CANADA

National Energy Board

Reasons for Decision

Dome Petroleum Limited

MH-5-85

January 1986

Facilities

National Energy Board

Reasons for Decision

In the Matter of

Dome Petroleum Limited

In the Matter of a Public Hearing into the Matter of Certain Terminal, Storage and Related Facilities Owned or Leased and Operated by Dome Petroleum Limited in Windsor, Ontario

MH-5-85

January 1986

Cat. No. NE22-1/1986-1E
ISBN 0-662-14572-0

This report is published separately in both official languages.

Copies are available on request from:
Regulatory Support Office
National Energy Board
473 Albert Street
Ottawa, Canada
K1A 0E5
(613) 998-7204

Printed in Canada

Ce rapport est publié séparément dans les deux langues officielles.

Exemplaires disponibles auprès du:
Bureau du soutien de la réglementation
Office national de l'énergie
473, rue Albert
Ottawa (Canada)
K1A 0E5
(613) 998-7204

Imprimé au Canada

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List of Abbreviations

A.G. Pipe Lines:	A.G. Pipe Lines (Canada) Ltd.
Amoco:	Amoco Canada Petroleum Company Limited
bbl:	Barrel. 1 bbl is approximately equal to 0. 1 59 M^3
bpd:	Barrels per day
Board:	National Energy Board
CanStates:	CanStates Energy
Chevron:	Chevron Canada Resources
CIGAS:	CIGAS Products Ltd.
Cochin:	The Owners of the Cochin System Joint Venture
Columbia:	Columbia LNG Corporation
Consumers:	Consumers Power Co.
Dome:	Dome Petroleum Limited
Dome NGL:	Dome NGL Pipeline Ltd.
Dow:	Dow Chemical Canada Inc.
EDS:	In this report EDS refers to the Eastern Delivery System pipeline which originates in Marysville, Michigan and extends to Green Springs, Ohio via Sarnia and Windsor, Ontario. The Canadian portion of the pipeline is owned by Dome NGL Pipeline Ltd.
Esso:	Esso Resources Canada Limited
F.E.R.C.:	Federal Energy Regulatory Commission (United States of America)
Gulf:	Gulf Canada Limited
ICG:	ICG Liquid Gas Ltd.
IPL:	Refers to the pipelines from Fort Saskatchewan, Alberta to Montréal, Québec, via Sarnia, owned and operated by Interprovincial Pipe Line Limited.
km:	kilometre

kPa:	kilopascal
LPG'S:	Liquid Petroleum Gases
M^3:	cubic metre
M^3/d:	cubic metres per day
mm:	millimetre
MAPCO:	Refers to the American pipelines owned and operated by Mid-American Pipeline Co.
NEB Act:	*National Energy Board Act*
NGL'S:	In this report, natural gas liquids include specification ethane, propane and butanes.
NGL mix:	Natural gas liquid mixtures that need to be fractionated to obtain specification product. Typically, an NGL mix available in Eastern Canada consists of propane, butanes, and condensate.
O.D.:	Outside diameter of a pipeline
Ontario:	The Minister of Energy for Ontario
PanCanadian:	PanCanadian Petroleum Limited
Petro-Canada:	Petro-Canada Inc.
Petrosar:	Petrosar Limited
Polysar:	Polysar Limited
Procor:	Procor Limited
psia:	pounds per square inch
Shell:	Shell Canada Resources Limited
SNG:	Synthetic natural gas
Sun-Canadian:	Sun-Canadian Pipe Line Limited
Trans-Northern:	Trans-Northern Pipe Line Company
U.S.:	United States of America

