

## A REVIEW OF THE NATIONAL ENERGY BOARD REPORT ON GAS EXPORT, AUGUST, 1970

D. W. MacFARLANE\* AND G. A. CONNELL\*\*

*At the Canadian Petroleum Law Foundation Ninth Annual Research Seminar in Oil and Gas Law, R. J. Gibbs, D. W. MacFarlane and H. J. Knowles delivered a paper entitled A Review of the National Energy Board Policies and Practices and Recent Hearings, (1971) 9 Alta. Law Rev. 523. The Board's decision on the hearings discussed in the said paper was handed down in August, 1970. In this article, D. W. MacFarlane and G. A. Connell summarize, discuss and evaluate the more important aspects of the decision of the National Energy Board with respect to the export of natural gas from Canada.*

### A. INTRODUCTION

This paper deals with the National Energy Board's (NEB) disposition of applications for licences to export gas from Canada in the collective amount of 8.888 Tcf, having a total value of approximately three billion dollars. The following tabulation shows the total quantity of gas and number of years for which export licences were sought and the quantity and term which the Board approved:

**Summary of New Exports  
(Bcf at 1,000 Btu/cf)**

	<i>Applied For</i>		<i>Approved</i>	
	<i>Quantity</i>	<i>Years</i>	<i>Quantity</i>	<i>Years</i>
Alberta and Southern	1,592	23	1,038	15
Canadian-Montana	86	23	56	15
Consolidated	1,545	25	—	—
Trans-Canada	2,336	25	1,872	20
Westcoast	3,329	1 + 18	3,329	1 + 18
<b>Totals:</b>	<b>8,888</b>		<b>6,295</b>	
Current surplus without new exports	6,440		6,440	
Current surplus (deficit) with new exports	(2,448)		145	

It is readily apparent that the crucial figure in the foregoing tabulation is the item of 6.440 Tcf representing the Board's determination of "current surplus without new exports". The deficiency of 2.448 Tcf (being the difference between the total of 8.888 Tcf applied for and the current surplus of 6.440 Tcf) explains why the export volumes requested under certain of the applications were reduced and the Consolidated application was denied in its entirety.

An examination of the Board's calculation procedures in establishing the current surplus, coupled with a brief consideration of those Board policies which apparently governed the use of each particular factor in the surplus calculation formula, should provide a useful background against which the remainder of the report can be viewed. The following table summarizes the Board's findings as to the volume of reserves available as at December 31, 1969, those it considered neces-

\* D. W. MacFarlane, Law Department, Mobil Oil Canada Ltd., Calgary, Alberta.

\*\* G. A. Connell, Co-ordinator of Planning, Gulf Oil Canada Limited, Calgary, Alberta.

sary to support existing licences, and the resulting "current surplus" available without new exports:

<b>Current Surplus Calculation</b> (Tcf at 1,000 Btu/cf)			
<hr/>			
<i>Supply</i>			
Total Established Reserves		57.4	
Less Deferred Reserves	(1)	(1.7)	
Less ½ Beyond Economic Reach		(1.8)	
Plus Imports		0.1	
Total Supply		54.0	
<i>Requirements</i>			
Canada, except Alberta	(2)	25.9	
Alberta	(3)	7.5	
Processing Shrinkage	(4)	2.2	
Existing Export Licences		12.0	
Total Requirements		47.6	
Current Surplus without new exports		6.4	
Requested Exports		8.9	
Current Surplus (deficiency)		(2.5)	
(1) Harmattan-Elkton and Harmattan East Reserves totalling 2.12 Tcf were considered to be available and therefore were not included as a deduction. (2) 25 times the 1973 level of Canadian requirements 1,036.4 Bcf = 25,910 Bcf. (3) 30 times the 1970 level of Alberta requirements 251.4 Bcf = 7,542 Bcf. (4) Processing shrinkage at Empress and Cochrane Plants.			

It is now proposed to examine each separate item contained in the surplus calculation formula.

