HELICOPTER SAFETY ADVISORY CONFERENCE
January 13, 2011
Hilton New Orleans Airport
Kenner, LA

MINUTES

INTRODUCTION

- Vice Chairman Bob Hall called the meeting to order at 08:30 and welcomed members and guests.

- Introduction by attendees.

Vice Chairman Report – Bob Hall

- Chairman, Mark Fontenot, business related absence outside the US.
- Treasurer, Joe Gross, business related absence outside the US.

Treasurer's Report – Joe Gross

- Contributions, Bank Account Report, Summary (***attachment #1)***

HSAC COMMITTEE REPORTS

Flight Safety – Terry Kaufman

- Cold weather: S76 Main Rotor Servo Check ***(attachment #2)***

Government Liaison – Dana Raaz

- **LTJG Marcel Rousseau :** USCG Capabilities in the Gulf of Mexico ***(attachment #3)***

Heliport and Airways – Ken Kersker

- Update on API RP2L
- Bob Hall introduced Dr. John Leverton. He briefed on the October 2010 ICAO meeting in Montreal where there was much discussion on helidecks, shipboard heliports, and elevated helidecks. Dr. Leverton's main points were landing properly in the aiming circle and limiting helideck operations to one (1) helicopter.
- AP2 Helideck Changes ***(attachment #4)*** and Helideck Touchdown and Position Markings ***(attachment #5)***

Industry Liaison – Larry Lippert

- Introduced Colin Henry, Director of Safety – MedFlight. Briefing on Threat and Error Management ***(attachment #6)***, LOSA, and new NPRM primarily for Air Medical.
- Pat Foley, Bell Helicopters, provided an update on BH206/407 windshields.

Allan Overbey – FAA ADS-B Program

- ADS-B Update ***(attachment #7)***

- **HELP US MAINTAIN THE OFFSHORE ADS-B and AWOS SYSTEMS.**
  - When the aircraft is shut down and there is time on the platform; find the ADS-B and AWOS systems. Look at the equipment and note any discrepancies, no matter how insignificant they may seem.
  - **Report discrepancies and inaccurate information to the ITT SBSS team via e-mail at: ITT-SBSS-O&M@itt.com**
  - Offshore workers should be educated as to the critical nature of this equipment.
  - When designing a structure for deepwater, contact us to assist with designing-in the ADS-B and AWOS systems. Service would just get better and better for the user.
  - There are 11 different operators providing transportation for the technicians.

HSAC WORK GROUP COMMITTEES

Recommended Practices Committee – Mark Adolph

- Recommendation to print air-to-air frequency, 123.025, on Fish Spotters' frequency stickers.
- RP Update ***(attachment #8)***

Safety Interface Committee – Terry Kaufman

- Terry Palmer, FlightSafety, briefed the group on IHST and noted the AW139 simulator will be coming to the Carencro, LA facility. The EC135 simulator will be going to DFW. IHST will run several workshops at Heli-Expo on training, FDM, and other subjects.

Flight Following Committee – Terry Gambill

- New HSAC Frequency Card is completed.
  - Card increase size from 6-panels on each sided to 8-panels.
  - All thirty-five (35) of the ADS-B AWOS sites are included on the card.
  - Font has been slightly increased.
  - Instead of just the year "2011," the card will contain an actual date that is effective, i.e., "January 15, 2011."
  - Any changes made before a new card is issued will be placed on the card and placed on the HSAC website with the date it was most recently updated. Changes/updates will be noted with a line in the margin or some other type of highlighting.
  - An email will be forwarded to operators informing them to check the HSAC website for the updated card. Notifications can then be sent to the bases to alert pilots to make pen and ink changes to their cards.
- Offshore Charts
  - Many of the block numbers are missing.
  - John Beckman, Houston Center, will work to have this corrected on the next printing of the chart.
- Aviation Weather Website: www.aviationweather.gov
  - Select METAR Java tool to see the offshore AWOS.
  - Mouse over an AWOS to see the latest METAR from the site.
- SPECTRUM SPACING: Frequency spacing changing from 0.25 MHz to 0.083 MHz
  - There is consideration (debate) to charge for each radio contact.
  - Spectrum Spacing will be voluntary to start out, but will eventually become mandatory.
  - Concern that narrowing of distance between frequencies will cause bleed-over problems in many areas.
  - Concern, when mandatory, will require very costly changes to radio sites and the likelihood that a large number of aircraft radios are not capable of the narrower spacing.
  - The next Aeronautical Frequency Committee Meeting is March 1st through 3rd in San Diego, CA.

- Allan Overbey asked for PIREPS to Houston Center if there are any RCOs that cannot be reached at 1,500-feet. Apparently, East Breaks RCO cannot be reached below 5,000 feet.

Technical Committee – Pat Robert

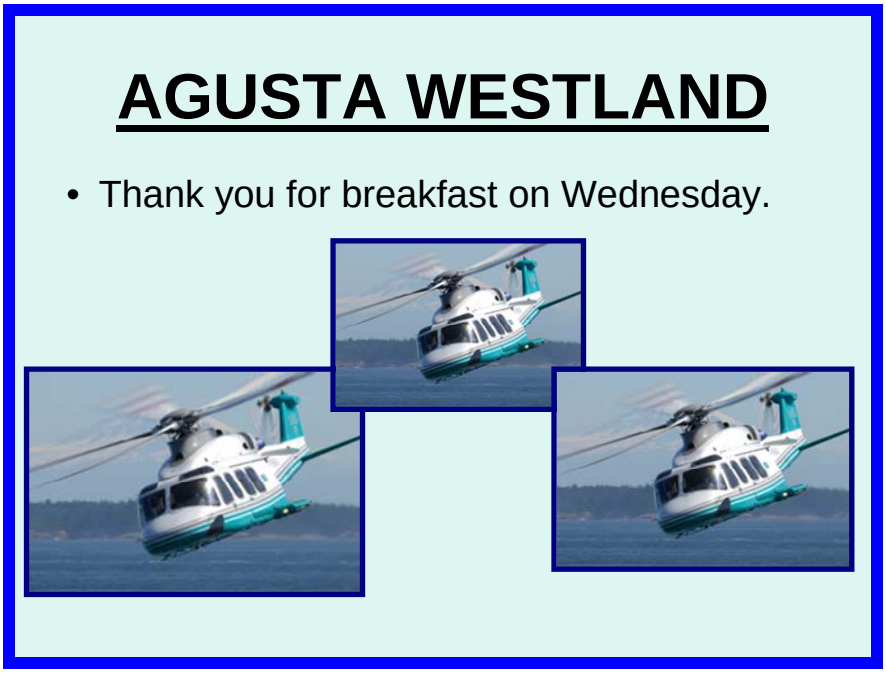
- The Committee plans to brief on various types of PPE at each HSAC meeting.
- Hand Protection ***(attachment #9)***

Aerial Observation Committee – Cort Andrews

- Committee Report ***(attachment #10)***

Fish Spotters – Billy Suskow

- **It is estimated that only 1 in every 5 aircraft are calling departing or approaching the beach.**
- Helicopter operators urged to educate new pilots on seasonal fish spotter activity and thorough briefing on frequencies and altitudes.
- **Joe Fain, Safety Leader:**
  - **Office: (337) 893-8772**
  - **Cellular: (337) 258-5552**
  - **Email: j_c_fain@yahoo.com**



BELL HELICOPTER

- Thank you for the hospitality social on Wednesday evening.

AMERICAN EUROCOPTER

- Thank you for breakfast Thursday morning.

SIKORSKY

- **Thank you for the Thursday noon luncheon.**

Next Meeting – Lafayette, LA
Hilton Lafayette
1521 W. Pinhook Road
Lafayette, LA 70503
(337) 235-6111

2011 MEETING DATES	
January 12th and 13th 2011	New Orleans, LA
May 4th and 5th 2011	Lafayette, LA
October 5th and 6th 2011	Houston, TX

HSAC Contributors – 2010

Bristow US	$1,000
Anadarko Petroleum Corp.	$1,000
BHP Billiton Petroleum	$1,000
Cenergy International Services, LLC	$1,000
Chevron USA	$1,000
Cougar Helicopters (2009 & 2010)	$2,000
ENI US Operating	$1,000
Era Helicopters, LLC	$1,000
Metro Aviation, Inc.	$1,000
PHI, Inc.	$1,000
Shell Aircraft (2009 & 2010)	$2,000
Sky Connect, LLC	$1,000
Statoil Gulf Services	$1,000
Tennessee Gas Pipeline	$1,000
TransCanada Pipeline	$1,000
VIH Cougar (2009 & 2010)	$2,000

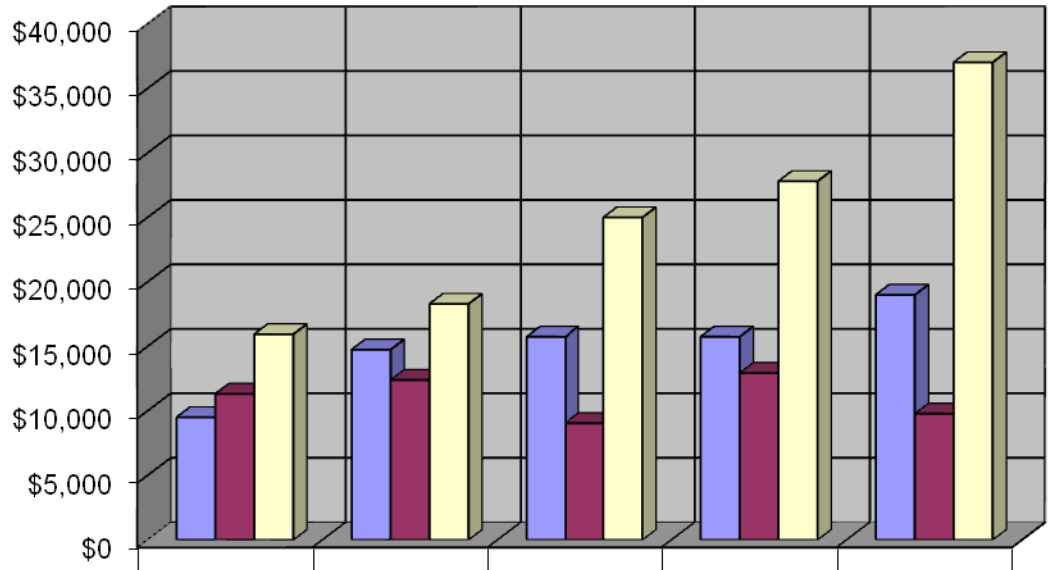
Total: $19,000

2010 HSAC Bank Account Activity
1 Jan – 31 Dec

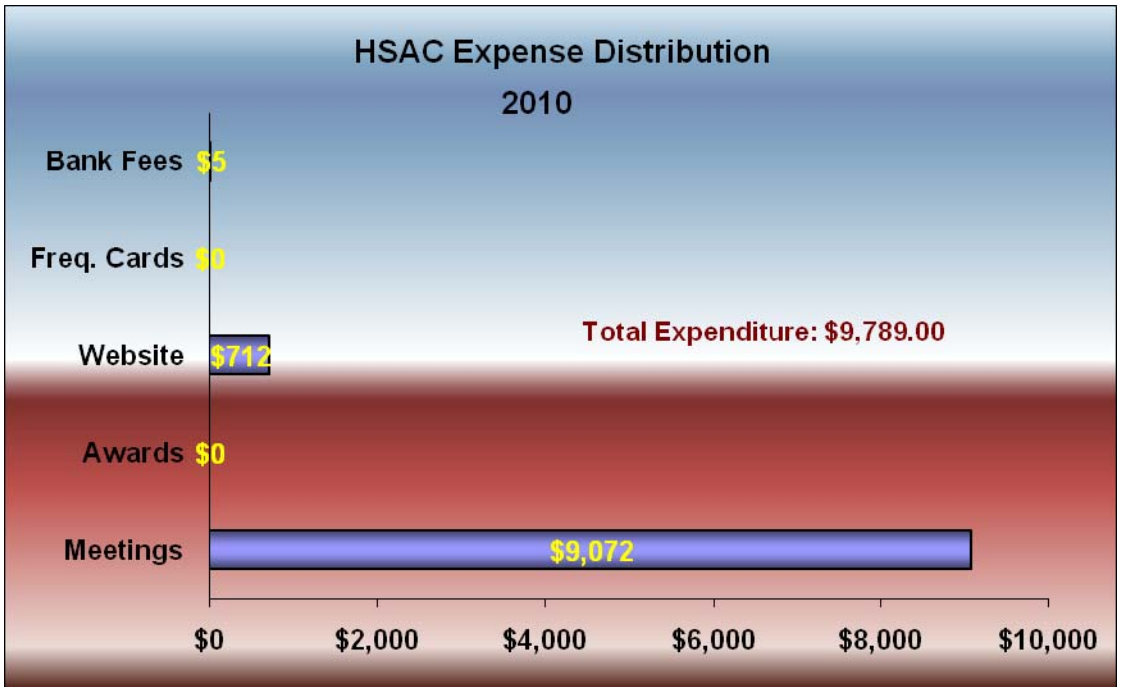
Opening Year Balance	**$ 27,809.60**
Contributions	**$ 19,000.00**
Expenditures	**$ 9,789.00**
To Date Balance	**$ 37,020.60**
Net Difference	**+ $ 9,211.00**

2010 Summary

HSAC Contributions vs. Expenses



	2006	2007	2008	2009	2010 YTD
Contributions	$9,500	$14,750	$15,750	$15,750	$19,000
Expenses	$11,321	$12,403	$9,045	$12,940	$9,789
Balance	$15,947	$18,294	$25,000	$27,810	$37,021



SAFETY - Terry Kaufman

Sikorsky S76 RFM

S76 Main Rotor Servo Check

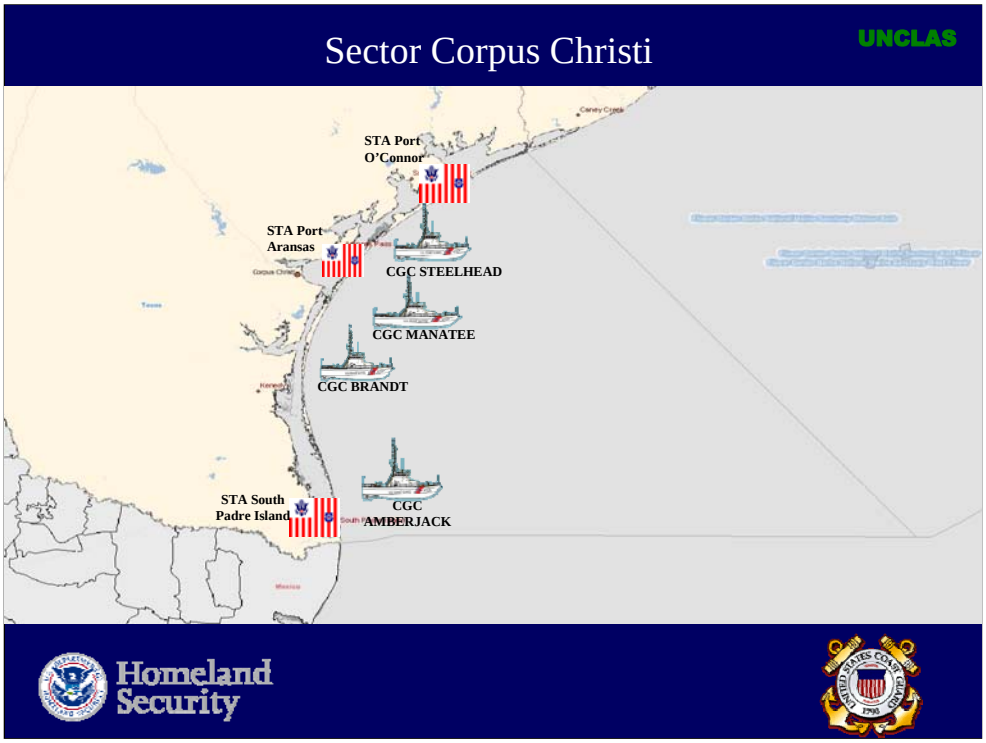
"If aircraft has been non-operational for more than two hours in freezing temperatures. Attempt to manually move input link to forward main rotor servo."

Hello, my name is LTJG Marcel Rousseau and I work in the District 8 Command Center as a Command Duty Officer. I would like to thank you for inviting me today to share Coast Guard search and rescue capabilities in the Gulf of Mexico.

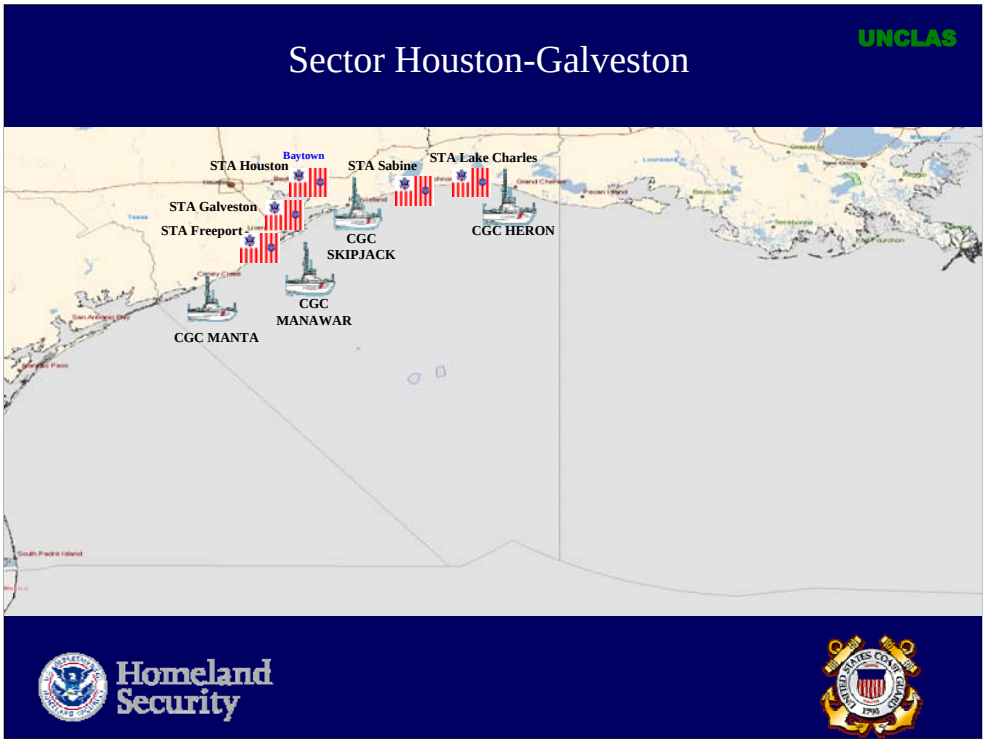
-Areas of Responsibility are divided into 2 districts in the Gulf. District 8 covers the majority of the Gulf from the Mexico/Texas boarder to the panhandle of Florida. District 7 is responsible for covers most of Florida.

