

ENVIRONMENT CANADA
ANALYSIS
of the
REPORT OF THE
SABLE ISLAND ENVIRONMENTAL
ASSESSMENT PANEL

ENVIRONMENT CANADA
SABLE ISLAND
ENVIRONMENTAL ASSESSMENT PANEL
REPORT
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SUMMARY

Environment Canada (EC) should endorse the Report of the Sable Island Environmental Assessment Panel.

The Panel has reflected most of this Department's major concerns in its Final Report and we can concur with its conclusions and recommendations, however, some Panel Conclusions and Recommendations are imprecise to the extent that clarification would be necessary to understand their full intent.

Based on the Department's overall responsibility for the maintenance of environmental quality and environmental protection, EC has responsibility for overseeing implementation of a number of Panel Recommendations. A summary table (Table I) is provided at the end of this summary. Departmental responsibilities can be discharged in part through exertion of horizontal influence using existing or developing mechanisms of consultation (such as the Environmental Co-ordinating Committee of the Canada-Nova Scotia Offshore Oil and Gas Board) or through direct application of Departmental mandates. In discharging its mandate through indirect mechanisms, EC must ensure that the proponent is held accountable by regulators and that there is adequate assurance of environmental protection.

Present EC programs or consultative mechanisms are adequate to implement many of the Panel Recommendations pertinent to this department, however, implementation of all Recommendations implicating this department will require additional resources beyond those presently applied to this matter.

Recommendations which directly implicate FEARO will not be dealt with here. A commentary on Departmental interest and implications is provided for each recommendation in the main text of this document.

The following are aspects of Panel Recommendations which may implicate additional or re-allocation of EC resources:

- research into the effects of drilling wastes;
- provision or supervision of environmental training for construction and development crews;
- a study on the environmental implications of the burial of the marine pipeline;
- conduct or audit of an environmental effects monitoring program;
- inspection of dredging or dumping of debris during construction activities along the offshore pipeline and at the Venture production platforms;
- support of a Federal-Provincial environmental audit mechanism to ensure compliance with Panel Recommendations and verification of completion of the Proponent's Commitments;
- screening of additional development activity beyond the current level.

Political Sensitivities may arise from:

- public perception of the government role in both promoting and regulating this development;
- panel recommendation of a federal-provincial mechanism to ensure environmental protection throughout the development despite the existence of the Canada-Nova Scotia Offshore Oil and Gas Board;
- dealings over Sable Island such as federal-provincial jurisdiction, and industry disruption of the Island ecosystem and,
- development of an audit role for EC for ensurance of environmental protection.

Reaction of the proponent, Mobil Oil Canada Ltd., to the Panel Report and the EC follow up will depend on the degree to which Mobil is required to comply with the Panel Recommendations.

COGLA should be requested to react to the Panel Report on such matters as area wide assesement, the scope and relative responsibility for a monitoring program, auditing of COGLA regulatory programs and the implimentation of Panel Recommendations by EC.

Finally, the public has voiced the concern that 'government' is "playwright, producer and director" as well as actor. A stronger voice by EC as "critic" could provide needed balance to this perception and provide assurance that development will not be allowed to proceed at an unreasonable environmental expense.

The following table summarizes the key issues noted by the Panel and/or by EC as well as the resource implications to EC for fulfilling Panel expectations.

TABLE 1:

SUMMARY OF ISSUES IDENTIFIED IN REVIEW OF THE
SABLE ISLAND VENTURE GAS DEVELOPMENT
ENVIRONMENTAL IMPACT ASSESSMENT

(February, 1984)

ISSUE	PANEL RESPONSE	DEPARTMENTAL RESPONSE TO EIS	COMMENTARY	POST-PANEL ACTION BY EC	EC RESOURCE IMPLICATIONS
Project Acceptability	Approval conditional to development of: 1) comprehensive contingency plans; 11) comprehensive monitoring.	Approval conditional to presentation of additional environmental information at subsequent regulatory stages.	EC role will depend on what agency regulates various aspects of the development. Receipt of the EIS early in planning for the project provided the opportunity to influence actual project design.	- any statements on the project should reflect the conditional acceptance;	- continued involvement will require continued input of manpower and funds. Simultaneous review of Hibernia will exceed currently allocated resources.
Monitoring of Development Impact & Production Discharges	Several recommendations on monitoring of impact of specific substances such as drilling fluid, as well as for a comprehensive monitoring program. Production discharges only noted for gas plant. (Recommendations numbered 3, 4, 17, 20, 24, 29, 30.)	In addition to normal industrial effluent monitoring at gas plant and at platforms, various aspects of construction and operation require environmental effects monitoring programs including baseline data collection.	Mobil agreed only to a limited effects monitoring program although panel recommendations go beyond the concept, as presented by EC. All interested parties must discuss the needs for an effects monitoring program.	- rapid development of EC policy on Effects Monitoring is required; - strengthen consultative mechanism to ensure EC voice in Venture program development; - In order to be effective, many aspects of an adequate monitoring program must commence immediately.	- special funds may be accessible (e.g. ESF); - EC involvement dependent on resources available.

ISSUE	PANEL RESPONSE	DEPARTMENTAL RESPONSE TO EIS	COMMENTARY	POST-PANEL ACTION BY EC	EC RESOURCE IMPLICATIONS
Contingency Plans	Recommended contingency plans for several aspects of development. (Recommendations numbered 1, 10, 18, 28.)	Recommended contingency plans for all aspect of construction and production in place prior to each stage.	Regulatory steps in place or proposed will require adequate contingency plans.	- current programs are adequate.	- simultaneous development of Hibernia will exceed current allocated resources.
Adequate Data Base for Evaluation of Impact	Recommended further studies of several specific areas such as offshore wave climate, pipeline routing and effects of drilling wastes. (Recommendations numbered 4, 5, 6, 7, 12, 19, 25, 26, 27.)	Recommended site-specific studies for various areas such as pipeline routing, near-shore areas and studies of pipeline burial.	Ensurance of implementation of such recommendations is tentative. Much will depend on successful exertion of horizontal influence.	- Departmental policy must be decided for quality assurance in environmental protection programs conducted by other agencies. An audit capability is recommended.	- audit monitoring for some aspects will require re-assignment of resources.
Area-wide Assessment and Strategic Planning	Considered sufficient information was lacking to conduct the assessment but recommended regulatory agencies consider associated projects.	Recommended COGLA be responsible for preparation of Area-wide Assessment and Strategic Plan for Scotian Shelf, including Venture export pipeline.	EIPC has accepted the concept of Area-wide Assessment and will continue development of strategy.	- continue interdepartmental consultation and horizontal influence in effort to ensure implementation.	- If COGLA accepts responsibility for conducting an Area-wide Assessment, additional resources may be required by EC to review their initiative.
Post-panel Followup	Joint EC/ASDCE monitor implementation of Recommendations and completion of Proponent's Commitments and report to public through Minister. (Further recommendation #5.)	Panel should recommend mechanism to oversee implementation of recommendations through construction to abandonment.	The Panel concurred with our recommendation and identified a mechanism in keeping with the Federal-Provincial Agreement.	- a new federal-provincial mechanism or alternately a modification of that developing in the EOC is required to implement the Recommendation.	- A-base resources are not committed to this new activity, at present.

