



**HSAC**

Helicopter Safety Advisory Conference

# Helideck Committee

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Committee meeting 17 January 2024

Houston, TX

# AGENDA

08:30 – 08:45 Intro (Patrick Bosman)

Anti-Trust Statement  
Introductions  
Objectives

08:45 – 09:15 Industry Updates (Patrick Bosman)

HeliOffshore, IOGP, ICAO, Others

09:15 – 09:45 Windfarms Sub-Group Update

Dan Verda & Hendrik Kaijim

09:45 – 10:00 Coffee Break

10:00 – 10:30 AFFF Sub-Group Update

Josh Page

10:30 – 11:30 Fuel Systems Industry Update

Ross Edmonds & Tom Muzik

11:30 – 13:00 Lunch

13:00 – 13:30 Fluor-luminescent Helideck Paint

Larry Meiselman

13:30 – 14:00 HSAC RP Updates (Patrick Bosman)

14:00 – 14:15 Future Work (Patrick Bosman)

14:15 – 15:00 AOB



# INDUSTRY UPDATES

## HeliOffshore, IOGP, ICAO & Other Updates



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# HELI-OFFSHORE

## MMHEL:

- Started the MMHEL trial in Senegal
- Pre-trial meeting with Chevron completed
- HeliOffshore sent confirmation email last week to two more trial participant organizations to arrange pre-trial meeting ASAP
- UK CAA have provided draft MHEL for information to HOHWG.



- IOGP RP 697 Offshore Helidecks and Facilities V1.1 released November 2023.
- IOGP Report 697 – Offshore Helidecks and Facilities V1.1 differs from the previous version of Report 697 in two main areas:
  - The addition of Section 9 – Contract interface – helideck facilities and associated systems covering the contractual responsibilities of the facility owner / operator and the helicopter operator
  - The addition of Appendix A – Offshore Helideck Review Checklist. This was previously published as IOGP Report 322.
- Feedback to date has been constructive with some additional errors and suggested additional content to be addressed in future revisions on areas such as HMS and AWOS.

# ICAO

- DOC 9261 which is the guidance document in support of ICAO Annex 14 Vol II remains under review.
- Target for completion of draft was September 2023 slipped to end of 2023.
- Target for publication is July 2024.
- IOGP (Mark Small/John Parker) working with ICAO HDWG representative (Kevin Payne, UK CAA) on Offshore elements. *Complete*
- Jim Lyons working on Onshore heliports. *Complete*
- A third workstream producing a new section 3 for SMS. *Ongoing*
- Last meeting: 11-Jan-2024 (Virtual) – No Update received from attendees.
- Annual meeting: Montreal 16 thru 18-Sep-2024



# OTHER

## UK CAA (CAP 437):

- ✦ Amendment 1 to Edition 9 being developed
- ✦ Aim for Amd.1 was to be issued by year end 2023. This was not accomplished.



