

## Bilag H. Skema til kommentering af udkast hos rekvirent/ekstern part

<b>Titel på produkt</b>	Technical report, North Sea 1 – WPD – Marine Mammals		
<b>Ansvarlig for produktet</b> (projektleder i instituttet)	Signe Sveegaard		
<b>Ekstern institution</b>	Energinet		
<b>Kontaktperson</b>	Majken Them Tøttrup		
<b>Deadline for fremsendelse af kommentarer</b>	20/7 2024	<b>Dato for afslutning af håndtering af kommentarer</b> 15/9 2024	

	Rekvirent		Instituttet	
	Evt. linjenr.	Kommentar	Begrundet håndtering af kommentar	Ansvarlig for håndtering
1	Front page	Please consider changing the title to 'Marine mammals surveys – pre-investigations for offshore wind farms in the area North Sea I'. This will align the title with the bat and the bird report. Please do not use the term LOT 1 as this is just name used in the tendering of the pre-investigations. Please do not use the term Work package C as this on internal term used for the project management.	Done	SSV
2	71	Please note and correct: The report was commissioned by Energinet. The contract is between Energinet and NIRAS, legally there is no consortium contracted.	Altered	SSV
3	72	Please consistently use the term 'surveyed' rather the 'monitored' to avoid any confusion. The program is a baseline survey for bats and a monitoring program.	I guess you mean marine mammals and not bats. We do not normally describe Passive acoustic monitoring as a survey so it will seem strange. But we will alter when we describe the general surveys.	SSV
4	73	Please delete the term LOT 1. Please use the terms: North Sea I / NSI instead of North Sea 1. And change this consistently throughout the report.	Done	SSV
5	103-104	Please provide full access to the report by Bioconsult.	Done	SSV

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6	106-108	Please ensure that your internal Danish text part ' <i>Bør vi ikke i Contribution nævne BioConsult og OS Energy uanset hvor stor klapphatte de har været/er?...og hvad med Krebs Gruppen</i> ' is deleted in the next version.	Deleted. It was a clear mistake.	SSV
7	116	Please inform us about where and when NIRAS intent to publish the comments for the report?	At the same time as the report are published by Energinet.	ssv
8	120	Please consider changing 'præ-undersøgelsesområde' to 'forundersøgelsesområde'. Please delete LOT 1 – internal project designation. North Sea I / NSI – not North Sea 1. Survey area – please add; NSI plus 20 km buffer zone around it – as you use it in the text.	Done	SSV
9	122	Please consider changing 'aim' to 'objective'.	Done	ssv
10	122	Please insert the below standard text in the introduction so that it replaces the first section. Energinet is requiring this to be the standard introduction of all the baseline reports.	Done	ssv
11	130	Please note and correct: The study was commissioned by Energinet. The contract is between Energinet and NIRAS, legally there is no consortium contracted.	Done	ssv
12	142	Please consider re-structuring the section, so that the actual aim (objective) is presented first.	That did not seem logical. It has been kept.	ssv
13	147-156	Please consider providing more information about the survey area's physical parameters, such as size, distance from shore, water depth etc. Then it is also good that you provide argumentation for the buffer zone's size. Please make it clearer that the study is a baseline survey.	Done	ssv
14	168	Please correct: This is not a monitoring program – it is a baseline survey program.	done	ssv
15	183	Please add year after 'July'.	This refers to ALL the SCANS surveys and not a particular year. It has been clarified.	ssv
16	186	Please check the sentence. Do you mean that the data mentioned above only represents summer densities?	Yes, clarified	ssv
17	317-318	Can the stable pup count, compared to the significant decline in older seals be explained?	Not explained, but it can be speculated about. I have added this sentence: This may be related to either high levels of pup mortality or to changes in adult haul-out	AGJ

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			behaviour, with seals spending less time on land during the moulting season than previously, because of density dependence.	
18	363-364	Please delete "owned by EN", as data from EINS will be publicly available by the time that this report is published	done	SSV
19	404	Should reference be made to Figure 2-8 instead of 2-4?	yes	SSV
20	408	Should reference be made to Figure 2-10 instead of 2-6?	yes	SSV
21	458 + 503	Regarding Figure 2-13 and 2-26: Would it be possible to add a range of how many seals are counted on the haul-out site, i.e. what number-range the green dots represent.	We have now updated the figures to show number of seals per haul-out site in the legend. For harbour seals the range is 1–528 (total= 19663) and for grey seals the range is 1–508 (total=857).	JNN
22	484-488	Please consider adding an explanation for why the habitat suitability map is relevant for this study.	We already have this section (L455-459): While counting the seals on land can give information on the general trend of seal abundance in the area, only satellite tracking of seals can give direct information on the movement and distribution of seals at sea. Harbour seals are observed as far offshore as in the Danish oil and gas sector and grey seals are known to traverse the North Sea, both from the UK and from the Wadden Sea and the Limfjord. <del>Below</del> , all available information on seal tracking from the	AGJ / JNN