ISSUE	PANEL RESPONSE	DEPARTMENTAL RESPONSE TO EIS	COMMENTARY	POST-PANEL ACTION BY EC	EC RESOURCE IMPLICATIONS
- public information	Recommended Information Centers continue in operation to be staffed by information officer. (Further recommendation #3.)	Recommended continued consultation throughout life of development.	No agency was targeted with responsibility but COOLA would seem appropriate.	- Interface with COOLA to encourage implementation of Panel Recommendation.	- continue current resource allocation.
- errors in the EIS document	Requested Mobil to address all comments when presenting supplementary information.	Argued errors should be corrected as document will be used as reference.	There is no mechanism to ensure errors will be noted or corrected, except through the Initiator, COOLA.	- Interface with COOLA to encourage their agency to require Mobil to issue corrigendum.	- continue current resource allocation.
Impact Assessment Process	Made several recommendations for improvement of the process. (Further recommendations numbered 1, 2, 3, 5, 6, 7.)	Made no presentations on this facet.	FEARO should be consulted directly on this area although, in presentation on the Socio-economic Panel, EC notes a requirement for more active interface between the two panels.	- consult FEARO.	- continue current resource allocation.
Project-specific issues (e.g. appropriate drilling fluids, pipeline burial, wave climate, policy on oiled birds)	Recommended several studies and actions specific to the Venture Development. (Recommendation numbers 3, 7, 11, 13, 16, 22, 23, 26, 27.)	EC identified several project-specific concerns to the Panel. Not all were reflected in the Panel's report while some of those concerns identified by the Panel are not shared by EC.	Suggestions for increasing EC's effectiveness at future Hearings have been developed.	- continue current involvement.	- continue current resource allocation.

ISSUE	PANEL RESPONSE	DEPARTMENTAL RESPONSE TO EIS	COMMENTARY	POST-PANEL ACTION BY EC	EC RESOURCE IMPLICATIONS
Sable Island	Recommended monitoring of potential effects of all development on Sable Island. (Recommendation #24.)	Recommended Sable Island be protected in any development.	DOT is currently agency charged with control of activities on Sable. EC advises DOT through the Sable Island Environmental Advisory Committee (SIEAC).	- If SIEAC does not choose to take on the additional responsibility, as recommended by the Panel, the responsibility may fall to EC.	- A-bare resources are not committed to this activity, at present.

1. INTRODUCTION

This document contains an analysis by Environment Canada of the final Report of the Sable Island Environmental Assessment Panel for the Venture Development Project. As directed by the Departmental policy document "Department of the Environment Role in the Federal Environmental Assessment and Review Process" (June 1980), this response addresses the following:

- "i) identification of possible implications (and their extent) of those recommendations specifically related to DOE follow-up responsibilities.
- ii) identification of political sensitivities and possible differences from previous departmental decisions and policies.
- iii) identification of anticipated feedback or reaction from proponents, initiators, etc. which might require a further response from the Minister."

This document also addresses follow-up to Panel Recommendations as required by the same policy document, which states:

"The Department has a responsibility to determine whether or not its recommendations endorsed by the Panel are addressed and, if so, how effective they are. This will assist the Department in assessing its effectiveness and ensure that its capability is being continually upgraded through application of knowledge gained through experience. Such activity should also enhance the Department's credibility with other government departments, industry and the general public."

"The Department has a clear responsibility to ensure that panel recommendations that fall within the legislative mandate of the Department are carried out. In those cases where the Department may accept responsibility for implementing specific follow-up activities, every effort shall be made to encourage cost sharing with the proponent."

Finally, as the Panel has made several recommendations related to the Federal Environmental Assessment and Review Process (FEARP) itself, this report includes a discussion of those recommendations which have a bearing on activity of the Department as a whole. Those facets of recommendations which relate to the Federal Environmental Assessment Review Office (FEARO) office will be dealt with by that agency independently.

2. MAJOR COMPONENTS OF THE DEPARTMENTAL POSITION

A summary of the Environmental Canada Departmental Position is provided here to allow this document to be read and understood without the need for access to supporting material.

The Departmental Position was first presented to the Panel in June 1983. It was later revised and presented again in October 1983, subsequent to receipt and review of Supplementary information from the Proponent, Mobil Oil Canada, Ltd.

The following are the major components of the Environment Canada (EC) position, as presented to the Sable Island Environmental Assessment Panel in October 1983:

- project can be completed in an environmentally acceptable manner but EC must await further detail to be convinced that it indeed will be completed in an environmentally acceptable manner;
- an adequate advisory mechanism should be in place to assist regulatory agencies;
- cumulative impacts of this and subsequent developments have not been addressed. Development of an appropriate strategy is the responsibility of the major regulatory agency and initiator, the Canada Oil and Gas Lands Administration (COGLA);
- an environmental monitoring program is required to evaluate the adequacy of mitigation, the veracity of impact prediction and determine change in environmental quality. Such a program cannot be instituted without adequate baseline data;
- the extraction and processing of the gas is inseparable from the environmental impact of the transport of the products to market. The environmental impact of alternative methods of transportation of the gas to its market, including an export pipeline, should be a part of this assessment;
- the sensitivity of Sable Island to disturbance should be considered in all aspects of development, production and abandonment.

Although it is probable that a base could be built on the Island for emergency accomodation, care will be required to do this in an environmentally acceptable manner;

- consultative mechanisms should be identified and promoted to ensure implimentation of the Panel recommendations;
- the Venture review will no doubt be used as a precedent for subsequent offshore developments in Canada; and,
- Contingency plans should be adequate to minimize environmental damage not only during production but also during construction.

3. IMPLICATION OF PANEL RECOMMENDATIONS TO ENVIRONMENT CANADA

In this segment of the report, the implication of the Panel Recommendations will be considered from the perspective of their consequence to the activities and responsibilities of this Department. Some recommendations have no bearing on EC. These will be omitted from future discussion. Others are of only indirect interest to EC. In discussion of these, this Department's interest will be identified along with the mechanisms by which EC may attempt to influence their implementation. Those recommendations of direct interest to the Department will be considered in a similar manner.

The overall acceptability of the Panel Report will be dealt with first, followed by discussion of the Panel's Conditional Acceptance of the Venture Gas Development. Finally, specific recommendations will be considered by grouping these under the issues by which they implicate EC.

In all cases, the Panel Recommendation will be reproduced verbatim, followed by Comment and Conclusions Sections which present recommendations for departmental action.

3.1. Overall Acceptability of the Panel Report

Notwithstanding some areas where there could be disagreement over the Panel's interpretation of the Environment Canada position or supporting presentations on specific issues, the Panel Report contains a balanced consideration of the project. It considers not only the matters specific to the project, but also comments on and makes recommendation concerning matters raised by this department but judged by the Panel to be beyond its mandate. The Panel is to be complimented for its efforts.

Some Panel Conclusions and Recommendations are, however, imprecise to the extent that in some cases clarification is required to understand

their intent. Documentation of the basis of some Conclusions and Recommendations is insufficient to provide a basis for their

3.2. Conditional Acceptability of the Venture Gas Development

In its Executive Summary the Panel states that:

"An overall condition to proceeding with the project is the development of comprehensive contingency plans and monitoring programs. Items that should be included in such plans and programs are listed throughout the Panel's Report."