-Districts are then divided into subordinate units called sectors. Each sector has an area of responsibility and the District overseas all search and rescue cases that happen within their sectors.

-The majority of search and rescue cases are planned and coordinated at the sector level with district oversight.

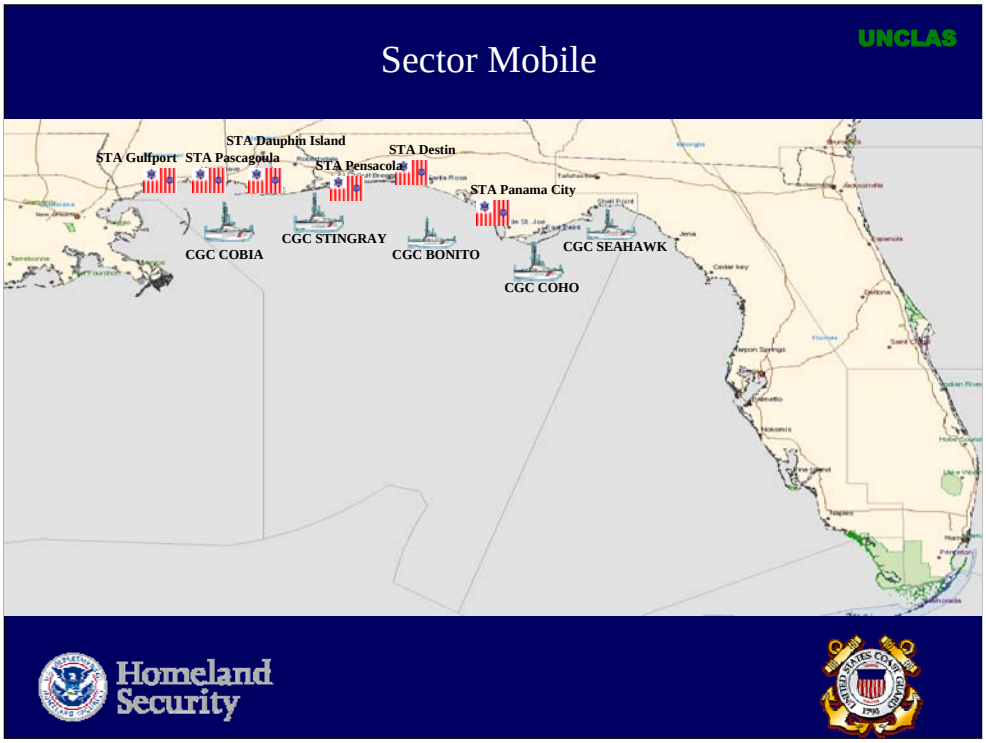


-Each sector has multiple cutters and small boat stations that are able to respond to vessels or aircraft in distress. SCC has 4 cutters and 3 small boat stations spread out along the south coast of Texas.

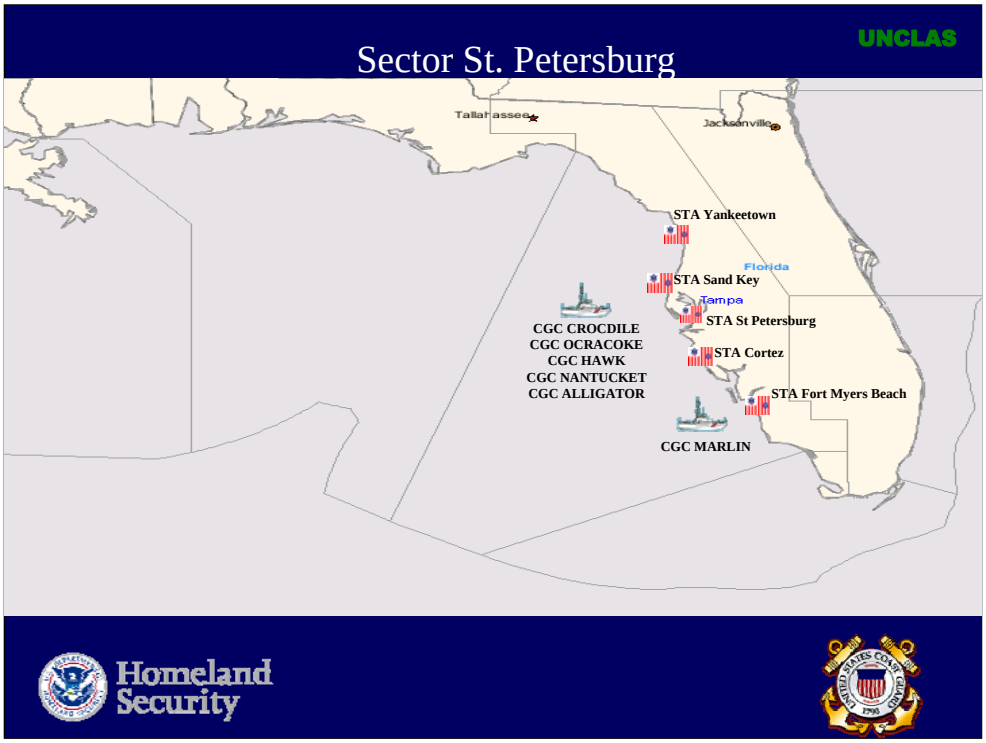


SHG has 4 cutters and 5 small boat stations along the Texas coast and into western Louisiana.

SN has 4 cutters and 3 small boat stations.



SM has 5 cutters and 6 small boat stations.



SSP has 6 cutters and 5 small boat stations.

UNCLAS

Surface Search and Rescue

Maximum Endurance	3 days
Maximum Range	875 nm
Cruising Speed	12 kts
Max Seas	8-12 ft

Maximum Endurance	5 days
Maximum Range	3,300 nm
Cruising Speed	13 kts
Max Seas	8-12 ft

Homeland Security

-The 2 types of cutters that we have stationed in the Gulf are the 87ft Patrol boat and the 110ft Patrol boat.

UNCLAS

Surface Search and Rescue (cont)

RB-S 25ft

Max Range	150 nm
Cruising Speed	35 kts
Max Seas	6 ft
Max Offshore Distance	10 nm

UTB 41ft

Max Range	300 nm
Cruising Speed	18 kts
Max Seas	8 ft
Max Offshore Distance	30 nm

Homeland Security

Are small boat stations have two types of standard small boats stationed in the Gulf.

We also have 5 Air Stations and an Aviation Training Center located on the Gulf.

UNCLAS

MH-65 Dolphin

Max Endurance	3+30hrs
Max Range	375nm
Cruising Speed	125kts

Homeland Security

The MH-65 Dolphin is our smaller of the two helicopters and the only one District 8 has for search and rescue.

UNCLAS

MH-60 JAYHAWK

Max Endurance	6+00hrs
Max Range	700nm
Cruising Speed	125kts

Homeland Security

The MH-60 Jayhawk has a longer endurance and further range than the MH-65 but we only have them stationed at A/S Clearwater in District 7 and that ATC Mobile as a training platform.

HU-25 Falcon

UNCLAS

Max Endurance	4+15hrs
Max Range	1700nm
Cruising Speed	410kts

Homeland Security

The HU-25 Falcon is stationed at A/S CC.

C-144 Casa

UNCLAS

Max Endurance	9+30hrs
Max Range	1,500nm
Cruising Speed	200kts

Homeland Security

Our C-144 is our newest platform and is stationed at ATC Mobile.

UNCLAS

HC-130 HERCULES

Max Endurance	14+00hrs
Max Range	4500nm
Cruising Speed	290kts

Homeland Security

The HC-130 Hercules is stationed at A/S Clearwater and is the largest of our aircraft.

UNCLAS

Aircraft Crashes in the Gulf of Mexico 2009-2010

- 22 aircraft crashes
- 19 lives saved
- 21 lives lost.

Homeland Security

In the last two years we have had 22 aircraft crashes in the GOM resulting in 19 lives saved and 21 lives lost.

D8CC: 10 crashes, 10 lives saved, 8 lost
SCC: 4 crashes, 3 lives saved, 5 lost
SHG: 1 crash, 2 lives saved, 0 lost
SNOLA: 2 crashes, 2 lives saved, 1 lost
SM: 5 crashes, 2 lives saved, 7 lost

-As you all know there are many dangers when on or above the water. Please whenever you are on the water wear your lifejacket, monitor VHF Channel 16 and if you have an EPIRB equipped to your vessel ensure that the registration is current and all the owner and contact information is correct.

-I have experienced many cases of people in the water where the person would have survived if he was wearing a lifejacket.

-On a regular basis we have EPIRB hits that are unlocated and the only thing we have to go off of is the registration information, but the information is outdated and it makes it time consuming and difficult to get in contact with the present owner of the vessel to determine where the vessel is or the last time the owner spoke with the vessel.

UNCLAS

Cell Phone Limitations

- Cell phones designed for land-based use
- Only one party can hear you
- Coverage offshore is limited
- Locating a cell caller is hard to do

- Cell phones are not a substitute for a VHF marine radio

- VHF marine radios were designed with safety in mind
- Other vessels in the area can hear and respond to distress call
- User can monitor storm warnings and other urgent marine information

Homeland Security

-In this technological age it seems everyone has a cell phone and use it on a daily basis. But when on the water it is unwise to rely solely on a cell phone.

UNCLAS

How you can assist the Coast Guard

The Aviation and Maritime Communities on numerous occasions have reported vessels/aircraft in distress assisting the Coast Guard in a timely response.

- Report any signs of distress to any Coast Guard station
- Relay any distress radio communications
- Report all sightings of pollution

Homeland Security

Are there any questions?

Attachment #4

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ICAO Tranche 2 Changes to Helideck Requirements

Tranche 2, comprehensive 2nd stage revision of ICAO Annex 14, presented to ICAO Aerodromes Panel 2 meeting in Montreal, 12 – 15 October 2010 (AP/2-WP18)

New definitions for:-

D/ D-Value

FATO/TLOF – applicable to helidecks, shipboard heliports and elevated heliports

Helideck. ***A heliport located on a fixed or floating offshore facility such as an exploration and/or production unit used for the exploitation of oil or gas***

Abbreviations added for LOS, LOA, OFS, "t" (metric tonne)

Recommendation added :—If the FATO or FATO/TLOF to be used by helicopters operated in performance class 2 or 3 is less than 1D, the FATO or FATO/TLOF dimension(s) should be marked on the FATO or FATO/TLOF (5.2.5.2)

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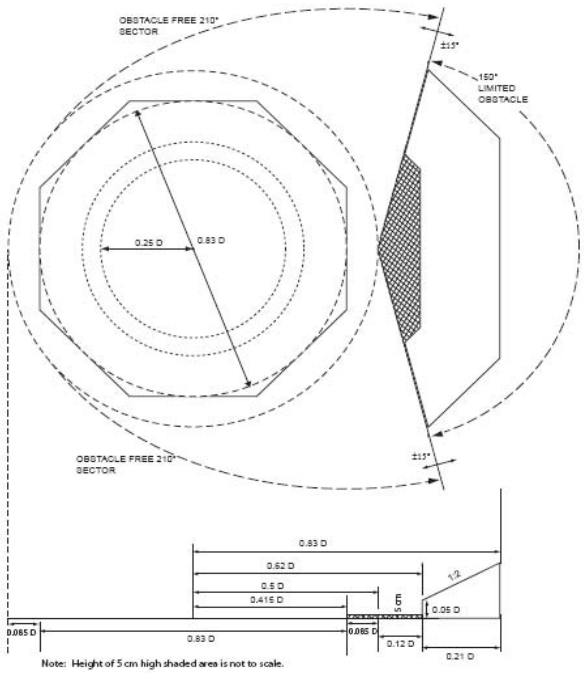
ICAO Tranche 2 Changes to Helideck Requirements

Helicopter Association International

Where a FATO/TLOF is less than 1D and/or is 16.0m (52.5 ft.) or less, objects in the 210° sector are [only] permitted up to 5cm (2in)

For a 0.83D helideck (i.e. less than 1D), a new Figure is to be inserted prescribing obstacles up to 5cm in the 1st segment LOS (0.62D from centre of FATO/TLOF 2nd segment as for 1D and greater helidecks (4.2.16)



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ICAO Tranche 2 Changes to Helideck Requirements

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Minor changes to:

Heliport Identification "H" marking (5.2.2) including non-purpose built Shipboard heliport (5.2.2.7)

Maximum allowable mass marking (5.2.3)

Size of heliport marking – increase to 90cm for helidecks 15m – 30m (5.2.4.5)

Touchdown / Positioning marking (5.2.10). Based on deck centre with an option to offset by no more than 0.1D where supported by an aeronautical study (5.2.11.2)

Helideck obstacle free sector (chevron) marking (5.2.12)

Helideck and Shipboard heliport surface marking (5.2.13) – dark green specified in all cases (5.2.13.3) with some latitude (in colour) for a Non-purpose built ship's side (Chapter 5, Note 4)

Helideck prohibited landing sector marking (5.2.14) Instruction to keep nose of the helicopter clear of the hatched marking (NOTE)

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ICAO Tranche 2 Changes to Helideck Requirements

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Minor consequence

Helideck D-value marking: 5.2.4.5 specifies for a FATO/TLOF with a D between 15m (49 ft) and 30m (98.5 ft), the height of the numbers should be at least 90cm (93 ft). ***[CAP 437, Chapter 4, Figure 2 currently requires the D-value marking to be 60cm.]*** **Under ICAO Annex 14 Volume II, 60 cm (2 ft.) applies for a helideck with a D of less than 15.0m (49 ft.)**

Major consequence

For all helidecks and shipboard heliports with a D-value of 16.00m (52.5 ft) or less, whether or not they are 1D or greater, there is a requirement to limit the height of obstacles in the 210° OFS and in the 1st segment of the LOS to 5cm (2 in). This has the potential to restrict perimeter lights, foam monitors, floodlighting, status lights and perimeter safety netting on any helideck / shipboard heliport with a D-value of 16.0m (52.5 ft) or less.

[Kevin Payne, UK CAA – ICAO Helideck SG Rapporteur]

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Future Work Program
Heliport Design Working Group

Helicopter Association International

Kevin Payne resigned as HDWG Rapporteur wef AP-2 (October 2010)

1) **Proposal to incorporate Certification and SMS requirements into Annex 14 Volume II**

2) **Proposal to address perceived "narrow" applicability of Volume II beyond "heliports intended to be used by helicopters in international civil aviation."**

3) **Comprehensive revision of Chapter 5, Section 5.3 lights. TLOF lights and Touch down/Positioning marking lighting system.**

4) **Development of specifications for heliports with non-precision or precision approaches and instrument departures.**

5) **Update and restructure of Heliport Manual (Doc 9261). A proposal has been accepted to *split* HM into 2 volumes for onshore heliports and offshore heliports.**

6) **Comprehensive restructure of Annex 14 Volume II – reorganising by heliport types**

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AC 150/5390-2B HELIPORT DESIGN
AC-2B Update

Helicopter Association International

New AC Topics

1. f Touchdown/Positioning ‘circle’ Marking for TLOF and Parking Areas

2. Flight Path Alignment Markings and Lights

3. Curved Flight Path Guidance

4. Marking of TLOF size in terms of D instead of RD and Use of ‘D’ instead of Overall Length (OL).

5. Marking and Lighting for *Load Bearing Areas* larger than the size of the TLOF but less than the size of the FATO

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AC 150/5390-2B HELIPORT DESIGN
AC-2B Update

Helicopter Association International

Topics Previously Raised by HAI members

6. Size of H - 10 ft. (3 m) for all except transport heliports.

7. Parking Position Separation from FATO – Para 208a

8. FATO to FATO Separation for Simultaneous Operations [200 ft?]

.

9. VFR Approach/Departure Surfaces for circular heliprts.

10. Roof-Top Emergency Facilities – Para 105 - Update

11. Heliport Lighting – Para 210 – FATO and/or TLOF perimeter lights

12. Use of "*Air Gap*"/Impact of Turbulence

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AC 150/5390-2B HELIPORT DESIGN
AC-2B Update

Helicopter Association International

Topics Previously Raised by HAI members

13. Correction of Figures 2-14 and 2-16
14. Ground Taxi 'Turns' – increased area required
15. Reference to Federal Funds – Para 400
16. Circular Heliport – Perimeter Light Requirement
17. Heliport Lighting Requirements
18. Helicopter Parking Areas – 'Text' re variable size
19. FAA Aeronautical Studies – clarification on when required
20. Marking of Small PPR Heliports
21. Elevated TLOF Perimeter Lights - 210 b. – number/min separation.

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HAI Workshops – HeliExpo 2011

Helicopter Association International

HAI HeliExpo 2011 - Orlando, FL 6-8 March..

