

Dublin  
11<sup>th</sup> May 2007.

## **Comments to Draft Strategic Environmental Assessment, IOSEA1, issued April 2006.**

Further to the publication of the draft Strategic Environmental Assessment, I would like to submit observations in relation to the parts of the report which discuss the potential impact of seismic surveys on marine mammals and fish. My concerns are stated briefly in the text below, and I also attach three articles/reports written by Ingebret Gausland which discuss the sound aspects of seismic surveys:

### *Marine Mammals*

The report recommends that further assessment be carried out on a site-specific basis (reference to seabird and marine mammals) (Non technical summary page x). It is not clear what is meant by this in the context of marine mammals.

The report recommends that guidelines such as those proposed by the IWDG are made a requirement for all seismic surveys (Non technical summary page x). The details of these guidelines were not attached to the report, so it is not possible for me to comment on these. It should be noted that the member companies of IOOA and the seismic companies have consistently been applying the JNCC guidelines to seismic surveys in Ireland for a number of years. Perhaps it would be appropriate for the report to carry out the assessment in the context of the continued use of these well known guidelines, as well as in the context of using new guidelines, which are currently not in the public domain. It should also be noted that it would be preferable that any guidelines adopted by the Irish authorities would be taken through a consultation process with representatives of the industry and that the guidelines be consistent or comparable with those applied in neighbouring waters.

The report makes a reference to 'soft start' (page 7-12 and 7-13) in order to minimise impact on cetaceans. The benefit of 'soft start' is still being debated in scientific fora, and it would be preferable if this was recognised and that as knowledge about this topic is improved, the correct methodology be applied, whether that is a 'soft start' or a 'slow' start.

### *Fish and Fisheries*

The report discusses the potential impact on fish and fisheries at length in Chapter 7. Some of the statements in the report are in direct contradiction with published reports and articles (Appendix 1,2 and 3).

The report in Section 7.2.3. refers to physical damage to fish at 180 dBA (ref Turnpenney and Nedwell, 1994). Their work discusses damage to fish maintained in

cages, and specifies (page 12 onwards) that at this level Hastings found evidence of auditory damage when the species were exposed over a period of hours. Therefore, this figure (180 dBA) is not representative of potential damage from exposure to pulses from airguns.

The report also refers to Evans and Nice, 1996, where the extent of damage is stated to extend to 2.5 km from the source. It is thought that this figure stems from a misinterpretation of the results quoted by Turnpenny and Nedwell.

It would also appear that the draft SEA report is not entirely consistent in relation to sound pressure levels. Peak-to-peak measurements of short impulses are compared with continuous RMS-level measurements, without any discrimination between the two. In fact, the RMS-levels when applied to airgun signals should be approximately 35 dB lower than the peak-to-peak measurements.

On the basis of the above, I consider that Section 7 should be reviewed and updated to ensure that the assessment of potential impact of seismic surveys on fish and fisheries reflects the actual underwater sound patterns and sound levels arising from seismic surveys using airgun arrays.

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