Although it is indisputable that EC has an interest in both contingency planning and monitoring programs, the full implication of these conditions to EC will not be understood until the question of regulatory control is addressed. The role of EC will be somewhat different if the National Energy Board (NEB) is the regulator of, for example, the marine pipeline, rather than the Canada Oil and Gas Lands Administration (COGLA). A more detailed consideration of these recommendations follows in the discussions of the specific Panel Recommendations.

The conditional acceptance of the Environmental Impact Statement (EIS) by the Panel, is parallel to the position presented by EC to the Panel. The Venture Gas Development can be completed in an environmentally acceptable manner but whether it will be done in such a manner is contingent on fulfillment of Proponent's commitments and presentation of adequate detail in the Development Plan and the Environment Protection Plan.

Conclusion

In issuing any statement on the Department's Response to the Panel Report, the Minister should reflect the conditional acceptance advanced by the Panel and EC.

3.3. Specific Panel Recommendations

Concerning specific Panel Recommendations, there are several which have implication for Environment Canada. For ease of consideration, the Panel Recommendations will be quoted from the Report. Although Panel Conclusions and Recommendations are presented in their entirety as an appendix to this report (Appendix I), only those Recommendations of interest to EC are presented in the following commentary.

Conclusions which address recommended Departmental action follow a short narrative on implications for and the responsibilities of Environment Canada.

3.3.1. Contingency Planning

Panel Recommendations

- "1) contingency plans be established prior to development drilling to take into account safety and environmental concerns with particular attention to threats from waves, hazards from fire and disruption to fisheries resulting from a blowout;"
- "10) contingency plans for offshore areas be developed prior to operation of the pipeline to take into account not only environmental effects but also dangers to vessels and the platforms;"
- "18) a nearshore spill contingency plan be developed to protect sensitive areas that could be impacted as a result of a pipeline rupture close to shore;"
- "28) detailed safety requirements and contingency plans for the land-fall terminal, onshore pipeline and gas plant be reviewed by appropriate regulatory agencies. Necessary standards should be established by regulatory agencies as appropriate;"

Comment

Environment Canada should endorse these recommendations. Through the Environmental Protection Service (EPS), EC ensures provision of consolidated environmental advice to a lead agency for any environmental emergency. Also, through the provision of advice to COGLA, EC reviews and evaluates all contingency plans prepared for use offshore. In order to achieve these Panel Recommendations, EC could exercise influence with COGLA, through existing bilateral mechanisms.

Conclusion

Current Department programs and mechanisms are adequate to achieve the Panel's intent.

3.3.2. Appropriate Drilling Muds

Panel Recommendations

"3) water-based or low-toxicity oil-based drilling muds be used whenever possible. If conventional oil-based muds prove to be necessary their disposal should be at suitable orshore sites;"

Comment

EC should reserve judgement on oil-based mud use and on-land mud disposal. EC is conducting investigations to elucidate the potential environmental concern raised by discharge of drilling muds. This includes identification of potential discharges, bioassay of substances of concern and maintenance of a knowledge of current industrial and regulatory practice in other jurisdictions, such as the United States and the United Kingdom. Current resource commitments to this area are minimal.

Conclusion

The Department should continue to give attention to understanding environmental implications of muds and should upgrade Departmental knowledge of treatment technologies so as to advise regulators. Additional resources will be required for this issue.

3.3.3. Longterm Effects of Drilling Mud Discharge

Panel Recommendations

"4) monitoring of the effect of drilling wastes be carried out to determine if any long-term effects are occurring, and if necessary, further mitigation measures be implemented;"

Comment

EC should endorse this recommendation. The Department is currently conducting a limited on-going OERD study to evaluate the residual impact of drilling discharges and physical debris, however, this initiative is not sufficient to evaluate all aspects of the Panel Recommendation. Resources would have to be accessed through appropriate research funds, cost-recovery, or internal re-allocation to satisfy this Panel Recommendation.

Conclusion

DOE should work with COGLA to ensure Mobil's monitoring program for the Venture Development includes attention to drilling mud and other discharges. The Department should also be prepared to invest resources to address some of the fundamental environmental quality issues.

3.3.4. Information on Sea Ice and Icebergs

Panel Recommendations

"5) gathering of further information on sea ice and icebergs be continued for incorporation into contingency plans and platform design. An iceberg reconnaissance program will be required throughout the life of the project, even though the probability of an incident is slight;"

Comment

Sea ice and iceberg reconnaissance is now carried out by the Atmospheric Environment Service (AES). It is not clear what further the Panel wishes done, beyond that which is conducted at present.

Conclusions:

- a) continue current AES activities; and,
- b) any project specific requirements should be the responsibility of the project Proponent. Environment Canada should work with COGLA to achieve this result.

3.3.5. Studies of Wave Climate

Panel Recommendations

"7) further studies of wave climate be conducted before proceeding with design of the offshore production facilities;"

Comment

EC has been involved in several areas of wave climate and storm surge research through AES, both independantly and in co-operation with the Department of Fisheries and Oceans (DFO) and private companies.

Conclusion

Existing Departmental programs are adequate. EC should work with COGLA to advise on future design studies, which Mobil should undertake.

3.3.6. Training Program for Project Workers

Panel Recommendations

"8) a detailed training program for project workers be submitted to regulatory agencies and its implementation monitored throughout the project;"

Comment

The best environmental impact mitigation is prevention. EC should endorse this recommendation. Worker training programs could include information on the sensitivity of the environments in which they work, especially those working on Sable Island, and contain methods to reduce the environmental impact of everyday activities.

Conclusion

Ongoing Departmental education and information programs should be sufficient although increased resources may be required for the peak construction periods. EC should work with COGLA where appropriate to achieve this Panel Recommendation.

3.3.7. The Marine Pipeline

3.3.7.1. Pipeline Burial

Panel Recommendation

"11) the offshore pipeline be buried wherever practicable unless the proponent is able to demonstrate through detailed studies that the integrity of the pipeline on the seabed can be assured and that conflicts with fishing gear would not occur;"

Comment

The EC concern with whether the marine pipeline is buried or not is one of reducing the potential for environmental impact through loss of gas and condensate during a pipeline rupture. EC would like the pipeline built so that the possibility of rupture or damage is minimized.

Although burial of the pipeline may significantly change the probability of rupture or damage to the pipeline, based on review of current literature, it is not clear whether burial will increase or decrease the probability of damage and therefore which alternative is environmentally more acceptable.

EC does not have the required expertise to address this question.

Conclusion

A study by acknowledged experts should be commissioned to advise EC on the best environmental option. The results of such a study would then be used to prepare a Departmental Position Statement on the subject. Resources would be required to meet this need on a one time basis.

3.3.7.2. Pipeline Routing and Construction Scheduling

Panel Recommendation

"12) detailed offshore pipeline routing studies be conducted to ensure that geotechnical and fisheries concerns are addressed. The results of these studies should be reviewed by appropriate scientific and regulatory authorities prior to route finalization:"

"17) site-specific surveys, appropriate pipeline routing, compensatory measures, monitoring of effects and a suitable construction schedule be developed to ensure that the near-shore pipeline is environmentally acceptable;

Comment

EC should endorse this recommendation with the addition that this Department has an interest to ensure minimal environmental impact. Various pieces of legislation may bear on a legal obligations in this area. As well, there are several existing and potential consultative mechanisms available to exert EC influence.

Conclusion

Continuing Departmental interface with COGLA should be used to address this subject.