ICAO 'Annex 14 Update' Workshop

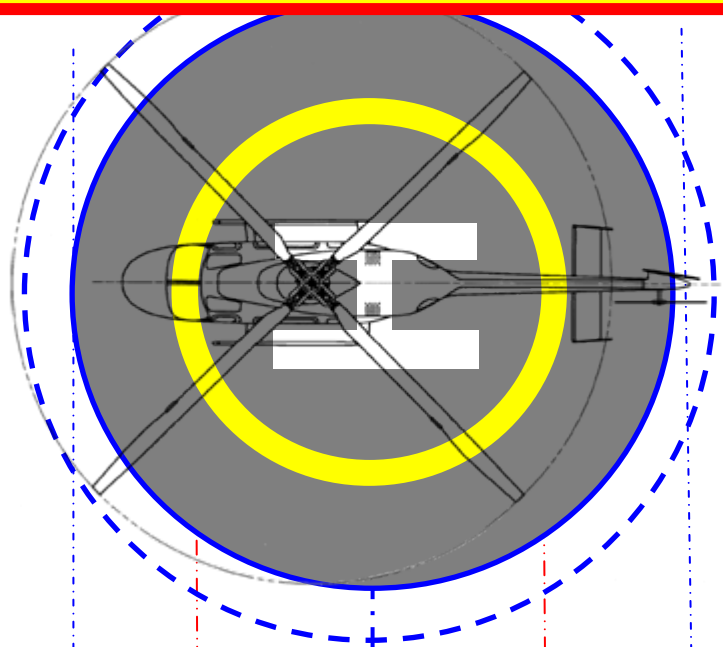
Sunday 6 March - 9:30 am – 12:30 pm: Room S.320-E

Heliport Design Workshop

Tuesday 8 March, 9:00 am - 12:00 pm: Room S.320-E

Workshops are open to all attendees and no fee is required

Touchdown/Positioning 'circle' Marking **



** Often referenced as TDP or TD/P marking or TDPM
– also called 'Aiming Circle' in HSAC RP 2008-01

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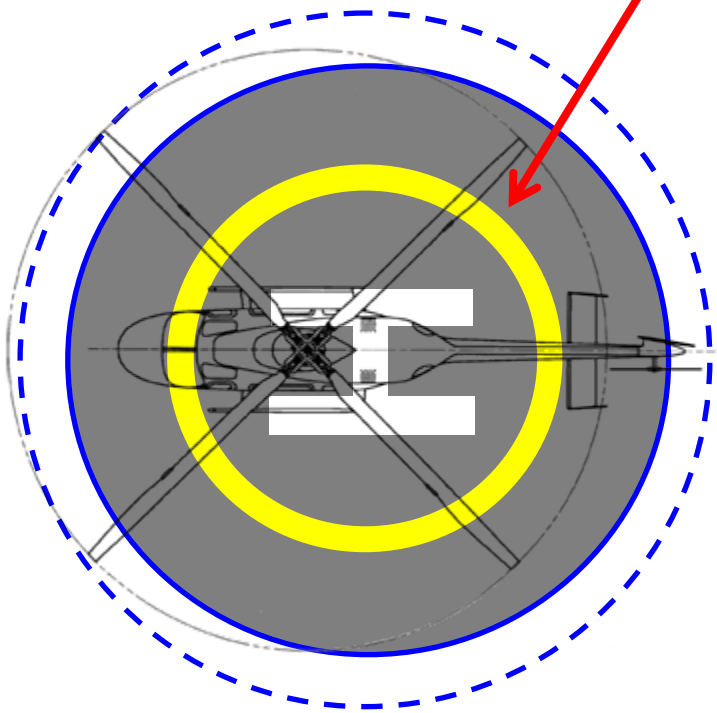
Touchdown/Positioning ‘circle’ Marking



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Touchdown/Positioning (circle) Marking

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What is it?

A TDP 'circle' marking is a circle of 0.5 D (0.5 OL) inner diameter of the design helicopters, with a line width of 18 ins (0.5 m) for heliports and 3 ft. (1 m) for helidecks, 'positioned' in the center of the TLOF or FATO/TLOF.

ICAO Annex 14 Vol II (Tranche 2) Definition:-

" A touchdown/positioning marking shall be located so that when the pilot's seat is over the marking, the whole of the undercarriage will be within the TLOF or FATO/TLOF and all parts of the helicopter will be clear of any obstacle by a safe margin."

..... NOT in FAA AC 150/5390-2B ….. but it is being considered by the FAA for inclusion in an updated version of the AC-2B.

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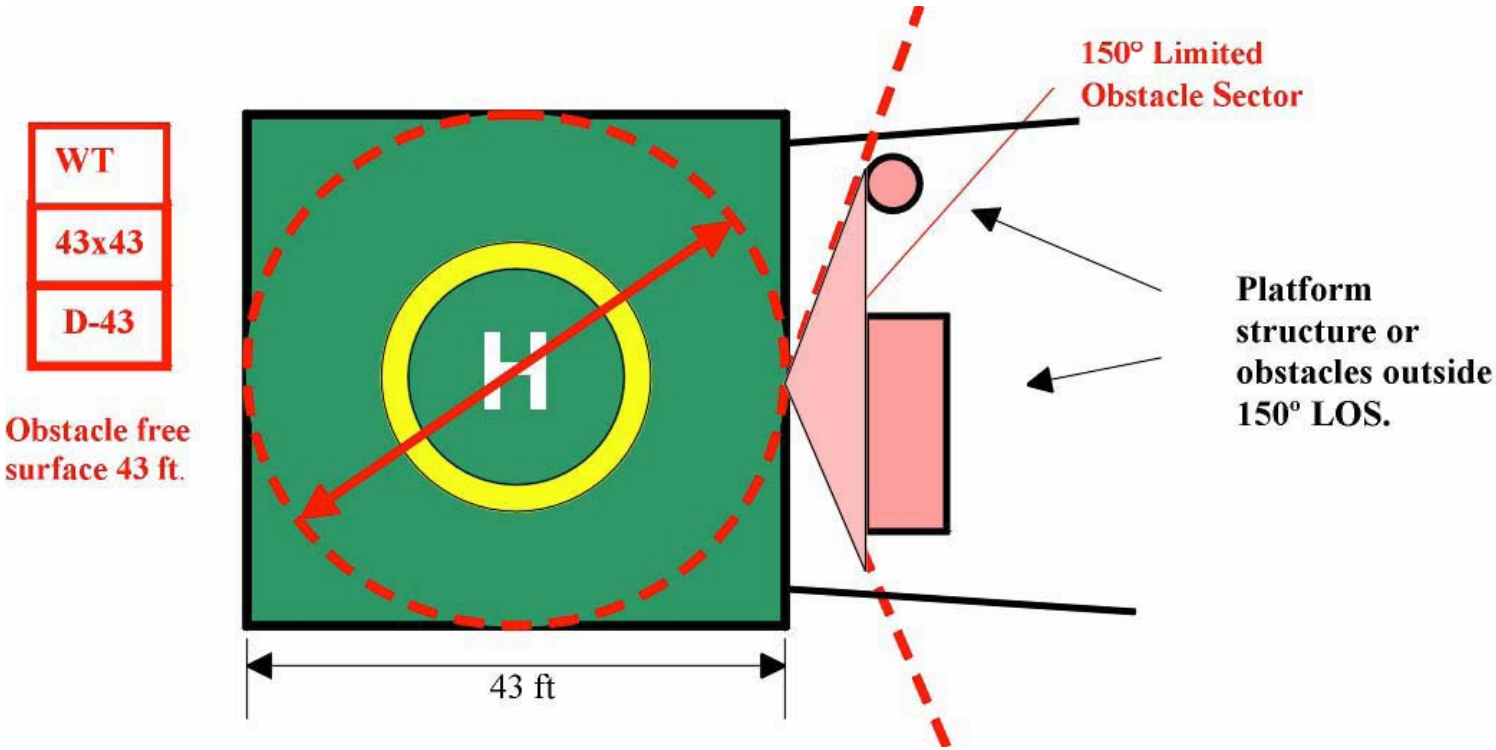

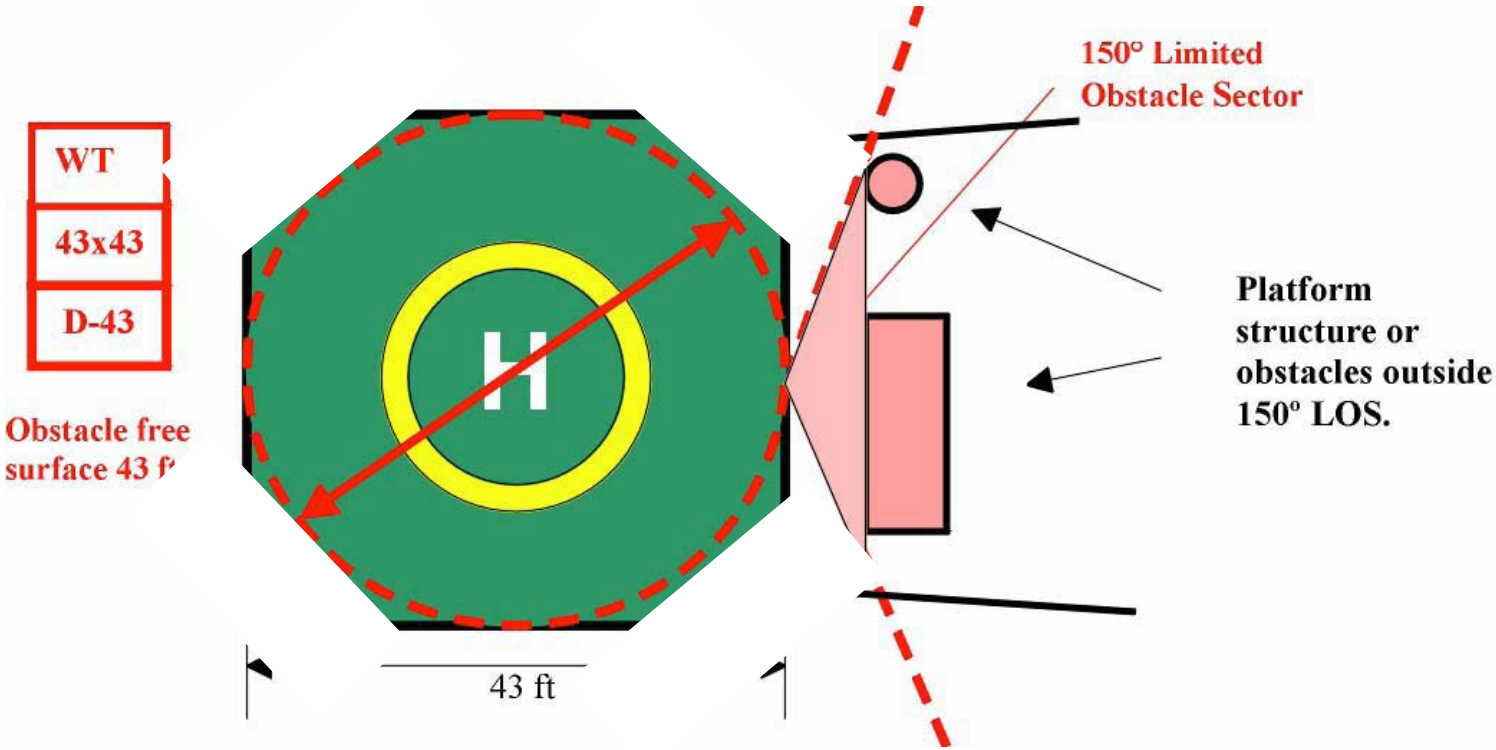
WT
43x43
D-43
Obstacle free surface 43 f
H
43 ft
150° Limited Obstacle Sector
Platform structure or obstacles outside 150° LOS.

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HELIDECKS

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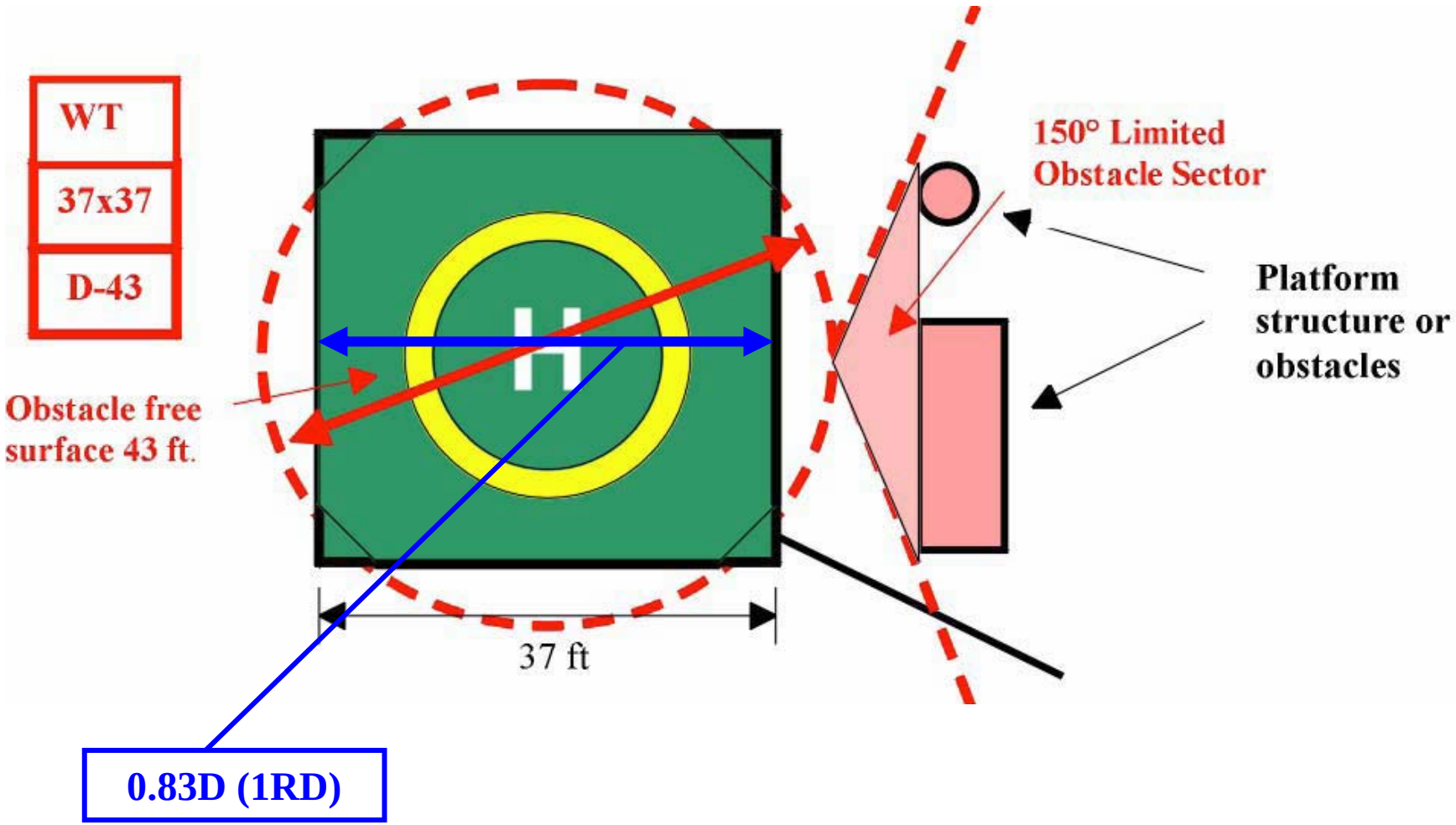

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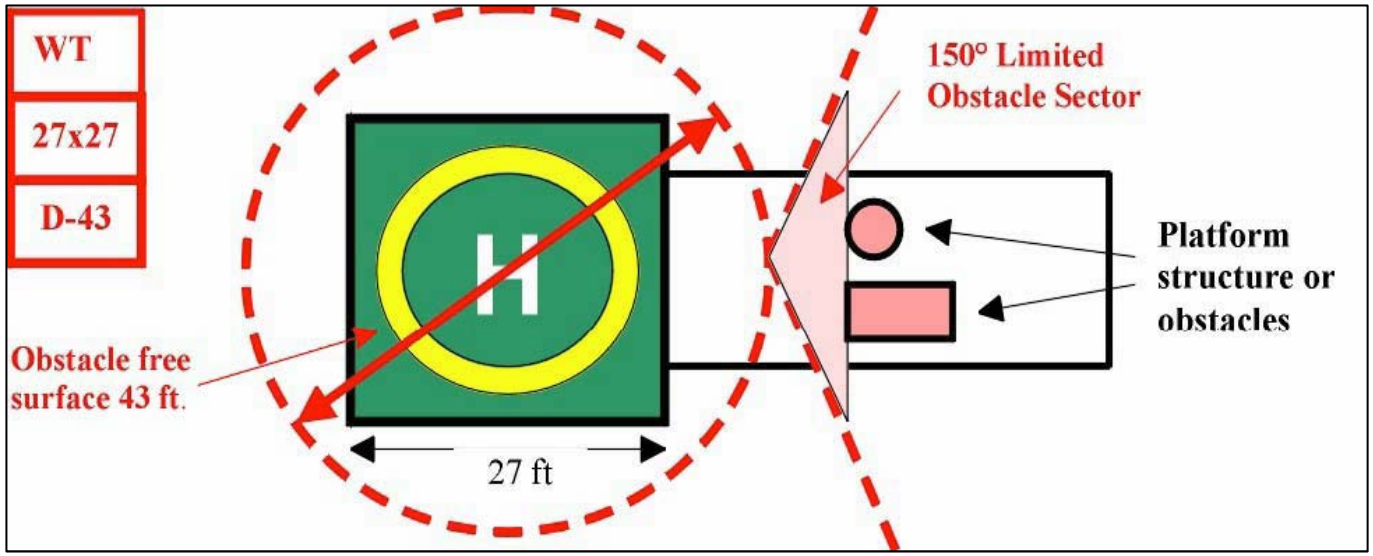
HELIDECKS

