

**Summary of recommendations from the WGWAP arising from the informal briefing held in Vladivostok 5-6 February 2007
8 March 2007**

Reference	Cross-Reference	WGWAP Recommendation & Requests	Responsible Party	Target Completion Date	SEIC Response
WGWAP/Vlad-01	WGWAP 1/001	<p>Works Schedule for Sakhalin 2</p> <p>The WGWAP has reviewed the General Timeline (Work Schedule) for 2007-2011 provided by Sakhalin Energy after WGWAP-I. Although this document represents a start, it falls short of meeting the need for advance information, as described in the report of WGWAP-I.</p> <p>The Panel therefore recommends that the following concerns be addressed by the company, in documentation for the St. Petersburg meeting:</p>	SEIC	15/04/07	
		<p>(1) It appears that Sakhalin Energy does not intend to continue monitoring and studying whale behaviour past the 2007 season. This would mean truncation of a valuable time series of data. The Panel requests clarification on whether the decision to end such work after 2007 is final or contingent, and if the latter, on what?</p>			
		<p>(2) No mention of seismic testing is indicated in the schedule. Does this mean that the operational phase of Sakhalin-II can and will proceed (through 2008-2011) without accompanying seismic work? If seismic testing is necessarily associated with particular aspects of future operations (e.g. drilling), this should be noted in the schedule where appropriate, perhaps with caveats or provisos regarding uncertainty (e.g. stating that plans are only tentative and timing may not be exact). A thorough discussion of this issue, with associated recommendations, should be expected at the St. Petersburg meeting.</p>			
		<p>(3) No reference is made to satellite tagging of western gray whales. Again, the Panel requests clarification on whether this reflects a final decision by Sakhalin Energy not to pursue this important aspect of research, or instead is contingent on the outcome of further discussions and analyses.</p>			

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		<p>(4) Although the “2007 Details” section of the document provides an indication of the time window within which each activity (for PA-A, PA-B and Lun-A) is to be completed, at least some of the activities will involve noise production only sporadically or for a portion of the time window while others may involve noise during the entire period. The Panel requests more details in regard to actual timing and duration of noise-producing activities. For each activity, we wish to know specific work planned (steps involved such as, for the PA-B topsides installation, the setting of dead anchors, movement of the topsides barge from offshore, etc.), numbers and types of vessels involved (names if possible), and noise footprint of the activity (including nature and intensity of the sound produced).</p>			
		<p>(5) The Panel recognizes that the early start of construction activities reflects, at least in part, the company’s effort to respond to previous recommendations concerning spatial and temporal separation of noisy operations from areas and times of peak whale density. A drawback of such early start-up, however, is that due to SEIC’s policies and priorities with regard to logistics, manpower etc., there is no assurance that monitoring equipment and personnel will be in place and functioning well in advance of construction in order to collect baseline information. Such baseline information is essential for “real time” assessment and mitigation of the potential effects of industrial activities related to oil and gas development, as well as for post-hoc analyses. The Panel therefore recommends that the company take whatever actions are necessary to ensure that observers and equipment (including acoustic buoys) are on-site and functioning at least two weeks prior to the start of construction activities in 2007.</p>			
		<p>(6) On a minor note, it would be helpful if abbreviations or acronyms were either not used, or explained (e.g. in a footnote). The Panel would then be able to grasp readily that, for example, MTI = Molikpaq Tie-In, PVS = Piltun Supply Vessel, etc.</p>			