3.3.7.3. Regulatory Responsibility for Marine Pipelines

Panel Recommendation

"17) site-specific surveys, appropriate pipeline routing, compensatory measures, monitoring of effects and a suitable construction schedule be developed to ensure that the nearshore pipeline is environmentally acceptable;"

Comment

At present, it is unclear what agency will be responsible for the various aspects of regulation of construction and operation of the marine pipeline. Departmental concerns lie in ensurance of environmental protection. The EC approach to this will be determined by resolution of the regulatory question.

Conclusion

Use of existing methods of horizontal influence and interagency consultation should be activated to encourage prompt resolution of this question.

Note: Monitoring aspects of Recommendation 17) will be discussed in Section 9, Monitoring.

3.3.8. Release and Disposal of Hydrostatic Test Fluids

Panel Recommendation

"13) release and disposal of hydrostatic fluids be further reviewed by appropriate resource management and regulatory agencies prior to testing of the pipeline both offshore and onshore;"

Comment

Although the Proponent provided little specific information on the composition of this potential discharge, it is anticipated that the substance will be deleterious to aquatic life.

Conclusion

On-going Departmental programs and consultative mechanisms are sufficient to address this subject.

3.3.9. Monitoring (including Site-specific Surveys)

Panel Recommendations

- "17) site-specific surveys, appropriate pipeline routing, compensatory measures, monitoring of effects and a suitable construction schedule be developed to ensure that the near-shore pipeline is environmentally acceptable;
- 30) a comprehensive monitoring plan for all components of the project be developed for approval by the regulatory agencies taking into the account the concerns of resource managers and other interested parties."

Comment

The implication of monitoring the Venture Project requires clarification. EC has identified at least two specific types of monitoring; compliance monitoring and environmental effects monitoring. Compliance monitoring is a well established component of environmental protection. Some compliance monitoring will be required by this Department and others for specific segments of the development. The basic components of such a program are well established in ecological theory and practise. These components include adequate baseline data from site-specific surveys, parallel control sites and good experimental design to answer specific questions.

Several agencies are currently following initiatives in the area of environmental effects monitoring, for example, the Environmental Protection Service (EPS) of EC and the Environmental Studies Revolving Fund (ESRF) are sponsoring studies on the question of environmental effects monitoring at the moment.

The Panel was in agreement with EC on the need for adequate site-specific surveys to establish baseline data for effects monitoring during construction although the Proponent remains opposed. However, where and in what manner such studies will be conducted will only indirectly be determined by the Department, if present mechanisms are followed.

Conclusion

- i) In order to allow adequate time for planning an appropriate effects monitoring program for the Venture Development, Departmental strategy should be resolved as soon as possible;
- ii) the initiatives identified by the Environmental Impact Policy Committee for 1984-85 are sufficient to define the required policy for the present;
- iii) Existing mechanisms for enactment of the Panel Recommendation are adequate if EC can exert sufficient horizontal influence on COGLA and Mobil. Failing this, other options for action may be available through more direct action;
- iv) If the baseline and site-specific studies are to be sufficient for the purposes, many of the studies must be started immediately. EC should pursue the required action through existing mechanisms; and
- v) Depending on the decisions made, additional departmental resources may be required.

3.3.10. Projected Vessel Traffic

Panel Recommendation

"19) more information be provided in projected vessel traffic associated with the project, as it becomes available;"

Comment

Through an interest in protection of the environment from ship disasters, the Department has interest in ensuring safe vessel traffic management for the development.

Conclusion

Existing mechanisms are adequate to ensure appropriate EC involvement and influence.

3.3.11. Control of Construction Debris

Panel Recommendation

"20) adequate arrangements be established between the proponent and its contractors to ensure that debris resulting from offshore platform and pipeline construction is not deposited on the seabed;"

Comment

EC should endorse this Recommendation. The Department has direct interest in the discharge of any substance into the marine environment, including not only large construction debris but also persistent litter of various types.

Conclusion

Existing mechanisms with COGLA should be adequate to address and influence this issue although additional resources may be necessary during peak construction.

3.3.12. Disturbance of Sensitive Birds and Habitat

Panel Recommendation

"22) special care be taken to avoid unnecessary disturbance to sensitive birds and their habitats during construction and operation of the project;"

Comment

EC should endorse this Recommendation. The Canadian Wildlife Service (CWS) of EC has particular interest here although the provinces have the main jurisdictional mandates for non-migratory birds.

Conclusion

Existing EC programs and interfaces with COGLA are adequate.

3.3.13. Policy for Treatment of Oiled Marine Birds

Panel Recommendation

"23) a policy for treating oiled marine birds be established and incorporated in the appropriate contingency plans;"

Comment

The Panel was incorrect in stating that no policy exists on dealing with oiled marine birds. An EC Policy has existed since July 1976.

The policy discourages treatment of oiled birds unless they are rare and endangered. Birds which are oiled beyond natural recovery are painlessly killed although CWS will provide advice on treatment to interested parties, on request.

Conclusion

Existing policies are adequate and should be made known to the proponent.

3.3.14. Activities on Sable Island

Panel Recommendation

"24) careful monitoring of the potential effects of offshore oil and gas activities on Sable Island be carried out to protect its unique environment;"

Comment

EC should endorse this Recommendation in general terms, however, no comprehensive monitoring projects currently exist or are contemplated by this Department for Sable Island. The Atmospheric Environment Service of EC maintains a manned weather station on the Island. In addition, CWS and other services of EC and OGD's periodically carry on work on the Island. As well, Sable Island is a Migratory Bird Sanctuary. Although the Panel's use of the term "monitor" is unclear, it is assumed the meaning is in the broad sense of detecting any change.

Current control of activities on the Island is mainly through the Department of Transport which is advised on environmental matters by the Sable Island Environmental Advisory Committee (SIEAC). EC is a member of this Committee. SIEAC has conducted several studies and sponsored mitigation on a shared cost basis.

Conclusion

To implement this Panel Recommendations for a "comprehensive" program would be expensive and require considerable interdepartmental co-operation and committment. To the extent that The Venture Development impacts on Sable Island, EC should work through existing mechanisms with COGLA to ensure that the proponent's monitoring plan is capable of addressing these concerns.

3.3.15. Routing of the Onshore Pipelines

Panel Recommendations

- "25) resource management agencies be consulted prior to finalisation of onshore pipeline routing and during the development of specific mitigation measures;
- 26) further study of mitigative measures, including avoidance, be carried out to minimize acid drainage problems along the pipeline route;
- 27) detailed studies be carried out to ensure that disturbance of gold mine waste is avoided by appropriate onshore pipeline routing or minimized by suitable mitigation measures. This will require care in selecting the exact location of the landfall terminal;"

Comment

EC should endorse these recommendations. Through programs to minimize environmental impact of such construction, the Environmental Protection Service (EPS) of EC has considerable interest in these recommendations.

Conclusion

Existing programs and consultative mechanisms are adequate to influence other agencies to achieve the intent of this recommendation. Increased Departmental resources may be required during peak construction.

3.3.16. Gas Plant Emissions and Effluents

"29) proposed emission and effluent levels from the gas plant be reviewed by appropriate regulatory agencies as engineering details become available;"

Comments

EC has interest in both atmospheric emissions and aquatic effluents. Because of the size of the plant and composition of the feed stock, there is little environmental concern.