Helicopter Association International



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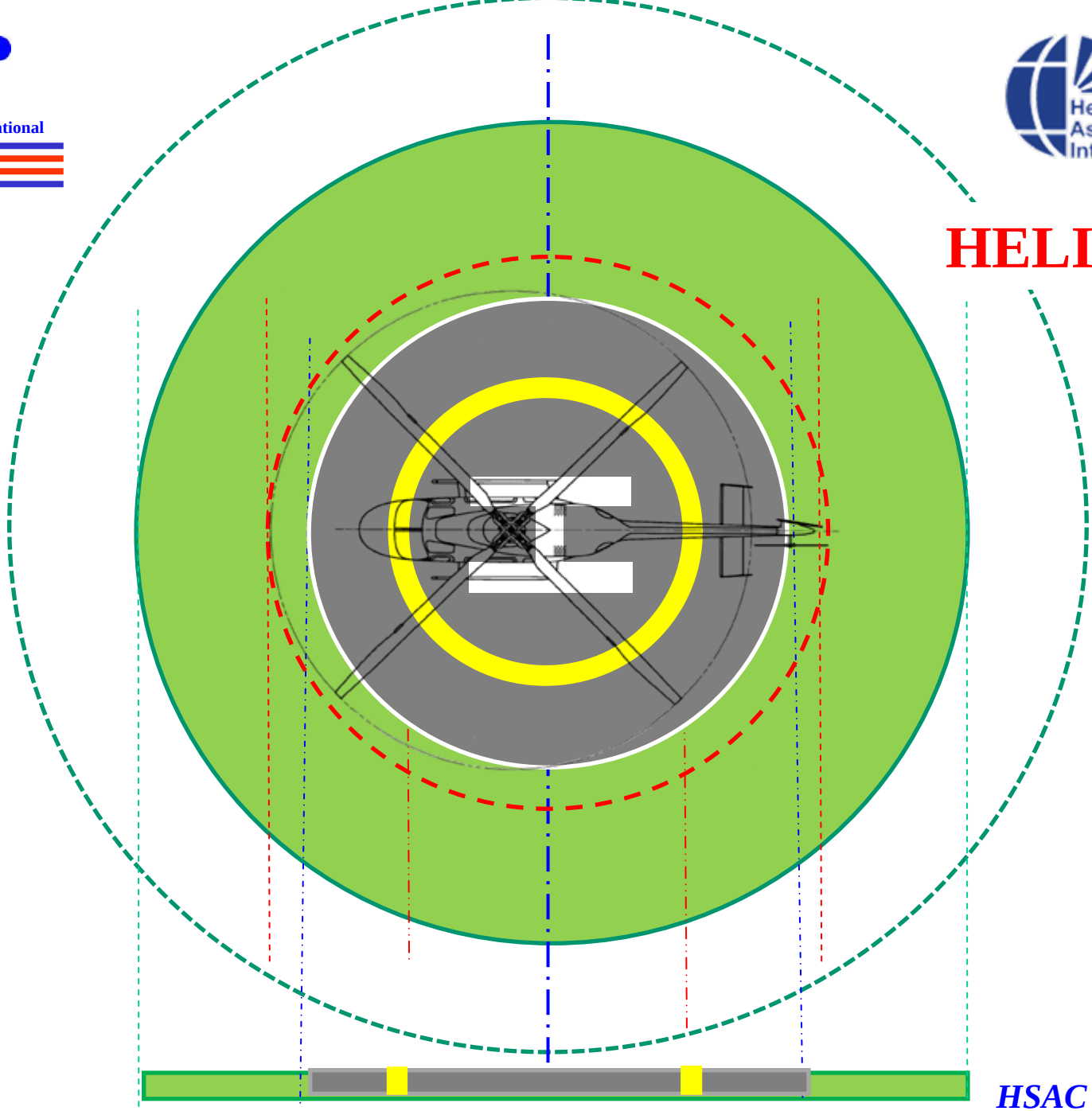
HELIPORT



HSAC – Jan 2011

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Perimeter markings and the 'H' (heliport designation marking) provides the pilot with visual cures on the location of the heliport/helideck a and information on the rate-of-closure on approach etc., but it does not provide information on where to touchdown on the TLOF or position the helicopter during maneuvers on the TLOF or parking area. A Touchdown/Positioning (circle) marking – TDP making – provides such information.

TPM markings are widely used by the offshore (oil) industry on helidecks and on heliports in many nations. It is a requirement in *ICAO Annex 14 Vol II - Heliports*

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A TDP marking provides the pilot with information on where to position the helicopter and ensures:

(i) the rotor system, and in particular the tail rotor, is clear of obstacles in the vicinity of the heliport/helideck or parking area (helicopter stand),

(ii) the undercarriage is positioned within the *load bearing area* (TLOF or FATO/TLOF) or helicopter stand/parking area (central zone) by an adequate safe margin, and

(iii) the rotor system and undercarriage are well with the safety and load bearing area (TLOF or FATO/TLOF) during air (hover) turning maneuvers.

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In other words it minimizes the size of ‘load bearing area (TLOF)’ required while maintaining or maximizing the safety margin around the helicopter when landing on the TLOF and during ‘hover turns’ and maneuvers on the TLOF or a ‘parking area’.


