was mentioned.
2. We will look into the possibility of having one of the two changed.

HSAC Frequency Cards

1. The 2014 HSAC Frequency card is out.
2. The 2014 card is gray.
3. A form was made available for people to list a contact for their organization and to request cards.
4. We will have an IT person available at the next meeting in Houston to advise us on what it would take to create an electronic version of the card.
5. Lockheed Martin Flight Service said they could talk to ForeFlight about what it would take to create an electronic version.

GCR Survey of Gulf of Mexico Helidecks

1. GCR is looking for input on a naming convention (identifiers) for the database of Gulf of Mexico helidecks.
2. It is important that we provide input to GCR, in order to prevent something being created that we do not want.

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Houston Center

1. Jacksonville ARTCC was unable to obtain travel funds to attend the meeting, but will be at the Houston meeting.
2. Jacksonville has no knowledge of low level operations in the Gulf, and will be receiving a presentation from some of the operators concerning the amount of activity in the Gulf, how the procedures work, and the Grid system. They will also be able to observe Gulf of Mexico traffic being worked by Houston Center.
3. John Beckman briefed the group on the recent Houston Center frequency outages, and what caused them.

ADS-B

1. BP has requested an AWOS for the Thunderhorse.
2. There is a need for operator input on where we need to go with systems that are located in areas that are being shut down.

UAV

1. Jim Adams, ConocoPhillips; briefed the group on the latest information about UAV initiatives.

New Item

1. At the last meeting a request was made to establish a clearance delivery frequency in the Boothville/Venice area.
2. Discussions with the FAA have revealed that the best option for the area is to place a GCO at one of the locations. Everyone would be able to access the Center through that GCO.

National Weather Service

1. Todd Moggud from the Lake Charles NWS office, advised the group that the NWS no longer has anything to do with SAWRS and LAWRS locations. The FAA is now responsible for these locations, and will be the certifying authority.
 - a. We will have to research this information to determine who we contact for issuance of the exams/certifications.

Attendance

1. There were fourteen individuals in attendance at the workgroup meeting.



**HSAC – RP
2012 -1
Fatigue
Management**

Draft

Background

Aviation maintenance personnel face a particular risk of fatigue due to night shift work, the potential for long and unregulated duty times, and the sleep disruption that can result from these working conditions. Most countries do not have regulations or policies that address duty limits for maintenance personnel.

Aviation companies should develop a fatigue management plan that addresses duty time for maintenance personnel. This plan should be part of a comprehensive Safety Management System (SMS) model, through which hazards are identified and risk is managed.

**Recommended
Practices**

1. The following guidelines cover areas which may be considered when developing a pro- active fatigue management program.

- Scheduled work periods should not exceed 12 hours in any 24-hour period
- No shift should be extended beyond 13 hours without management approval
- A minimum rest period of 8 hours
- **Travel time considered as part of duty day**
- There should reasonable periodic work breaks throughout the duty day
- **Have a Human Factors Training requirement annually**
- **Lone worker policy**
- **Consideration for adverse environmental conditions (weather, noise & lightning)**
- **Avoid complex tasks late in the work shift**
- **Careful use of caffeine products (energy drinks, excessive amounts of coffee)**
- **Fitness for duty (health and medical conditions)**
- Notes;
 - CHC Safety Summit fatigue risk management to be added/considered ; Action Bristow
 - HAI Risk Assessment tool from Eurocopter to be reviewed for possible inclusion - Action HAI

Detailed guidance can be found on the FAA web site:

https://primis.phmsa.dot.gov/crm/docs/FRMS_in_MX_OAM_TR_HobbsAversHiles.pdf



HSAC – RP – 2014-1 Quality Control

Background

Each operator should have a Quality Control Department and process to ensure that the acceptance and airworthiness of aircraft to include parts and components meet industry standards and company guidelines.

Recommended Practices

1. **The following guidelines cover areas which may be considered when developing a Quality Control program.**
 - Quality Assurance and Quality Control departments should be separate and independent with reporting lines only to senior management within the organization.
 - A process that ensures regulatory compliance is maintained
 - Competency procedure that ensures that inspectors are qualified to hold the required position
 - Continuous improvement of maintenance programs and inspection process should be driven by the QC department.
 - The QC department should be responsible for the status of all applicable publication's.
 - A precision tool calibration process is over seen by the QC department
 - Accurate recording keeping of all life limited parts along with maintenance / inspection schedules, and manufactures bulletin's
 - Documented procedures to ensure that parts that are received have gone through a qualified inspection program prior to acceptance

Information pertaining to Quality Control procedures and self-verification procedures may be found at the Aviation Suppliers Organization.

<http://www.aviationsuppliers.org/Accreditation-Steps>

Safety Alert No. 311
1 May 2014

Contact: Steve Rauch
Phone Number (703) 787-1763

Methane Venting Hazard to Helicopter Operations

Discussion: There is a need for increased awareness of the hazard that methane and other combustible gases pose to helicopter operations on offshore oil and gas facilities. On March 24, 2011 a helicopter accident occurred that the NTSB attributed to “The loss of engine power due to an engine compressor stall as a result of ingesting methane gas during takeoff.” (see [CEN11LA252](#)). Two other accidents with similar circumstances occurred in 2013 and are currently under investigation.

Methane is a colorless, odorless gas that is lighter than air and extremely flammable. It is a natural by-product of oil production that may be captured for commercial purposes, but could be vented or flared to the atmosphere to control a sudden over-pressurization.

When vented, it can drift over the helideck where it can be ingested by the engine and act as unmetered fuel potentially causing the engine to overspeed or fail. For this reason offshore facilities generally place methane booms as far away from helidecks as practical.



