

OIL & GAS

# REVIEW OF CURRENT PRACTICES FOR OFFSHORE HELICOPTER OPERATIONS

Ninth EASA Rotorcraft Symposium

**John Spouge**

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## Study Objectives

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- Develop a comprehensive knowledge base of current practices for offshore helicopter operations.
- The knowledge base will consist of:
  - Structured documentation of the different practices
  - An evaluation of their benefits and limitations
  - A set of recommended practices for widespread application

## Scope Limits

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- Passenger transport operations, including associated training flights.
- Offshore operations associated with offshore mineral exploitation, focussing on flights to/from offshore installations with helidecks, but also including flights to marine vessels.
- Operations in EASA Member States, focussing on the North Sea.
- Flight stages covering procedural design, flight planning, flight execution and post-flight analysis.
- Safety management practices covering airworthiness, flight standards, flight planning, flight procedures, helideck operations, pilot training and safety risk management.

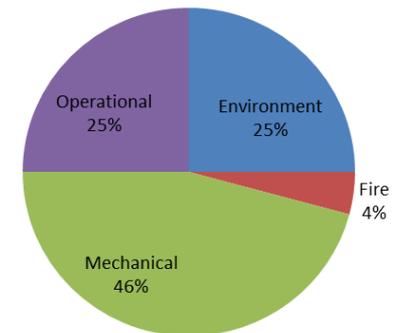
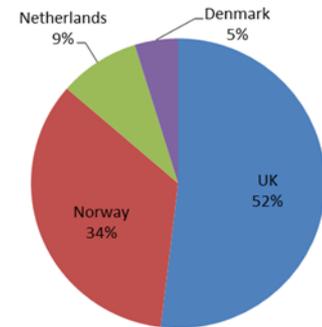
# Relevant subjects