TOTAL

Leverton Associates International

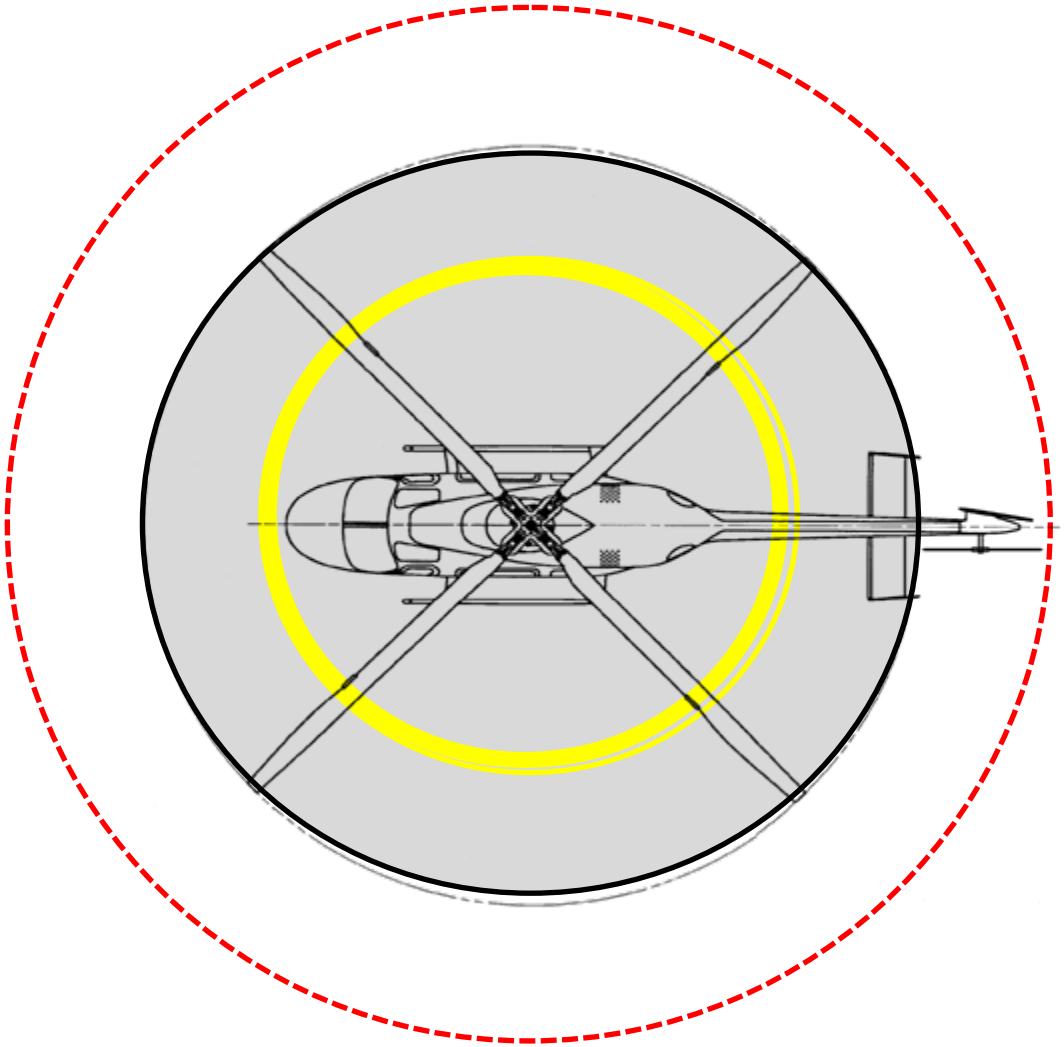
Helicopter Association International

HSAC – Jan 2011

Leverton Associates International

S-76: Landing/Parked Forward of 'H' turning about the rotor hub

Helicopter Association International

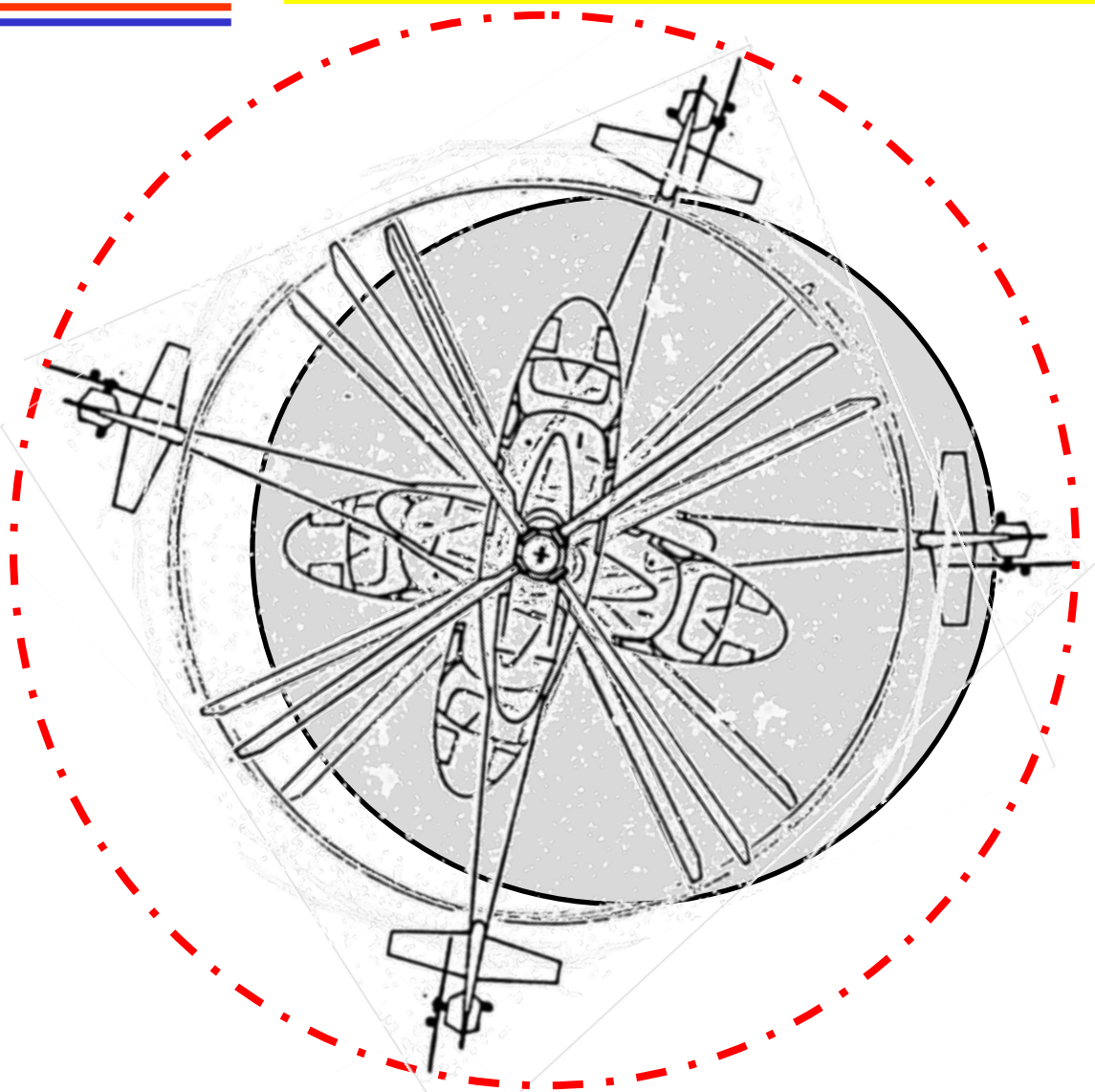


Rotor Hub in center of TLOF – min area (1.2D) for turn about rotor hub

Leverton Associates International

S-76: Landing/Parked Forward of 'H' turning about the rotor hub

Helicopter Association International

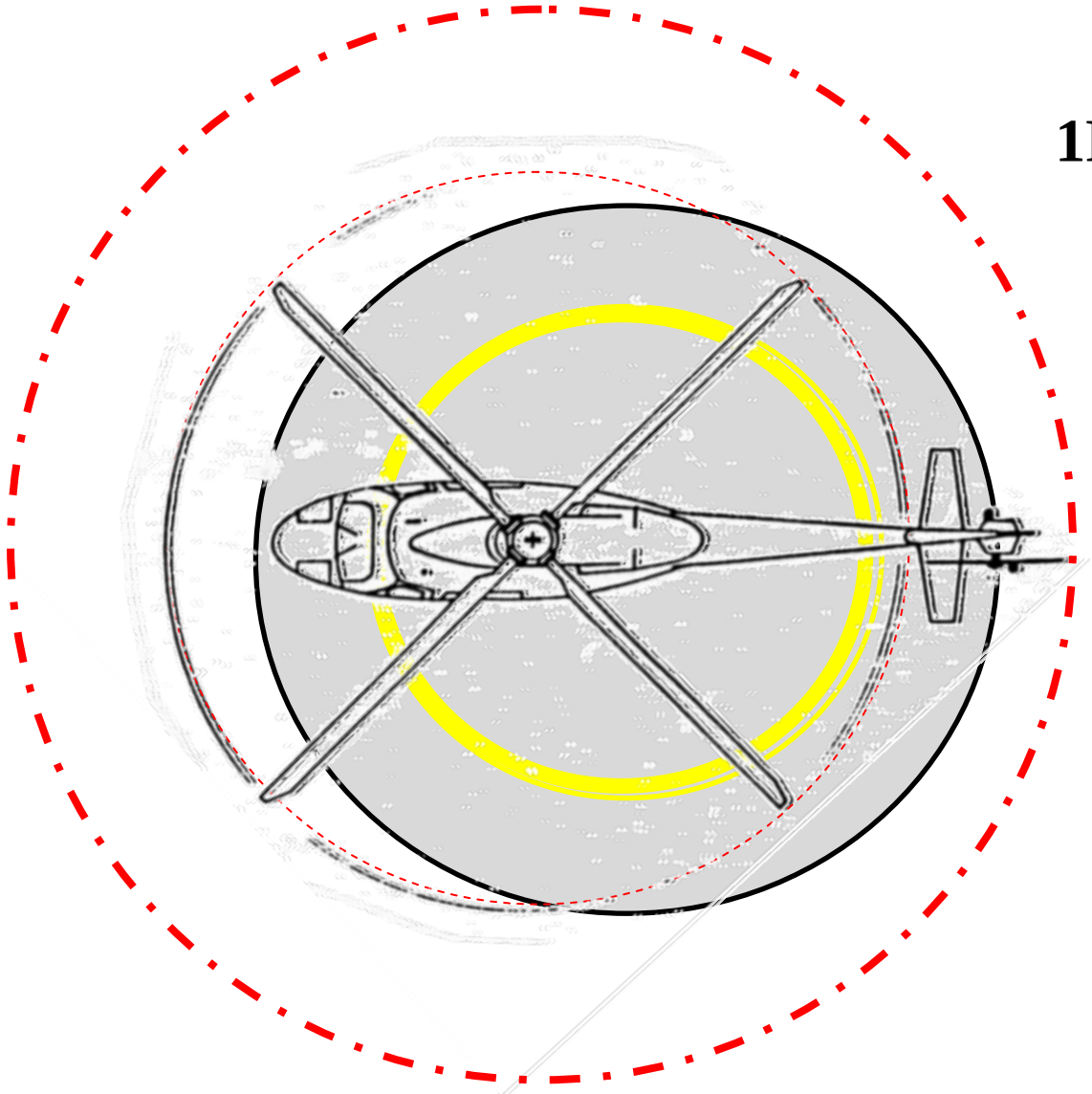


1RD TLOF

Leverton Associates International

S-76: Arc of Tail Rotor turning about the rotor hub

Helicopter Association International



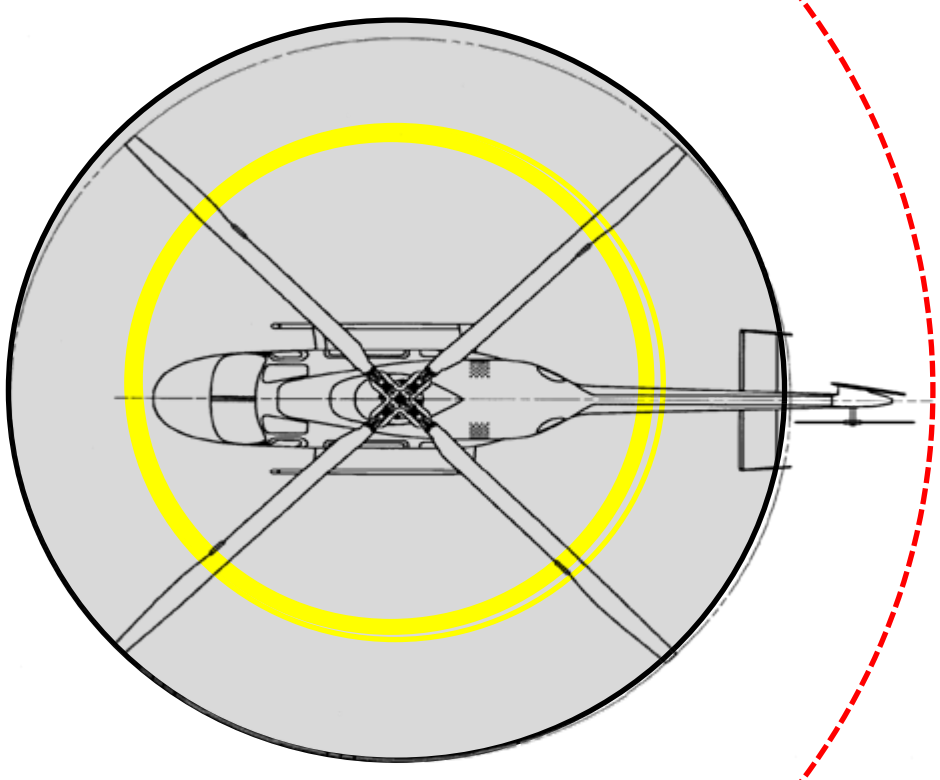
1RD TLOF

Leverton Associates International

S-76: Arc of Tail Rotor turning about ~~'the pilot'~~

Helicopter Association International

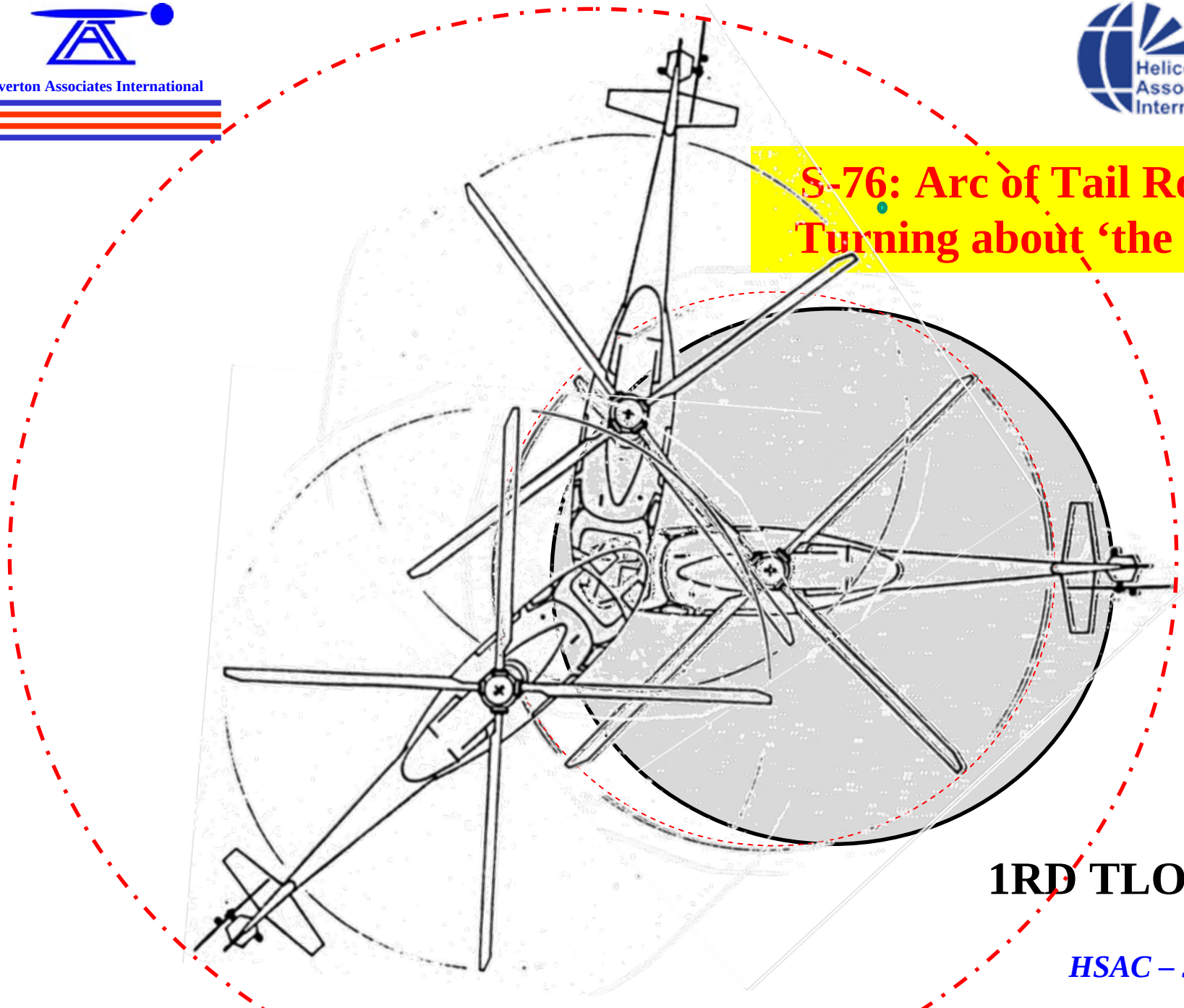
1RD TLOF



Leverton Associates International

Helicopter Association International

S-76: Arc of Tail Rotor - Turning about 'the pilot'



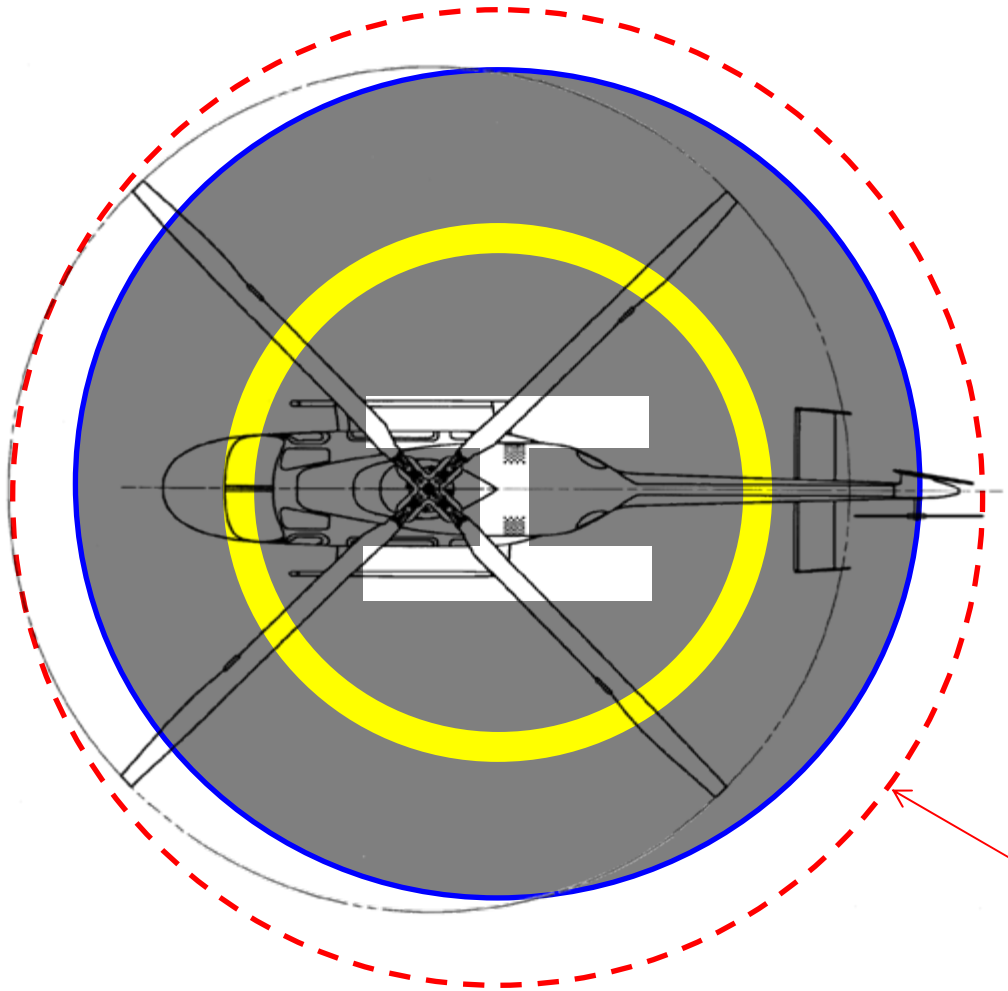
1RD TLOF

HSAC – Jan 2011

Leverton Associates International

S-76: Arc of Tail Rotor using TDP 'circle' marking

Helicopter Association International



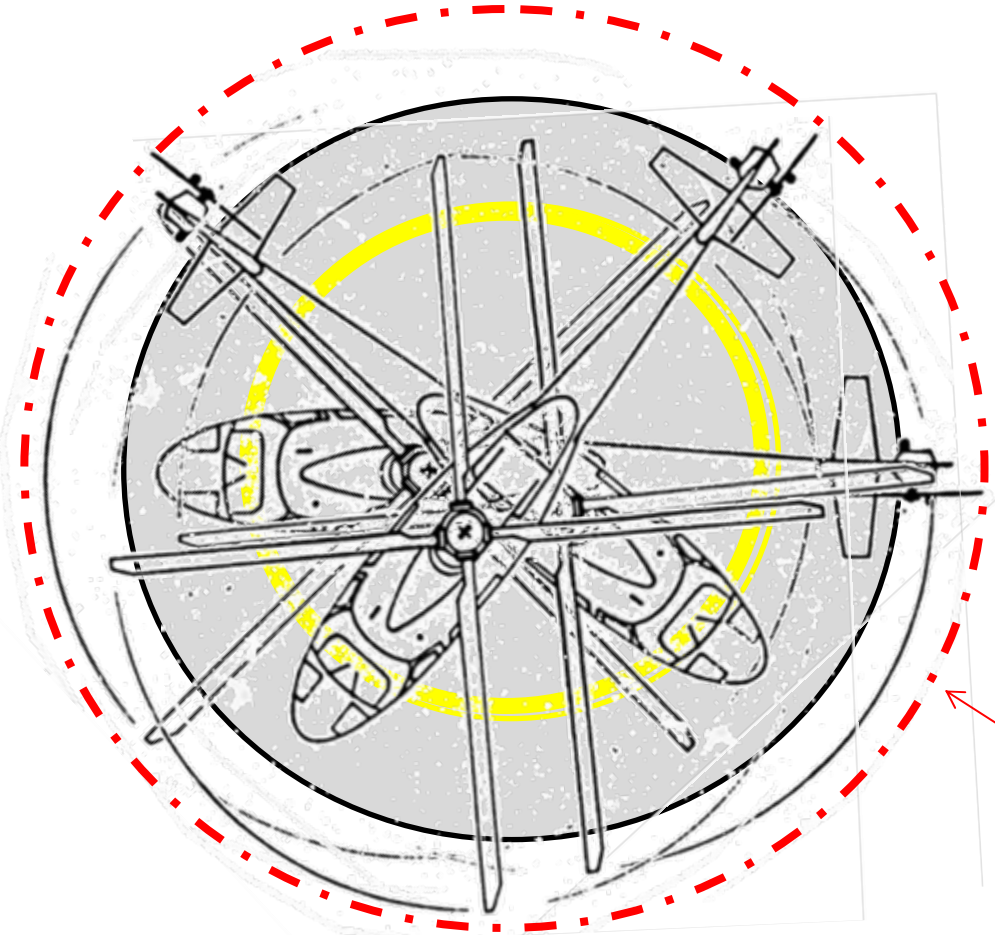
1RD TLOF

Diameter 1D

Leverton Associates International

S-76: Arc of Tail Rotor using TDP ‘circle’ marking

Helicopter Association International



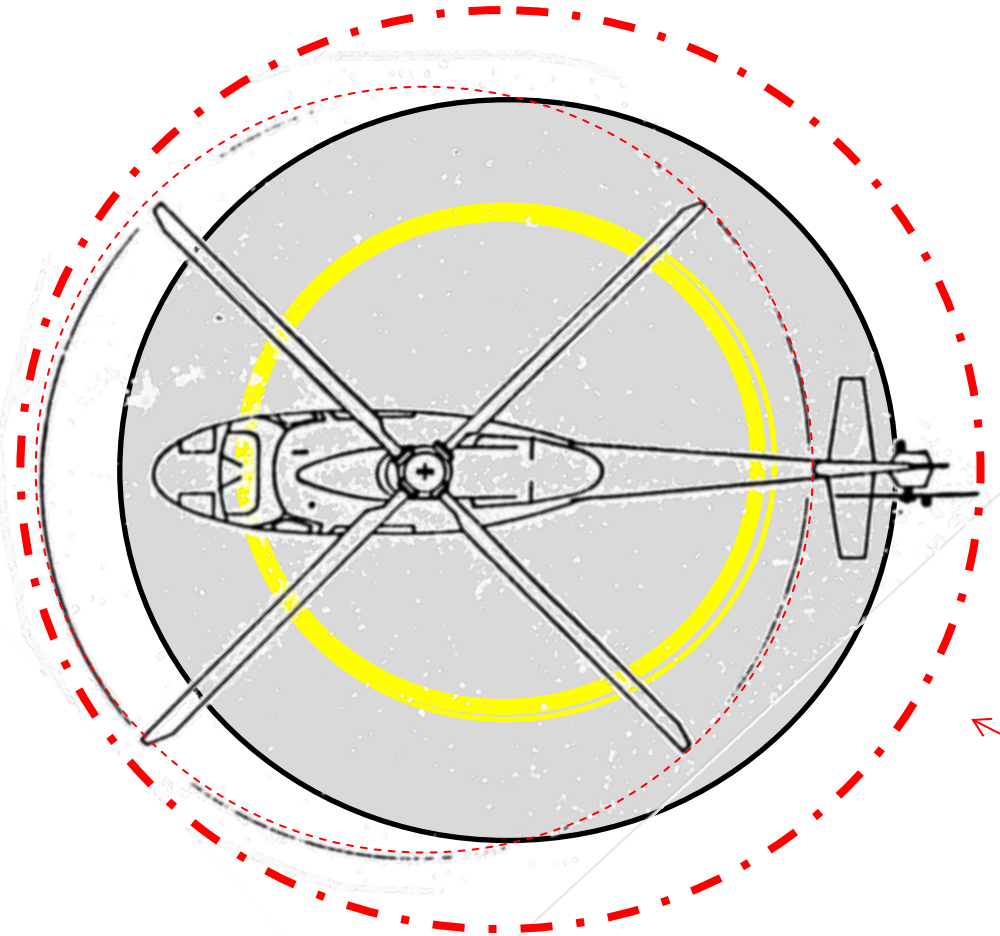
1RD TLOF

Diameter 1D

Leverton Associates International

S-76: Arc of Tail Rotor using TDP ‘circle’ marking

Helicopter Association International



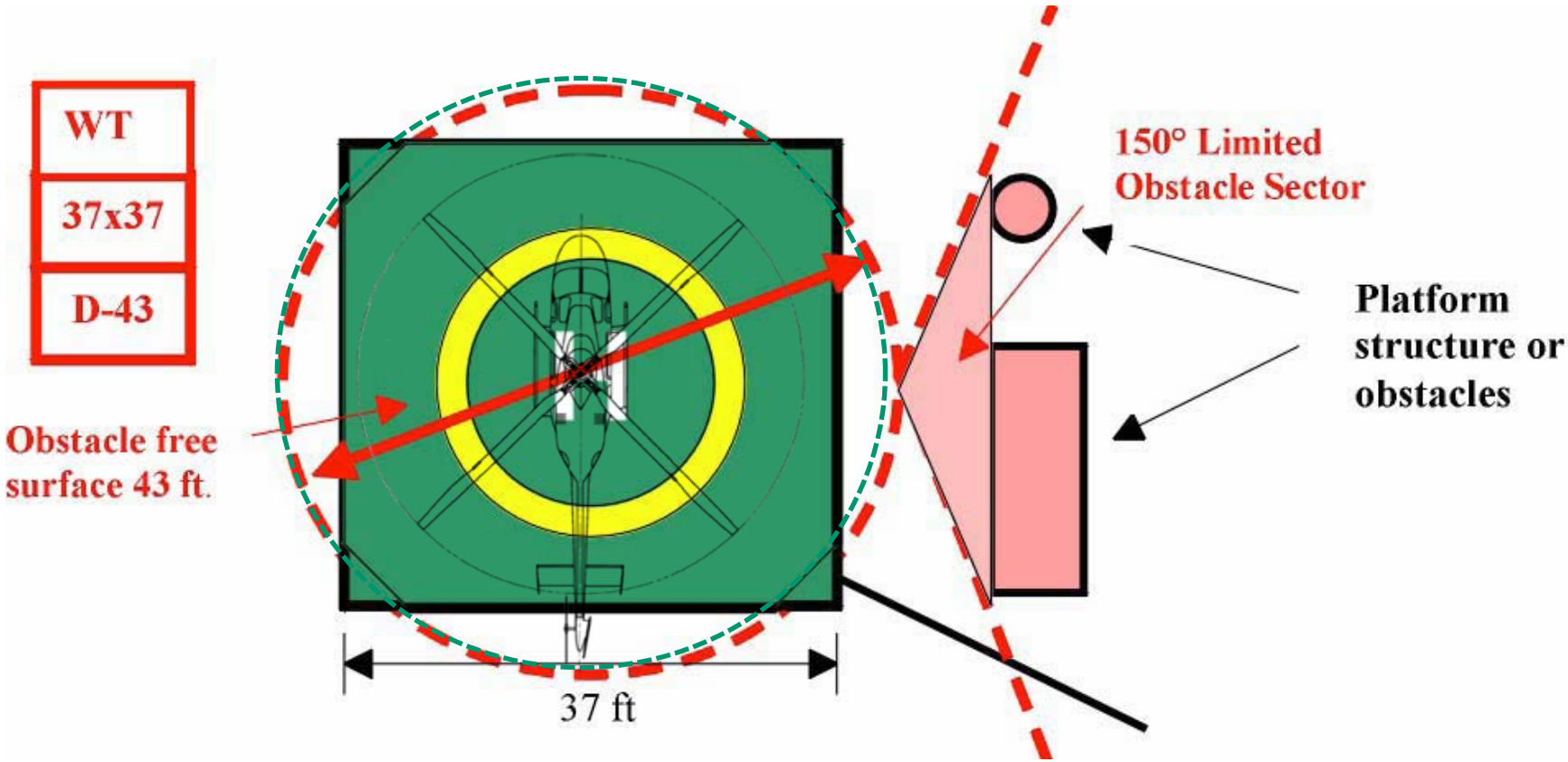
1RD TLOF

Diameter 1D

Leverton Associates International

HELIDECKS

Helicopter Association International



Leverton Associates International

Helicopter Association International

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No!!

