



**Inuit Circumpolar Council – Greenland consultation statement regarding:
EMA for 2D seismic survey off Southwest Greenland by TGS**

Nuuk, May 10, 2013

Inuit Circumpolar Council - Greenland (ICC) has reviewed the submitted Environmental Mitigation Assessment (EMA) of the proposed 2D seismic and seabed sampling survey off Southwest Greenland. TGS-NOPEC Geophysical Company ASA (TGS) submitted the application, covering an area of up to 5000 line kilometres in license area 2009/13 and is expected to take place between 1st of June and 15th of October 2013.

GENERAL COMMENTS

ICC recommends that environmental impacts of several consecutive years' seismic surveys be analysed. Furthermore ICC recommends that observations of traditional users of the area (hunters and fishers), in relation to previous years' seismic surveys, be taken into account when assessing environmental impacts of future seismic surveys.

ICC would like to emphasize that the principle of Best Available Technique (BAT) and Best Environmental Practices (BEP) should apply in any relevant cases during the execution of the project. Where there is a difference in standards, practices and demands between industry, government and international standards, BAT and BEP should always prevail as the main priority. The industry can play a unique role in offering insights into best practices in their area of expertise, and should not be afraid of taking the lead on higher environmental standards than what may be demanded by government agencies and thereby inspire a change in government policies to the better.

In the Arctic Council, there is an increasing focus on Black Carbon (BC, e.g. soot) and its localized warming effects as a short-lived climate forcer. There is also focus on Arctic Ocean Acidification as “the second CO₂ problem”, which the scientific community is stating to be real, undisputed, happening at an alarming rate, and will have consequences for Arctic marine waters - although the direct and indirect effects are not clarified yet. Both focus areas are derived effects of combustion of fossil fuels, and the Arctic Council will at its next Ministerial Meeting in Kiruna this month look into possibilities of further developing common strategies and actions to reduce these effects. The industry has their share in the responsibility of mitigating effects on the climate and ecosystems, and should therefore consider ways of best practices to reduce emissions, and use resources more efficiently on their own initiative.

SPECIFIC COMMENTS

ICC welcomes any mitigation measures that go further than those pointed out in the guidelines.

The continuous use of Passive Acoustic Monitoring (PAM), during pre-shooting search and seismic activity is a good precautionary approach, considering that even for experienced spotters, even flat and scattered ice floes can make marine mammals very difficult to observe. Although, in weather with

poor visual conditions the limitations of the PAM equipment to discover marine mammals that are silent should not be underestimated.

With that in mind ICC also recommends that the marine mammal safety zone for ramp-up should be extended from 500 m to 800 m. Other companies conducting seismic surveys in Greenland waters already take such measures.

Like DCE and GINR, ICC recommends that assessment of cumulative effects of simultaneous and semi-simultaneous surveys be more thorough, as simultaneous surveys may cause enhanced disturbance, less possibility for avoidance by animals, but semi simultaneous surveys may also prolong the duration of the disturbance.

Likewise ICC support the proposal by DCE and GINR that the seismic sound source ships of GXT and TGS-NOPEC keep a 100 km clearance when operating in the same area.

In connection with this year's seismic activities, NIRAS Greenland A/S has commissioned a report with modelling of sound propagation in the waters off Southwest Greenland.

The report gives a better view of the possible effects of seismic projects in the area. However, it mentions that there is little information on the physical environment, there is little mention of shadow and convergence zones. This is otherwise highlighted in the mitigation guidelines and by e.g. Madsen et al. (2006) as the Arctic waters have stronger stratification that can create special convergence zones, even many miles away from the sound source (up to 12 km), where the sound pressure level suddenly can be amplified and higher frequencies than planned. This in turn may have an effect, not only on the baleen whales, but also toothed whales farther from the sound source. Whether modelling takes these possible convergence zones into account is not clear.

ICC also recommends that the possible effects of exploration activities generally, if possible, be examined in wild animals in their natural environment. If the referenced studies were from experiments carried out on animals in captivity, this should be written clearly, and these caveats should be mentioned in the EMA report.

It is not mentioned in the EMA nor in the non-technical summary if the ships are ice-classified. IMO Guidelines for ships operating in polar waters (IMO Guidelines for Ships Operating in Polar Waters 2009) recommends that vessels operating in the Arctic should be at least of ice or polar-class. Although the guidelines are voluntary, ICC considers them as an expression of best practice.

The information on the vessels is deficient; a list of other boat data should be included as has been the case in a number of EMAs and EIAs. This will make it easier to get a quick overview.

ICC also recommends that the ships safety environmental measures should be approved and reported by relevant independent maritime experts.

This consultation statement may be published on the Greenland Self-Government website. All ICC's statements are also available on our website www.inuit.org in Activities → Public consultations in Greenland.

ICC thank you for the continued inclusion as a consultation party, and look forward to continued cooperation.

References

Madsen, P T et al. "Quantitative measures of air-gun pulses recorded on sperm whales (*Physeter*

macrocephalus) using acoustic tags during controlled exposure experiments.” *Journal of the Acoustical Society of America* 120.4 (2006) : 2366-2379.