

BRITISH COLUMBIA OFFSHORE
HYDROCARBON DEVELOPMENT

REPORT OF THE SCIENTIFIC
REVIEW PANEL

January 15, 2002

BRITISH COLUMBIA OFFSHORE HYDROCARBON DEVELOPMENT:
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APPENDICES TO THE REPORT OF THE SCIENTIFIC REVIEW PANEL)

Submitted to the BC Minister of Energy and Mines, Hon. Richard Neufeld

January 15, 2002

Panel Members:

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- Patricia Gallagher Patricia Gallagher is Director of Continuing Studies in Science and Director of the Centre for Coastal Studies at Simon Fraser University. She was a Professor of biology at Memorial University and is co-editor of a volume on marine conservation, *Waters in Peril*. Gallagher participated in the North American Commission for Environmental Cooperation workshop on aquatic invasive species in the spring of 2001. Gallagher has a PhD in bioscience from Simon Fraser University.
- Derek Muggeridge Derek Muggeridge is Dean of the Faculty of Science at Okanagan University College, where he is also Associate Vice-President of Research. He is President of Offshore Design Associates Ltd., which provides specialist services in offshore safety and wave and ice structure interaction. Muggeridge is a Member of the Awards Committee of the Science Council of British Columbia and a Member of the Canadian National Committee / Engineering Committee on Oceanic Resources. He was the Director of the Ocean Engineering Research Centre at Memorial University. Muggeridge has a Bachelor of Science from California State Polytechnic University, and a Master's of Science and a PhD in aerospace engineering, both from the University of Toronto.

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Executive Summary

On October 19, 2001 the British Columbia Minister of Energy and Mines appointed this panel to advise on four particular matters:

- i) *“the scientific and technological considerations relevant to offshore oil and gas exploration, development and production;*
- ii) *“further research or studies that should be undertaken to advance the “state of knowledge” on these considerations;*
- iii) *“any specific government actions that should be taken prior to a decision on whether or not to remove the current provincial moratorium; and*
- iv) *“any specific conditions or parameters that should be established as part of a government decision to remove the moratorium.”*

Our response to the first two items forms the core of this report, based upon extensive reviews of previous reports and scientific literature, as well as a number of specially commissioned reports.

We identify a number of important knowledge gaps on which “further research or studies should be undertaken to advance the state of knowledge on these considerations”, to allow for responsible “scientific and technological considerations relevant to offshore oil and gas exploration, development and production”. In response to items (iii) and (iv) of our mandate, we provide some observations on the science and technology-based, but not inherently science and technology, issues of public policy related to matters such as capacity-building, regulation and monitoring.

The basic messages from this review are:

- A. The prospective areas for oil and gas offshore British Columbia have many similarities with other jurisdictions around the world, and there is much to be learned from their experience. While BC is unique in the particular combination of components of its marine ecosystem, resources and coastal heritage, most of these can be found individually or in other combinations in other areas of offshore production. For example, eastern Canada and Alaska have a more severe climate; the Cook Inlet of Alaska is more confined; Alaska and California generally experience more severe earthquakes. Nevertheless, any offshore activities in British Columbia, at least in the inland waters between the Queen Charlotte and Vancouver Islands, would be near-shore activities, and any adverse environmental impacts would be quickly felt in coastal communities and habitats, and so would require rapid response and remediation.
- B. Although the region is seismically active (Chapter 2), that is not considered to constitute any overwhelming risks for offshore exploration, development or production (Chapter 4).
- C. Although risks of direct impacts on marine ecosystems may be small, there is poor understanding of potential long-term cumulative impacts on marine ecosystems of oil or gas spills or discharges from production activities, or of the impact of seismic exploration on marine mammals in particular and the ecosystem in general. These potential impacts may be of very low probability but may be catastrophic in the short term and carry serious and possibly irreversible consequences in the long term (Chapter 3).
- D. Although the region is subject to intense storms as well as seismic activity (Chapter 2), present engineering knowledge, technology, industry practice and regulatory regimes can ensure that structures necessary for drilling and production activities are constructed to survive any foreseeable natural threats and to operate within acceptable standards (Chapters 4).