Glossary of Terms

Bypassing:	In order to deliver product from one pipeline into another pipeline of lower capacity, three different methods are employed. In this report these are referred to as bypassing, slipstreaming, and tightlining. When product is delivered from a pipeline at its full line rate and is transferred into a second pipeline at its lower delivery rate the difference between the volume of product delivered out of the first pipeline and the lower volume of product accepted by the second pipeline is directed into breakout storage. The volume delivered directly into the second pipeline is the bypass volume.
Cochin System:	The Cochin system refers to that pipeline which extends from Fort Saskatchewan, Alberta to Sarnia, Ontario. The Canadian portion of the line is certificated in Canada by OC-29 and is owned by Cochin Pipe Lines Ltd., Dow Chemical Canada Inc., A.G. Pipe Lines, (Canada) Ltd., Shell Canada Limited, and Petro-Canada. It is operated by Cochin Pipe Lines Ltd., a wholly-owned subsidiary of Dome Petroleum Limited. The system includes facilities leased by its owners near Regina (breakout storage) and the pipeline extension from Windsor to Sarnia, both under the jurisdiction of the Board.
Ethane Shippers Joint Venture:	A joint venture of the ethane shippers on the Cochin system. They are Dome Petroleum Limited, Dow Chemical Canada Inc., A.G. Pipe Lines (Canada) Ltd., Shell Canada Limited and Petro-Canada.
Slipstreaming:	Slipstreaming is when only a portion of the product being carried by the pipeline is withdrawn at a certain delivery point. The balance of the product continues down the pipeline for delivery at downstream terminals. The volume withdrawn is the slipstream volume.
Tightlining:	Tightlining involves the delivery of all of the product being carried by one pipeline into another pipeline without slipstreaming or bypassing, This operation can only be accomplished if the capacity of the second pipeline meets or exceeds the rate at which deliveries from the first pipeline are made. This may require reducing the delivery rate at which the first pipeline is normally capable of operating.

Recital and Appearances

IN THE MATTER OF the *National Energy Board Act* and the Regulations made thereunder, and

IN THE MATTER OF Board Hearing Order MH-5-85 under File No. 1750-Cl8-1

HEARD at Calgary, Alberta on 29, 30, 31 October and 1, 4 and 5 November 1985

BEFORE:

J.R. Hardie	Presiding Member

APPEARANCES:

H.D. Williamson	A.G. Pipe Lines (Canada) Ltd.
D.G. Hart, Q.C.	CanStates Energy
R.A. Pashelka	Chevron Canada Resources
H. Rea Johnson	CIGAS Products Ltd.; and Monarch Propane Limited
R.C. Muir, Q.C.	Cochin Pipe Lines Ltd.
F.M. Saville, Q.C R. Neufeld	Dome Petroleum Limited
L. Ricchetti	Dow Chemical Canada Inc.
P.L. Miller	Esso Resources Canada Limited
J.E. Nozick	Gulf Canada Limited
J.E. Carstairs M. Carey	ICG Liquid Gas Ltd.
R.P. Smith	Interprovincial Pipe Line Limited
P.R. Murray	PanCanadian Petroleum Limited
E.S. Decter	Petro-Canada Inc.
J.B. Ballem, Q.C.	Polysar Limited; and Polysar Hydrocarbons Limited
R.W Riegert	Shell Canada Limited
E.B. McDougall	Trans-Northern Pipelines Inc.
B. Patterson	Union Gas Limited

S. Taylor	Westcoast Transmission Company Limited
J.M. Johnson, Q.C. K.T. Lintel	Minister of Energy for Ontario
J. Giroux	Procureur général du Québec
L. Meagher	National Energy Board

Chapter 1
Background

1.1 Introduction

During the summer of 1985, in the course of the Board's review of new propane tariffs filed for the Cochin system, numerous concerns were expressed by interested parties regarding the proposed introduction of the existing Windsor, Ontario storage and loading terminal as a new propane destination in Cochin's tariffs. Specifically, the availability of the Windsor terminal to potential Cochin propane shippers and therefore its suitability as a new propane terminal for the Cochin system were questioned.

