

MORAY FIRTH RENEWABLES ADVISORY GROUP (MFRAG) MEETING MINUTES

Meeting	MFRAG Main Group	
Date	19 September 2017	
Location	Grand Central Hotel, Glasgow	
Attendees	Marine Scotland	David Palmer (DP) [Chair], Paul Smith (PS), Phil Gilmore (PG)
	Marine Scotland Science (MSS)	Ian Davis (ID)
	Scottish Natural Heritage (SNH)	Catriona Gall (CG)
	Royal Society for the Protection of Birds (RSPB)	Charles Nathan (CN)
	Fisheries Management Scotland	Alan Wells (AW)
	Whale and Dolphin Conservation (WDC)	Fiona Reid (FR) (conf. Call)
	BOWL	Lis Royle (LR), Nick Brockie (NB)
	Moray East	Sarah Pirie (SP), Catarina Rei (CR)
Apologies		
Actions	<ol style="list-style-type: none"> BOWL to submit results of Marine Mammal construction monitoring during Q1/Q2 2018. MFRAG secretariat to organise a date for next meeting. 	

1. Introductions & Purpose of Meeting
<p>Introductions.</p> <p>DP highlighted that the main purpose of the meeting was for Moray East and BOWL to provide a project update to the group in addition to an update by BOWL on their Project Environmental Monitoring Programme (PEMP), in line with the agenda circulated in advance of the meeting.</p>
2. Discussion of Chair and updated Terms of Reference
<p>DP noted that discussions are ongoing for the appointment of a new chair for MFRAG and that Marine Scotland envisages that chair will be appointed in time for the next MFRAG meeting. DP noted he had been asked to chair current meeting.</p> <p>It was agreed by the group that the terms of reference (ToR) would need to be updated, including group membership) but that such discussions would take place at the next meeting following appointment of a new chair. The following updates were raised by the group:</p> <ul style="list-style-type: none"> - Association of Salmon Fisheries Board to be updated to refer to Fisheries Management Scotland;

- Role of JNCC and MSS within the group to be updated;
- BOWL project membership – Nick Brockie to replace Jonathan Wilson alongside Lis Royle as BOWL representatives.

3. Moray East Project update

SP provided an update on the Moray East project. A summary is provided below:

- Moray East has recently been awarded a Contract for Difference (CfD) for 950 MW. The contract specifies that the Final Investment Decision (FID) for the project will need to be reached within 12 months of signing of contract (which should take place within a couple of weeks). FID is therefore a key project milestone.
- Moray East will need to de-risk the project significantly in order to reach FID. Part of the de-risking process will be to discharge a number of conditions. Moray East currently in discussions with MS-LOT on the discharge of conditions programme and a Protocol Agreement in order to facilitate the discharge of conditions. Discussions will also take place with key stakeholders on the discharge programme.
- The majority of the plans will be submitted during 2018. The only plans currently scheduled for submission during 2017 are the Environmental Management Plan (EMP) and possibly the PEMP. However it is noted that part of the content of the plans has already been agreed with stakeholders. The marine invasive non-native species (MINNS) protocol (which will be part of the EMP) has already been discussed and agreed with SNH, JNCC and MSS. The strategy for monitoring of marine mammals and birds (to be included in the PEMP) has already been agreed through the MFRAG-MM and MFRAG-O subgroups. The detailed monitoring will be focus of further discussions through MFRAG and its subgroups.
- The most significant change on the monitoring approach discussed with stakeholders is salmon. Although a monitoring strategy had already been discussed and approved through MFRAG this is no longer valid due to the delay in the CfD award. A new plan is currently being devised in collaboration with the University of Glasgow.
- Given the recent CfD award Moray East will no longer submit an application for the Moray East Offshore Windfarm Alternative Design Parameters.
- The Moray East construction programme has not changed.

4. BOWL Project Update

LR provided an update on the BOWL project. A summary is provided below:

- Construction activities progressing as planned.
- Pre-construction activities (safety zones and special markings) – established in March 2017
- Offshore construction undertaken:
 - o Inter-array route boulder clearance complete.

- Foundation piles installation – commenced in April 2017 (74 locations piled as of 18/09/2017).
- Directional drills at landfall (EC1 and EC2) – commenced in April 2017. Now complete.
- Jacket installation – commenced in August (20 jackets installed as of 18/09/2017). To be completed in September 2018.
- Offshore work to be undertaken includes export cable installation (two campaigns between September 2017 and April 2018), inter-array cabling installation (three campaigns between November 2017 and October 2018), OTM topside installation (January to February 2018) and wind turbine installation (between July 2018 to March 2019).
- Full generation planned in March 2019.

5. BOWL PEMP update

NB provided an updated on the BOWL PEMP.

- First version of the PEMP approved by MS-LOT in August 2016. The plan was presented to the MFRAG main group in October 2016 prior to the completion of reporting for the pre-construction migratory fish monitoring and the completion of the pre-construction marine mammals monitoring and reporting.
- A revised and updated version of the PEMP was completed in July 2017. All pre-construction surveys have now been completed and reporting finalised. BOWL will seek MS-LOT approval of the PEMP update and confirmation of discharge of remaining pre-construction requirements following today's MFRAG consultation.

