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Sent: Fri Apr 03 2015 16:17:21 GMT-0600 (MDT) **To:** "Lord, Kenneth" <ken.lord@sol.doi.gov>

Subject: Re: NOAA's ensonification calculations for the Discoverer

Thanks Ken, that's good information.

However, what everyone needs to understand is that the 15-mile separation of drill rigs is not just about the noise that the drilling, or the rig itself generate. We are already aware of the typical sound levels generated by drill rigs. That information was included in our analysis of impacts for the Chukchi Sea ITRs. The full disturbance impact from a drilling operation includes the rig, its anchorage (eight point anchor system with approx. 1100 meter radius for the Discoverer), multiple anchor handling vessels, multiple support vessels, Vertical Seismic Profiling (VSP) of the well bore, and frequent aircraft activity (approx. 40 round-trips per week to the drill rigs with a Sikorsky S-92 helicopter for Shell's operations). The VSP itself can have a disturbance radius of hundreds to thousands of meters. The S-92 is a large 15 passenger helicopter and is one of the loudest helicopters on earth. There will be significant noise from these helicopters at low altitude in the vicinity of the drill rigs while landing and taking off. The full disturbance footprint of a drilling operation is what we analyzed in the regulations. A 15-mile separation of the drill rigs provides for adequate space between simultaneous operations so that affected walruses can move away from the disturbance to areas of non-disturbance. The 15-mile drill rig separation mitigation measure was part of our analysis and part of how we were able to make the determination of small numbers, negligible impacts, and unmitiagable adverse impacts for subsistence uses. If we undermine our mitigation measures, we also undermine our analysis and our determinations.

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[&]quot;All that is gold does not glitter, not all those who wander are lost; the old that is strong