Although the Board authorized the addition of Windsor as a propane terminal in Cochin's tariffs, it also decided to hold a public hearing to respond to the concerns of the potential propane shippers regarding the storage and terminalling arrangements at Windsor. As outlined in Order MH-5-85 (see Appendix I) calling the hearing, the purpose was to provide further information to the Board so that it would be in a better position to assess its position with respect to jurisdiction over the storage and related facilities in Windsor and to determine whether, based on the present and future need for storage and terminalling facilities at Windsor, it should take further action.

1.2 Development of the Dome EDS and Cochin Pipelines

Following the purchase and development of underground storage in Windsor, Ontario by Dome Petroleum Limited, Cochin Pipe Lines Ltd. applied to the Board in late 1972 to construct and operate dual pipelines extending from the Windsor storage site to the international boundary in the Detroit River. Early in 1973, the Board issued Order XO-l-73 to Cochin Pipe Lines Ltd. approving the application. When construction of this facility was completed in late 1973, it formed a link in the Dome EDS connecting the Windsor storage to the U.S. pipeline, thus allowing hydrocarbons from Sarnia, Ontario and the U.S. to be delivered to the storage facility at Windsor by rail and then be injected into the southern portion of the EDS for furtherance to the Columbia LNG Corporation SNG plant at Green Springs, Ohio.

Also in late 1973, an application was made by Dome NGL Pipeline Ltd. to construct a pipeline from the international boundary in the St. Clair River to Sarnia and on to the storage site at Windsor. Permission was also requested to transfer one of the river crossings owned by Cochin Pipe Lines Ltd. to Dome NGL.

The Board issued Certificate OC-28 authorizing the construction and operation of this section of the Dome EDS. It also authorized the requested transfer of the pipeline. Deliveries from Sarnia to Windsor through this pipeline commenced in 1974.

In 1973, Cochin Pipe Lines Ltd. as operator of a joint venture applied to the Board for authorization to construct the Canadian portion of a pipeline (hereinafter referred to as the Cochin system) extending from Fort Saskatchewan, Alberta via Windsor to Sarnia, Ontario, In 1974, the Board issued Certificate OC-29 approving the construction and operation of this pipeline.

The construction of the Cochin system commenced in 1977 and deliveries into the U.S., through its western section, began in June 1978. In 1979, Cochin was authorized to amend its project between Windsor and Sarnia in numerous respects. Included as part of the authorized amendment was the exchange of most of its pipeline between Windsor and Sarnia with a corresponding length of Dome NGL's line. In effecting this transfer, Cochin Pipe Lines Ltd. acquired the Windsor to Sarnia section of the Dome NGL pipeline and made it available to the Cochin system by way of a long-term lease arrangement. The Cochin system also acquired for its own use one of the two existing pipelines from Windsor to the international boundary in the Detroit River that were constructed pursuant to Board Order XO-1-73.

The Windsor to Sarnia section of the Cochin system was completed in October 1979. During 1979, additional storage at Windsor was developed which consisted of three ethane caverns, on behalf of the Cochin Ethane Shippers Joint Venture, and one ethane/ethylene interface cavern, on behalf of the Cochin system.

The ability of the Cochin system to transport ethane and ethylene from Alberta to distant markets makes it a key component of the Alberta Ethane - Ethylene Petrochemical Project. Ethylene is delivered to the Dow Chemical Canada Inc. plant in Sarnia. Ethane for Columbia's SNG plant in Green Springs, Ohio is delivered out of the Cochin system at Riga, Michigan or Windsor for furtherance to Green Springs via the Dome EDS.

1.3 Incentive Tariffs During 1985

Until June 1985, Windsor, Ontario was not specified as a propane delivery point in the Cochin system tariff. Any propane interface, or small quantities of propane that arrived in Windsor through the operation of the pipeline, became the property of the Cochin system pursuant to the operating agreement. Once at Windsor, these volumes were sold by the Cochin system to Dome and therefore no toll was payable.