In 2010 the Helicopter Safety Advisory Conference ([HSAC](#)) updated Recommended Practice ([RP](#)) [92-4](#) warning pilots, and Oil and Gas Operators, of the hazards of methane venting/flaring and providing guidance for safe operations. RP 92-4 states “*Ignited flare booms can release a large volume of natural gas and create a hot intense heat with little time for the pilot to react. Likewise, un-ignited gas vents can release reasonably large volumes of methane gas under certain conditions. Thus, operations conducted in close proximity to un-ignited gas vents require precautions to prevent inadvertent ingestion of combustible gases by the helicopter engine(s).*”

RP 92-4 warns pilots:

- (a) Gas will drift upwards and downwind of the vent. **Plan the approach and takeoff to observe and avoid the area downwind or directly over the gas vent, remaining as far away as practicable from the open end of the vent boom.**
- (b) **Exercise caution when starting or landing on an offshore helideck when the deck is downwind of a gas vent.**

RP 92-4 also advises Oil and Gas Operators:

- Notify nearby helicopter operators and bases of the hazard for planned operations.
- Wind socks or indicator should be clearly visible to provide a clear indication of the wind direction for the pilot.
- High volume large gas vents should have red rotating beacons installed to indicate when gas is venting.

The intent is that the wind sock be unobstructed by equipment or other objects on the structure and clearly visible to the pilot during his approach.

In addition to HSAC RP 92-4, the American Petroleum Institute (API) also recognizes the threat methane venting poses to helicopters and is considering this issue in the rewrite of API RP 2L. The draft 2L-1 (1 of 3 documents to replace API RP 2L) for “New Build Helideck Design” recommends:

- sources of these discharges be located as far as practicable away from the helideck and oriented so the typical prevailing wind will carry the discharges away from the helideck area.
- sniffers or other detection devices (infrared, etc.) to detect these discharges and automatically trigger status lights when discharges may present a hazard to pilots.

Despite engineering efforts to minimize the effects of methane, it is an inherent by-product of production that will continue to be released and continue to affect helicopter operations.

BSEE recommends that helicopter companies, pilots, and offshore Oil and Gas Operators thoroughly review and adhere to the guidance provided in HSAC RP 92-4 and company policies. Remember, these mitigation measures will minimize, but not eliminate, the hazards posed by vented methane.

Alertness by the pilot to the winds, the warning light(s), and to the aircraft’s performance is essential.

-BSEE-

www.bsee.gov

A **Safety Alert** is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding an accident or a near miss. It also contains recommendations that should help prevent the recurrence of such an incident on the Outer Continental Shelf.

Statement of Work for Aviation Safety Study

1.0 Introduction

The Bureau of Safety and Environmental Enforcement (BSEE), an agency of the U.S. Department of the Interior, is charged with working to promote safety, protect the environment, and conserve resources offshore through vigorous regulatory oversight and enforcement of, offshore facilities engaged in oil and gas exploration, development and production operations on the Outer Continental Shelf (OCS).

BSEE compiled data and information from 1998 through 2013 indicating that numerous mishaps involving helicopter operations on or near offshore facilities have resulted in fatalities, injuries and/or substantial property damage. Further, a report from the Centers for Disease Control (CDC) and Prevention issued in April, 2013, stated the leading cause of death for offshore (drilling) workers between 2003 and 2010 was the transportation to or from the offshore facility.

The Federal Aviation Administration (FAA), the United States Coast Guard (USCG), and BSEE address various aspects of offshore aviation safety in their respective regulations. However, BSEE's regulations for OCS facilities do not explicitly address helicopters, helidecks or aviation fuel. BSEE's regulations do incorporate by reference, and thus require compliance with, several industry standards that address some safety issues related to helidecks and the presence of helicopters and aviation fuel storage and refueling systems on fixed offshore facilities; however, there are gaps in coverage.

2.0 Background

In a Memorandum of Agreement (MOA) dated September 30, 2004 (No. OCS-01), the Minerals Management Service (MMS, now BSEE) and the USCG agreed on how to share certain responsibilities for regulation of OCS facilities. Under that MOA, MMS (now BSEE) and USCG agreed that MMS (now BSEE) has the lead responsibility for helicopter landing, fuel handling and storage on fixed offshore facilities and that USCG has the lead for the same systems on mobile offshore drilling units (MODUs) and other floating offshore facilities.

Similarly, the FAA, which regulates onshore helipads and onshore and offshore helicopter flight safety, has recognized that BSEE has primary responsibility for helidecks on fixed offshore facilities and that USCG has primary responsibility for "shipboard and relocatable" helidecks.

3.0 Objective

BSEE will use the results of this study to consider the revision, development and implementation of additional policy and regulations aimed at reducing the risk of human injury and fatality resulting from helicopter operations on the OCS.

4.0 Scope of Work

The Contractor shall perform the following tasks:

