

## International Regulators Forum Offshore Renewable Energy Subcommittee

### Annual General Meeting

#### Summary of discussions and action points

#### Country representatives:

Australia	Owen Wilson (Chair)	OIR
	Melba Fisher (Secretariat)	OIR
Brazil	Luiz Enrique de Oliviera	ANP
	Thiago da Silva	ANP
	Nayara Nunez	ANP
Canada	Keith Landra	CER
	Christine Bonnell-Eisnor	CNSOPB
	Robert Normore	CNSOPB
	Scott Tessier	CNLOPB
	Jill Mackay	CNLOPB
Denmark	Mohamed El Halimi	DWEA
	Bénédicte Crapez	DWEA
Germany	Hans Brink	STSA
Ireland	Stephen Quinn	DECC
Netherlands	Anton van Kuijk	SSM
	Judith Van Gorp	SSM
Norway	Torleif Husebø	HAVTIL
	Finn Carlsen	HAVTIL
United Kingdom	Samantha Peace	HSE
	June Calder	HSE
	Stephen Hanson-Hall	HSE
United States	Cheri Hunter	BSEE
	Gerard Moore	BSEE



International Regulators' Forum

## Industry Speakers

G+

Kate Harvey

GW0

Jacob Lau Holst



## MINUTES

<b>1</b>	<p><b>WELCOMING REMARKS AND REVIEW OF THE AGENDA</b></p> <ul style="list-style-type: none"><li>• Owen Wilson, Chair of the IRFORES, welcomed all members and observers to the inaugural annual general meeting (AGM).</li><li>• The forum will primarily focus on work health and safety, as well as infrastructure integrity in offshore renewables, with an emphasis on offshore wind, while remaining open to other technologies as they develop.</li><li>• Currently, there are seven permanent members, and three observers (Germany, Ireland and Brazil) attending the AGM.</li><li>• All action items from the mid-year meeting were closed out:<ul style="list-style-type: none"><li>• Australia contacted the proposed jurisdictions (Germany, Ireland, Colombia, Japan and Belgium) to invite them to join the forum. Germany and Ireland responded positively, no responses were received from Japan, Belgium, or Colombia. Future efforts should focus on extending invitations to these jurisdictions as observers</li><li>• A working group was formed to brainstorm key topics and develop the agenda for the AGM</li><li>• Kate Harvey from G+ and Jacob Lau Holst (GWO) were invited to present at the AGM</li><li>• An update was presented to the group regarding the branding changes approved by the IRF management committee. The new branding incorporates a wind turbine element while retaining the original IRF logo.</li></ul></li></ul>
<b>2</b>	<p><b>COUNTRY UPDATES AND INTERFACE WITH OTHER GROUPS</b></p> <p><b><u>Australia</u></b></p> <ul style="list-style-type: none"><li>• A design notification scheme is incorporated within the Australian Regulations, which are nearing finalisation. Under the scheme any licence holders planning to develop a commercial scale project or transmission infrastructure must submit a design notification to the Australian Regulator prior to submitting a management plan. This process aims to facilitate early discussions about design and safety from the initial phases through to project construction.</li><li>• Encouraging collaboration early in the design notification process can result in more effective risk management and improved safety outcomes.</li><li>• The outcome from the design notification process will take the form of regulatory advice rather than a decision. While developers are not required to follow this advice, they must provide justification if they choose a different approach in their management plans.</li><li>• Over the next two to three years, the Australian Regulator aims to transition into a business-as-usual phase, bringing in more regulatory expertise.</li></ul> <p><b><u>Canada</u></b></p> <ul style="list-style-type: none"><li>• The Canadian country update was taken as read. No questions</li></ul> <p><b><u>Denmark</u></b></p> <ul style="list-style-type: none"><li>• Denmark has a significant number of offshore wind farm projects and is placing a higher emphasis on regulating offshore renewable energy. There is ongoing dialogue among various authorities about how best to regulate this area.</li><li>• Looking ahead, Denmark anticipates larger-scale offshore renewable energy developments, which will require effective regulation to ensure high health and safety performance.</li></ul>