In the spring of 1985, Dome, one of the joint owners of the Cochin system, offered to ship during July and August of that year, 15 900 M^3 (100,000 bbls) of propane from Fort Saskatchewan to Windsor. It negotiated a total toll of \$19.18/M^3 (\$3,05/bbl) under a ship-or-pay contract with the owners of the Cochin system. This toll represented a 45 percent discount from the regular total Cochin system toll that applied to ethane and ethylene. To effect this shipment, Cochin filed with the Board, on 3 June 1985, propane tariff NEB No. 27 which added Windsor as a delivery point for propane, effective 30 June 1985. Cochin also filed propane tariff NEB No. 29 on 18 June 1985 which provided reduced tolls for propane shipments of a minimum 7 900 M^3 (50,000 bbls) to a single destination in a 30-day period under a ship-or-pay contract. Tariff NEB No. 29 was scheduled to be effective on 1 July and to expire on 1 September 1985.

The filing of tariffs NEB No. 27 and NEB No. 29, drew several interventions from interested parties. On the basis of this information the Board accepted tariff NEB No. 27, but found tariff NEB No. 29 to be unjustly discriminatory and suspended it pursuant to Order TO-7-85 dated 28 June 1985.

Cochin filed a further tariff, NEB No. 31, on 18 July 1985. This tariff was identical to the suspended tariff, except that it reduced the minimum ship-or-pay volume from 7 950 M^3 (50,000 bbls) to the greater of

(a) 790 M^3 (5,000 bbls) in a 30-day period or

(b) 185 percent of the average of the previous five year shipments for the corresponding 30-day period.

The Board accepted tariff NEB No. 31 which was effective 18 July 1985 and which was to expire on 1 September 1985.

On 16 July 1985, Cochin also filed ethylene tariff NEB No. 30 to provide for short-term shipments of ethylene from Fort Saskatchewan, Alberta to the Dow plant at Sarnia, Ontario at a 45 percent discount off the regular toll. This tariff was in response to an expression of interest from Dow to tender an incremental shipment of 23 800 M^3 (150,000 bbls) of ethylene during July and August 1985, conditional upon the approval of an incentive tariff. Dow is an owner of the Cochin pipeline and the only shipper of ethylene to date on the Cochin system. The Board accepted tariff NEB No. 30 which was to go into effect on 15 August 1985 and expire on 1 September 1985.

Subsequently, the expiry dates of both tariffs NEB No. 30 and NEB No. 31 were extended to 14 September 1985 in order to allow for the delivery of shipments which had already been tendered.

1.4 The Ownership of the Cochin System

The Canadian sections of the Cochin system, excluding the Windsor to Sarnia section of the pipeline, are owned in undivided percentage interest pursuant to the Joint Venture Agreement for the Construction, Operation and Maintenance of Cochin Pipeline, dated 14 September 1976, as amended. The present ownership is:

Cochin Pipe Lines Ltd. (a wholly-owned subsidiary of Dome Petroleum Ltd.)	32.5%
Dow Pipeline Ltd. (a wholly-owned subsidiary of the Dow Chemical Co.)	32.5%
A.G. Pipe Lines (Canada) Ltd. (a wholly-owned subsidiary of NOVA, An Alberta Corporation)	20.0%
Petro-Canada Inc. (a wholly-owned subsidiary of Petro-Canada)	10.0%
Shell Canada Resources Limited (a wholly-owned subsidiary of Shell Canada Ltd.)	5.0%
	100.0%

The Windsor to Sarnia section of the system is owned by Cochin Pipe Lines Ltd. and is made available for use by the Cochin pipeline through a long-term lease. A similar arrangement allows the

Cochin system to use certain storage facilities owned by Procor Limited located near Regina, Saskatchewan.