Statement of Work for Aviation Safety Study

- 4.1 Develop inspection procedures, enforcement guidance and supporting training module for BSEE inspectors.
 - 4.1.1 Ascertain baseline international offshore aviation regulations and industry standards currently in place globally and compare and contrast to existing aviation safety regulations, standards, and recommended practices applicable to U.S. OCS oil and gas operations.
 - 4.1.2 Determine the design and construction standards applicable to each class or type of fixed offshore facility.
 - 4.1.3 Conduct a review of API RP 2L (*Recommended Practice for Planning, Designing, and Constructing Heliports for Fixed Offshore Platforms, 4th Ed., 1996, reaffirmed 2012*), HSAC RP 2004-1 (*Offshore Helideck Inspections*), HSAC RP 2004-02 (*Jet Fuel Quality Control Procedures*, revised May 2012), HSAC RP 2004-07 (*Helideck Hazards*), and HSAC RP 2008-01 (*GOM Helideck Markings*), and develop a checklist/audit protocols for each standard (to be determined by the contents of the standard/RP).
 - 4.1.4 Assess whether existing BSEE Potential Incidents of Non-Compliance (PINC)s meet the expanded oversight requirements intended by the proposed draft Advanced Notice of Proposed Rulemaking (ANPRM¹), API RP 2L, HSAC RP 2004-1, HSAC RP 2004-02, HSAC RP 2004-07, and HSAC RP 2008-01, and identify potential issues that should be addressed in BSEE PINCs.
 - 4.1.5 Develop training module for BSEE inspectors based on the current versions of API RP 2L, HSAC RP 2004-1, HSAC RP 2004-02, HSAC RP 2004-07, and HSAC RP 2008-01, to be incorporated into the BSEE Offshore Training Center curricula.
 - 4.1.5.1 The contractor shall develop curriculum that will be comprehensive and allow for approximately 4-8 hours of instruction to BSEE inspectors. The curriculum will cover the core elements of each topic listed in API

¹ The ANPRM seeks comments on improving safety and environmental protection for operations related to helicopters and helidecks on fixed OCS facilities. Specifically, whether BSEE should propose to incorporate by reference in its regulations certain industry and/or international standards for design, construction and maintenance of offshore helidecks, as well as standards for aviation fuel quality, storage and handling on fixed offshore facilities. Alternatively, should BSEE (a) develop and propose new government standards for safety of helidecks and aviation fuel systems or (b) propose to require OCS facilities to submit aviation-related safety plans for helidecks and offshore aviation fuel systems. The ANPRM also seeks additional information on past accidents or other incidents involving helidecks, helicopters or aviation fuel on or near fixed OCS facilities.

Statement of Work for Aviation Safety Study

RP 2L, HSAC RP 2004-1, HSAC RP 2004-02, HSAC RP 2004-07, and HSAC RP 2008-01, and subjects from any documents referenced therein.

4.1.5.2 The contractor shall develop course materials for the curricula referenced in section 4.1.6.1 in a format that is reproducible by BSEE, is comprehensive and is easy to modify as new information becomes available. In addition to text, the presentations shall include any applicable charts, diagrams, pictures, videos, and excerpts from API RP 2L and other source documents.

4.2 Perform a system integrity assessment of the aviation fueling network² currently in place on the OCS used to support the flights of all aviation vendors. Elements of the system integrity assessment are outlined below, followed by two subtasks: 4.2.1) system safety assessment, and 4.2.2) network feasibility assessment.

- Identify the current state of the aviation refueling system used to support the offshore oil and gas industry in the Gulf of Mexico OCS.
- Identify best practices, latent systems hazards, and control measures used for offshore aviation refueling.
- Identify existing Governmental oversight of aviation refueling on the OCS and compare US policies to those of foreign governments that have offshore oil and gas industries.
- Determine whether existing US policy and subsequent regulations provide appropriate oversight commensurate to the known risks and develop recommendations regarding the extent and type of BSEE oversight needed (rulemaking v incorporation into a Safety and Environmental Management Systems program) if existing US policy is deemed inadequate.

4.2.1 System safety assessment shall cover:

4.2.1.1 Physical systems

4.2.1.2 Operating procedures

4.2.1.3 Refueling procedures

4.2.1.4 Training

4.2.1.5 Mishap data

² The aviation fueling network and the availability of fuel to aviation users in the Gulf of Mexico fluctuates frequently as platforms, MODUs, or vessels with fueling systems are either added, moved, or removed from the OCS.

Statement of Work for Aviation Safety Study

- 4.2.1.6 Any other relevant information from the operators and helicopter companies
- 4.2.2 Network feasibility assessment shall cover:
 - 4.2.2.1 Current operating activities
 - 4.2.2.2 Planned or anticipated development of the OCS going forward
 - 4.2.2.3 Planned facility decommissioning and moth balling
 - 4.2.2.4 Ownership or operating control of facilities and how this applies to OCS fueling procedures
 - 4.2.2.5 Facility profile: age of platform, size of platform/helideck configuration, load bearing capability
 - 4.2.2.6 Location of refueling stations vs. distance from shore and other sources of fuel (i.e. other OCS fueling stations)
- 4.3 Assess and improve survivability following helicopter mishaps involving water landings/crashes on the OCS. Conduct a study focusing on personnel training and personal protective equipment requirements for BSEE personnel. The contractor shall:
 - 4.3.1 Assess the risks to personnel who do not have Helicopter Underwater Egress Training (HUET) during a helicopter emergency landing in the OCS. Compare those risks to the risks of actually conducting HUET (fatalities, serious injuries, lost time injuries) for BSEE personnel and passengers on BSEE contract aircraft.
 - 4.3.2 Recommend whether the type and degree of HUET should be dependent upon the individual's duties, on how frequently an individual travels offshore (exposure to risk defined by flights per year), on how many times an individual has previously taken HUET, on the individual's age or physical condition, and other factors identified during the study. Determine categories of personnel for whom HUET training should be required, recommended, or not recommended.
 - 4.3.3 Assess the risks and effectiveness of HUET training using the Modular Egress Training Simulator (METS) as compared to other "dunker" systems.
 - 4.3.4 Recommend the type of water survival training (if any) that is appropriate. Factors to be addressed are academic training, in-water training, use of METS, use of Emergency Breathing Systems (EBS), etc.
 - 4.3.5 Recommend the frequency for water survival training (i.e. initial training only vs. initial and refresher training). If refresher training is recommended the study will address the frequency and the type of training/syllabus.