# OFFSHORE WIND SUB-GROUP UPDATE

Dan Verda & Hendrik Kaijim



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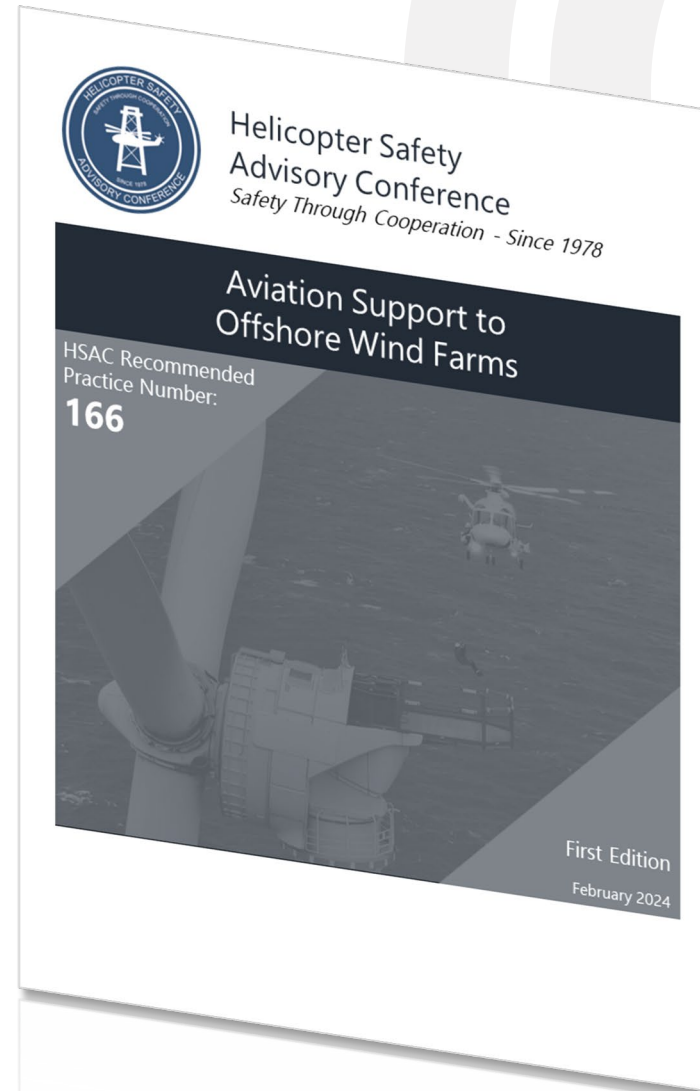
# Aviation Support to Offshore Wind Farms

**HSAC RP 166**

**First Edition**

February 2024

**Final Draft**



# AFFF SUB-GROUP UPDATE

Josh Page



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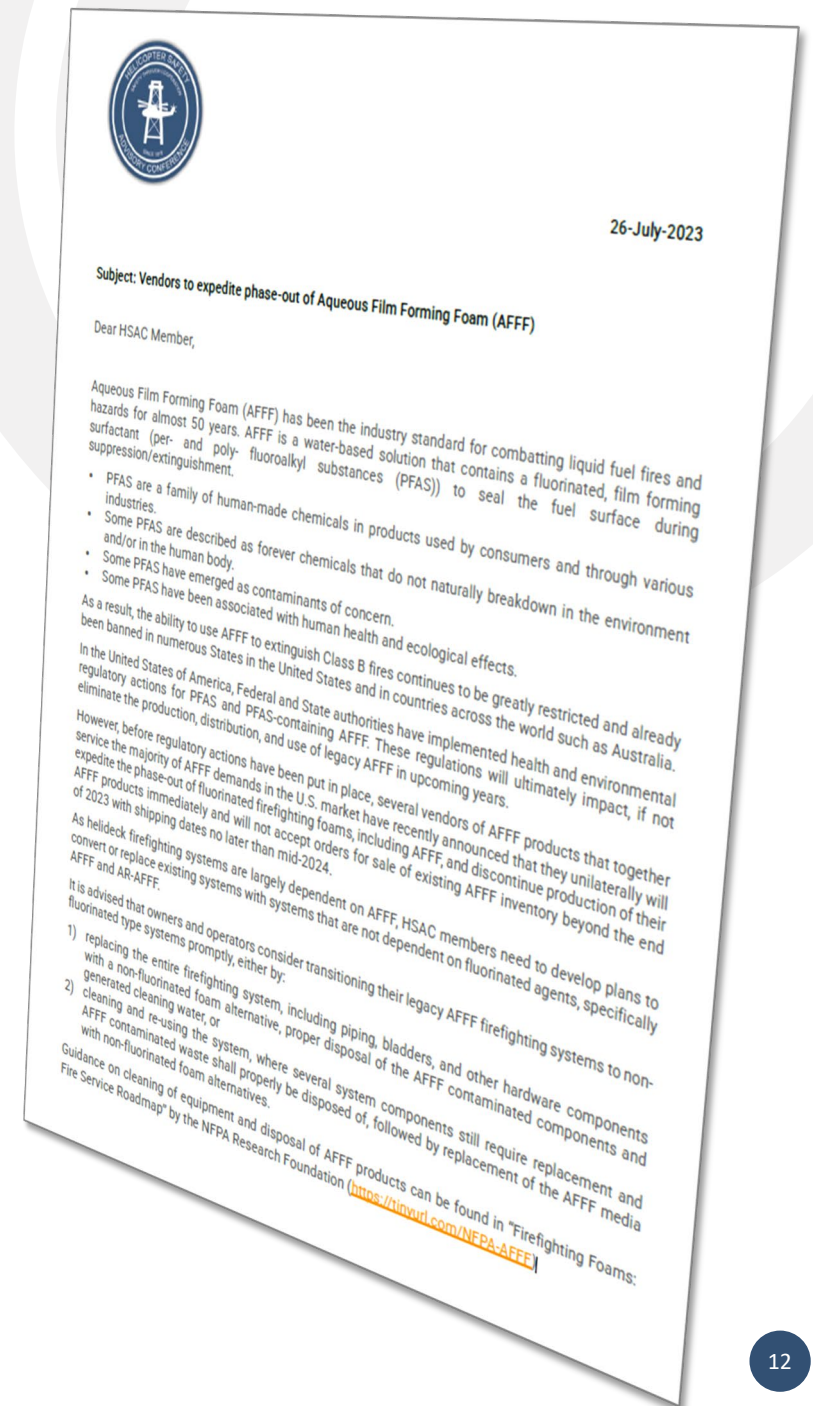
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# AFFF SUB-GROUP UPDATE