The U.S. section of the Cochin system is owned in undivided percentage interest by:

Dome Pipeline Corporation (a wholly-owned subsidiary of Dome Petroleum Ltd.)	32.5%
Midland Pipeline Corp. (a wholly-owned subsidiary of The Dow Chemical Co.)	32.5%
A.G. Pipe Lines Inc. (a wholly-owned subsidiary of NOVA, An Alberta Corporation)	20.0%
Pacific Pipelines Inc. (a wholly-owned subsidiary of Petro-Canada)	10.0%
Salmon Pipelines Ltd. (a wholly-owned subsidiary of Shell Canada Ltd.)	5.0%
	100.0%

1.5 The Ownership of the Ethane Storage Caverns

The three ethane storage caverns designated as E-1, E-3 and E-5 are owned in undivided percentage interest pursuant to the Agreement for the Construction, Ownership and Operation of the Windsor Storage Facility dated 1 December 1977, as amended. This Agreement has been referred to as the Ethane Shippers Joint Venture Agreement. The ownership is:

Dome Petroleum Ltd.	32.5%
Dow Chemical Canada Inc. (a wholly-owned subsidiary of The Dow Chemical Co.)	32.5%
A.G. Pipe Lines (Canada) Ltd. (a wholly-owned subsidiary of NOVA, An Alberta Corporation)	20.0%
Petro-Canada Inc. (a wholly-owned subsidiary of Petro-Canada)	10.0%

Shell Canada Resources Ltd. (a wholly-owned subsidiary of Shell Canada Ltd.)	5.0%
	100.0%

The Ethane Shippers also own, pursuant to other agreements, certain ethane and propane storage and handling facilities near Fort Saskatchewan, Alberta, surface piping facilities connecting the ethane caverns at Windsor to the Cochin system and EDS pipelines, and a dehydration facility at Windsor (see Appendix VI).

1.6 The Operating Agreement for the Cochin System

The operation and maintenance of the Canadian sections of the pipeline is carried out pursuant to the Joint Venture Agreement for the Construction, Operation and Maintenance of Cochin Pipeline, dated 14 September 1976, as amended.

The Agreement designates Cochin Pipe Lines Ltd., as the operator of the pipeline, sets forth its functions as the operator, and the conditions under which the operator can be changed. The Agreement establishes an operating committee which consists of one representative from each owner with voting strength in proportion to the ownership percentage. The representative of the operator is the chairman of the operating committee.

The operating committee exercises general control and supervision with respect to the construction, operation and maintenance of the pipeline and approves any capital or operating budgets. Pursuant to the Agreement, a Cochin pipeline tariff requires the approval of the operating committee by an 85 percent vote of the ownership holding.

With respect to pipeline expansion, the Agreement stipulates that any expansion involving the construction of a pipeline extension, a lateral, or a storage facility, requires an affirmative vote of 85 percent of the ownership holding. It further provides that under certain conditions an owner may elect not to participate in any proposed expansion. However, no owner may decline to participate in an expansion ordered by a government authority.

Neither the Cochin system nor its operator, Cochin Pipe Lines Ltd., has any employees. Employees that are engaged in the operation of the Canadian sections of the Cochin system are employees of Dome.

1.7 The Operating Agreement for the Ethane Storage Caverns

The operation and maintenance of the ethane storage caverns are carried out pursuant to the Agreement for the Construction, Ownership and Operation of the Windsor Storage Facility, dated 1 December 1977, as amended. The Agreement establishes an operating committee which consists of one representative from each owner, with voting strength in proportion to the ownership interest, The Agreement designates Dome as the operator of the storage facilities. It also stipulates that no other owner is entitled to replace Dome as operator of the facilities unless Dome or its affiliates cease to act as operator of the Cochin system, in which case a new operator of the storage facilities may be appointed by the operating committee. The representative of the operator is the chairman of the operating committee.

The operating committee exercises general control and supervision with respect to the construction, operation and maintenance of the facilities. The Agreement provides that any tariff for storage will require an affirmative vote of 85 percent of the ownership interest. The operating committee approves any agreements related to the facility, including any proposal to lease the facility to others.