Statement of Work for Aviation Safety Study

- 4.3.6 Recommend whether the type and degree of water survival training should be dependent upon the individual's duties, on how frequently an individual travels offshore (exposure to risk defined by flights per year), on how many times an individual has previously taken water survival training, on the individual's age or physical condition, and other factors identified during the study. Determine categories of personnel for whom training should be required, recommended, or not recommended.
- 4.3.7 Assess the risks and benefits of using a compressed air Emergency Breathing System (EBS). Compare the risks/benefits of compressed air EBS to other EBS and to egress without an EBS.
- 4.3.8 Recommend the type of EBS equipment (if any) that is appropriate for BSEE personnel. Recommendation will address the type and frequency of training, and who should be equipped.
- 4.3.9 Assess the risks to personnel of hypothermic exposure in areas of BSEE operations (AK, GOM and Pacific OCS Regions) and the benefits and risks of using exposure/survival suits when flying over cold water³.
 - 4.3.9.1 Determine the type of equipment available for the environmental risks faced in each BSEE Region (i.e. distance from shore, cold water, and ice).
 - 4.3.9.2 Determine the risks/benefits of wearing vs. carrying exposure/survival suits under marginal environmental conditions and to egress from aircraft.
 - 4.3.9.3 Recommend the type of exposure/survival equipment (if any) that is appropriate for BSEE personnel. Recommendation will address the type and frequency of training, and who should be equipped.
 - 4.3.9.4 Compare and contrast BSEE policies and procedures against those of U.S. industry, as well as to foreign governments and industry.
- 4.4 Conduct a study focusing on currently available helicopter systems and equipment that improve aircraft and passenger safety in the OCS environment including Apical floats (emergency float system currently required on BSEE contract aircraft); improved internal and external communication systems (including GPS); wind shields to minimize bird strike damage; systems for technical condition monitoring of helicopters - HUMS (Health and Usage Monitoring System), and VHM (Vibration Health Monitoring); and, assess operating conditions/environments requiring twin engine aircraft vs. single engine aircraft, etc.

³ The Department of the Interior defines *Cold water* as having a temperature of 50 °F (10 °C) or less.

Statement of Work for Aviation Safety Study

- 4.5 Assess the potential effects to helicopter operations of methane and other combustible gases on or near OCS helidecks in order to identify and reduce/eliminate risks.
 - 4.5.1 Review and assess helideck construction standards:
 - 4.5.1.1 Review current US regulations and consensus standards (or lack thereof) that address placement of methane vents or other sources of combustible gases in relation to helidecks.
 - 4.5.1.2 Review related international regulations and consensus standards that address placement of methane vents or other sources of combustible gases in relation to helidecks.
 - 4.5.1.3 Assess and recommend best practices and safest technologies related to the placement of methane vents or other sources of combustible gases in relation to helidecks.
 - 4.5.2 Conduct Technical Analysis:
 - 4.5.2.1 Identify (list) each combustible gas found on OCS facilities under BSEE jurisdiction.
 - 4.5.2.2 Identify (list) each helicopter (make, model, and engine) used on OCS facilities under BSEE jurisdiction.
 - 4.5.2.3 Determine the vapor density for each flammable gas (lighter or heavier than air) to determine how the placement of vents would affect helicopter operations.
 - 4.5.2.4 Determine the flammability limits for each flammable gas to determine the effect on helicopter operations.
 - 4.5.2.5 Determine the concentration parameters for each flammable gas to determine the effect on helicopter operations. Specifically identify if each helicopter engine manufacturer has a known percentage of methane (or other combustible gas) to volume that is hazardous to engine operations.
 - 4.5.2.6 Evaluate the effect of the ingestion of each combustible gas on each helicopter (make, model, and engine), at anticipated concentration levels.
 - 4.5.3 Monitoring and warning systems:
 - 4.5.3.1 Identify and evaluate technologies to monitor combustible gases that could adversely affect helicopter operations in the vicinity of an OCS facility (on the helideck and during approach and departure).

Statement of Work for Aviation Safety Study

- 4.5.3.2 Determine if/how a sensor for vented gas can be devised/installed around the helidecks and oil rigs to advise pilots of the quality of the environment they intend to fly through on takeoff and landing.
- 4.5.3.3 Investigate mitigation strategies such as installing defusers or other systems on vent stacks that would reduce the risk of methane or combustible gases.
- 4.5.4 Develop recommendations to minimize or eliminate the release of methane or other combustible gases within an area determined to pose a risk to helicopter operations.
- 4.6 Perform a comprehensive review of both domestic and international literature related to offshore aviation safety. The review shall:
 - 4.6.1 Provide BSEE with a compilation of recommendations arising out of reports and investigations on offshore aviation safety.
 - 4.6.2 Provide BSEE with a summary of results from any research involving offshore aviation safety.

5.0 Deliverables

5.1 **Final Report and Training Module:** Draft versions of the final report and training module may be provided via email, web-based drop box, or other approved delivery method. BSEE shall be provided up to 30 days to review and comment on draft deliverables. The Final deliverables shall be provided in hardbound (5 copies) and digital formats (5 CDs or other agreed storage device) in both source formats (e.g., .docx, .xlsx) compatible with MS Office 2010 and Adobe (.pdf) format.