- Industry Update & Associated HSAC Letter
- Update on bi-weekly meetings, drafting new AFFF guidance for HSAC RP's 161, 162, and 163

# ASK OF HSAC MEMBERS VIA LETTER ON 26-JUL-2023

➤ As helideck firefighting systems are largely dependent on AFFF, HSAC members need to develop plans to convert or replace existing systems with systems that are not dependent on fluorinated agents, specifically AFFF and AR-AFFF.



# UPDATES TO HSAC RP'S 161, 162 & 163

- 161 – Changes approved and published in latest revision Dec '23.
- 162 – Changes approved and published in latest revision Dec '23.
- 163 – Almost completed revision. Subsequent Helideck Committee vote and HSAC Board Approval process to be followed iaw Bylaws.

# PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

- It is anticipated that the EPA will dedicate the PFAS found in C8 and C6 AFFF's as hazardous substances
- Once certain PFAS are designated as hazardous substances and EPA enforces these regulations, any releases must be reported to National Response Center of the USCG
- Companies will be subject to penalties and clean up costs

# CONVENTIONAL FOAM DISCHARGE TEST WITH AFFF

Companies may elect to use the methodology of conducting a conventional foam discharge test with AFFF for annual testing, especially on legacy decks.

However, they have to take into consideration that the new EPA Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) designation is timeless, and EPA may take action against companies who have had in releases into water.

# APPROVED ALTERNATIVE TEST METHODS

In RP 163, the methodology of conducting the recommended Approved Alternative Test Methods for the three common systems are identified and explained:

## ➤ These methods use a Surrogate Liquid

- Surrogate Liquids can be environmentally-friendly foams.
- Or in the case of a water equivalency test, water can be used as a surrogate liquid and the foam intended to be used during normal operations shall have similar properties of water.
- Environmentally friendly foams, used as the “Testing Foam” shall be UL Listed or FM Approved, with the UL Listed or FM Approved mixing equipment to ensure foam is proportioning correctly.



# FUEL SYSTEMS INDUSTRY UPDATE

Ross Edmonds & Tom Muzik



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## Latest Updates of Monitor Elements (EI 1583)

- **Facet** were still producing Super Absorbing Polymer (SAP) Monitor Elements, but as a result of a **QC failure** Facet announced in **October 2023** that all elements should be **removed from service**.
- A4A Bulletin 2023.2 released in October 2023, gave **8 mandatory emergency mitigating actions** to replace Facet Filter Monitors from service with a deadline of **Jan 1<sup>st</sup>, 2024**.
- A4A Bulletin 2023.3 released December 2023, modified the deadline to **April 1<sup>st</sup>, 2024**.

## **HSAC RP 163 (Appendix 4 – section 19.3):**

- Requires all systems to include Filter Water separator (FWS) – EI 1581.
- Requires all systems to include Filter Monitor – EI 1583.