The Agreement provides for the allocation of operating costs to the Dome NGL facility, the Cochin interface facility and the ethane storage facility. Pursuant to Exhibit "E" of the Agreement, the allocation of the operating costs of the Windsor Common Cost Centre (those costs that are not directly attributable to any specific Windsor facilities) is subject to adjustment from time to time but is currently made as follows:

Storage	
- NGL (Dome NGL Facility)	10%
- Ethane (the Ethane Storage Facility)	35%
- Cochin (the Cochin Interface Facility)	5%
Canadian pipelines	
- NGL	5%
- Cochin	20%
U.S. pipelines	
- NGL	20%
- Cochin	5%

At Windsor, Dome employees are responsible for operating the Dome facilities, the Cochin system facilities, the Ethane Shipper’s facilities and the Dome EDS facilities.

Chapter 2
Facilities and Operation

2.1 The Fort Saskatchewan Facilities

The Cochin system extends from Fort Saskatchewan, Alberta to Sarnia, Ontario. Most of its shipments are initiated from the underground storage facilities in Fort Saskatchewan which are owned by various companies and joint ventures. Among these are Dow, Dome and Amoco Canada Petroleum Company Limited jointly, and the Ethane Shippers Joint Venture. The storage of the latter group is operated by Dome. There is also storage for NGL mix, propane, butanes and condensate. This storage is connected to a fractionation plant at Fort Saskatchewan operated by Chevron Canada Resources on behalf of a joint venture in which Dome and Gulf Canada Limited are partners. A storage facility owned by Procor, in Beamer across the river from Fort Saskatchewan, is connected by pipeline to the Cochin facilities. However, the delivery rates from this line are not sufficient to initiate batches.

The Ethane Shippers provide batch accumulation and injection facilities, Dow and Dome-Amoco deliver directly from their storage into the Cochin pipeline. The fractionation plant and storage facilities operated by Chevron are also connected directly to the Cochin system and are capable of initiating batches.

A terminalling fee, depending on the service provided, is established by the owners of the facilities at Fort Saskatchewan. The terminalling fee for the ethane caverns includes a fee for batch accumulation and injection into the Cochin system. Cochin, itself, does not charge a fee for injection into its system. The fees have been determined without either federal or provincial regulatory intervention and have been accepted by industry. According to the evidence at the hearing, the various owners charge similar fees which may be a result of competition.

2.2 The Cochin System

The Cochin system (see Appendices III and IV) extends from Fort Saskatchewan, Alberta to Sarnia, Ontario. The 323.9 mm O.D. pipeline is 3 060 km in length and includes 31 pump stations. The Canadian portions of the pipeline, which are subject to the Board's regulation, consist of 1 125 km of pipeline and 11 pump stations.

The pipeline was designed to ship ethylene and specification NGL's (although it has never shipped butanes). A recent development has been the successful shipment of a test batch of an NGL mix from Kerrobert, Saskatchewan to Dome's storage caverns at Windsor. This has led to the proposal for an NGL mix tariff by Cochin. Historically, the system has delivered ethane to Riga, Michigan and Windsor, propane to various U.S. delivery points, ethylene to Sarnia, and product interface to Windsor. Over half of these deliveries have been ethane.

The 1985 summer propane incentive tariff resulted in the shipment of large batches of specification propane to Windsor for the first time. In Windsor, some of this propane was bypassed through to the EDS, for furtherance to Sarnia.

The capacity of the pipeline varies depending on the products shipped and the number of batches in it at one time. In its current use, Cochin described the pipeline as having a capacity of approximately 14 300 M^3/d (90,000 bpd). The addition of NGL mix, depending on the size and frequency of the batches, would reduce the capacity to approximately 12 700 m^3/d (80,000 bpd). The introduction of batches of butanes would further reduce the pipeline capacity. However, Cochin indicated that certain "debottlenecking" types of projects could be carried out to marginally increase the capacity of the line. While the transit time from Fort Saskatchewan to Windsor varies with line rate. Cochin estimated that, for 1984, it averaged approximately 36 days.