### B. SUPPLY

#### 1. Total Established Reserves

Total established reserves have been estimated by the Board at 57.4 Tcf. The Canadian Petroleum Association (CPA) has always contended that the approach of both the Alberta Energy Resources Conservation Board and the NEB to the determination of established reserves is too conservative. At the hearings, the Association recommended the use of its probable reserves rather than the Board's established reserves. As at December 31, 1969, CPA estimated probable reserves at 60.1 Tcf. However, in determining "total established reserves", the Board initially makes separate estimates of proven reserves and probable reserves to arrive at the established reserves figure. Unfortunately, CPA has not yet been able to convince the Alberta Board that the Association's probable reserves should be used in the current surplus calculation in determining gas volumes which are removable from Alberta. Consequently, it is not too surprising that the NEB rejected the Association's recommendation in this regard. It is interesting to note, however, that the mean of the CPA's proved and probable reserves is very close to the Board's established reserves.

#### 2. Deferred Reserves and Reserves Beyond Economic Reach

The producing segment of the gas industry was encouraged by the fact that the Board included in the total supply a portion of those reserves the production of which has been deferred for reasons of conservation, as well as one-half of those reserves presently beyond economic reach. These two categories of reserves total 7.3 Tcf and were formerly deducted in their entirety from the established reserves in ar-

iving at the total supply figure. The Board made the following observations with respect to their future treatment:

The Board has reviewed the evidence regarding reserves defined to be beyond economic reach and has concluded that, as a liberalization of its calculation of surplus, fifty per cent of such reserves can be expected to be available within the protection period used by the Board.

The Board has reviewed the recommendations regarding deferred reserves and concludes that those reserves from which production is likely to occur in the next few years will be considered as being available for purposes of calculating current surplus. This treatment of deferred reserves is somewhat less conservative than the Board's previous approach to this matter.

As a result of this change of policy, 2.12 Tcf of deferred gas and 1.8 Tcf of gas presently beyond economic reach (or a total of 3.92 Tcf) were not deducted from established reserves and consequently remained as part of the currently available supply.

### C. REQUIREMENTS

For the requirements of Canada except Alberta, the Board has continued to use twenty-five times the estimated fourth year requirement, despite the recommendations of Shell, the CPA, Consolidated, West-coast, Alberta and Southern and Trans-Canada to reduce this protection factor. The protection factor varied from Shell's recommendation of twenty times the third year requirement or 25.3 Tcf to Trans-Canada's recommendation of twenty-three times the third year requirement or 29.1 Tcf. The Board's use of twenty-five times the fourth year amounts to 33.4 Tcf. The retention of this method of calculating Canada's current requirements was the most important factor in creating the deficiency in the current surplus. The following is a comparison of the National Energy Board's estimates with those of the applicants for selected years from 1970 to 1999. The fourth year requirement, *i.e.* 1973, is used in the current surplus calculation. The Board's estimate for this year is higher than any of the applicants' estimates. The higher estimates made by the Board reflect an increased requirement for thermal electric generation, particularly as a result of the decision of Ontario Hydro Electric to convert a portion of its Hearn Plant in Toronto to gas.

Comparison with Applicants' Estimates of Natural Gas Requirements (1)  
(Bcf at 1,000 Btu/cf)

Year	Canada				
	NEB	Alberta & Southern	Consolidated	Trans- Canada	Westcoast
1970	1,033.3	1,006.4	939.3	1,063.3	1,026.8
1971	1,133.9	1,069.7	984.3	1,135.5	1,093.1
1972	1,264.0	1,139.7	1,038.7	1,201.2	1,165.3
1973	1,329.1	1,189.3	1,088.7	1,276.1	1,242.0
1974	1,394.3	1,251.1	1,135.1	1,342.4	1,308.3
1975	1,463.6	1,295.8	1,187.1	1,426.7	1,355.2
1980	1,823.8	1,560.9	1,491.6	1,859.5	1,617.4
1985	2,220.2	1,824.8	1,777.5	2,335.8	1,888.9
1990	2,645.3	2,142.1	2,104.3	2,890.5	2,207.8
1995	3,143.6	2,468.1	2,484.0	3,568.7	2,549.3
1999	3,560.6	2,771.6*	2,784.1	4,248.0*	2,854.5*
1970- 1999	66,921.5	55,186.3	53,659.7	72,177.7	57,047.1

(1) Including pipe line fuel and losses.