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			<p>relevant part of the North Sea are described below.</p> <p>While satellite tracking data can give detailed information about where selected seals have been, they do not provide an overview of which areas that are used by the species. Areas next to a large haul-out site may, for example, not show up as important if no seals were tagged on this site. Instead, habitat suitability models can predict how seals use different areas by assuming that the environmental conditions that are found in the areas where the tagged seals occur are also the environmental conditions that animals prefer elsewhere in the landscape – even the seals that were not tagged.</p>	
23	491	Regarding Figure 2-15: Would it be possible to add a zoom of the survey area (NSI), as it is difficult / impossible to see the datapoints for this and the surrounding areas.	We have now created a new version of Figure 2-15 with an inset showing the survey area in more detail.	JNN
24	493-494	Please re-consider the reference to the DEA as it seems irrelevant.	It is simply to explain the map abbreviations – not deleted.	Ssv
25	495	Please consider deleting ‘..... we do not have permission to use the TIHO data in new analyses’ as it seems irrelevant to mention.	Done	JNN
26	511	Should reference be made to Figure 2-17 instead of 2-19?	yes	SSV
27	518-523	Please consider moving this text to Objective and Methodology where it is clearly missing.	rewritten	ssv
28	530	Please correct ‘om’ to ‘on’	Done	ssv

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29	537	Please insert "of underwater noise" between 'impact' and 'on most fish...'	Done	SSV
30	568	Please elaborate on how the 'mesh size' of the grid was decided.	The mesh size was decided based on the results from the Danish national monitoring program NOVANA. Here, power analysis have shown that 5 stations is appropriate to monitor the Natura 2000 sites in the Inner Danish waters. The largest of these ("Storebælt og Vresen") are 630 km <sup>2</sup> . The survey area is approx. 10 times this size. So the grid should fit in 50 stations. However, the area is relatively uniform in both bathymetry and sediment types, and thus less variation in porpoises presence are expected compared to the Inner Danish waters. Consequently, it was decided to lower the number to approx. 40 stations. The Grid was adjusted to fit this number.	SSV
31	571-575	Were the PODs deployed at the same positions in the Thor and HR areas as the positions previously used?	yes	SSV
32	753-756	Please pay attention to the language (present/past tense / passive. Please consider if it should be: data <b>are</b> presented in this report, - not will be.	corrected	SSV
33	762	Consider deleting 'into account'	deleted	SSV
34	818	Please correct to Kriegers Flak	done	SSV
35	819	Please correct to Horns Rev 3 Offshore Wind Farm (consistently)	done	SSV
36	865	Please specify the minimum endurance (days of recording) which is acceptable.	Has been added. It is expected to be at least 1 month on continuous recording, likely more.	<b>JAT</b>
37	909-911	Please elaborate on what this means for the relevance and value of the study. Is the design optimal if the results cannot be extrapolated / considered relevant for other offshore wind farms?	Has been commented upon in the text. It is always difficult to extrapolate from single/few observations, but the local	<b>JAT</b>

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		If so, what would it require to get data enough?	environment around the turbines in Horns Reef 3 are likely very similar to what they will be in North Sea I. Ideally, the experiment is repeated at a number of turbine sites. To get information about the variance between sites, 8 soundtraps will be deployed in pairs at 4 different turbines in Horns Reef 3, with one turbine at 50 m and another at 200 m from the turbine. The outcome of this study, conducted in the fall 2024, will help determine the generality of the results.	
38	914-915	Please provide reference for the Figure showing this?	This map is not available yet. Tense changed from present to future.	JAT
39	922	Should 'contribution to' be 'contribution from'?	corrected	ssv
40	925	Please explain more clearly what 'by including turbines from all existing wind farms in the survey area' means in terms of assumed cumulative noise. Which underwater noise emission data is assumed for the various turbines?	A table has been added. The noise emission from the turbines (source model) will be based on review of measurements made at Horns Reef3 and Kriegers Flak, as well as the literature (Bellmann et al, 2023).	JAT
41	929	Is 'the investigation area' the same as 'the survey area' in this context?	Yes, corrected	ssv
42	935-937	Please include references for 'all available knowledge...' Is it correctly understood that from this study there is only data on one harbour porpoise (Figure 3-7)?	This section has been rewritten. The substantial information for setting the reaction threshold comes from a large number of studies on animals in captivity and wild animals studied with PAM and attached sound-recorders (DTags). The same methodology has been applied in the HELCOM HOLAS3 analysis.	JAT
43	978-979	Do other studies also suggest that harbour porpoise move further offshore in winter?	Yes, a sentence is included.	ssv