## **CAP 437 (Edition 9 – Chapter 7):**

- Will allow for only Filter Water Separator (FWS) EI 1581 to be used.
- Replacement technology EI 1598 + EI 1599 (EWS + Dirt Defence) accepted.
- Replacement technology EI 1588 (Water Barrier) (Controlled Acceptance. Ref JIG 147)

## **NOG Guideline 074 (Norway):**

- Don't allow for only a Filter Water Separator.
- Replacement technology EI 1598 + EI 1599 (EWS + Dirt Defence) accepted.
- Replacement technology EI 1588 (Water Barrier) - Subject to additional operational quality tests.

# Conclusions

- There is a need to create a SAP go-forward strategy
- Each users needs to review risk analysis
  - Product stability/availability risk going forward
  - Filtration technology risk analysis
  - Cost / Benefit
- Moving to a new technology will incur additional cost
- Proper planning will eliminate the future fire drill



## Why safety barrier might be needed

- Historically offshore fuel systems were designed with two filtration technologies, an EI 1581 Filter Water Separator (FWS) and EI 1583 Filter Monitor.
- The reason being that FWS are not a failsafe technology.
- By following guidelines such as CAP 437, where just removing Filter Monitors and relying on just 1x FWS, is taking a safety step backwards.
- Here are some examples taken during inspections, conducted in the last few years, most recently being December 2023, where the FWS has or could have failed:

Why safety barrier might be needed

# Bacterial Growth



Why safety barrier might be needed

# Incorrect type of elements



Why safety barrier might be needed

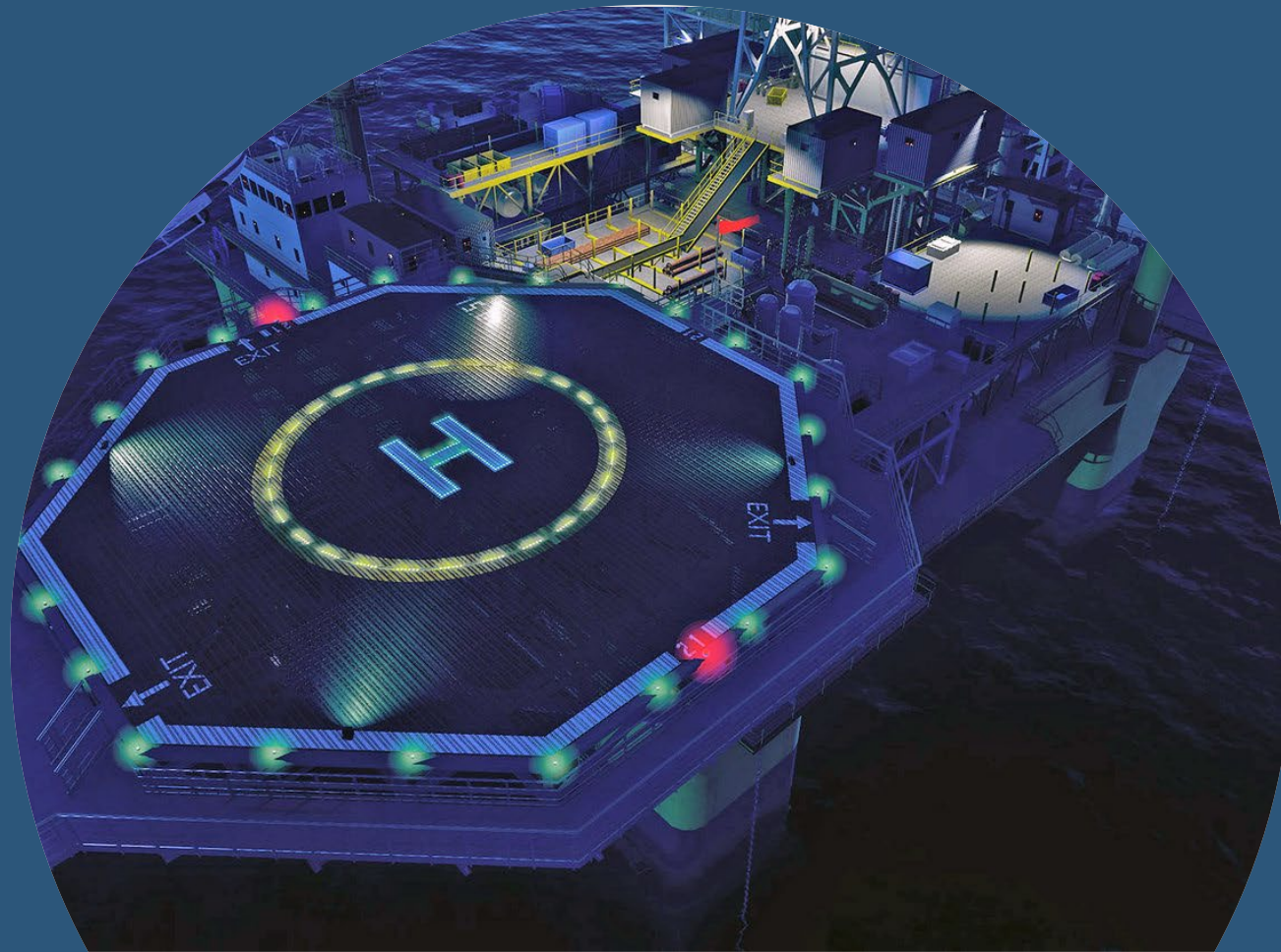
# Incorrect flowrate/installation





# ENHANCING VISIBILITY OF HELIPAD SURFACES USING PHOTOLUMINESCENT COATINGS

Field Testing Update by Larry Meiselman



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# Photoluminescent Helipad Marking Development

## Development Milestones:

1. We determined that markings are beneficial from 400 ft (somewhat discernible) down to 25-100 ft (very discernible)
2. We determined the markings can be charged at distances of 50 ft in 30 minutes with proper light source
3. Compatible with NVG's

## Milestones: Proof of Concept

### 9/18/23 Field Testing

Confirm functional illumination (discern-ability) of markings at operationally beneficial altitudes:

- ✓ Somewhat discernible at altitudes above 250 - 400 ft
- ✓ Very discernible at altitudes of 50-100 ft

### 11/15/23 Field Testing

Confirmed ability to charge markings at distance of 50' with proper lighting source.

- ✓ 30 minutes of exposure to suitable light source produces adequate charging.

## Markings Compatible with use of NVG's:

Generation dependent, emission spectrum of markings can be modified for enhanced visibility

## Next Steps and Considerations:

- Determination of optimal markings layout to maximize visibility.
- Determine best lighting scheme to provide adequate charging.
- Test site installation for testing and analysis.
- Modify operational procedures to provide adequate charge the markings prior to approach and landings.