\* Extended by NEB staff to cover 30-year period.

Trans-Canada's concern in recommending a reduction in the current requirements protection was that as a purchaser of gas it might be unable to contract for larger volumes because of the risk of triggering its contractual "take or pay" obligations. The CPA likewise argued that unrealistically high Canadian requirements could result in a "lock-in" of reserves at substantial cost to the industry. The Board made the following comment:

The Board shares the concern of the Applicants and other interested persons regarding the disparity between, on the one hand, the level of protection which has been used by the Board and, on the other hand, the ability of the gas purchasing companies to contract for gas under current industry practice. However, the Board observes that recent developments in contracting practice, particularly the trend toward increased rates of take relative to available reserves, have had the effect of widening the gap between the protection level and the reserves under contract. The Board views this trend with concern. The increase in the rate of production or the shortening of the life index of the remaining available reserves would, if it were to continue, open an increasing gap between that life index and any of the hitherto proposed formulae for the protection of Canadian requirements. In fulfilling the responsibilities imposed upon the Board by paragraphs (a) and (b) of section 83 of the National Energy Board Act, the Board does not believe that it should change its policy in regard to current surplus by lessening such allowance notwithstanding the apparent change in industry practice in contracting for purchase of gas from producers.

#### *D. FUTURE SURPLUS*

Board procedures also require a consideration of future requirements and future trends in additions to reserves in order to determine whether and for how long a future surplus can be anticipated. The Board found that on the basis of its calculations, an average of 4.1 Tcf per year would have to be added to established reserves during the next twenty years to meet its estimated requirements. The Board therefore concluded that the rate of discovery for the last ten years (3.5 Tcf per annum) will not support any large increase in export beyond those now under consideration. If substantial new exports are to be undertaken, either large new sources of gas will have to be established in the frontier areas, or the rate of discovery in the Western Sedimentary Basin already under development will have to be substantially increased.

#### *E. BORDER PRICE*

The Board decided that it would continue to apply the three tests for the price to be charged by an applicant for gas exported by him, as set forth in the Board's 1967 Westcoast decision. The three tests are as follows:

- (1) the export price must recover its appropriate share of the costs incurred;
- (2) the export price should, under normal circumstances, not be less than the price to Canadians for similar deliveries in the same area; and
- (3) the export price of gas should not result in prices in the United States market area materially less than the least cost alternative for energy from indigenous sources.

The Report dealt in considerable detail with the matter of compliance with these tests by each of the applicants, but for the purposes of this summary, it is not proposed to elaborate on that aspect of the Report. Suffice it to say that in order to cover any substantial change in pricing

in the future the National Energy Board Regulations were amended (P.C. 1970-1706) as follows:

*The National Energy Board Part VI Regulations*, are amended by adding thereto, immediately after section 11 thereof, the following section:

11A. (1) Every licence for the exportation of gas is, in addition to any other terms and conditions imposed by or under the Act, subject to the condition that the price to be charged for gas, the export of which is authorized under the licence, shall be subject to review by the Board, and where, in the opinion of the Board there has been a significant increase in prices for competing gas supplies or for alternative energy sources, the Board shall report its findings and recommendations to the Governor in Council.

(2) Where the price to be charged for gas, the export of which is authorized under a licence, is reviewed and reported on by the Board pursuant to subsection (1), the Governor in Council may by order establish a new price below which gas exported under the authority of that licence may not be sold or delivered after such date as may be specified in the order.

(3) Where an order is made pursuant to subsection (2), it is a condition of the licence in relation to which the order is made that gas exported under the authority of that licence shall not be sold or delivered at a price below the new price after the date specified in the order.

It is understood that this amendment was a result of Cabinet insistence and was not initially recommended by the Board. In fact, the Board said:

Although section 17 of the Act enables the Board to review its decisions, and, with the approval of the Governor in Council, to alter a licence issued by it, it is a premise of the Board's approach to the licensing of the export of natural gas that, once a licence for firm export for a fixed period has been issued, it should not be diminished in effect or put in jeopardy so long as the conditions of the licence are observed. Such reliability of licences is desirable both in equity to producers, exporters, United States importers and consumers of the gas licensed for export, and in the interest of orderly development of relations between Canada and the United States in respect of natural gas.