The panel is aware that in dealing with such matters as the cumulative impacts of human activities on marine ecosystems, the BC and Canadian governments have committed themselves to adopt a precautionary, ecosystem-based approach to integrated adaptive management. This panel endorses the Wingspread formulation of the precautionary principle, but also underlines the observation in the December 17, 2001 Lowell Statement on Science and the Precautionary Principle that emphasizes, “*The goal of precaution is to prevent harm, not to prevent progress.*” (See Appendix 20 in Volume II of the Report)

The remaining issues identified above can best be addressed in a concrete setting in assessment of proposals for specific activities to be undertaken, not in abstract or general terms. The panel concludes on the basis of its review that the existing blanket moratorium has served its purpose, but has also set back our understanding of the coasts and oceans of British Columbia. It is time now to return marine scientific research to levels appropriate for a modern advanced society in general terms, and particularly as a basis for comprehensive, balanced and inclusive deliberation and assessment of specific proposals for BC offshore activity.

In short, the panel endorses the concerns expressed in the JWEL and preceding reports about the possible impacts of exploration or drilling activities on marine ecosystems and associated human communities, but sees this concern not as an argument for a general prohibition on all offshore activity—that is, for maintenance of a blanket moratorium—but rather as a need to examine specific proposals for any human activities, including offshore hydrocarbon-related activities, carefully with respect to their location, timing and impacts on particular species or components of marine ecosystems over the long term, and against broadly conceived alternative strategies (Chapter 5).

In order to consider the science and technology dimensions of any decision on whether to remove the moratorium, the Panel was obliged to ask what the moratorium actually is, how it could be removed, and what would be the situation subsequently. These questions are not straightforward, but we believe the short answer to be, as the dictionary says, that the present moratorium is a temporary prohibition or suspension of an activity, in this case of activities related to exploration for hydrocarbon resources offshore British Columbia. It appears that the current moratorium could be ended simply with a provincial decision to that effect, and a federal announcement agreeing that bids for licenses or applications for permits to undertake exploratory work in specific parcels of offshore areas would be considered.

Thus, in the panel’s understanding of the situation, it seems there actually is today no legislated moratorium formally in place, either federally or provincially. For the panel, the central point seems to be that the concerns with this ‘current moratorium’ are all procedural and perceptual, not scientific or technical. The sooner the Province can move on to careful consideration of concrete proposals from identifiable proponents, the sooner we will get into constructive assessment of the issues based on the scientific, social and ethical realities of the sea in its actual setting.

Were the present moratorium ended, any further action would presumably await concrete expressions of interest in the development potential of specific sites. There would be several important things that would need to be done before there could be any expectation of investor interest, public or private, in proposals for exploration or development work in the BC offshore. While they are not strictly scientific or technical issues, they are germane to points (iii) and (iv) of our mandate, and we endorse the following preconditions that have been spelled out already by industry, First Nations, and others. These include:

- Development of an integrated federal-provincial regulatory framework. (The panel is aware that the Canadian Environmental Assessment Act and the British Columbia Environmental Assessment Act are undergoing review and amendment, and that the existing Canada-British Columbia bilateral accord on harmonized assessment expires in April 2002 and must be renegotiated.)
- Negotiation of a Pacific Accord that provides for agreed federal-provincial revenue sharing and other fiscal and management arrangements.

- Clear delineation of sensitive or vulnerable areas essential to preserve biodiversity and ensure ecosystem integrity, so that industry and others will be able to develop proposals for offshore activity with a clear initial understanding of any boundary conditions or restrictions.
- Strengthening and development of scientific and technical capacity to build baseline data and assess the state of the ecosystem, including natural and human components, and capacity also to undertake quantitative risk analysis, valuation and assessment spanning the full range of strategic options.

Thus, in the above context, the decision as to whether or not to remove the present blanket moratorium seems to be again one of procedure, more than science and technology.

To the general question posed to it, therefore, this panel concludes overall that, while there are certainly gaps in knowledge and needs for intensification of research as well as for a commitment to building comprehensive baseline information systems and to long-term monitoring, these do not preclude responsible deliberations on the questions related to offshore oil and gas exploration and development. There is no inherent or fundamental inadequacy of science or technology, properly applied in an appropriate regulatory framework, to justify a blanket moratorium on such activities. With a firm commitment to comprehensive assessment of any proposals for specific offshore activities as provided in the existing legislative framework, and continuing commitment to ongoing principles of adaptive management and sustainable development, the existing policies maintaining an ongoing moratorium on hydrocarbon exploration and development offshore British Columbia can responsibly be ended.

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