# HSAC RP UPDATES

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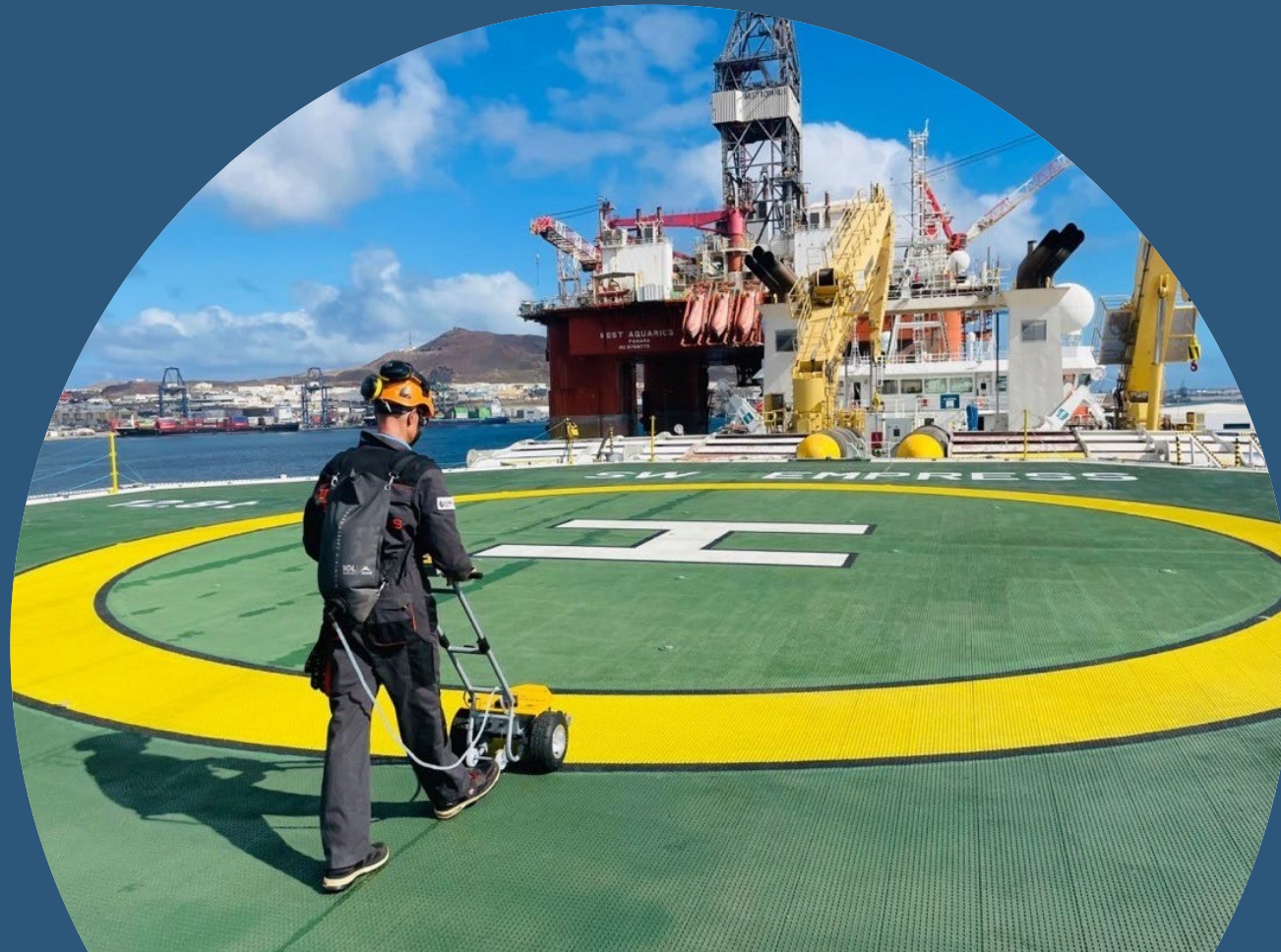
# HSAC RP UPDATES

- HSAC RP 161 'New Build Helideck Design Guidelines' 2<sup>nd</sup> Edition, Revision 2 (December 2023) approved by HSAC Board and published on HSAC Website
- HSAC RP 162 'Legacy Helideck Design and Marking Guidelines' 2<sup>nd</sup> Edition, Revision 1 (December 2023) approved by HSAC Board and published on HSAC Website
- HSAC RP 191 'Offshore Helicopter Incident Bowtie' 1<sup>st</sup> Edition, Amendment 3 (December 2023) approved by HSAC Board and published on HSAC Website



# FUTURE WORK

HSAC Helideck Committee



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# DISCUSSION FUTURE WORK

## Priorities:

- 1) Review of Fuels sections due to recent change in standards.
- 2) Finish AFFF contribution to HSAC RP 163 revision (upcoming weeks)
- 3) Continue HSAC RP 191 'TBD' replacement by reference material during bi-weekly meetings (finished by Mid-March '24)
- 4) Continue Offshore Wind Sub-Committee and associated review of RP 191
- 5) HeliOffshore MMHEL incorporation into HSAC RP 163 (Discuss during May HSAC)
- 6) Start 'Fluor luminescent Helideck Paint' Sub-Committee (Discuss during May HSAC)
- 7) OPITO Helicopter Admin Training and CAP 437 Heli Admin Requirements Review for implications to HSAC RP 160 series. (Discuss during May HSAC)



# CHAIRMANSHIP HELIDECK COMMITTEE

Any volunteers to become Chairman or Co-chair the HSAC Helideck Committee together with Patrick Bosman?



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# THANK YOU!



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<http://www.hsac.org/>