1. Diadromous fish:

- BOWL commissioned Glasgow University, Scottish Centre for Ecology and the Environment (SCENE) to design and undertake a smolt tracking study in the Cromarty Firth.
- The study was augmented by a monitoring array deployed by MSS within the Moray Firth.
- The results of the study were agreed with MSS and presented to the DSFBs in February 2017 and a final report submitted to MS-LOT in April 2017.
- The BOWL monitoring consisted of using SSE's existing hydro generation monitoring station at Loch Luichart where a smolt tagging programme has been underway for some years. 120 additional fish were caught at the permanently installed Wolf trap. The fish were fitted with acoustic tags and released at a point 20km downstream in the River Conon. A series of fixed acoustic arrays were set up from the downstream reach of the River Conon and along the Cromarty Firth from the mouth of the river to the Sutors at the mouth of the Firth. The receivers tracked the downstream passage of the tagged fish to monitor their migration behaviour. Marine Scotland also deployed a seawards array of receivers across the Moray Firth between Tarbat Ness and Burchhead.
- A number of key parameters were measured including:
 - speed of migration (averaging 8 days from river to Moray firth array);
 - swimming behaviour along the water column (smolts predominately within top 1m, and

- overall closer to water surface at night);
 - mortality rate (3.1% per km in freshwater, 0.2-0.5% per km in Cromarty Firth and Moray Firth); and
 - migration pathway (majority of detections at southern end of Moray Firth).
- Active tracking was attempted by releasing tagged fish directly at the mouth of the Moray Firth with a directional hydrophone mounted on board a survey vessel. However this was unsuccessful due to the background marine noise and the difficulties of tidal and wind conditions.

AW enquired if the report was available. NB confirmed that the report had been submitted to MS-LOT and that could be available upon request.

AW cautioned about using the term 'predation' and 'mortality rate' to describe the results. The detection is not always 100%. This was accepted. AW was referred to the SCENE report.

AW also enquired about the reasoning behind the choice of Cromarty Firth as the study location and what was learned with the study. NB replied that BOWL's condition stated a requirement to participate in the National Monitoring Strategy (NMS). A range of monitoring options was explored, including monitoring within the wind farm, however this was not practical. LR added that ultimately the aim was to increase the overall knowledge of salmon migration behaviour and BOWL's study contributed to this objective. The study plan had been agreed with Marine Scotland Science and also with the Moray Firth DSFBs prior to execution.

ID highlighted that there are a number of studies contributing to the NMS including ERI's study in Helmsdale, MSS's tracking in the Moray Firth and BOWL's in the Cromarty. This particular study shows that fish swim very close to the water surface and therefore will not be of particular concern for tidal developments for example.

PG added further that SpORRAn will seek to collate the results from all the different studies.

DP stated that there is a need to ensure that money is used in the right way on monitoring studies.

2. Marine mammals:

NB highlighted that an overview of the marine mammal monitoring had already been provided to the MFRAG-MM group and that it was also available within the Marine Scotland website. A summary of the monitoring was as follows:

- Pre-construction Marine Mammal Monitoring Programme (MMMP):
 - Monitoring agreed with the MFRAG-MM;
 - Consisted of harbour seal and bottlenose dolphin monitoring work packages (WPs);
 - Was undertaken between 2014 – 2016 (over three years);
 - All proposed work successfully completed;
 - Survey results used to inform the construction MMMP (a summary of harbour seal tracking data and seasonal trends on bottlenose occurrence at monitoring stations was presented).
- Construction MMMP:
 - Final construction MMMP agreed in February 2016;
 - The monitoring continued the focus on harbour seal and bottlenose dolphin with additional

monitoring on short term noise response for harbour seal and harbour porpoise;

- The reporting on monitoring of short term responses from piling is expected in Q1/Q2 2018;
- The monitoring consisted of two phases of CPOD deployments taking into account the progress in piling at the wind farm site. The wider scale monitoring array was consistent with the previous monitoring undertaken in the Moray Firth for seismic studies and baseline characterisation for the BOWL and Moray East wind farms.

CG noted that BOWL’s results will be very useful for an update of the dose-response curve to be used in marine mammal assessments and enquired when the data would be available. NB replied that preliminary results for the phase 1 monitoring work would be available soon. Further work is still required on data analysis, particularly on the distinction of type of noise (e.g. vessel noise, piling noise, etc) and associated response.

ID highlighted that the Hornsea wind farm is planning on carrying out a similar monitoring programme. NB added that Paul Thompson has already provided some input on ‘lessons learned’ for a future ORJIP project.

3. Scour monitoring:

NB described the revisions in the updated PEMP concerning monitoring of scour.

- No pre-construction or construction monitoring was planned, as agreed with Marine Scotland.
- As highlighted in BOWL’s report on Scour and Local Sediment Deposition Monitoring Strategy, seabed scour is an engineering issue with no environmental drivers.
- The scour report is now superseded by the engineering design verification requirements and contractor post installation verification survey requirements.
- Contractor post installation survey results will inform the ongoing operational monitoring programme.
- The scour monitoring will consist of the following:
 - WTG Foundations/substructures – inspection at 4 year intervals, commencing 2020. If significant scour identified further geophysical survey and increased monitoring undertaken;
 - Array cables – post lay surveys identifying locations at risk of future exposure. Initial annual monitoring at ‘at risk locations’ then monitoring frequency adapted subject to survey outcomes;
 - OTM foundations/substructures – the design recommendation is to undertake scour monitoring at suitable frequency post installation – to be determined by the OFTO.
 - Export Cable – survey 1 year post installation. The frequency and scope of further monitoring will be proportional to risk of future cable exposure. This will become an OFTO responsibility.

CG enquired about the process for transfer of transmission infrastructure assets to the OFTO. LR replied that the sale process has already started.

Actions	1. BOWL to submit results of Marine Mammal construction monitoring during Q1/Q2
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	2018.
6. AOB	
<p>DP noted that FTRAG would re-start their meetings following a period of 'no activity'.</p> <p>Next MFRAG meeting likely to be in early 2018, but secretariat (Moray East and BOWL) to inform group of timescales.</p>	
Actions	2. MFRAG secretariat to organise a date for next meeting.