- Discussions have begun on the decommissioning of offshore wind turbines, led by the Danish Energy Agency. Lessons learned from this process will focus on proper risk assessment and management to ensure safe decommissioning practices.
- There is a need to incorporate removal considerations into the design phase of offshore wind projects, similar to existing regulations in the oil and gas sector. The design must address potential removal issues to avoid complications in the future.
- The typical lifespan of offshore wind installations is around 20 years, with the possibility of extending this by an additional five years, totaling about 25 years. Life extension would require a comprehensive risk assessment and approval from a certifying body.

### **Norway**

- Discussion centered around the application of petroleum regulations to offshore wind projects, emphasising a risk-based approach.
- The conversation pointed to the availability of necessary technical standards during the development phase of offshore wind projects. However, during the operational phase, reliance is often on more generalised management standards, such as ISO standards, which may not be tailored to the specific needs of the offshore wind industry. There's a call for more industry-specific standards to be developed as the sector matures.
- Currently, the Norwegian Regulator oversees one operational wind farm. Since the wind farm began production, two inspections have been conducted, one focusing on structural integrity and another on the operation of electrical systems.
- Although in person inspections of the wind farm have not yet occurred, operations have been ongoing for approximately six months. The Regulator is ensuring that the workforce is adequately trained to conduct future inspections.

### **The Netherlands**

- The Netherlands provided an update on their offshore wind activities, focusing on safety inspections and risk management.
- The Netherlands conducts "team inspections" annually, focusing on risk assessments related to offshore wind activities.
- Inspections are programmed at various stages of the project, from onshore activities to offshore construction, ensuring compliance with risk assessments outlined in project plans.
- There is focus on compliance, given the inspection teams monitor that construction follows the documented plans and that personnel have the necessary qualifications, ensuring that each aspect of the wind farm construction meets regulatory standards.
- Diving activities are set under the same regulations as the oil and gas industry.
- The Netherlands has developed a new inspection process in collaboration with the Ministry of Infrastructure and Water Management involving the use of drones. These drones are used to inspect offshore wind parks with a strict 200-meter distance from the observation target.
- The Netherlands approach to offshore wind inspections follows the same regulations and safety protocols as those in the oil and gas industry, specifically adhering to Health and Safety regulations.

### **United Kingdom**

- A past incident with walk to work platforms was highlighted where fundamental design principles were not followed, leading to a serious injury (a foot being crushed). It was noted that had the correct design standards been implemented, the injury could have been prevented.



- Offshore wind operators are expected to have self-sufficient capabilities for evacuating personnel and handling emergencies directly, without assuming external rescue support will be immediately available.
- The importance of adherence to safety standards, effective emergency response readiness, and design quality in offshore wind operations were highlighted.
- A current trial for hydrogen production from offshore wind is in its early phases but is expected to be a game-changer for the industry if the technology is viable for offshore.
- The importance of planning for safe decommissioning was discussed, with a focus on ensuring the removal process is well planned during the initial design stages. This includes determining how to dismantle structures and how the sequence of actions will be carried out without introducing safety risks.

### **United States of America**

- The US provided a brief on the current situation involving the Vineyard Wind project. The update included the following points:
  - The project has been significantly impacted by an ongoing investigation
  - The investigation is centered around manufacturing deviations related to the wind turbine blades
- The wind turbine blade involved in the Vineyard Wind project issue was brand new and not yet type certified at the time of the failure.
- Type certifications are generally reliable, but new designs inevitably have a small percentage of failures. The failure of the blade occurred 15 miles from a highly populated beach, causing significant marine debris that contributed to the public reaction.
- Certification and third-party verification are vital for ensuring the safety and quality of turbine designs and installations.
- The US suggested updating oil spill response plans and create marine debris response plans including maintaining 24/7 response capability for timely communication and action.
- The US mentioned that, in the offshore wind industry, there is a significant reluctance to use diving for maintenance or repairs. This is especially problematic when there are non-compliance issues requiring underwater intervention.