Conclusion

Existing federal-provincial consultative mechanisms are adequate to ensure sound planning and environmental protection.

3.3.17. Federal-Provincial Audit of Implimentation of Panel Recommendations and Proponent Committments

"5) the federal and provincial Departments of Environment monitor the implementation of this Report's recommendations and the proponent's commitments, and provide an annual report to their Ministers for public distribution;"

Comment

The Panel recommendation for an annual joint report by EC and Nova Scotia Department of the Environment is consistent with the EC mandate to ensure continued environmental quality and post-panel responsibilities under EARP. It appears that the Panel wishes that a third party ensure that its recommendations are enacted. This will require a mechanism beyond those presently in existence.

Regarding Proponent Commitments, Mobil Oil made numerous commitments regarding aspects of environmental quality, some of which they undertook to complete by January 1, 1984. Of six studies which the Proponent committed to complete by that date, to our knowledge, none have been completed. There exists no direct mechanism to ensure such commitments will be honored.

Conclusions

Although existing programs and consultative mechanisms are adequate for some aspects of a monitoring program like that recommended by the Panel, a new mechanism would be required if a federal-provincial annual report is to be implemented. Resources beyond those presently assigned to the project would be required to support any new mechanism and fulfill the objectives as recommended by the Panel.

3.3.18.- The Environmental Impact Assessment Process

Panel Recommendations

- "1) better mechanisms be developed to ensure that EIS's future reviews are of improved standards;

- "2) future projects be referred early enough to allow for appropriate directions to be given to proponents in the preparation of their studies;
- "3) special efforts be made by the proponent and responsible government agencies to continue consultation with the public. Information centres established during the Panel review should be maintained and a government information officer made available to assist interested members of the public;"

Comment

Several initiatives through the FEAP Office and EC are currently underway. The federal initiating agency bears ultimate responsibility in many cases.

3.3.19. Interdepartment Consultation

Panel Recommendation

- "4) the existing mechanisms for interdepartmental consultation be used during development and operation of the Venture project, with modifications to improve effectiveness as experience is gained;"

Comment

Environment Canada has committed itself to working within the existing mechanisms for interdepartmental consultation so long as these serve to further Departmental objectives.

Conclusion

Existing mechanisms with COGLA are evolving but are expected to be adequate.

3.3.20. Industry-Government Information Sharing

Panel Recommendation

"6) industry and government share advance information on proposed future projects and resource limitations to avoid, at an early planning stage, unnecessary conflicts;"

Comment

EC should endorse this Recommendation. In its effort to ensure environmental quality, the Department continues to promote free exchange of information from the inception to completion and abandonment of a project such as Venture.

Conclusion

EC, through exertion of horizontal influence should continue to promote free flow of pertinent information. Existing programs are adequate.

3.3.21. Consideration of Associated Projects

Panel Recommendation

"7) appropriate regulatory authorities carefully consider any associated projects related to the Venture development, but not considered in this Panel review, to ensure that environmental impacts are minimized through appropriate mitigation measures."

Comment

EC should endorse this Recommendation. Through existing mechanisms most projects which receive federal government funding are screened for environmental concerns. Projects related to offshore development will be identified through COGLA.

Conclusion

Current mechanism and programs are adequate to deal with the present level of activity. Any increased activity will require increased resources to maintain adequate service.

4. DEPARTMENT RECOMMENDATIONS AND ITEMS
OF CONCERN NOT CONSIDERED BY THE PANEL

All major recommendations presented by EC were endorsed by the Panel, with the following exceptions:

- i) The Panel considered that the feasibility of our recommendation for preparation of a strategic plan for area-wide development had not been adequately demonstrated. The Panel suggested that "existing means of communication" be used to ensure all interested parties are informed of potential future developments. It should remain EC's position that there is a need for a strategic plan within which environmental issues and such matters as potential user-conflicts on the Scotian Shelf can be identified and resolved. EC should continue initiatives in this area and pursue this question through existing mechanisms. This issue remains unresolved between COGLA and this department;
- ii) A potential point of disagreement between the Panel and the Department is the question of burial of the marine pipeline. EC is concerned that burial of the pipeline may increase the potential for damage or rupture. EC should maintain the position that the consequences of alternatives should be carefully studied before any decisions are made;
- iii) There remains the matter of correction of errors which appeared in the EIS document. This document has already been widely quoted as a summary of the known information on the Scotian Shelf around Sable Island. However, EC and other reviewers have identified errors in the document which have yet to be corrected, despite a request from the Panel for the Proponent to do so. The final Panel Report does not consider this matter; and,

- iv) Many of the Department's more technical concerns were not directly addressed by the Panel. This was due mainly to the summary nature of the Panel Report and to the conceptual level of the EIS as a whole. However, even though the Panel may not have noted a concern specifically, points raised by EC in the Department's response were often adequately addressed by the Proponent in the Supplement to the EIS. Provided adequate mechanisms exist for the expression of Departmental concerns in the subsequent stages of development, such as by intervention at a National Energy Board review of the Project Development Plan, Departmental technical concerns can be satisfactorily addressed.

5. INCORRECT PANEL CONCLUSIONS AND RECOMMENDATIONS

The Panel conclusion and recommendation on a policy concerning handling of oiled birds (Conclusion 25, pg. 38 and Recommendation 23, pg. 40) is incorrect.

An EC Policy on handling of oiled birds has existed since July 1976. The policy discourages treatment of oiled birds unless they are rare and endangered. Birds which are oiled beyond an ability to naturally recover are to be painlessly killed.

6. POLITICAL SENSITIVITIES

- 6.1. Public interest groups have been critical of the Environmental Impact Assessment process. Specific to the Venture EIS, the groups have noted several problems they perceive in the process, such as the restrictive terms of reference and the fact that the EIS was written prior to the Panel being formed and official guidelines being provided. As well, there is a general concern that the federal government "appears to be the playwright, producer and director" (Offshore Monitor, Community Planning Assoc. of Canada, December 1983).
- 6.2. Although there exists an Environmental Co-ordinating Committee of the Canada Nova Scotia Oil and Gas Board to advise on matters of environmental concern, the Panel has recommended that:
- "5) the federal and provincial Departments of Environment monitor the implication of this Report's recommendations and the proponent's commitments, and provide an annual report to their Ministers for public distribution."

This is a laudable approach to maintaining the credibility of the Department's role of environmental protection but it may result in inter-departmental and federal-provincial disagreements.

- 6.3. Although the EC position is that the project can be undertaken in an environmentally acceptable manner, there remains considerable detailed work required to ensure that it is, in fact, carried out in such a manner. EC has attempted to maintain environmental quality while working with the Proponent and the Initiator so as not to obstruct progress of the development. This has resulted in a low Departmental public profile and lead to public concern that EC is not actively involved. Full and active disclosure of departmental activities should ensure that we both are and appear to be protecting environmental quality while actively working with the advocates for the development.

6.4. Any dealings concerning Sable Island may be sensitive considering public and federal-provincial concerns. For example, the environmental concern with disturbance of nesting birds by aircraft overflights may conflict with use of the Island as an emergency supply and accommodation area by both private and government agencies. At present government overflights are possibly equally as disruptive as oil company activity and there is a greater federal government presence on the Island than private one.