At a minimum, and as available, each report required shall include:

- The study's objective;
- The description of the tasks applicable to the report.
- The description of the contractor's process and approach to addressing the tasks.
- The results, findings and recommendations

6.0 Schedule of Deliverables

Deliverable	Distribution	Due Date
1. Monthly Progress Reports	COR - one (1) ecopy SME - one (1) ecopy TL - one (1) ecopy	Monthly Progress Reports shall be submitted via email by the 15 th of the following month by close of business

Statement of Work
for
Aviation Safety Study

Deliverable	Distribution	Due Date
		(COB) to assist BSEE in reporting to senior staff.
2. Final Report (draft)	COR - one (1) hard copy and one (1) ecopy SME- one (1) hard copy and one (1) ecopy TL – one (1) hard copy and one (1) ecopy	No later than twelve (12) months after the effective date of this subtask, provide a draft final report.
3. Training Module (draft)	COR - one (1) hard copy and one (1) ecopy SME- one (1) hard copy and one (1) ecopy TL – one (1) hard copy and one (1) ecopy	No later than twelve (12) months after the effective date of this subtask, provide draft training module.
4. Final Report (Final)	COR - one (1) hard copy and one (1) ecopy SME- one (1) hard copy and one (1) ecopy TL – one (1) hard copy and one (1) ecopy	No later than one (1) month after BSEE provides the contractor with comments on the draft final report, provide a final report incorporating BSEE’s comments on the draft report.
5. Training Module (Final)	COR - one (1) hard copy and one (1) ecopy SME- one (1) hard copy and one (1) ecopy TL – one (1) hard copy and one (1) ecopy	No later than one (1) month after BSEE provides the contractor with comments on the draft training module, provide final training module incorporating BSEE’s comments on the draft.
6. Correspondence, Minutes of BSEE and Contractor Meeting(s).	COR - one (1) hard copy and one (1) ecopy SME- one (1) hard copy and one (1) ecopy TL – one (1) hard copy and one (1) ecopy	All contract-administration related correspondence (including emails), whether prepared or received by the contractor, shall have a courtesy copy (with attachments) sent to the CO throughout the entire period of performance.

7.0 Points of Contact:

COR

Name: Gabe Durand
Email: gabe.durand@bsee.gov
Phone: (703) 372-3931

Subject Matter Expert

Stephen Rauch
stephen.rauch@bsee.gov
(703) 787-1763

Subject Matter Expert

Brad Laubach
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(703) 787-1295



HSAC Contributors – 2014

Anadarko Petroleum	\$1,000
Blue Sky Innovations LLC	\$500
Bristow US, LLC	\$1,000
Era Helicopters, LLC	\$1,000
PHI, Inc	\$1,000

Total: \$4,500



2014 HSAC Bank Account Activity 1 January – 30 April

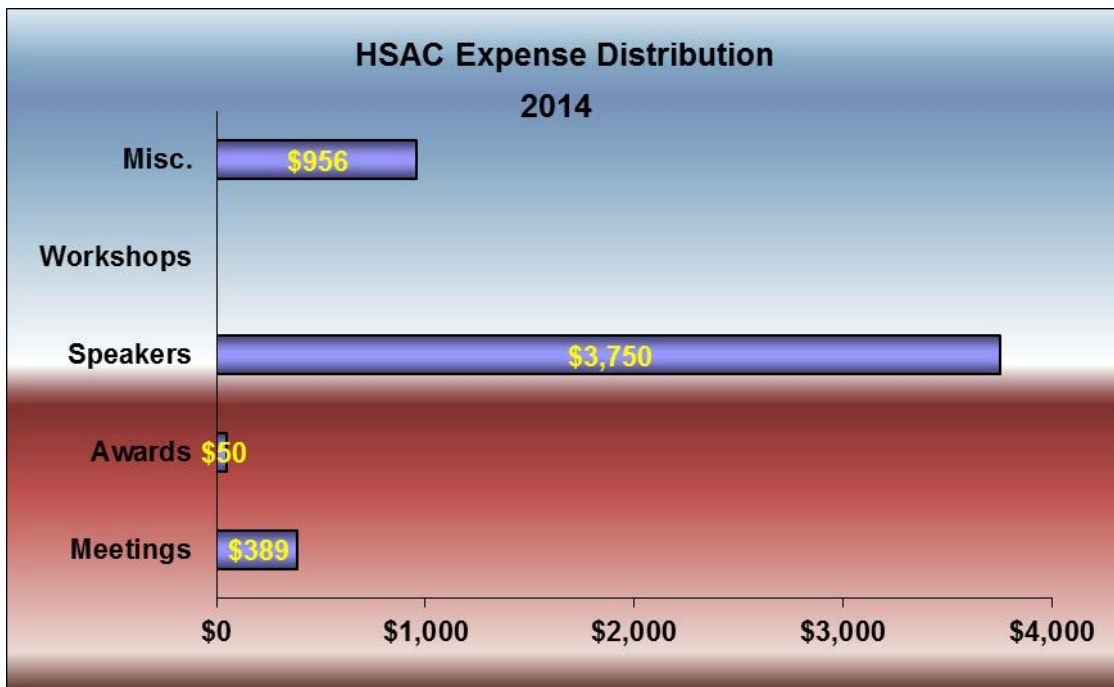
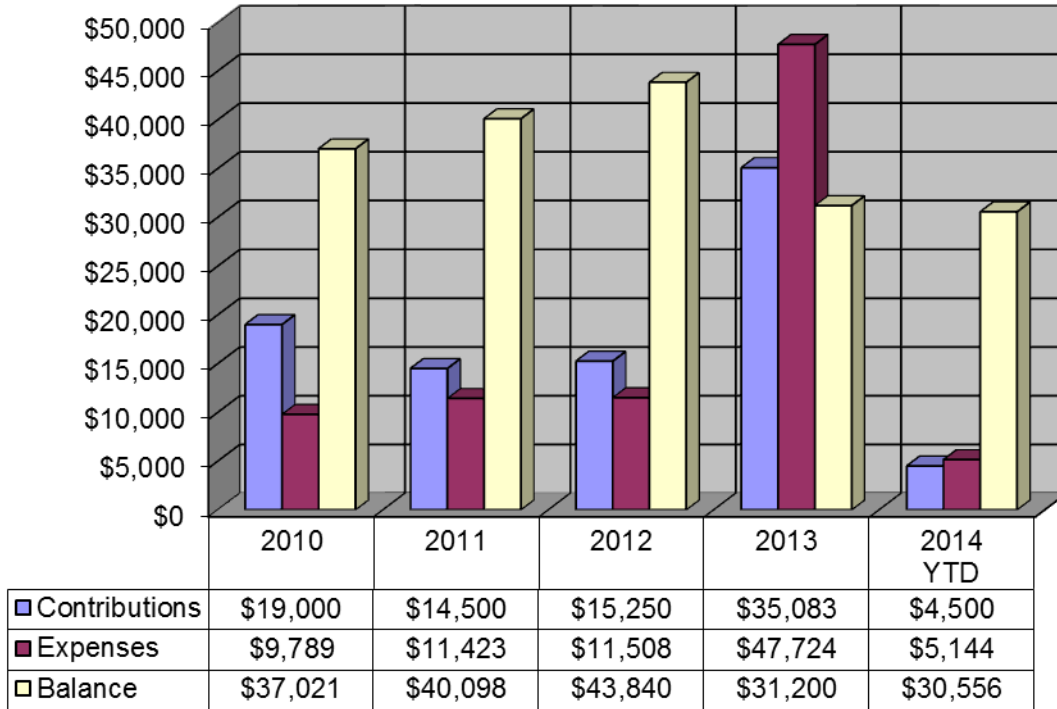
Opening Year Balance	\$ 32,699.86
Contributions	\$ 4,500
Expenditures	\$ 5,144.00
To Date Balance	\$ 32,055.86
Net Difference	– \$ 644.00