### **Interface with other groups**

- Australia provided an update on the Global Offshore Wind Regulators Forum (GOWRF)
- Updates from Norway regarding the Arctic Offshore Regulatory Forum (AORF) and the North Sea Offshore Authority Forum (NSOF) were presented. The objective was to gain insight into the activities of these forums while avoiding any duplication of efforts
- Moving forward, the groups plan to consolidate efforts and ensure that cross-forum issues related to offshore wind are effectively communicated
- Despite the potential of crossover among forum groups, it was pointed out that the IRFORES retains a clear remit focus on offshore renewable health and safety.

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### **TOPIC SESSION 1 - Design and hazard management**

**Presentation** - Design and integrity of floating turbine foundations and associated mooring systems and interactions with vessels and maintaining class. (UK)

- The presentation was prepared by Renji (a marine engineer) but shared by Sam Peace from the UK Health and Safety Executive (UK HSE). Sam emphasized that Renji is the primary expert behind the presentation.



- The presentation focused on both regulatory challenges and the engineering aspects of designing and maintaining large scale floating offshore wind infrastructure.
- The discussion highlighted how the designs for floating wind turbines need to consider potential mooring integrity issues, which are seen as a real risk.
- The conversation also covered concerns about the readiness for emergency response if something went wrong, such as a loss of position or a failure of a turbine. Questions are raised about the availability of emergency response vessels and helicopters, and whether sufficient resources are in place to deal with these kinds of emergencies.
- One challenge discussed is the assurance of safety in extreme weather conditions. In particular, the question was raised about designing infrastructure to handle extreme weather events.

**Presentation** - Role of standardisation across the industry for turbine platforms and development of design and operational standards while enabling innovation in technologies. (USA)

- A significant amount of research is underway to determine which issues in offshore wind need the most focus. This research is expected to inform both policy and the development of standards.
- The conversation touched on several key aspects of regulation and development in offshore wind, particularly the shift away from rigid, prescriptive standards in the US towards a more flexible, performance-oriented approach. The emphasis on research, cybersecurity, and policy development shows the complexity of transitioning from traditional energy sectors to renewables.
  - The presentation focused on the importance of industry involvement in shaping safety standards, the challenges of keeping regulations up to date with standards, and the ongoing international effort to standardise offshore wind safety practices.

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## TOPIC SESSION 2

**Presentation** – Managing infrastructure integrity and safety zones in an established jurisdiction (The Netherlands)

- The discussions focused on safety zones and access regulations. In Netherlands restricted zones are enforced, prohibiting ships from entering without authorisation during the construction phase.
- During the operation and maintenance phase, turbines have a 50-meter safety zone, with entry requiring operator permission. Marine coordination centres must be contacted for access, and vessels must notify the coast guard when necessary.
- The group discussed that similar safety zone rules applied to their jurisdictions, noting that this comprehensive safety framework ensures infrastructure integrity, worker safety and stakeholder collaboration throughout the wind farm lifecycle.
- The presentation also highlighted safety by design and certification, mentioning that all structures are assessed by independent verifiers (e.g., DNV, Lloyds, or similar).

**Presentation** – Approaches to safety management systems development and implementation (Norway)

- Discussions focussed on the inspection process in Norway where risk-based, targeted inspections (supervisory activities) are preferred to prescriptive programs. Also considering that offshore inspections add value but must be balanced to reduce inspector risks and should be conducted only when necessary.
- The forum deliberated the mandates from international standards that emphasise the importance of on-site inspections, considering that offshore inspections often reveal discrepancies between onshore