## ANNEX XIII ALPHABETIC LIST OF RELEVANT SUBJECTS FOR THE STUDY

- Actual weather and forecast information systems and procedures
- Additional workload or jobs for flight crew
- Application of procedures and Standard Operating Procedures
- ARA ( Airborne radar approach) standardisation
- Assessments, recommendations, competency for upgrades to captain
- Assistance of operations in flight preparation
- Audio systems quality, inflight announcements and messages for passengers related to flight details and safety
- Availability of Satellite communication
- Availability, quality and updates of documentation including Flight Manuals, operation manuals, checklists, flight safety information and hand outs to crews, helicopter deck information
- Canteen and lodging organisation and availability for crews and other personal
- Career plan and respective motivation
- CFIT information, awareness training
- Company frequency, seats, headsets
- Coupled approaches to rigs
- Courses and awareness on automation, automation complacency
- Crew resource management and their instructor courses, multi crew cockpit management and effective inter-crew communication
- CRM, MCC courses, flying and monitoring skills
- Currency requirements for deck operations, night operations, instrument flight procedures.
- Database of frequencies and updates management
- Deck light and obstacle light quality/availability, windsocks, turbine exhaust patterns
- Defined tasks for all crewmembers, to improve training and operating manuals and syllabi and ensure manufacturer recommended practices are produced and adopted
- Derogations from regulation
- DGPS ( differential GPS approaches)
- Engagement in national and international working groups around offshore safety
- English proficiency of aviation crew, language standardisation between aircraft and ground crews and inter cockpit
- Experience and training of ground and deck crews
- Experience level instructors, instructor/ examiner instruction and standardisation
- Feedback of passengers on safety and follow-up
- Flashlights for personal
- Flight data monitoring and honest brokers, feedback and follow-up
- Flight path management (manual and auto-control)
- Flight preparation (time, area, task division between crew, interaction with operations department)
- Flight preparation environment
- Flight time limitations, rest and duty times and logging, show-up times, Yearly leave schedules, sickness policy
- FOD control on decks, hangars and aprons
- Follow-up and lessons learned from recommendations by NAA, manufacturers, Investigation boards
- Fuelling installations offshore and procedures
- Fuelling procedures/precautions on ground and on deck
- Gas flaring and procedures in the vicinity of helicopter operations
- GPS/GNSS and SBAS use on situational awareness, other situational awareness systems,
- Harmonisation of procedures, difference in standards
- Headsets quality, Bluetooth head-sets, seating positions
- Heave, roll pitch limitations – moving decks
- Helicopter underwater escape training procedures including training quality and quantity
- Helmets, flight gear, life jackets, gloves
- HTAWS, TCAS
- HUET training ( push –out windows, cross cabin or cockpit escape, frequency of training)
- Human body size limitations, handholds for escape
- Identification of trends in common failings and follow up
- Impact on delaying flight due to tech or weather
- Incident reporting and follow-up. Interaction with safety department
- Inflight logging of information such as fuel consumption, take-off and landing times, changes in weight and balance
- Interaction with Air traffic control and related working groups or meetings
- Internal and external audits frequency
- Involvement of crews and personal in working groups
- Last moments changes procedures
- Left right seat operation management
- Lighting and environmental control of working environment
- Limited icing procedures, active anti-icing systems
- Line orientated flight training sessions contents in simulator training
- Maintenance hangars ( Lighting, heating, storage, access)
- Maintenance test flight management
- Management of headset cables or Bluetooth for crews
- METEO information from helidecks
- Monitoring of weather in vicinity for lightning strikes and forecasts
- Moving decks versus fixed decks quantity of operations
- Multiple type flying management
- Navigation data management
- Night flight and related training
- NOTAM information and updates
- Number of approaches to platforms per mission, day
- Number of daily , weekly, yearly flight hours
- Number of missions a day
- On land / after crash emergency egress training
- Operating different types and the effect of this activity
- Operational Suitability Data (OSD)/ Operations Evaluation Board (OEB) follow-up and integration
- Operations department organisation
- Passenger embarkation and disembarkation procedures, turnaround procedures on platforms, fuelling procedures on deck
- Performance of helicopters
- Performance of helicopters (understanding of T/O and landing profiles and their related calculations)
- Platform diameters and Deck light quality, obstruction markings
- Possibilities for left or right door access on land and on decks
- Possibility to stay overnight on deck, rigging and tie down procedures
- Pre- and post-flights inspection procedures
- Proficiency checks, line training, line instruction under supervision training, License proficiency checks, standardisation of crews
- Radio communication with technicians during starting and stopping
- Radio procedures for offshore and related standardisation
- Recruitment policy and requirements
- Refresher courses,
- Remote bases and management
- Rescue boats, marine, police search and rescue
- Rescue boats, marine, police search and rescue equipment and organisation
- Safety briefings passengers
- Safety for helicopter operations on platforms
- Safety movies, safety cards
- Safety related feedback of passengers management
- Satellite flight tracking/data transmission
- Sea state and wind limitations
- Sea State limitations ( general and versus certification minimums)
- Sheltering of helicopters, towing of helicopters, tie down procedures
- SMS, CMS
- Snow removal procedures on decks and helicopters
- Sound and quality of inflight announcements
- Sport activities, medical checks, social follow-up, family parties, (in the context of team building)
- Stability of contracts, swopping between companies
- Standardisation and training of weather observers offshore
- Standardisation of instructors and examiners
- Sterile cockpit procedures and adherence
- Supervision and trainees in maintenance
- Survival equipment training
- Survival equipment, emergency locator beacons
- Traffic Collision and Avoidance System (TCAS), Helicopter Terrain Awareness and Warning System (HTAWS) use and training
- Teambuilding programme
- Teambuilding programmes
- Technical deficiencies
- Technical logs, review of technical information
- Temperature limitations/conditions for wearing dry suits, gloves, thermal underwear
- Theoretical review of helicopter systems for crews
- Time between flights for flight preparation
- Tool management control for maintenance
- Training and standardisation of fire crew
- Training department organisation
- Training of fire/ deck crews, training of fuelling crews, training and quality of radio operators, Training with survival equipment ,
- Travel policy versus rest and duty times
- Trends in proficiency checks follow-up and their interaction with instructor standardisation, examiner standardisation
- Type of Visual Flight Rules (VFR), Instrument Flight Rules (IFR) charts
- Type rating training management
- Underwater Escape training, emergency egress training on land, ditching training
- Upset recovery training
- Use of Electronic Flight Bag (EFB) and applications
- Use of Flight training devices and full flight simulators
- Use of helmets for crew and passengers
- Use of weather radar and training
- Weather stations
- Weight and balance information , calculations and changes
- WIFI on platforms for METEO and flight related updates
- Workload management