2014 Summary

1 Jan – 30 April

HSAC Contributions vs. Expenses



Surveillance and Broadcast Services

SBS Program Update

Presented to: HSAC

By: Glenn Meier, Project Lead, Central US

Date: May 15, 2014

Attachment #8



Federal Aviation
Administration

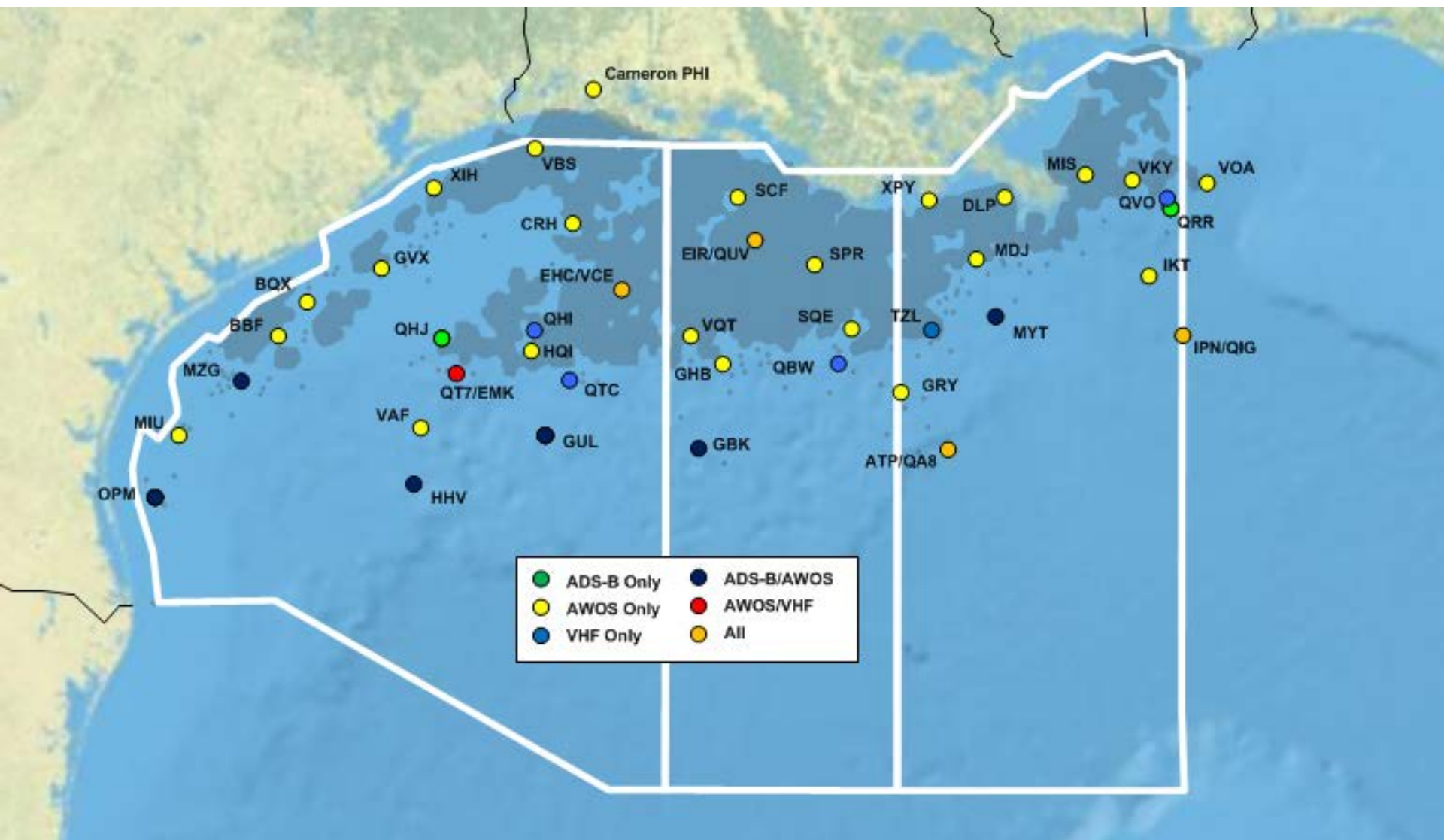


AIC topics

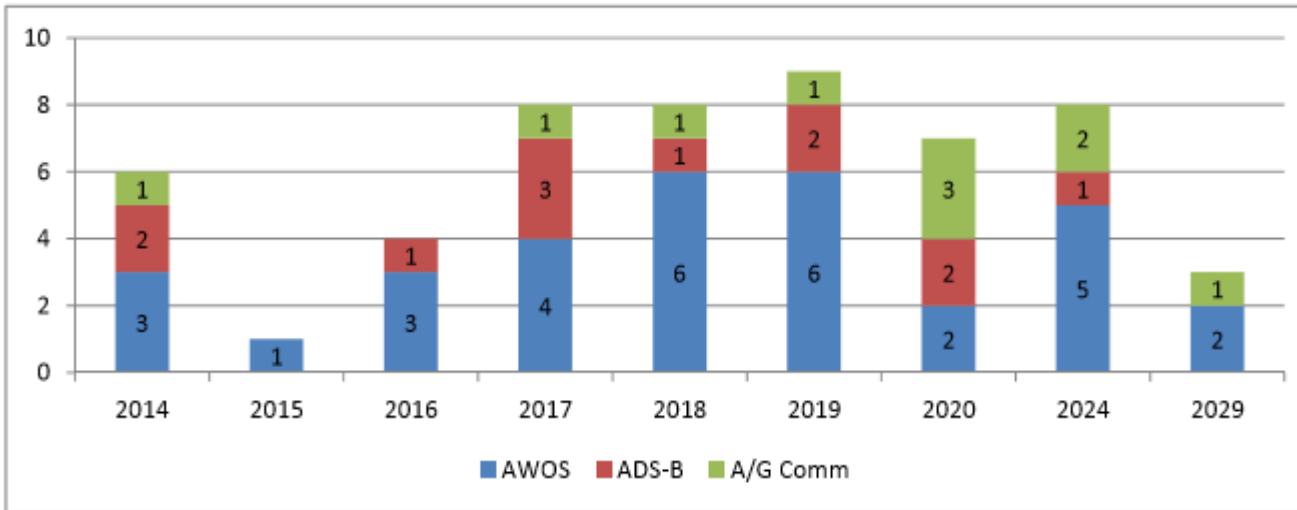
- **Predictions for Equipment Relocations**