	<p>paperwork and actual practices, with the approach by Norway on supervisory activities that ensure compliance through documentation and operator engagement without unnecessary offshore presence.</p> <ul style="list-style-type: none"><li>• Focus areas for supervisory activities are determined by risk assessments and incident reports. Examples of incidents include fires in switchgear rooms and minor electrocution injuries.</li><li>• Adherence to guidelines (e.g., G+, GWO, and others) and early risk assessments are central to regulatory compliance.</li></ul>
5	<p><b>TOPIC SESSION 3 – Industry Practice</b></p> <p><b>Presentation – Current developments in training and competency building (GWO)</b></p> <ul style="list-style-type: none"><li>• The presentation focused on developing training standards for both the onshore and offshore wind industries, with the goal of enabling a safer energy transition by ensuring that workers are properly trained, specially as the workforce expands and diversifies.</li><li>• In partnership with OPITO, efforts are being made to align terminology and standards between industries, such as fire safety practices. For example, while in oil &amp; gas the focus is on extinguishing fires, in wind the priority is on evacuation. This results in different operational approaches for training.</li><li>• Collaboration with community colleges and educational institutions is being explored to expand training opportunities. For example, partnerships are underway with colleges in the US and Brazil to develop training programs for new workers.</li><li>• The Global Wind Organisation (GWO) provides the minimum skill set required for entry-level workers, but additional specific training will be offered to expand knowledge and competencies beyond these baseline standards.</li></ul> <p><b>Presentation – A data driven approach to leading practice safety management (G+)</b></p> <ul style="list-style-type: none"><li>• Ongoing efforts are being made to work directly with front-line workers to identify specific hazards, particularly in relation to equipment changes. For example, as the size of the turbines has increased, so has the size of bolts used, which introduces new hazards for workers.</li><li>• Incident data provides valuable information to shape safety guidelines. Regulators are encouraged to contribute to this process.</li><li>• Regulators are encouraged to approach the group with concerns at the beginning of an issue rather than after it develops. A dedicated page is available for regulators to access relevant information.</li><li>• There is a challenge with underreporting incidents, particularly among workers hired through labor contractors, who may be less likely to report incidents.</li><li>• The culture around reporting varies by company and vessel, and more work is needed to ensure workers feel comfortable reporting safety issues.</li></ul>
6	<p><b>CLOSING REMARKS</b></p> <ul style="list-style-type: none"><li>• The next IRFORES AGM will be hosted in Canada, specifically in St John’s Newfoundland next year</li><li>• <b>Discussion Highlights:</b><ul style="list-style-type: none"><li>• Safety by design and standards:<ul style="list-style-type: none"><li>• Emphasis on designing to appropriate standards early to reduce enforcement actions later, specially with emerging technologies.</li></ul></li><li>• Floating Offshore Wind:<ul style="list-style-type: none"><li>• Presentation on the challenges of offshore wind, with some jurisdictions already planning for this technology.</li><li>• Collaboration opportunities for sharing information on floating offshore wind.</li></ul></li></ul></li></ul>



- Inspection and compliance monitoring:
  - Discussions on the difference between inspection and compliance monitoring, and the role of inspections throughout a project's lifecycle.
- Standardisation
  - Need for standardisation in training, technical standards, management systems, and even foundation designs for floating offshore wind.
  - Discussion on filling gaps where standards are absent and how to address these gaps.
- **Action Items:**
  - Follow-up about establishing arrangements between GWO, G+ and IRFORES to utilise IRFORES as a consultative group on initiatives and products relating to work health and safety and infrastructure integrity.
  - Explore opportunities for technical working groups to dive deeper into specific topics of interest, with voluntary participation.
  - Some members suggested including other regulators from regions not traditionally part of the group, such as Taiwan, and expanding the forum's reach to better reflect the global nature of the offshore wind sector.
- **Looking Ahead:**
  - The forum members expressed a commitment to continuing the collaboration, sharing work responsibilities, and learning from each other to improve regulatory practices and industry standards.
  - Canada presented the preliminary information for the 2025 IRF/IRFORES Conference and AGM. The IRFORES Secretariat will engage with Canada to progress these discussions.