## F. REASONS FOR DECISION

### 1. Requirements

The Board decided that special hearings at more or less regular intervals to consider requirements for natural gas are not necessary at this time. This was due to the relative frequency of hearings along with the Board's own activity in market surveillance and forecasting.

The Board did not include in its estimates of requirements any allowance for uses of gas which are not yet commercially feasible such as aircraft and automotive fuel. The Board concluded that it is apparent that requirements for natural gas in Canada are increasing more rapidly than has previously been foreseen, partly because of growing concern about pollution and the establishment of regulations related thereto, and partly because of uncertainty of supply and cost of supplies of alternate fuels. The Board cited the specific case of contracting by the Hydro-Electric Power Commission of Ontario in June, 1970 for large quantities of gas.

### 2. Marketing of Natural Gas liquids and Sulphur

The Board stated that there is one aspect of organic relationship between oil and gas which brings about a more specific interconnection between Canadian gas export licences and United States oil import regulations. This is the matter of natural gas liquids which are necessarily produced from a large proportion of Canadian raw natural gas in

the course of processing it to pipeline quality, but which at the time of the Board's decision were not admissible to the United States *pari passu* with the pipeline gas from which they are derived. The Board also referred to the sulphur which is a by-product of a large proportion of Canadian gas and noted that any United States measures to restrict access for Canadian sulphur to the United States would have a discouraging effect on investment in the exploration for and development of gas and would tend to diminish any surplus of natural gas which would be available for export. (The United States import authority announced on September 29, 1970, that natural gas liquids from Canada would be exempted from import control).

### 3. *Priority of Applications*

In approaching the problem of assessment of individual applications, the Board held that, as part of its responsibility for making allowance for requirements for gas for use in Canada, it must bear in mind the need for sound development of those pipeline transmission systems which are the means of providing gas service to Canadian consumers. This decision gave priority to Trans-Canada and Westcoast and resulted in Consolidated's application being refused.

### 4. *Term of Licences*

The Board viewed with concern the problem of satisfying itself, in the sense required by the Act, that negotiated prices, providing for specified future escalation, will be just and reasonable in the circumstances which may exist in the future, twenty-five years, twenty years or even fifteen years hence. The Board referred to the awakened possibility of Alaskan gas leaving Canada bearing a cost or price substantially higher than Canadian gas moving through the same border facilities to the same market. The Board also expressed concern about the trend to increasing the rates of take in gas purchase contracts. As a result of these and other considerations the Board decided that, where increments of gas for export are sought by established transmission systems with reasonable prospects for future growth, the licences for such increments should be for periods less than the twenty-five year maximum provided by the statute.

The Board stated that it had no reason to believe that a more restrictive term of licences would adversely affect the producers in the circumstances of high market demand, and it also stated it was not convinced that this conventional wisdom, *i.e.*, having sales contracts of twenty to twenty-five years, is applicable in the case of established pipeline enterprises operating in the current circumstances of the energy market.

### 5. *Border Price*

In order to meet its second test the Board's view was that the most practicable and equitable safeguard yet suggested, though even it may not be equitable to apply without qualification in all cases, is a "floor price" provision along lines incorporated in the export contracts related to Trans-Canada's present application, one hundred five per cent of the comparable regulated price in the area of Canada nearest to the point of export.

With regard to the meeting of the third test, *i.e.*, the cost of the lowest cost alternative energy from indigenous sources, the Board felt

that any gap on the basis of cost services below the lowest alternative cost represents a subsidy by Canada to the United States consumers of the gas.

#### *6. Incentive for Discovery of Gas*

The Board stated that the distribution companies will not be adequately serving their own interests and those of their customers if they fail to contribute their share to the incentive for that increased rate of discovery which is essential if the Canadian gas producing industry is to continue to develop. The Board made the following observation:

It does not appear to the Board that the distribution utilities have yet done all that is reasonably possible to protect themselves in this regard by contracting at present prices for coverage of their future requirements. It is unreasonable to expect the producers and the transmission companies to support the whole of the cost of carrying an inventory of gas sufficient to provide protection for future Canadian requirements. The distribution companies will not be adequately serving their own interests and those of their customers if they fail to contribute their share to the incentive for that increased rate of discovery which is essential if the Canadian gas producing industry is to continue to develop. They can not safely assume that the limitation of exports will by itself ensure that adequate supplies are available to meet future requirements at reasonable prices.