- **Satisfying Operational Requirements**
- **Supporting GOM Expansion Areas**

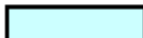
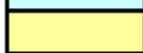


Platforms and Services



Equipment Relocation Schedule



-  = two types of equipment on the platform
-  = three types of equipment on the platform

Updated 12/11/2013

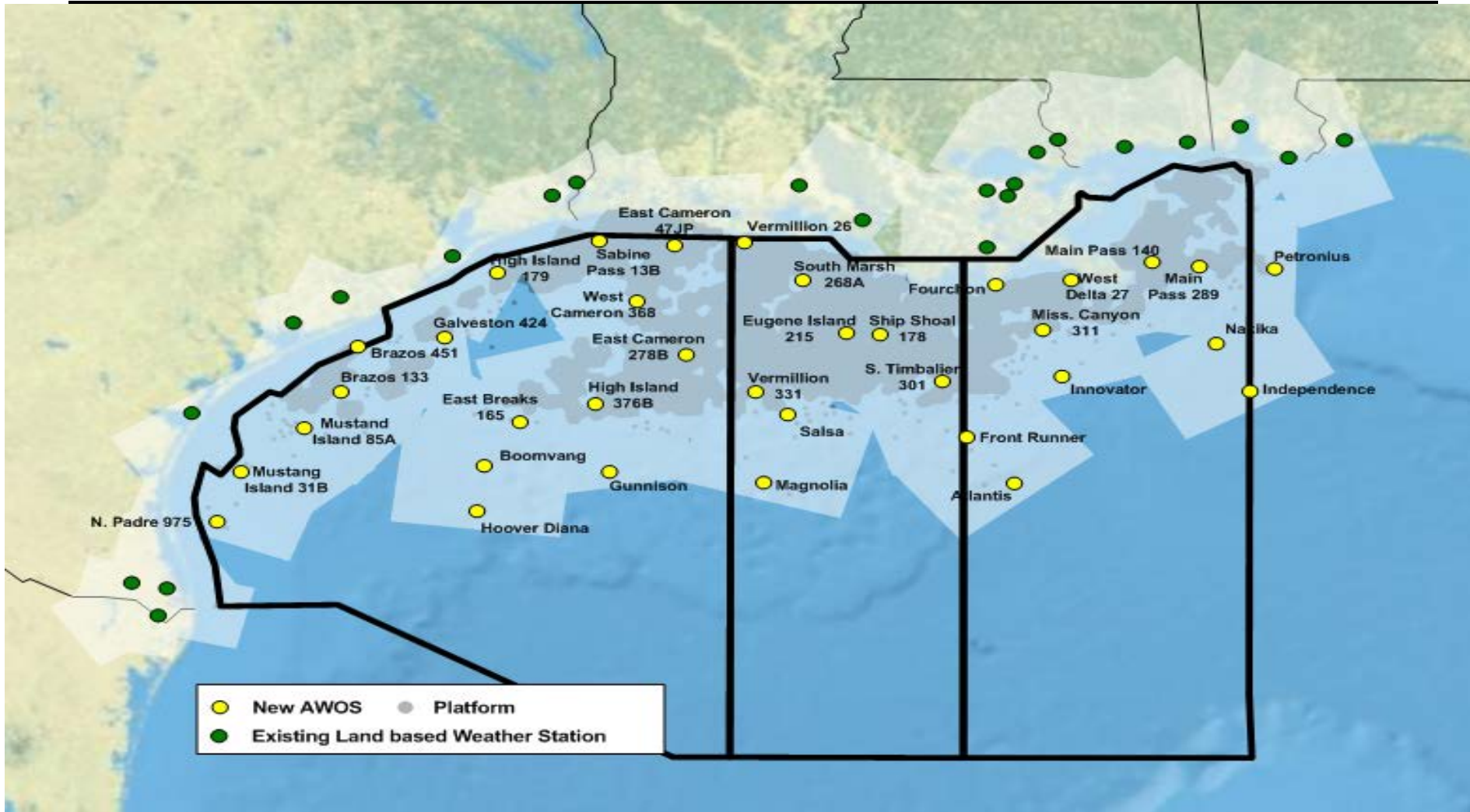
Costs to Remove/Relocate System from Site (Estimated):