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44	1039-1041	Please check the sentence – the point is not clear to the reader.	Has been rewritten	ssv
45	1095-1097	Please check the sentence ‘Accordingly, the average difference between...’ - the point is not clear to the reader.	Has been rewritten	ssv
46	1115	What is the reason for omitting data (hours) from the subsample analysis?	Due to time and budget constraints for marine mammal (MM) analysis, it is not possible to analyze all data recorded. The data was recorded as at 30-45 minutes on per hour so that recorded data could be used in both the marine mammal and noise analyses. When duty cycling the data for the MM analysis, some hours would be dropped. However, this decision is explained in detail in section 3.1.2.1, figure 3-3, in how this type of snapshot sampling is comparable to our previous MM analyses in Energy Island North Sea (EINS). Within EINS, we showed that a 50% duty cycle of detected positive hours does not differ significantly when compared to 100% coverage, and therefore still provides a robust animal occurrence estimate for the area.	ETG
47	1120	What is meant by ‘the tool is not functioning properly’?	Since the tool is in beta development, and is not formally published, there may be errors presently unknown. However, language has been added to this paragraph to more clearly outline that.	ETG
48	1235	Please check if Figure 4-15 and 4-16 have switched places? The large number of animals on figure 4-16 corresponds better with the numbers reported in table 4-6 for the June survey (and in the text describing data from that date)	Yes, there was a mix up. It has been corrected.	ssv

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49	1305	Does it influence the comparison of measurements that the distance from turbine is not the same (98 m on KF and 152 m on HR3)?	In a free field and with a point source, the sound pressure level 152 m from the source is expected to be 3.8 dB lower than at 98 m ( $20 * \log_{10}(98/152)$ ). In shallow water and with a source that is not a point, this difference is, if anything, smaller than this. With a measurement precision of our instruments of +/- 1 dB, this difference is close to being insignificant and therefore of little relevance. However, a note has been added to the text.	JAT
50	1352 + 1355	Please check if the figures match the figure text.	Corrected.	JAT
51	1427	Please consider to name this 'Conclusion' rather than 'Status'....maybe ' <i>Conclusion from 1<sup>st</sup> year survey</i> '.	done	ssv
52	1438	Please consider changing to 'The data collected in the PAM survey of the 1 <sup>st</sup> year baseline study shows....'	done	ssv
53	1481	Please note that neither this program (MH2030) nor the EINS program are monitoring programs. Both are baseline survey studies. Please word correctly.	done	ssv
54	1492 -	Please consider moving section 5.4.1 to the section with existing knowledge about seals.	Done. The text has been slightly amended to fit into the text that was already in section 3.2.	AGJ
55	1493	Please consider to delete 'area' and just write 'The survey includes harbour seals....'	Has been amended to 'survey data' as they derive from multiple separate surveys.	AGJ
56	1541-1543	It is recommended to change ' <i>This is problematic as our tagging data from the Wadden Sea....</i> ' to	Done	AGJ/JNN



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		<i>'For a stronger baseline dataset on seals, it is recommended to focus on the haul-out sites in the Wadden Sea and supplement the existing data'</i>		
57	1567	Please consider changing the wording to 'the baseline survey for NSI...'	done	SSV
58	1567-1571	Please consider re-writing this section so that it is clear to the reader that the potential impacts of simultaneity of geophysical surveys and PAM surveys is being studied in detail and the results and conclusions will be published in autumn 2024. Please delete 'The DCE/NIRAS consortium on behalf of Energinet have initiated...' OR change it to 'Energinet has contracted NIRAS to undertake a study of...'. As the study is expected be finalized and concluded in autumn 2024, this would presumably no longer be a lack.	done	SSV
61	1575-1580	Please review this text again. It is not clear what the concern is. Consider changing AU/NIRAS. Please add year (e.g. 2023) after the months mentioned.	The text has been amended to make it clearer.	AGJ/ JNN
62	122	Line 122: Please insert this standard introduction: In order to accelerate the expansion of Danish offshore wind production, it was decided with the agreement on the Finance Act for 2022 to offer an additional 2 GW of offshore wind for establishment before the end of 2030. In addition, the parties behind the Climate Agreement on Green Power and Heat 2022 of 25 June 2022 (hereinafter Climate Agreement 2022) decided), that areas that can accommodate an additional 4 GW of offshore wind must be offered for establishment before the end of 2030. Most recently, a political agreement was concluded on 30 May 2023, which establishes the framework for the Climate Agreement 2022 with the development of 9 GW of offshore wind, which potentially can be increased to 14 GW or more if the concession winners – i.e. the tenderers who will set up the offshore wind turbines – use the freedom included in the agreement to establish capacity in addition to the tendered minimum capacity of 1 GW per tendered area. In order to enable the realization of the political agreements on significantly more energy production from offshore wind before the end of 2030, the Danish Energy Agency has drawn up a plan for the establishment of offshore wind farms in three areas in the North Sea, the Kattegat and the Baltic Sea respectively. The North Sea I area has a total area of 1.400 km <sup>2</sup> which is divided into three sub-areas planned for offshore wind farms. The North Sea I area is located 20-80 km off the coast of	Done	SSV

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		West Jutland and from each of the three sub-areas there will be corridors for export cables connecting the offshore wind farms to the onshore grid.		