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Leverton Associates International

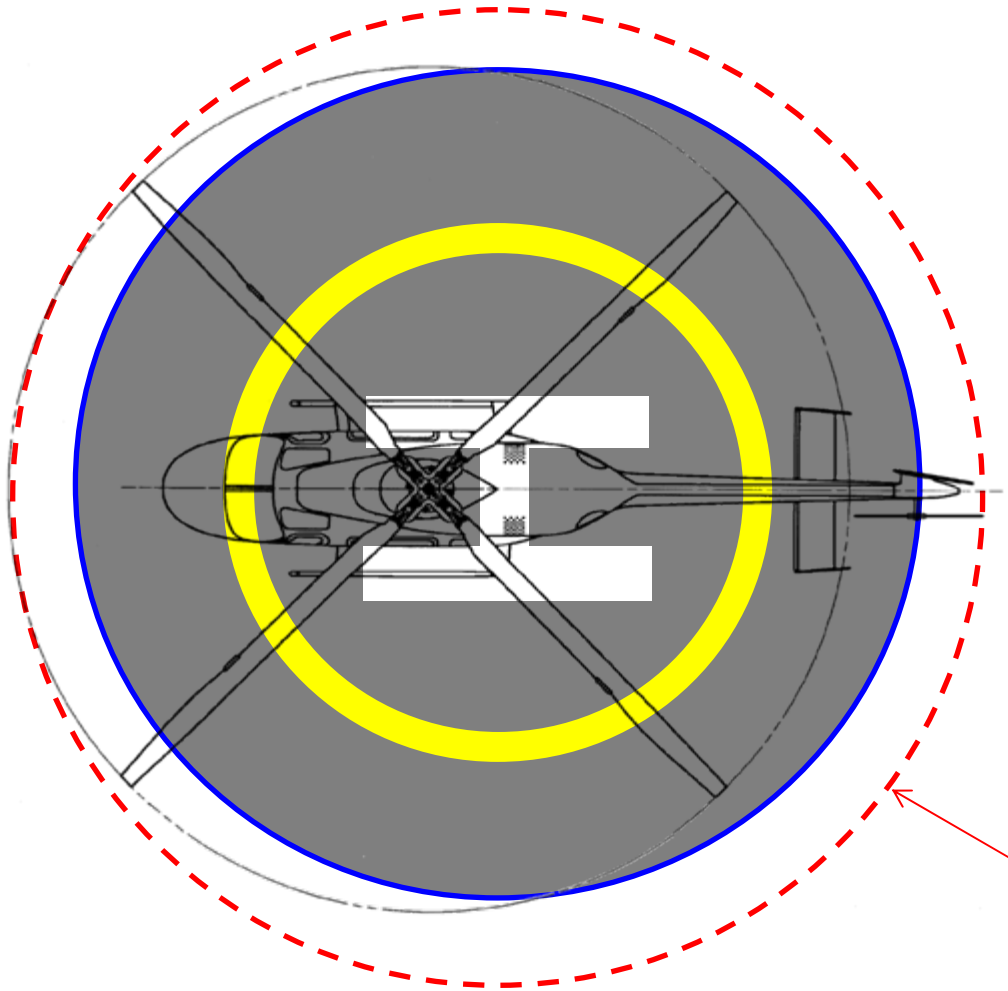
Helicopter Association International

HSAC – Jan 2011

Leverton Associates International

S-76: Arc of Tail Rotor using TDP 'circle' marking

Helicopter Association International



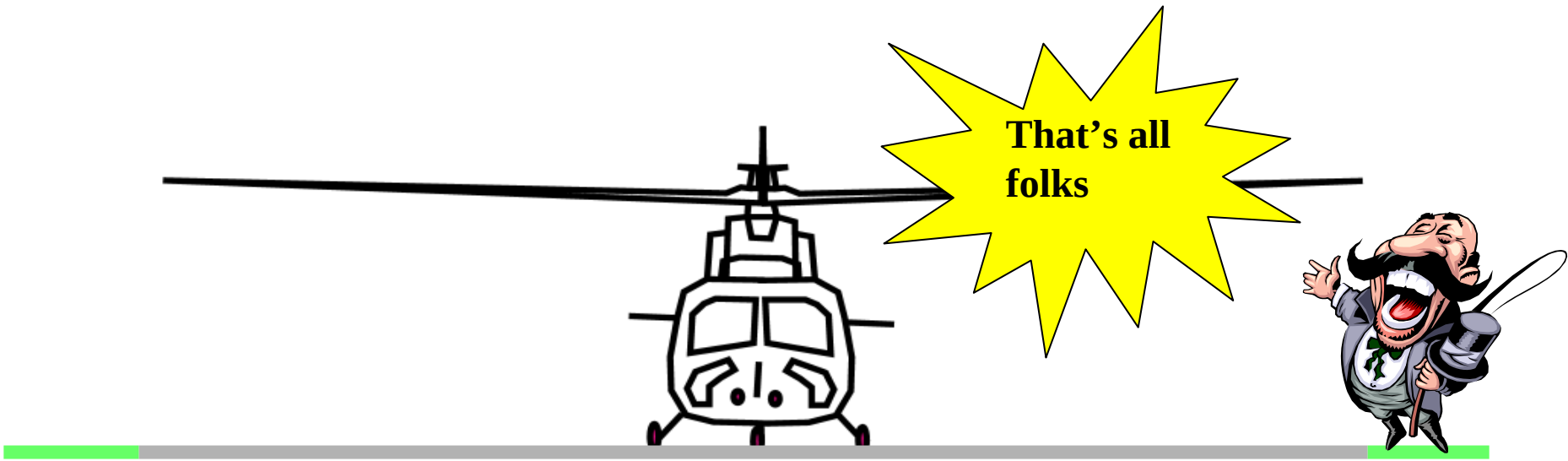
1RD TLOF

Diameter 1D

Leverton Associates International

"THANK YOU"

Helicopter Association International



Dr John W. Leverton, Leverton Associates International

Tel: 803-802-9976 / Email: lai@comporium.net

Leverton Associates International

Helicopter Association International

Threat and Error Management HSAC

Colin Henry

What is TEM?

- A system widely used by U.S. airlines to mitigate errors in the workplace
- It is the basis of a Line Operations Safety Audit (LOSA) program (AC120-90)
- It identifies threats and errors and then find ways to reduce, eliminate or manage them

Threat

- Threats are defined as events or errors that:
  - occur outside the influence of the crew (i.e. not caused by the crew)
  - increase the operational complexity of a transport; and
  - Require crew attention and management if safety margins are to be maintained.

Error

- Errors are defined as crew actions or inactions that:
  - lead to a deviation from crew or organizational intentions or expectations;
  - Reduce safety margins; and
  - Increase the probability of adverse operational events on the ground or during flight.

TEM

- Threats come “at” the crew
- Errors come “from” the crew

Management

- Error management is recognized as an inevitable part of:
  - learning
  - adaption, and
  - skill maintenance.

An error that is not detected cannot be managed

An error that is detected and effectively managed has no adverse impact on the operation

TEM Tools

- Hard Safeguards
  - NVGs, HTAWS, Wirestrike Kits, TCAS, etc.
- Soft Safeguards
  - SOPs, Checklists, Risk Assessment Tools, training, evaluations, etc.

TEM Concepts

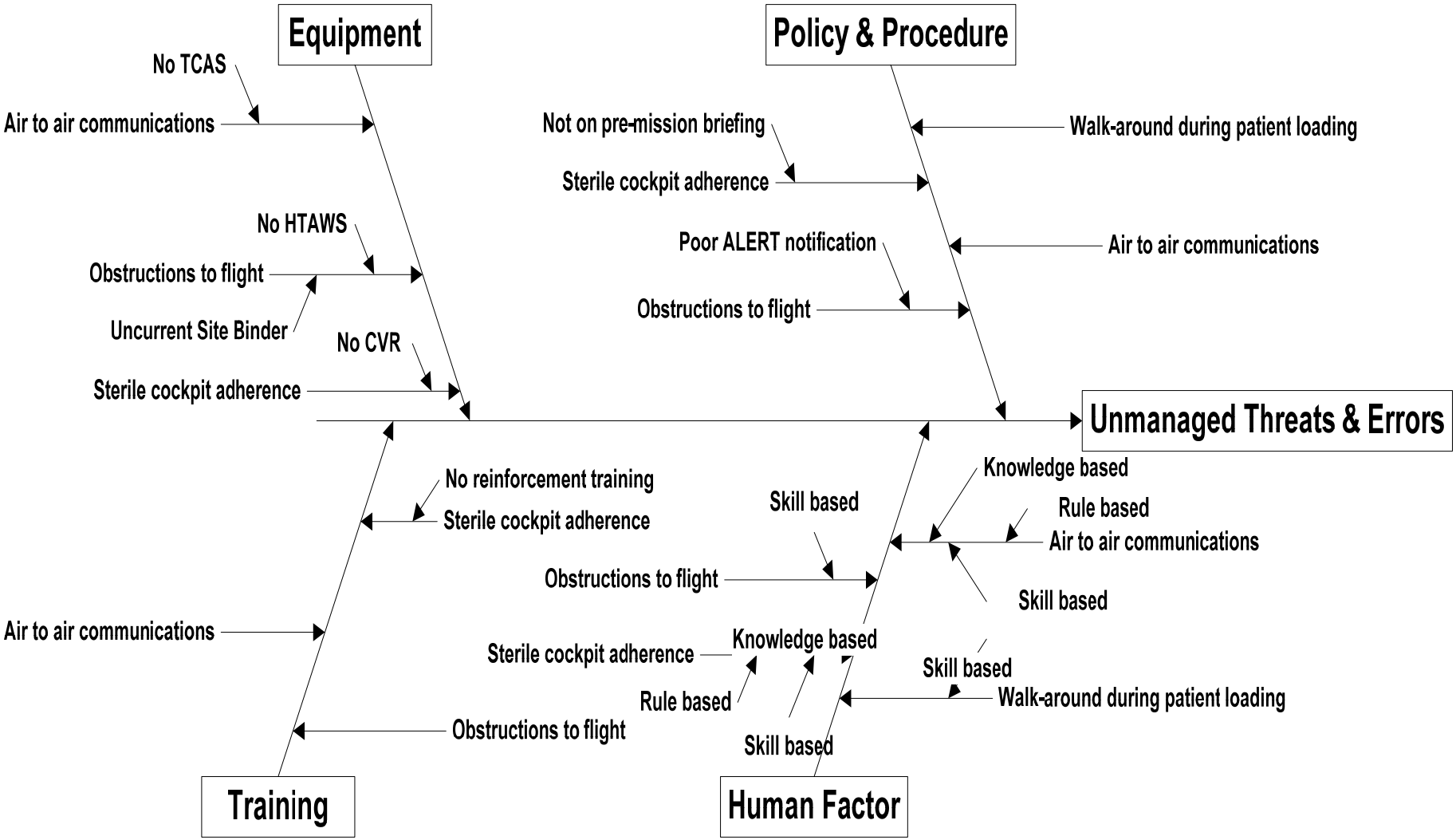
- Anticipation
  - Be vigilance at all times
- Recognition
  - Recognize when something is not right
- Recovery
  - Once an error is identified make corrections before trying to analyze

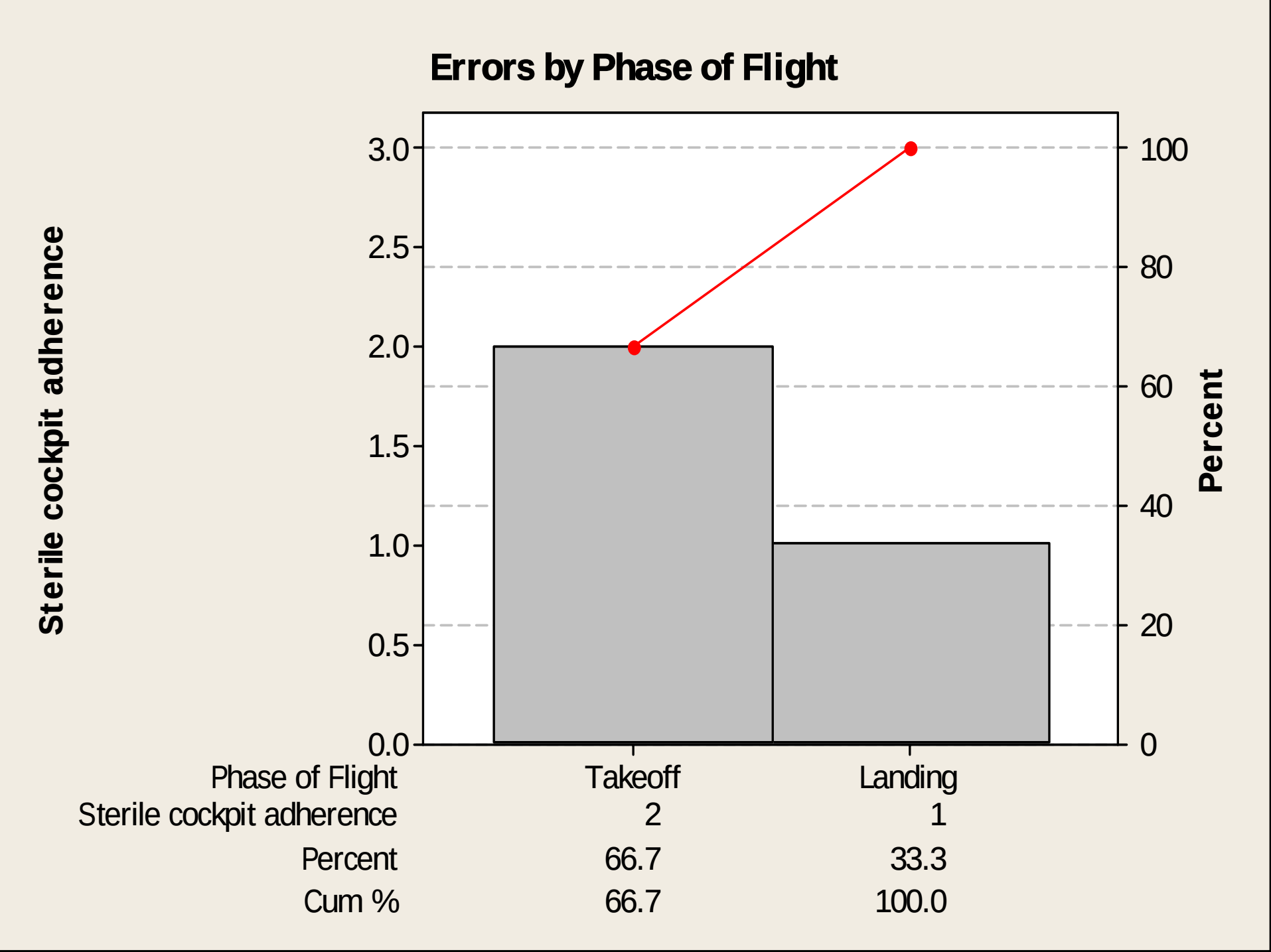
TEM countermeasures/CRM

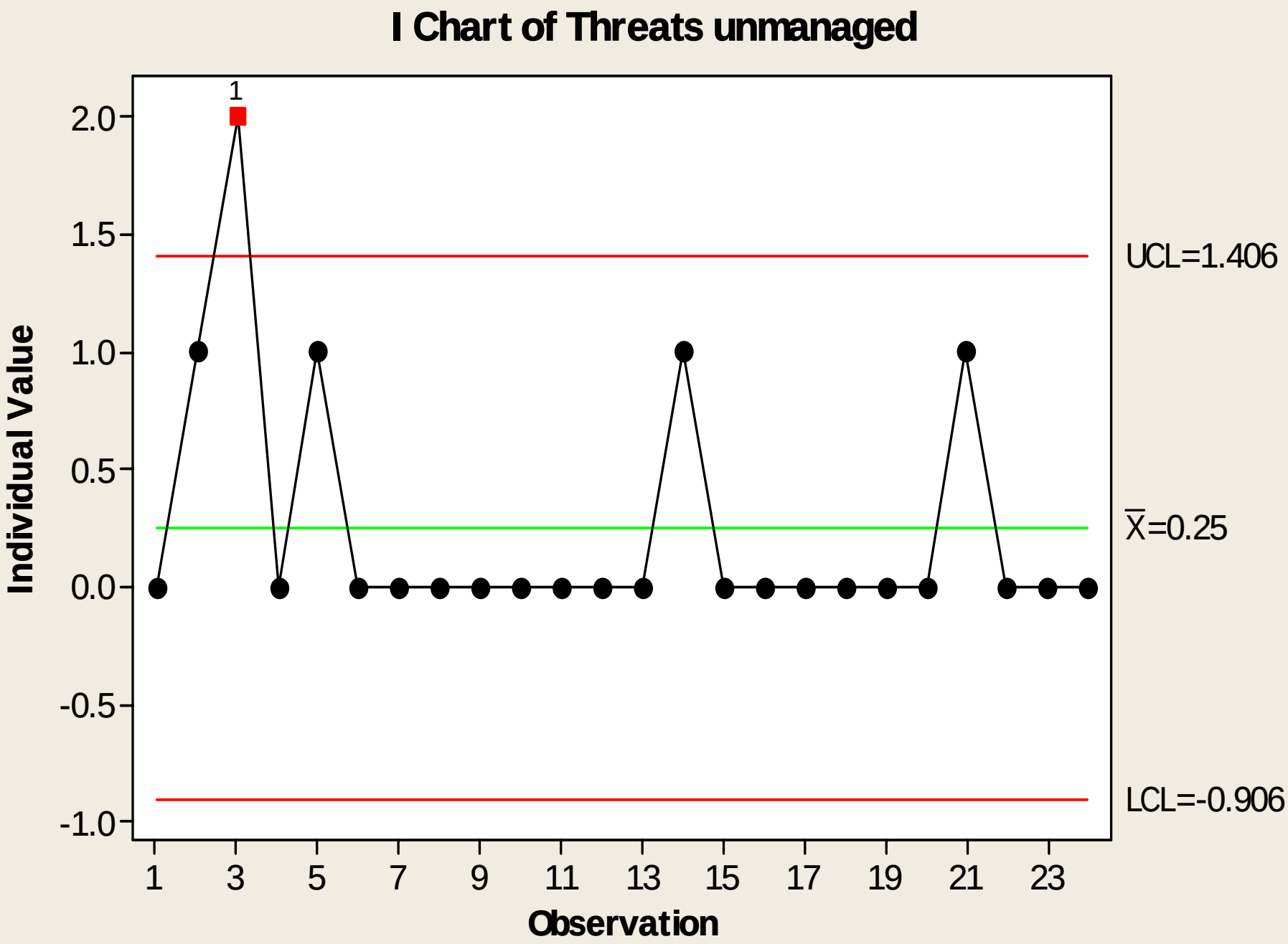
- Planning
  - Preflight, equipment checks, OCC briefing, risk assessment, pre-mission briefing, trip planning, etc.
- Execution
  - Walk-around, monitor/crosscheck flight/ground conditions, manage workload/systems, etc.
- Review/modify
  - Re-evaluate plans/conditions, post trip debriefing, etc.