Beyond Windsor, the Cochin system continues directly into the Dow plant in Sarnia. The capacity of this portion of the system is also 14 300 m^3/d (90,000 bpd), although it is dedicated to ethylene shipments only and therefore is idle many days of each month.

In addition to the injection facilities at Fort Saskatchewan, temporary NGL mix injection facilities were provided by the Cochin pipeline at Kerrobert to initiate the test batch of NGL mix. These temporary facilities allow the Cochin pipeline to ship 950 M^3 (6,000 bbls) of NGL mix on average per day However, shipping in this manner could cause some operational difficulties. Cochin stated that new facilities may have to be installed at Kerrobert and Fort Saskatchewan for the long-term shipping of NGL mix.

Underground storage facilities in Regina, owned by Procor, are leased by the Cochin system as breakout storage to enhance its operation. Five caverns have been leased, three of which are being used for either ethane or propane storage. Product has also been received into these storage caverns from the adjoining Procor facility for shipment through the Cochin pipeline. The facilities are operated as part of the Cochin system by Dome.

The Cochin system provides surface propane storage and loading facilities at five terminals in the U.S.: Benson, Minnesota (capacity of 4 900 M^3 (31,000 bbls)); Carrington, North Dakota (capacity of 2 900 M^3 (18,500 bbls)); Mankota, Minnesota (capacity of 2 700 M^3 (17,000 bbls)); New Hampton, Iowa (capacity of 3 200 M^3 (20,000 bbls)); and Milford, Indiana (capacity of 4 800 M^3 (30,000 bbls)), all of which are regulated by the Federal Energy Regulatory Commission. A public tariff is charged for terminalling propane off the Cochin system at these locations. The terminalling charge includes various services, for example, at Benson, the charge of $.92 (U.S.) per bbl includes five days terminalling storage as well as use of tank car and truck loading facilities. It was explained that these facilities are provided as part of the Cochin system because, during the planning stages of the pipeline in 1976, Cochin determined that, in order to attract propane customers in the U.S., it would be necessary to construct terminals with tank car loading facilities.

Ethane/ethylene interface storage is also provided by the Cochin system at Windsor. Storage facilities owned by others and the EDS pipeline can be accessed from the Cochin system at Windsor (if the interconnecting facilities are made available). The Cochin system also connects to the EDS and Mid-American Pipeline Co. pipelines in the U.S.

2.3 The Windsor Terminal

The Windsor terminal (see Appendix VI) is located on a 33 hectare (81 acre) site at km 2 923 of the Cochin system and serves as a link to the Dome EDS. The Sarnia-Windsor corridor is underlain by

salt beds which are ideal for the underground storage of hydrocarbons. At the Windsor site, the following caverns have been developed.

(i) One 12 719 M^3 (80,000 bbl) cavern (I-4) which is part of the Cochin system and is presently used for storing the ethane/ethylene interface;

(ii) Three caverns (E-1, E-3 and E-5) of a total capacity of 144 363 M^3 (908,000 bbls) which are owned by the Ethane Shippers Joint Venture and are presently used for the storage of ethane received from the Cochin system and destined for Green Springs, Ohio via the Dome EDS system;

(iii) Three caverns (32, 33 and 35) of a total capacity of 480 150 M^3 (3,020,000 bbls) which are owned by Dome. Two of these caverns are used to store NGL mix from the Dome plant in Sarnia while the other (cavern 35), which is 81 085 M^3 (51 0,000 bbls), is now being used to store specification propane, and

(iv) Two caverns (B7 and P8), each with an approximate capacity of 55 700 m^3 (350,000 bbls), owned by Dome. These caverns are full of brine and are not presently connected to hydrocarbon facilities.