#### *7. Consolidated's Application*

In dealing with Consolidated's application the Board concluded that the evidence with respect to the Tiger Ridge field's deliverability was inconclusive. With respect to the mainline facilities proposed, the Board was of the opinion that, although a thirty inch rather than a thirty-six inch diameter line would be more economical at the amended initial level, the thirty-six inch diameter line would be more economical if additional volumes of gas were to become available to Consolidated for export within a reasonable time.

The Board was of the opinion that, in the present circumstances, where surplus is not adequate to support all the applications before the Board, the application of a new transmission project oriented wholly to export, founded on a cost of service concept and so devised that its future development would almost inevitably result in decreasing border prices in a period when such gas as may become surplus to Canadian requirements would be increasingly valuable, would not appear to the Board to serve the public interest of Canada. Therefore, the Board believed that the application should be denied.

#### *8. Trans-Canada's Application*

With regard to the term of Trans-Canada's export licence, the Board pointed out that the difference in total quantity of gas to be committed to export by that company is roughly 0.5 Tcf for a twenty-year term rather than for a fifteen-year term and decided that Trans-Canada should be granted a twenty-year term.

#### *9. Westcoast's Application*

With regard to Westcoast's application the Board stated it would make clear that if the implementation of the Fourth Service Agreement by means of a combined licence upon conditions acceptable both to the Board and to the Federal Power Commission proves to be impracticable within a reasonable time (and the Board would hope a satisfactory outcome will be achieved within such time that would permit orderly construction of the facilities necessary to perform the exports

as contemplated under the Fourth Service Agreement), the Board will, pursuant to Section 17 of the Act, review its decision in this matter with a view to such change, alteration or variation of the licence, here referred to as Licence A, as may in the circumstances then existing appear appropriate. Westcoast has since the handing down of the Board's decision, met the specified requirements.

### *G. PRODUCING INDUSTRY REACTION*

In commenting on the Board's report, the Canadian Petroleum Association made the following observations:

The Board has reserved for supply to Canadian markets more than 3 Tcf of gas in excess of the total amount now committed to or under contract for supply to those markets. This is the first time that such a lock-in of reserves has occurred as the result of the application of Board policy. If the present finding rate continues the amount locked in will increase annually. An economic study by the Association indicates that the cost to the producers of locking in 1 Tcf for one year exceeds \$3.3 million. On the basis of the amount currently locked in, in accordance with the Board's decision and the anticipated reserve growth rate, this represents a burden on the producing industry commencing at about \$10 million per year, a level which can be expected to increase. This effective loss represents a direct disincentive for the exploration for gas.

The Board solicited recommendations from all interested parties with respect to the required level of protection for Canadian requirements. In reply, industry was unanimous in recommending that the formula of 25 times the fourth year level of requirements gives excessive protection and should be relaxed, and the Association regrets the Board's decision to make no change in this policy. This was one of the principal reasons why the Board found itself unable to grant all the licences applied for, in full. The Association and industry solidly support the giving of ample protection for Canadian requirements, but are of the opinion that the degree of protection provided by the Board's existing policy, as demonstrated by this decision, will result in the locking in of substantial reserves, particularly in the Strachan-Ricinus area. The Association is concerned about the economic waste that will result from the deferment of realization upon the investment in the past development of these reserves and associated facilities.

Clearly this is the opposite of providing incentives for increased rates of discovery, which the Board states is essential if the Canadian gas industry is to continue to develop.

The Association notes that it is ironic that Consolidated Natural Gas Limited should be the only applicant denied an export licence. This is a company which has taken the lead in providing incentives for the exploration and development of Canada's gas reserves through prepayment for gas and which would have constituted the first effective competition in the purchase of gas for transmission eastward from Alberta.