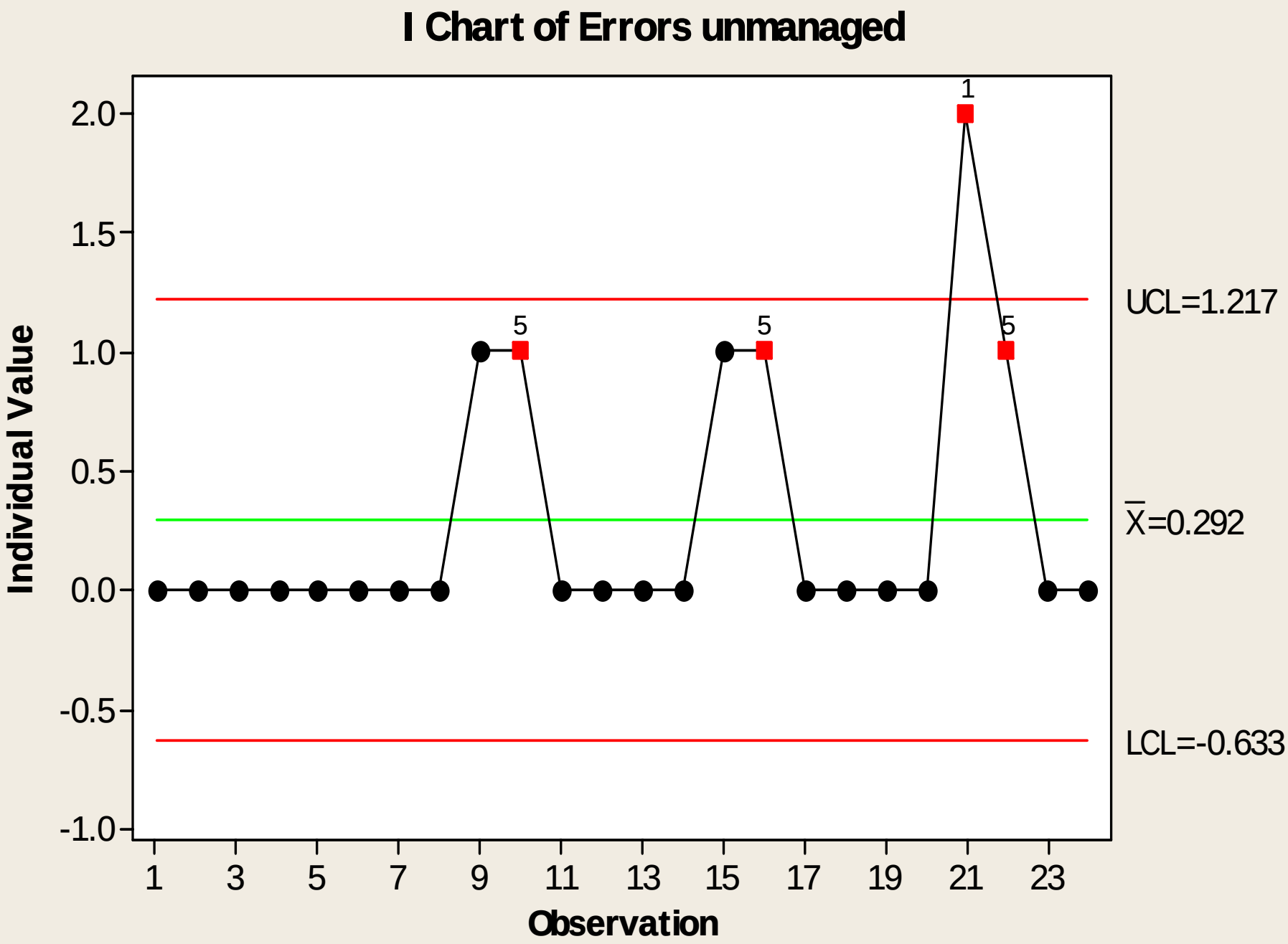
LOSA

- Highly trained observer rides along during regularly scheduled flights to collect safety-related data on:
  - Environmental conditions
  - Operational complexity
  - Crew performance (CRM)
- Information gathered is confidential and non-jeopardizing
- Uses Threat and Error Management Principles


Equipment
No TCAS
Air to air communications
No HTAWS
Obstructions to flight
Uncurrent Site Binder
No CVR
Sterile cockpit adherence
Policy & Procedure
Not on pre-mission briefing
Sterile cockpit adherence
Poor ALERT notification
Obstructions to flight
Walk-around during patient loading
Air to air communications
Unmanaged Threats & Errors
Training
No reinforcement training
Sterile cockpit adherence
Air to air communications
Obstructions to flight
Human Factor
Skill based
Obstructions to flight
Knowledge based
Rule based
Air to air communications
Skill based
Sterile cockpit adherence
Knowledge based
Rule based
Skill based
Skill based
Walk-around during patient loading


Errors by Phase of Flight
Sterile cockpit adherence
3.0
2.5
2.0
1.5
1.0
0.5
0.0
100
80
60
40
20
0
Percent
Phase of Flight
Takeoff
Landing
Sterile cockpit adherence
2
1
Percent
66.7
33.3
Cum %
66.7
100.0


I Chart of Threats unmanaged
Individual Value
Observation
UCL=1.406
X̄=0.25
LCL=-0.906
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
1
3
5
7
9
11
13
15
17
19
21
23


I Chart of Errors unmanaged
Individual Value
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
1
5
5
5
UCL=1.217
X̄=0.292
LCL=-0.633
1
3
5
7
9
11
13
15
17
19
21
23
Observation

Benefits

- Identify Threats in the operational environment
- Identify Threats from within the company
- Assess the Degree of Transference of Training to the line
- Check the quality and usability of procedures
- Identify Design Problems in the Human/Machine Interface

Benefits

- Understanding Crewmember Shortcuts and Workarounds
- Assess Safety Margins
- Provide a Baseline for Organizational Change
- Provide a Rationale for Allocation of Resources

NPRM SMS for Part 121 Certificate Holders

- To consider ASAP, FOQA, LOSA and AQP as part of SMS
- ARC recommends extending set of general requirements to Part 121 first followed by Part 135 operators
- Send comments by February 3, 2011

Integration of programs

- FOQA, ASAP and LOSA should complement each other
- FOQA and ASAP rely on outcomes to generate data
- FOQA has the “aircraft perspective”
- ASAP has the “crew perspective”
- LOSA has the “neutral third-party perspective”
- FOQA and ASAP is continuous data collection
- LOSA is more project based (done annually)

Surveillance and Broadcast Services

ADS-B and Gulf of Mexico Update

Federal Aviation Administration

Attachment #7

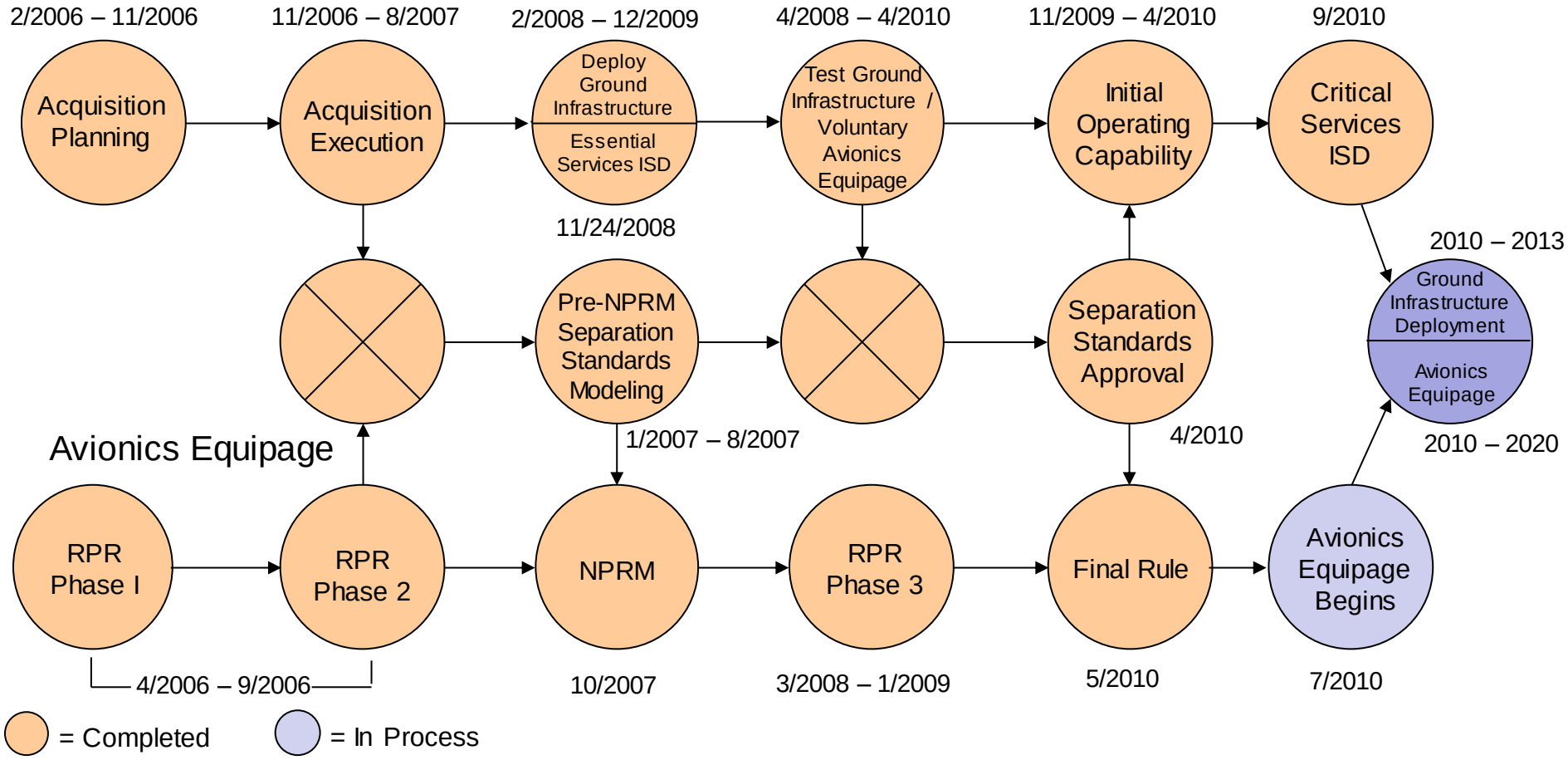
To: Helicopter Safety Advisory Conference

By: Allan Overbey, CSA Program Management

Date: January 13, 2011

Strategy

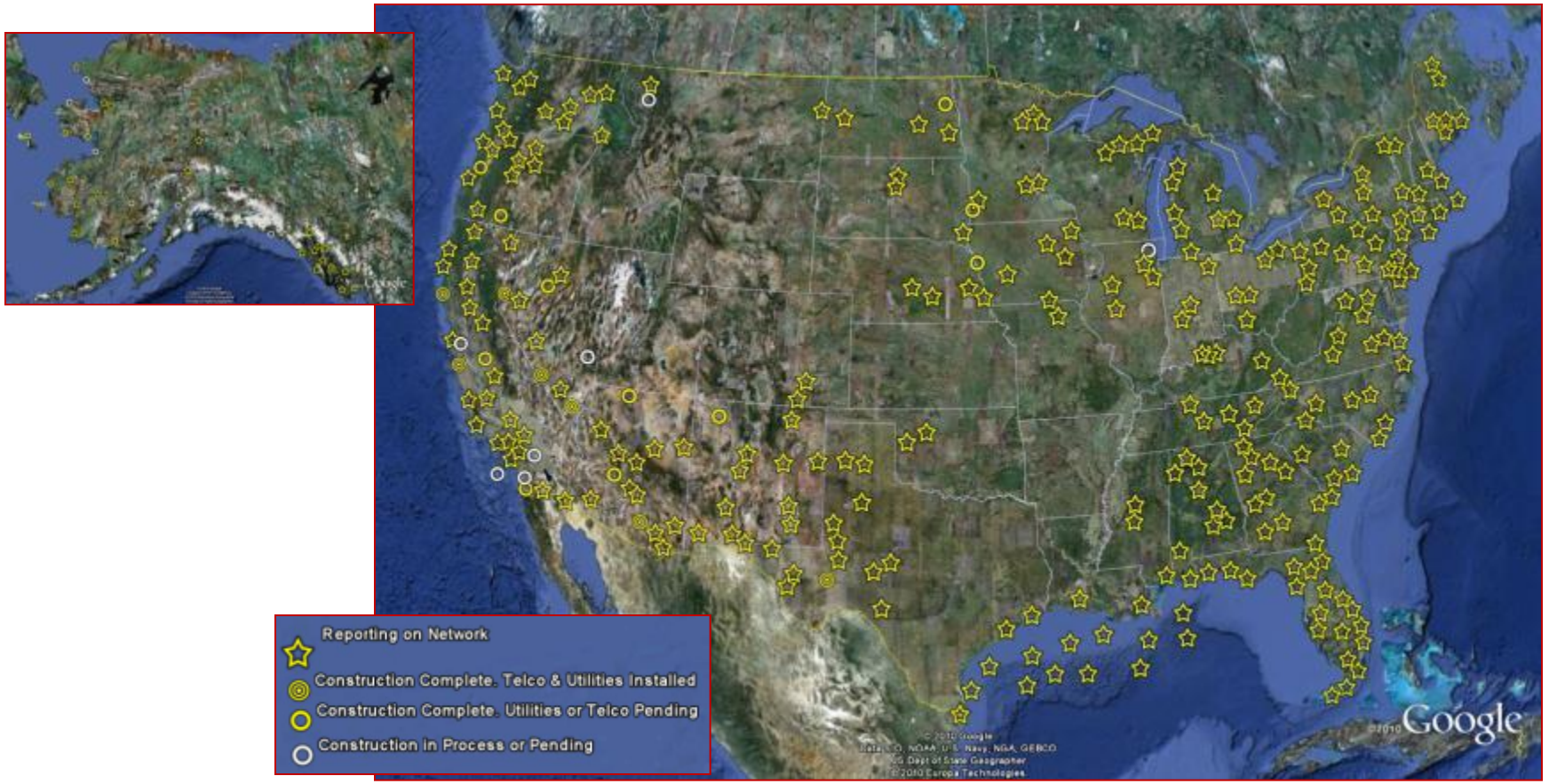
Ground Infrastructure



RPR = Rulemaking Project Record; NPRM = Notice of Proposed Rulemaking; ISD = In-Service Decision

Implementation Status: November 2010

- **315 radio sites planned this year (4 western Alaska sites and 1 Rocky Mountain site must wait until Spring)**
- **305 radio sites constructed (280 in CONUS; 25 in AK)**
- **283 radio sites reporting on the network (262 in CONUS; 21 in AK)**
- **202 IOC radio sites (ZMA, Gulf, SDF, PHL, JNU, ZBW, ZNY, ZJX, ZOB, ZTL, ZDC, ZAU, ZSE and ZAB)**



FY2011: Critical Services Sites

Houston Center (ZHU)	New York TRACON (N90)	Houston TRACON (I90)
Automation: ERAM	Automation: CARTS	Automation: STARS
Planned Critical Services Initial Operating Capability (IOC): Spring 2011	Planned Critical Services Initial Operating Capability (IOC): Spring 2011	Planned Critical Services Initial Operating Capability (IOC): Summer 2011
Supports: • Houston Center • Gulf of Mexico: Low Altitude • Gulf of Mexico: High Altitude	Supports: • Kennedy • Newark • LaGuardia • Islip • Newburgh (Stewart)	Supports: • Houston Intercontinental • Houston Hobby • Beaumont