6.5. The Environmental Protection Branch of COGLA "is responsible for ensuring that [oil and gas] projects are environmentally safe" (presentation by the Canada Oil and Gas Lands Administration to the Special Committee of the Senate on the Northern Pipeline, 14 Sept., 1982:4). Concerning developments on the Scotian Shelf, EC exerts horizontal influence through the Canada-Nova Scotia Offshore Oil and Gas Board with its environmental liaison committee, the Environment Co-ordinating Committee. The ECC is co-chaired by a representative of the N.S. DOE and COGLA.

A decision will be required as to whether EC will be satisfied to allow COGLA to police itself without any quality assurance or audit authority. An audit role would allow EC to satisfy itself that the Departmental mandate of maintenance of environmental quality is indeed being fulfilled. The department should pursue this with COGLA.

6.6. During the Public Meetings, DFO and fishing interests strongly supported the view that the marine pipeline should be buried wherever possible. The Canadian Coast Guard of MOT also favoured burial. Not entirely contrary to this, EC argued the need for expert advice to weigh the advantages and disadvantages of burial. Since neither COGLA nor NEB were represented before the Panel, the views of the two regulatory agencies were not provid-

ed. Given the potential divergence of views on this technical subject and the potential conflict with fisheries interests, a mechanism to determine a government position should be followed, in consultation with other interested parties.

7. DIFFERENCE FROM PREVIOUS DEPARTMENTAL DECISIONS AND POLICIES

There are no apparent differences in the Panel's recommended approach from previous DOE Decisions and Policies. Any Panel Recommendations which fall within the mandate of DOE are a logical extension of present policies or current initiatives for post-panel follow-up and environmental effects monitoring.

Policy decisions may be required to deal with audit monitoring of environmental protection activities undertaken by regulatory agencies such as COGLA, as well as the role this Department is to play in the fulfillment of the Panel Recommendation for third party 'monitoring' of implementation of its Recommendation and Proponent commitments.

8. ANTICIPATED REACTION FROM THE PROPONENT,
INITIATOR AND THE PUBLIC TO THE PANEL REPORT

The Proponent

The Proponent's reaction will depend on the degree to which it is required to comply with Panel Recommendations by the regulatory agencies (COGLA and/or NEB, DFO, EC, NS Mines and Energy and NSDOE). The major points of contention between EC and the Proponent will remain in the area of project monitoring design, requirements for baseline data, site-specific data and the segments of the development which will require monitoring.

Although Mobil Oil Canada Ltd. can be expected to represent its best interests, the Proponent has been co-operative in most discussions concerning matters of environmental protection.

The monitoring program as outlined by the Proponent should be viewed as the minimum required for the project. However, prior to negotiations with Mobil, EC will have to discuss with COGLA, DFO and others the relative responsibility of the various players for a monitoring program, as well as the objectives and thus the extent of any monitoring program. Considering that Venture will probably be the first offshore development in a commercial fishing area, it will be precedent setting at least for the Hibernia project. Therefore, the Venture monitoring program should assume not only a regulatory/compliance form but also provide an experimental vehicle to test prospective methods and technologies for future use. Experimental programs should fall under the sponsorship of the Environmental Studies Revolving Fund (ESRF).

The Initiators

EMR (COGLA), through its role as secretariate for the Canada-Nova Scotia Oil and Gas Board, was the Federal initiator.

There remain questions of which federal agency will have regulatory control over which segments of the development. For example, it is unclear whether NEB or COGLA will have regulatory and/or licensing authority over the marine pipeline. Regardless, it is anticipated COGLA will play a prominent offshore role. EC will have primarily an advising responsibility for the major portion of the development. Therefore, the prime regulator should be requested to react to at least three facets of the Panel's Recommendations which concern EC:

- i) The question of a strategic plan for the environmental protection of the Scotian Shelf was directed at COGLA by EC during the Final Public Meetings. Since there was no representative from COGLA present, they were not required to respond to this point.
- ii) The final decision on the scope and relative responsibility for any monitoring program will rest with the regulatory agency. If the regulator is COGLA, it is probable that these questions will be dealt with through the Canada-Nova Scotia-Oil and Gas Board Environmental Co-ordinating Committee.
- iii) The question of audit of environmental inspections conducted by other agencies will be a sensitive point, regardless of the agency involved since it can imply the questions of trust and competence. However, the dual principles of quality assurance and departmental mandate should prove strong arguments in favor of audit monitoring by EC.

The Public

The public perception seems to be that 'Government' wants the development to go forward regardless of other factors, and that government is "playwright, producer and director", and also actor. EC must be seen as the environmental protector but not as obstructionist. The role and approach of arbitration and negotiation has worked well here as in other areas but the low public profile which is intrinsic to this approach does little to change public perception. Decisions on the balance of trade-offs between our current approach and improving our public image will be required.

9. POST PANEL FOLLOWUP

Further Regulatory Steps

- 9.1. A knowledge of the remaining regulatory steps and mechanisms before completion of the Venture Project affords EC an appreciation of the regulatory framework. This alleviates some of our concerns for maintenance of environmental quality.

The major Canadian regulatory steps which remain prior to commencement of the Development are approval of the Development Plan by COGLA (and subsequent staged approvals) and approval of the Export Permits by the National Energy Board. As well, there are several other site or project specific approvals which the Proponent will be required to gain for such things as habitat protection at river crossings and emissions at the gas production plant.

Although we have little experience with the actual mechanism for ensurance of environmental protection during regulatory approvals of offshore production facility by COGLA and NEB, we have been given assurances by both agencies that EC will be fully consulted during these processes.

9.2. Departmental Role

At least two recent reviewers of the FEAR process have noted the poor record of followup to Panel Recommendations. 1, 2

Recognizing the lack of a method to allow this, EC recommended that the Panel identify such a mechanism. The Panel has recommended that a joint approach by the federal and provincial Departments of the Environment would be appropriate, recognizing the dual jurisdictional nature of this development.

While the mode of implementation of this recommendation will be subject to federal-provincial negotiations, it must be restated that the credibility of FEARO has been questioned and the Departmental response to this recommendation will indicate our response to public criticism of the Federal Environmental Assessment Review Process. In addition to this, EC, through the mechanisms identified earlier, will endeavor to ensure implementation of all Recommendations within its ability to do so.

10. RECOMMENDED DEPARTMENTAL PROCEDURES FOR
PARTICIPATION IN FORMAL ENVIRONMENTAL REVIEWS

The following is a consideration of methods for effective Departmental participation in formal environmental impact assessment reviews. These suggestions are based on the experience of reviewers during the Venture review and, to a large part, on the review of Departmental role conducted by Bryant (1982)².

- 10.1. A protocol for Departmental participation should be formalized to allow participants to identify adequate resources for support of the process. Work plans should reflect the need for individuals to devote sufficient time to review and research of positions and post-review follow-up so that the Departmental lead is adequately prepared to fully support and defend the Departmental position to the Panel.
- 10.2. A single Branch or Division should be assigned the task of coordinating Departmental position and presentations by the appropriate RDGO. A major responsibility of this lead is to ensure Departmental statements are internally consistent as well as consistent with Departmental policy. In order to adequately discharge its 'secretariat' duties the Departmental lead may require additional resources for the duration of its duties.
- 10.3. The Departmental lead should be provided an expeditious method to call upon departmental expertise wherever it exists. Individuals with technical expertise should be the persons charged with review of the development under consideration and report directly to the Departmental lead. To support this approach, a Departmental inventory of persons with particular technical expertise should be prepared and updated on a regular basis. Some services such as AES already maintain such a listing, where it has proved useful for other purposes.