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WGWAP/Vlad-02	WGWAP 1/006	<p>Follow-up on WGWAP 1/006 regarding effort-corrected data on distribution</p> <p>(Note that the third bullet point under WGWAP 1/007 is essentially equivalent to WGWAP 1/006)</p> <p>The Panel recommends that the integrated, effort-corrected data on western gray whale distribution for <u>all years available</u> and for all platforms (shore, vessel, aerial) be calculated on a weekly basis and provided as a document for the St. Petersburg WGWAP meeting. These distribution data should then also be overlain on the acoustic footprint for the corresponding periods (see Recommendation 3).</p>	SEIC	15/04/07	
WGWAP/Vlad-03	WGWAP 1/007	<p>Follow-up on WGWAP 1/007 regarding 2006 acoustic data</p> <p>The Panel recommends that for every recorder available, Sakhalin Energy provides the following:</p> <p>(1) Spectrograms and amplitude levels for all recordings from all recorders, both real-time data from T-AUARs and sonobuoys <u>and</u> the post-season analysis of the recorders. These plots should take the form of those from a previous MNR report, for example, figure 1.8 from the following document prepared for the second Vancouver meeting (i.e., IISG) – ‘WGWAP_13E_MNR_Report_Acoustics_Volume_1_2_005.pdf’. This is a traditional presentation of acoustic data, and some completed analyses were shared at the Vladivostok briefing. Frequency analysis should be in 1 Hz steps, and time steps should be ≤1 min. We would make two recommendations regarding changes in the display of these data:</p> <ul style="list-style-type: none"> i) the frequency axis should be linear, not logarithmic, and need only cover the range from 1-1000 Hz; and ii) the plots for the levels should be expanded so that the axis for the levels is larger and more readable. 	SEIC	15/04/07	
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		<p>(2) 90th, 50th and 10th percentile amplitude levels calculated for 1/3 octave bands up to 5 kHz every half-hour based on ≤ 30 sec time window analysis, i.e., for every recorder, again both the real-time recordings <u>and</u> the post-season analysis, we should see plots of at least the 90th, 50th, and 10th percentile levels for 1/3 octave bands, with the levels calculated every half-hour based on ≤ 30 sec windows. So, the levels are taken for every 30 sec time window, averaged over one half-hour, then the 10th, 50th, and 90th percentile levels for 1/3 octave bands are calculated.</p> <p>(3) correlations between different hydrophones, e.g., how do the recordings of a particular event compare between a hydrophone at the edge of the feeding area and one inside the area?</p> <p>(4) These data should be provided in documentation for the St. Petersburg meeting.</p>			
WGWAP/Vlad-04	WGWAP 1/007	<p>Follow-up on WGWAP 1/007 regarding 2006 Daily Construction Activities, by Vessel</p> <p>The Panel recommends that information on day-by-day construction activities <u>and locations</u> for each vessel be provided as a document for the St. Petersburg WGWAP meeting (per the SEIC response to WGWAP 1/007). There should be at least three sources of such information – satellite-linked tracking data for each vessel, vessel logbooks, and MMO data (recorded at half-hourly intervals).</p>	SEIC	15/04/07	
WGWAP/Vlad-05	WGWAP 1/005	<p>Follow-up on WGWAP 1/005 regarding MVA of 2006 data</p> <p>The Panel was advised at the Vladivostok briefing that although the 2005 MVA will be completed by the time of the St. Petersburg meeting, the 2006 MVA will not be ready for review. At a minimum, in the absence of a full 2006 analysis to review, the Panel recommends that SEIC scientists make available an outline of the methodology planned for the 2006 MVA. This outline should be provided prior to WGWAP-II so that it can be discussed and considered during the St. Petersburg meeting. The Panel also requests that the input data used for the 2005 MVA, and the intended input data for the 2006 MVA, be submitted to the Panel.</p>	SEIC	15/04/07	

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		<p>Additional Comment</p> <p>In addition to the above recommendations, the Panel notes that it is working on a response to Sakhalin Energy's "final" document on noise exposure criteria. Specifically, the Panel intends to present a document on this subject in advance of the St. Petersburg meeting (ca. 2 weeks) so that the company can consider it and prepare for a constructive discussion during the meeting. It is hoped that this will be the final discussion of this matter before the 2007 construction season, and beyond.</p>			