- **Colorado Phase 2 expansion**
- **Exploring Wisconsin & Minnesota expansion**

SBS External Agreements: Model for Collaboration

JetBlue MOA
November 2010

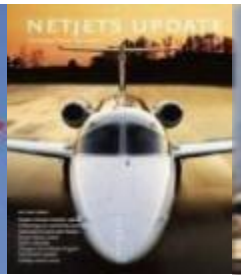
SSA MOA
December 2009

AOPA MOA
October 2009

Auburn University MOA
September 2009

United MOA
April 2009

U.S. Airways/ACSS MOA
January 2009



NetJets MOU
December 2008

Honeywell
October 2008

Aviation Communication
and Surveillance Systems
October 2008

Alaskan Aviation Community
& State Representative MOA
February 2007

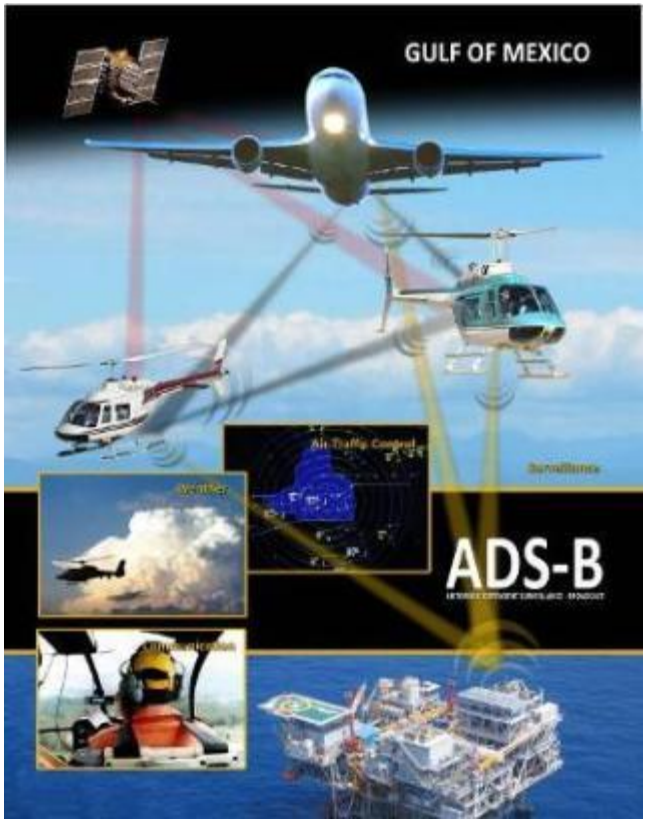
UPS MOA
November 2006

Colorado DOT
September 2006

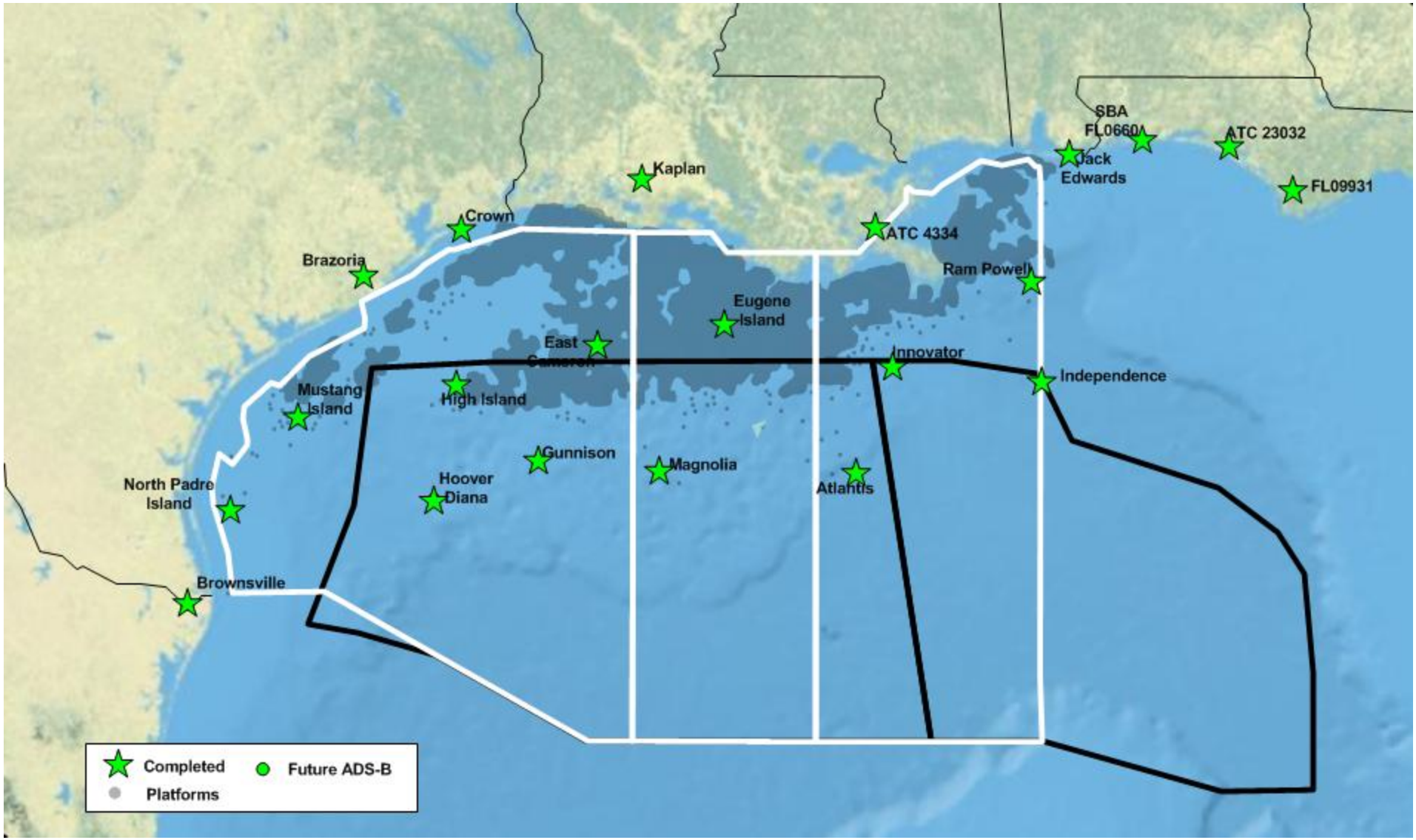
HAI & Gulf of Mexico
Helicopter/Platform Owners MOA
May 2006

Critical Services: Central Service Area Key Site

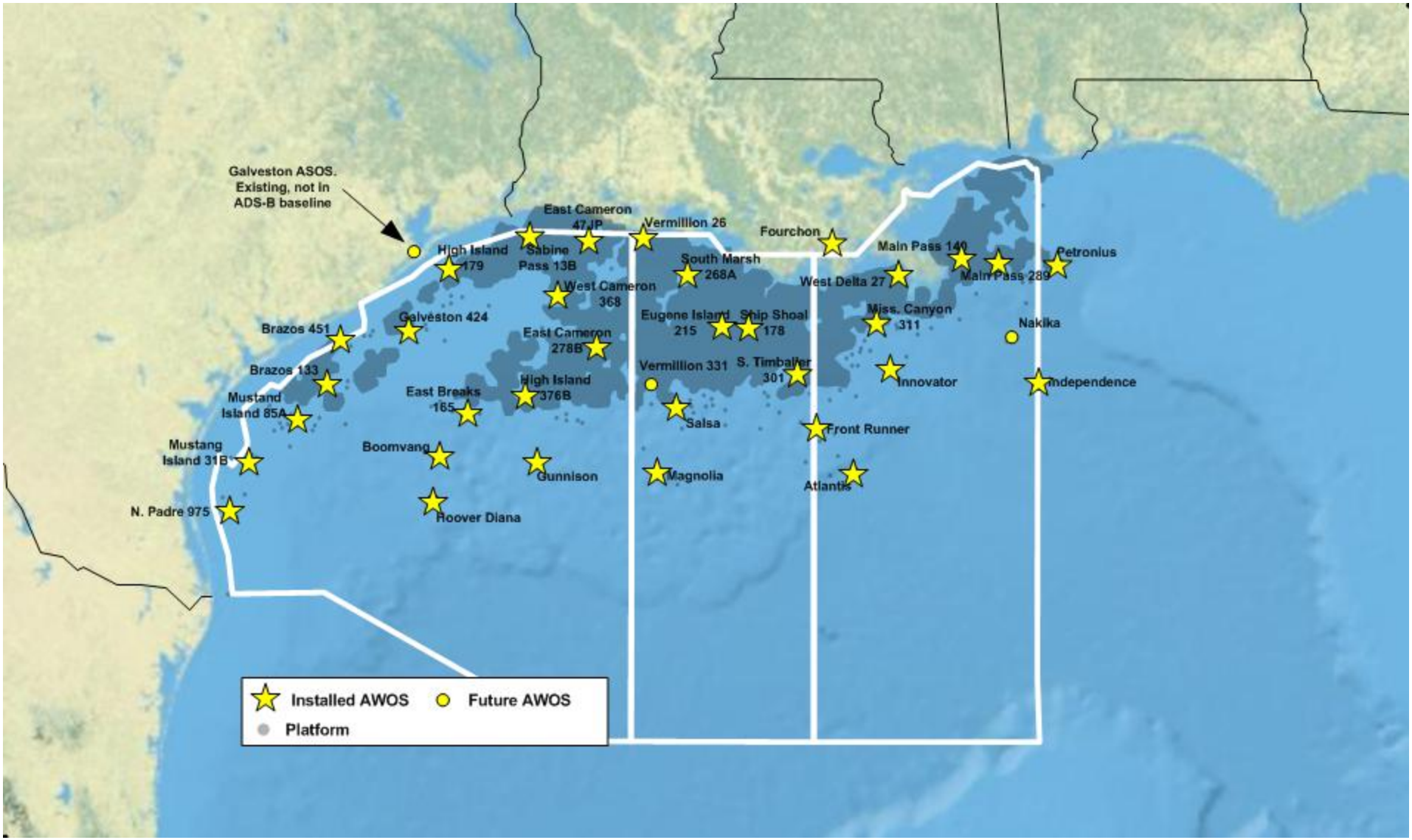
- **Gulf of Mexico Service Volumes Service Delivery Point: Houston ARTCC; Automation: HOST**
- **Installations completed:**
  - VHF Communications: 8
  - ADS-B: 21
  - AWOS: 34
- **December = 95% coverage of low altitude airspace with Communications & ADS-B**
- **Installations remaining (provides further coverage south & redundancy):**
  - VHF – Communications – 1
  - AWOS - Weather Installations – 1



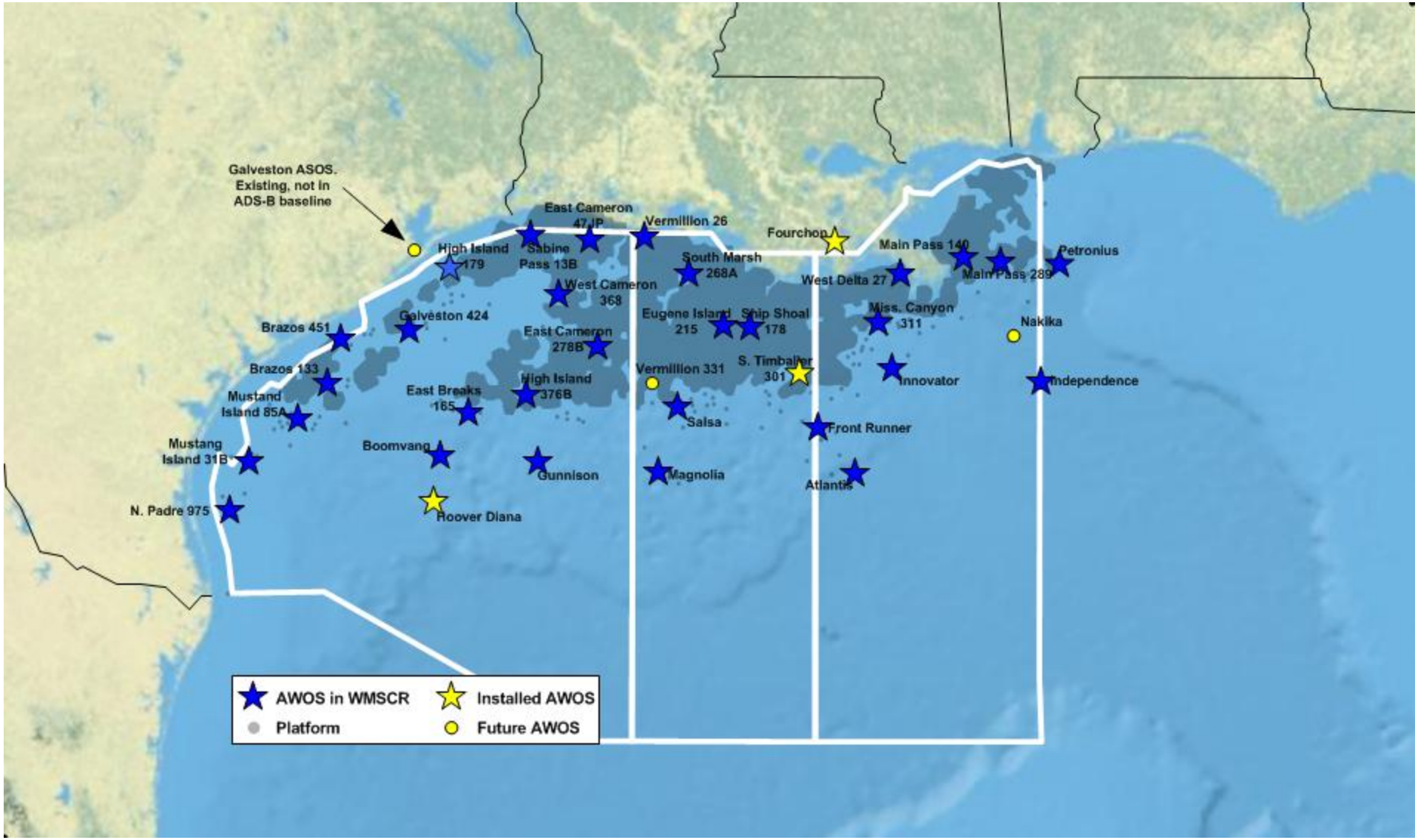
ADS-B Site Status



AWOS Site Status



AWOS WMSCR Status



Special Interest Items

- **Renewing Gulf of Mexico FAA/industry partnership Memorandum of Agreement (MOA)—expires May**
- **Taking action to improve wind sensor reliability and eliminate permanent wind unreliability NOTAMs**
- **Developing formal Agreement with HAI to permit the sharing of ADS-B data to Gulf operators / partners for company flight following**
- **Pursuing DO-260B / DO-282B avionics solutions for Gulf operators to comply with ADS-B Final Rule and AC 20-165**

Allan Overbey

CSA Program Management,
Surveillance & Broadcast Services

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(W) 202-327-5414
allan.ctr.overbey@faa.gov

www.adsb.gov

12 Jan 2011 update

Shell and Island Operating will be liaising with OOC in an effort to share our goals and issues and partner when and where able on relevant issues pertaining to the offshore industry. Still ongoing and awaiting further guidance from HSAC Chairman and Steering Committee.

Operators and Oil companies are going to submit examples of how they apply the RP's. These "examples" will potentially be included as appendices to the RP's so other companies can consider them as process templates as they improved or develop their own operational programs.

RP's 2004-01 through 2004-08 and 2005-01 and 2008-01 will be reviewed by a cross section of volunteers from the industry. These revisions will be discussed at the next meeting and when/if consensus is reached proposed to the greater body for approval/acceptance.

Shell and Synergy will be developing and proposing an HLO RP to document recommended practices for HLO's operations on both manned and un-manned platforms/facilities. RP Draft has been developed and work for editing is ongoing.

2004-01 – Offshore Helideck inspections - Bristow & Exxon. Update helideck inspection checklist and develop an abbreviated checklist for pilots. Rec to develop 2 checklist to cover legacy decks and develop short item list for pilots.. Tery K. Tom S. Bob Old.

2004-02 – Jet Fuel quality control – Bristow Reviewed but requiring additional editing. Glen

2004-03 – Single Pilot & Passenger Handling – ERA & Chevron. Combined with HLO RP

2004-04 – Common Frequency – Island Operating Still Valid RP

2004-05 - Night Offshore Helicopter Flights - ERA & Bristow Should be ready for Steering Committee review/approval

2004-06 - HUET – Tabled Closed

2004-07 – Helideck Hazards – PHI & RLC Valid, but requires cross reference to HLO and 2008-1

2004-08 – Helicopter Equipment Fit – Exxon & BP Valid closed

2005-01 – Helicopter Tie down procedures – PHI Review pending

2008-01 – Helideck Markings – Shell & Chevron Outstanding issue of Coast Guard floating vessels MODU line markings. Correct 2008-1

Safety Issues

PHI posted NOTAMS and published changes to approach and departure procedures for bird strike avoidance. The question was raised as to whether of not this is effecting other operators and is there an opportunity to do this in other GOM areas for bird strike prevention?

Houma Tower has allowed VFR departing traffic to fly 170 and not de-conflicting IFR traffic in bound on the RWY 36. How are we going to manage this?

MMS has rescinded their Green Deck call requirement previously discussed and agreed. This is creating a safety issue that must be discussed.

In a recent incident an aircraft wheel went through some boards on a Helideck. Self regulating does not appear to be working. Suggestions are welcome….

Attachment #9

Hand Protection and Glove Selection
HSAC 1/13/11

Do it safely or not at all.
There is always time to do it right.

1/3 Of All Workplace Injuries Involve The Hands

Gloves are a key component of hand safety

Safety Gloves

There are six major categories of safety gloves. The difference is defined by the potential hazards they defend against and often the material used for their construction. The general classes of safety gloves are as follows.

Disposables: Excellent for one time use while still providing " fingertip sensitivity" required by medical environments, industrial laboratories and clean rooms They are often made of latex, vinyl, nitrile, or polyethylene.

Chemical Resistance: Protect the wearer from chemical penetration to the skin. Usually made of latex, polyvinyl chloride (PVC), neoprene, butyl, or nytrile.

Cut Resistant: using Kevlar, steel knit designs, or synthetic yarns, these items lesson the chance of cutting the skin by sharp objects or moving machine blades.

Voltage Resistant: Protect the wearer from injury by active electrical voltage. Usually made of rubber, a very effective non-conductive material.

Temperature Resistant Designed to protect the wearer from temperature extremes (hot or cold), arcs and flames, and torch or welding activities.

General work: Give you protection against common work place hazards. Made of a variety of materials, including cotton , leather, or even a combination of these.

General Glove Selection Guidelines

Once any hazards have been identified and evaluated through hazard assessment, the general procedure for selecting protective gloves is to:

1.Become familiar with the potential hazards and the type of protective gloves that are available, and what they can do.

2. Compare types of gloves to the hazard associated with the environment.

3.Select the protective glove that meets selection requirements to protect from the hazards. Such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

4. Select a glove that provides a proper fit. This includes correct size, comfort and dexterity. Gloves that affords workers comfort and enough dexterity to perform their task will also increase the probability that gloves will be used.

Gloves Commonly Used By Aircraft Mechanics

Mechanics gloves: Designed to be thin , which allows for high dexterity, and very durable. Not liquid proof.

Latex: Water proof glove that works well but has limitations. Will blister or peel off in thin layers when in contact with petroleum based products.

Neoprene: Excellent chemical resistance to a broad range of hazardous chemicals, including acids, alcohols, oils and inks. Has to be used when fueling aircraft, totes, sumping fuel etc… JSA should reflect this !!!!

Kevlar: Should be used when at risk of cutting, puncturing and moving machine blades to lesson the chance of cutting by sharp objects like sheet metal.

Leather : For protection from rough objects, mild heat and abrasion protection.

Some other glove selections available

Anti vibration

Cut resistance and extra grip

Protection from heat

High visibility gloves

HexArmor

For dry use

Protection from cold

for use with oily substance

Kong Glove
hairline fractures
Bruising blows
Pinched fingers

String knit gloves w/kevlar and plastic dots

Conclusions

Proper hand protection is a result of four factors

1) A complete assessment and communication of the hazards to the hand for the work being done.(JSA)

2) Providing and using (PPE) equipment as identified in health and safety plan. (JSA)

3) The proper selection and use of the safest tools to do the job.(JSA)

4) Auditing and reinforcement of proper behaviors.

The hand is one of the most important tools used at work sites, another is the brain. Use them both carefully !!

Aerial Observation Action Plan As of 10/2010

Target Date Column Status: Green = complete or up-to-date w/plan Yellow = Actions due at next mtg Red = Overdue Actions

ITEM #	Issues	Mitigating Strategy	Responsibility	Tgt Date	Status
4	Crew size for pipeline patrol aircraft	RP/Guideline	Mark/Shell Marion/Spectra John/BP		issue temporarily placed inactive
9	Preflight Risk Assessment	Information	Casey/Chevron Cort/Barr Patrick Riley/ Shell	May-11	Theory and basic guidelines for development of preflight risk assessment with numerous examples of.
13	Involvement with oil and gas management/ API	Information gathering	Casey/Chevron	Jan-11	outreach program to disseminate information concerning aerial observation issues. Casey to contact Peter Lidiak
17	ADSB Requirement 2020	Information gathering	Casey	Jan-11	Information concerning changes in NAS and equipment requirements