# Technical Approach (1)

- Task 1: Project management.
- Task 2: Understanding the operational context, including:
  - Literature review.
  - Statistical analysis of helicopter operations.
  - Interview responses from operators.
- Task 3: Identifying the safety hazards and risks, based on:
  - Review of safety literature.
  - Statistical analysis of helicopter experience.



## Technical Approach (2)

- Task 4: Collection of practices, including:
  - Literature review.
  - Grouping of practices.
  - Developing survey questions
  - Establishing contacts with stakeholders.
  - Preliminary interviews.
  - Circulation of survey form.
  - Interviews and collection of responses.
  - Review.
  - Validation.

<b>Emergency preparedness</b> <ul style="list-style-type: none"> <li>• HUET training</li> <li>• Survival training</li> <li>• Rescue facilities</li> <li>• Fire crew training</li> </ul> How do you evaluate the practice in this area in your organisation? - <i>select one only</i>	a. Compliant with regulations/industry norms	<input type="checkbox"/>
	b. Some additional features of good practice	<input type="checkbox"/>
	c. Best practice in the North Sea helicopter industry	<input type="checkbox"/>
	If "b" or "c" are selected, please describe the practice in your organisation:	
Please summarise the advantages and disadvantages of the practice in your organisation:		
Please mention any significant gaps affecting the practice, such as: <ul style="list-style-type: none"> <li>• Interactions with or differences from other stakeholders</li> <li>• Gaps between design assumptions and actual operations</li> </ul>		

## Technical Approach (3)

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- Task 5: Interactions between practices, including:
  - How stakeholders interface with each other, and any barriers or limitations.
  - Differences between design assumptions and operation.
  - Gaps in safety practices between different offshore operations, e.g. different distances offshore, types of helicopter or operating regions.
- Task 6: Evaluation of the applicability, benefits, limitations and constraints of each practice (including stakeholder workshops).
- Task 7: Recommendations for promotion of good practices across the industry (including final report and presentation).

# Schedule

Task, Deliverable, Meeting	2015				2016								
	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
	PROJECT MONTH												
	1	2	3	4	5	6	7	8	9	10	11	12	
<b>1. Project Management</b>													
Project Management Plan (D1)		▲											
Project Kick Off Meeting (M1)	●												
First Interim Report (D2 draft and final)			▲	▲									
First progress review meeting (M2)			●										
Second Interim Report (D3 draft and final)						▲	▲						
Second progress review meeting (M3)						●							
<b>2. Definition of Operational Context</b>													
Literature review	■												
Statistical analysis		■											
Interview responses						■							
<b>3. Definition of Safety Hazards and Risks</b>													
Literature review	■												
Statistical analysis		■											
<b>4. Collection of Practices</b>													
Literature review & practice grouping	■												
Survey question development		■											
Stakeholder engagement & pilot interviews (W1)			●										
Survey circulation & response collection (W2)				■	■	■	■	■	■	■	■	■	
Response review & validation						■		■					
<b>5. Interactions Between Practices</b>													
Identification of interactions							■	■					
<b>6. Evaluation of Practices</b>													
Systematic evaluation								■	■	■			
Stakeholder workshops (W3 and W4)								●	●				
<b>7. Recommendation of Practices</b>													
Final report (D4 draft, final and revised)								■	■	■	■	■	
Third progress review meeting (M4)									●				
Final presentation (D5 and M5)										■	■	●	

# Requests

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- Respond to invitations to interviews, surveys and workshops
- Share existing good practices
- Critically evaluate their benefits and limitations
- Explain why specific practices are applicable to specific types of operations

# We appreciate your support in this study!

**John Spouge**

John.spouge@dnvgl.com

+44 20 3816 5730

**[www.dnvgl.com](http://www.dnvgl.com)**

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