- 10.4. The review team assembled for consideration of the Environmental Impact Statement should also review the Panel report and make recommendations on appropriate post-panel follow-up.
- 10.5. All Departmental positions should be fully documented and supported in scientific fact so that those persons charged with presentation of the Departmental Position are well briefed in the technical concerns and can refer to the documentation if questioned in the event that the technical experts cannot be present at Public meetings to defend their views in person. It is preferable that technical experts be present to answer questions directly.
- 10.6. In the event that the Panel does not chose or identify a concern presented by EC, Departmental representatives should be prepared to direct questions to the Proponent to raise points in the Departmental Position.
- 10.7. Reviewers must be careful to review the project in question and not just the documents presented by the Proponent. In aid of this, Reviewers should ensure that they fully understands the project and its environmental implications. To this end, the Departmental lead should provide briefings and arrange meetings with appropriate sources of expertise.
- 10.8. Finally, the Panel for the Venture Development relied heavily on verbal presentation at Panel meetings and information provided by Panel experts. As a result, EC written submissions did not appear to carry the weight of its verbal presentations, although verbal presentations were intended by this Department to be only highlights of the more detailed written comments. If future panels take a similar approach, consideration should be given to adjusting Department's method of presentation accordingly.

Much of the above was employed in the preparation of the Environment Canada review of the Venture EIS; however, the emphasis here is to reinforce the significance of participation by EC in EIS reviews, the complexity of the task, and the need to marshal large resources to do an adequate job.

Footnotes

Footnote 1. Beanlands, G.E. and P.N. Duinker, 1983. An Ecological Framework for Environmental Impact Assessment in Canada. Institute for resources and Environmental Studies, Dalhousie University and the Federal Environmental Assessment Review Office.

Footnote 2. Bryant, A., 1982. Norman Wells: A review of DOE's role in environmental Impact Assessment. Federal Activities Assessment Br, EPS, DOE, May 1982.

APPENDIX

(quoted directly from the Report
of the Sable Island Environmental
Assessment Panel, December, 1983)

EXECUTIVE SUMMARY

This Report conveys the findings of an Environmental Assessment Panel review of a proposal to produce natural gas and condensates from the Venture field, near Sable Island off the coast of Nova Scotia. The proponent of the project is Mobil Oil Canada Ltd.

The project includes offshore platforms and transportation of the gas and condensate to a gas plant through a subsea pipeline, a landfall terminal and an overland pipeline system. It is estimated that reserves are sufficient for 18 years of production at 11 million m³/day.

In Spring 1983, after receiving the proponent's Environmental Impact Statement (EIS), the Panel held public information sessions at various locations in Nova Scotia. Many comments were subsequently received from the public and technical agencies on deficiencies in the EIS. The proponent was requested to respond and provide additional information. Following receipt of an EIS Supplement in late August, the Panel held final public meetings in Guysborough, Port Hawkesbury and Halifax.

This Report contains conclusions on major issues raised during the review and recommendations on the means by which the project may proceed in an environmentally safe manner.

The Panel concluded that there is a significant risk of a blowout during development and production of the Venture field. A major blowout could result in mortality of juvenile fish in the Sable Island area and tainting of commercial catch. Because of the possibility of disruption to the fisheries industry a recommendation has been made to ensure that compensation mechanisms are in place prior to development. Compensation is also recommended for losses resulting from construction.

To deal with fire hazards resulting from a blowout, the Panel recommends incorporation of fire prevention and control measures to the maximum extent feasible. The threat from waves is also a major concern and the Panel concluded that further study is required to ensure

appropriate design. Other possible impacts of the environment on the project have led to recommendations concerning seismicity and ice. Conclusions on search and rescue co-ordination and facilities and the need for safety training are provided in the Report.

The conclusion that a failure of the offshore pipeline is probable is accompanied by a recommendation that it be buried wherever practicable. This would avoid potential conflicts with fishing gear. It was also concluded that significant environmental impacts could occur in the nearshore area, either during construction or in the event of a hydrocarbon release. Several recommendations are made to mitigate the potential nearshore impacts.

With regard to the onshore pipeline, it was concluded that an environmentally acceptable route could be found within the corridor proposed by Mobil but consultation with resource management authorities is recommended prior to finalisation of the route. Further study is recommended on mitigation of acid drainage problems from mineralized rock which the pipeline must cross. The onshore pipeline as well as the landfall terminal and gas plant, requires detailed safety review by regulatory authorities.

Other concerns addressed include drilling muds, hydrostatic testing fluids, shipping conflicts and effects on Sable Island and marine birds.

An overall condition to proceeding with the project is the development of comprehensive contingency plans and monitoring programs. Items that should be included in such plans and programs are listed throughout the Panel's Report.

The Panel strongly recommends special efforts to continue public consultation as more information becomes available from the proponent. Finally, a number of recommendations are made to address remaining concerns related to the review process.

14.0 SUMMARY OF MAJOR CONCLUSIONS

The Panel reached a number of conclusions, many of which were considered major and are listed in this chapter.

The Panel concluded that:

- 1) there is a significant possibility of a well blowout during development and production of the Venture field and that this could result in major fire hazards as well as environmental impacts;
- 2) the disposal of oil-based drilling muds offshore could be deleterious to the environment, and that water-based or low-toxicity oil-based muds should be used whenever possible;
- 3) monitoring of drilling wastes, including mud, is required to determine what, if any, long-term effects could arise from development of the Venture field;
- 4) the proponent's evaluation of the threat of ice to the project is adequate, but contingency plans and platform design should take into account information that is to be gathered on icebergs and sea ice;
- 5) the results of the proponent's seismicity studies should be subjected to review by agencies with appropriate expertise in determining potential risks from earthquakes;
- 6) waves could pose a significant threat to the project platforms and this problem has not yet been adequately assessed;
- 7) the need for a detailed safety training program to ensure employee safety has been recognized by the proponent, but that specific plans, measures and methods have not yet been developed;
- 8) an emergency base on Sable Island for evacuation purposes could be considered by the regulatory authorities provided this can be installed in an environmentally acceptable manner;
- 9) there is a probability of failure of the offshore pipeline proposed by the proponent over the life of the project;
- 10) burying the offshore pipeline could significantly decrease the probability of pipeline failure;
- 11) although no method of pipeline protection from icebergs was detailed by the proponent, the likelihood of such an event is far less than the possibility of pipeline failure from a number of other causes;
- 12) detailed studies of the offshore pipeline routing are essential to ensure that geotechnical and fisheries concerns are satisfied in the design alignment;
- 13) further information is required to complete the assessment of disposal or accidental release of hydrostatic fluids used in pipeline testing both offshore and onshore;
- 14) disruption of offshore fishing during pipeline laying is likely to be temporary and a consequence of the need for safety exclusion areas during construction, rather than environmental impacts;
- 15) information provided was insufficient to provide assurance that there would not be problems for fishing gear or disruption to the fishery as a result of an unburied pipeline;
- 16) immediate disruption to fisheries in the event of a blowout or pipeline failure was more likely to arise from tainting than fish kills;
- 17) the most significant environmental impact of a blowout would be on juvenile fish but that adult stock losses would not be detectable given natural population fluctuations;
- 18) seabed alteration and suspended sediment from nearshore pipeline construction will cause short-term disruption of fishing activities;
- 19) site-specific information is required to select a final pipeline route in the Country Harbour area to minimize impacts on the shoreline, related installations and fisheries activities;
- 20) there could be significant environmental impacts in the event of a pipeline rupture in the nearshore area;
- 21) potential conflicts resulting from increased marine traffic could best be resolved by the provision of detailed supply vessel information as it becomes available;