AWOS = \$150k

ADS-B = \$800k

A/G Comm Site = \$900k

Weather Station Initial Sites



GOM Weather Requirements

- **Mission Need** – Provide a weather reporting capability to meet requirements for a Part 135 operator to execute an instrument approach at all offshore destinations *GoMex Conops (2006)*
- **Add weather systems to augment existing network in a defined area**
GOM Memorandum of Agreement (MOA)
- **Weather service must be within 10 miles of destination to conduct an instrument approach. Alternatively, two weather observation sites must be within a 60 x 80 nm box.**
GoMex Waiver



Current Relocation Projects

A/G Comm

- ST-164 → EW-873A
- HI-334 → Low to GB-189, High to KC-875

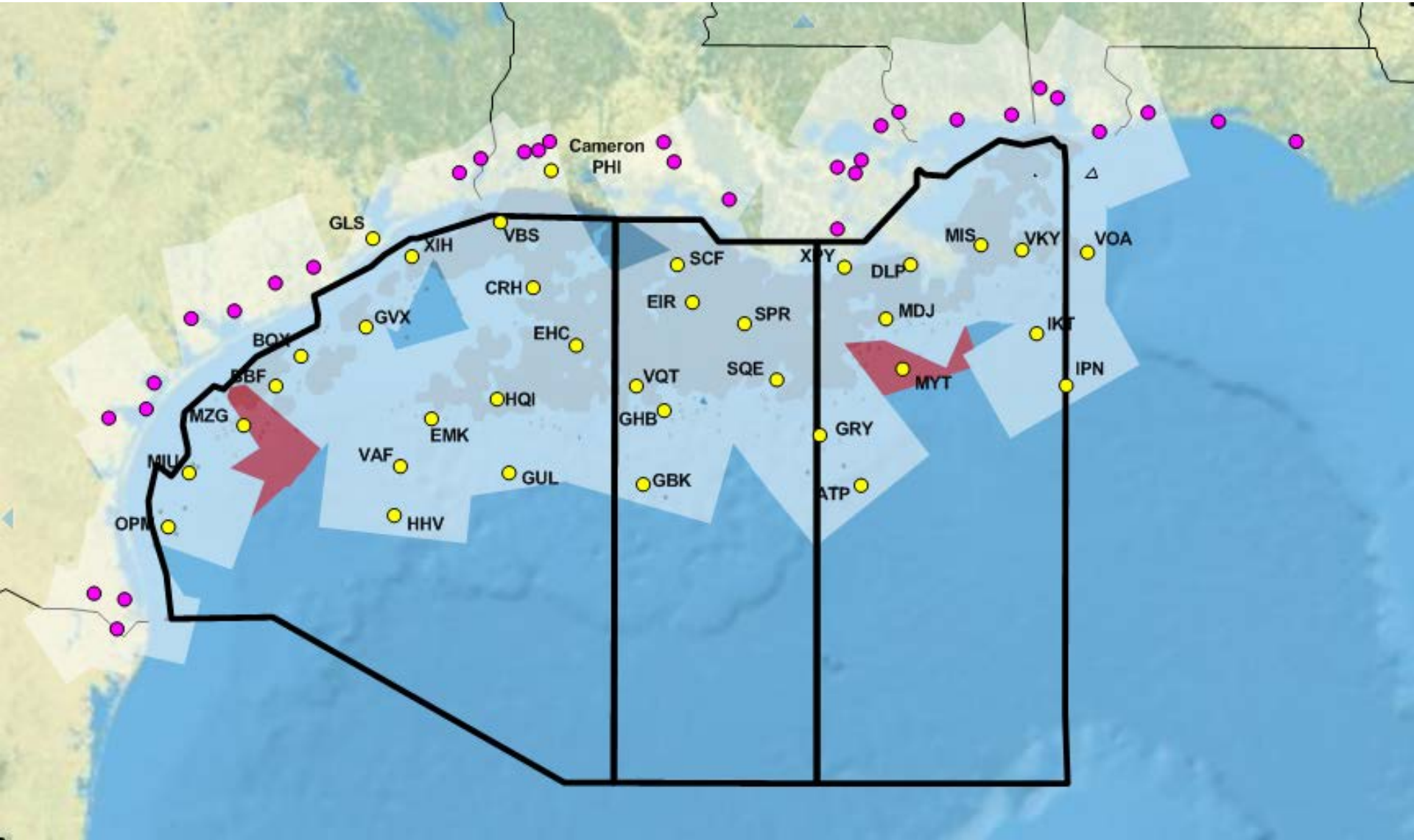
ADS-B

- MC-711 → MC-809

AWOS – available for relocation

- MU-A31B, MC-711, Port Fourchon

AWOS Coverage – MYT/MZG Removed



Expansion Discussion

- **Which areas would benefit and support FAA ATC Services?**
- **Which sites would be economical?**
- **Suggestions for AWOS, ADS-B and A/G Comm sites.**





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