- 22) debris from construction activities represents a potentially serious conflict between the oil and fisheries industries but problems can be minimized with good management policies together with compensation for any residual problems;
- 23) a compensation plan satisfactory to fisheries interests has not yet been developed by the oil industry;
- 24) the construction and operation of the project could affect a number of sensitive birds and their habitats;
- 25) there is no established policy for the treatment of oiled marine birds;
- 26) special vigilance will need to be exercised to protect the sensitive Sable Island environment during offshore oil and gas activities;
- 27) the safety risks from the proposed onshore pipelines will be compatible with current industry standards;
- 28) an environmentally acceptable route can be found within the proposed onshore pipeline corridor;
- 29) site-specific information is required to ensure the onshore pipeline route minimizes resource use conflicts and other environmental problems;
- 30) there is a particular potential for environmental problems where the pipeline crosses areas of mineralized rock that can produce acid drainage;
- 31) a landfall terminal in the Dung Cove area could be safe and environmentally acceptable;
- 32) emissions and effluents from the gas plant would be similar in nature to other such installations elsewhere in Canada and would not pose unusual problems;
- 33) a safe and environmentally acceptable gas plant site could be located within the provincial land reserved for industrial development near Melford Point;
- 34) comprehensive monitoring is essential to ensure an environmentally acceptable project but the proponent has not yet developed the details of such a plan.

15.0 RECOMMENDATIONS

15.1 The Panel recommends that:

Development and production of the Venture field be allowed to proceed subject to the following conditions which are required to make the project environmentally safe:

- 1) contingency plans be established prior to development drilling to take into account safety and environmental concerns with particular attention to threats from waves, hazards from fire and disruption to fisheries resulting from a blowout;
- 2) platform designs incorporate fire prevention and control measures to the maximum extent feasible;
- 3) water-based or low-toxicity oil-based drilling muds be used whenever possible. If conventional oil-based muds prove to be necessary their disposal should be at suitable onshore sites;
- 4) monitoring of the effect of drilling wastes be carried out to determine if any long-term effects are occurring, and if necessary, further mitigation measures be implemented;
- 5) gathering of further information on sea ice and icebergs be continued for incorporation into contingency plans and platform design. An iceberg reconnaissance program will be required throughout the life of the project, even though the probability of an incident is slight;
- 6) results of seismicity studies be reviewed by technical agencies with expertise in this field and measures to protect the offshore production facilities from earthquakes be incorporated as appropriate in the design;
- 7) further studies of wave climate be conducted before proceeding with design of the offshore production facilities;
- 8) a detailed training program for project workers be submitted to regulatory agencies and its implementation monitored throughout the project;
- 9) satisfactory search and rescue procedures be agreed upon among the offshore industry and appropriate federal government departments prior to development and operation of the Venture field;
- 10) contingency plans for offshore areas be developed prior to operation of the pipeline to take into account not only environmental effects but also dangers to vessels and the platforms;
- 11) the offshore pipeline be buried wherever practicable unless the proponent is able to demonstrate through detailed studies that the integrity of the pipeline on the seabed can be assured and that conflicts with fishing gear would not occur;
- 12) detailed offshore pipeline routing studies be conducted to ensure that geotechnical and fisheries concerns are addressed. The results of these studies should be reviewed by appropriate scientific and regulatory authorities prior to route finalisation;
- 13) release and disposal of hydrostatic fluids be further reviewed by appropriate resource management and regulatory agencies prior to testing of the pipeline both offshore and onshore;
- 14) consultation with fisheries interests to establish a timing for the construction of the offshore pipeline that will minimize disruption;
- 15) that in the event that any section of the pipeline remains unburied, compensation be available for any damage resulting to fishing gear and other related costs. An additional requirement is a liability waiver for damage to the pipeline;
- 16) a better determination be made of the area in which fish tainting is likely to be experienced. This will help to define the zone of interruption to fisheries activities in the event of a platform blowout or pipeline failure. Further studies are required on the concentrations of condensate and the time involved in tainting of seafood and shellfish;
- 17) site-specific surveys, appropriate pipeline routing, compensatory measures, monitoring of effects and a suitable construction schedule be developed to ensure that the nearshore pipeline is environmentally acceptable;
- 18) a nearshore spill contingency plan be developed to protect sensitive areas that could be impacted as a result of a pipeline rupture close to shore;

- 19) more information be provided on projected vessel traffic associated with the project, as it becomes available;
- 20) adequate arrangements be established between the proponent and its contractors to ensure that debris resulting from offshore platform and pipeline construction is not deposited on the seabed;
- 21) the proponent establish a compensation plan mutually satisfactory to the fisheries and oil industry. If this is not possible by the time development proceeds, the appropriate government agencies should establish a mechanism to provide suitable compensation;
- 22) special care be taken to avoid unnecessary disturbances to sensitive birds and their habitats during construction and operation of the project;
- 23) a policy for treating oiled marine birds be established and incorporated in the appropriate contingency plans;
- 24) careful monitoring of the potential effects of offshore oil and gas activities on Sable Island be carried out to protect its unique environment;
- 25) resource management agencies be consulted prior to finalisation of onshore pipeline routing and during the development of specific mitigation measures;
- 26) further study of mitigative measures, including avoidance, be carried out to minimize acid drainage problems along the pipeline route;
- 27) detailed studies be carried out to ensure that disturbance of gold mine waste is avoided by appropriate onshore pipeline routing or minimized by suitable mitigation measures. This will require care in selecting the exact location of the landfall terminal;
- 28) detailed safety requirements and contingency plans for the landfall terminal, onshore pipeline and gas plant be reviewed by appropriate regulatory agencies. Necessary standards should be established by regulatory agencies as appropriate;
- 29) proposed emission and effluent levels from the gas plant be reviewed by appropriate regulatory agencies as engineering details become available;
- 30) a comprehensive monitoring plan for all components of the project be developed for approval by the regulatory agencies taking into account the concerns of resource managers and other interested parties.

15.2 It is further recommended that:

- 1) better mechanisms be developed to ensure that EIS's for future reviews are of improved standards;
- 2) future projects be referred early enough to allow for appropriate directions to be given to proponents in the preparation of their studies;
- 3) special efforts be made by the proponent and responsible government agencies to continue consultation with the public. Information centres established during the Panel review should be maintained and a government information officer made available to assist interested members of the public;
- 4) the existing mechanisms for interdepartmental consultation be used during development and operation of the Venture project, with modifications to improve effectiveness as experience is gained;
- 5) the federal and provincial Departments of Environment monitor the implementation of this Report's recommendations and the proponent's commitments, and provide an annual report to their Ministers for public distribution;
- 6) industry and government share advance information on proposed future projects and resource limitations to avoid, at an early planning stage, unnecessary conflicts;
- 7) appropriate regulatory authorities carefully consider any associated projects related to the Venture development, but not considered in this Panel review, to ensure that environmental impacts are minimized through appropriate mitigation measures.