Surface facilities at Windsor include the following:

(v) A sixteen-spot rail and truck loading facility, owned by Dome and used to supply the local propane markets as well as export markets. (The rail facility was originally built as an unloading facility - see Section 1.2);

(vi) Dehydration facilities, including four calcium chloride dryers, used to dehydrate liquids upon exit from the caverns. Two of these are owned by Dome and the others by the Ethane Shippers Joint Venture;

(vii) Various pumps and metering facilities which are owned separately by the Cochin system, the Ethane Shippers Joint Venture, Dome and Dome NGL; and

(viii) Surface piping which is owned separately by the four entities. It is noteworthy that there are separate piping connections between the Cochin system and the EDS which are owned by the Ethane Shippers Joint Venture and by Dome.

The ethylene shipment through the Cochin system and directly into the Dow plant at Sarnia requires no Windsor storage. However, in the absence of facilities in Sarnia necessary to remove interface material in the Cochin system, cavern I-4 in Windsor is used to store the ethane/ethylene interface. If an alternative means of handling the interface could be developed (see Section 2.7) then I-4 could be used to store specification product in the future. Furthermore, Cochin indicated that the capacity of this cavern could be increased to 47 700 M^3 (300,000 bbls) although it was estimated that the conversion would cost $100,000 and take a year to complete. Consistent with its position on the jurisdiction of the other Windsor storage caverns, Cochin indicated that if I-4 was not required to supply interface storage for the system, then it would consider seeking to have it removed from the Board's jurisdiction.

As a result of a decline in demand for ethane to supply the Columbia SNG plant (see section 3.1), the possibility of surplus storage capacity in caverns E-1, E-2, and E-3 was raised by Cochin. If surplus capacity were to develop, Cochin indicated that these caverns could be converted to store other products such as propane, at an estimated cost of $1 00,000 per cavern. The conversion entails modifications to the surface piping. It was also suggested that two caverns per product are necessary in order for a cavern to be taken out of service for maintenance and to ensure that injection into storage can be accomplished at line rate. Presently only cavern E-2 has an injection rate that is less than the delivery rate of the Cochin pipeline. It is possible to increase the injection rate by drilling a second well into a cavern, however, there is a risk that this could result in the loss of the cavern. If the injection rate problems were solved, the use of one cavern as a common spare could satisfy the maintenance considerations.

From the time that the section of the EDS from Sarnia to Windsor was completed until 1984, caverns 32, 33 and 35 were utilized to store NGL mix that was surplus to the storage capacity for the Dome/Amoco/PanCanadian Petroleum Limited fractionation plant in Sarnia. Caverns 32 and 33 continue to store NGL mix but, since 1984, cavern 35 has been converted to propane storage. This allows propane markets to be served in Windsor through the loading facilities which are connected to cavern 35. All three caverns are connected by surface piping owned by Dome to both the Cochin system and the EDS.

Dome is planning to commission its caverns B-7 and P-8 to satisfy its additional storage requirements. These caverns are scheduled to be in service in the summer of 1986. Dome and Cochin estimated that if a new cavern of similar size were necessary at Windsor, then it would cost approximately $1,200,000 and could require up to two years to construct.

With respect to the future need in Windsor for additional tank car loading facilities, Dome indicated that there was space for a further four loading arms beside the existing sixteen and that these would be relatively inexpensive to construct.

2.4 The Eastern Delivery System (EDS)

The EDS pipeline extends from Marysville, Michigan in the north, to Green Springs, Ohio in the south, via Sarnia and Windsor (see Appendix IV). The section between Sarnia and Windsor can ship product in either direction. The system has pump stations at Sarnia and Windsor, and at Riga, Michigan. The Canadian section of the system is owned by Dome NGL (a wholly-owned subsidiary of Dome Petroleum Limited).

The pipeline is 219.1 mm O.D. from Marysville to the Sarnia plant; 323.9 mm from the Sarnia plant to the Lambton Junction just south of Sarnia); 273.1 mm from the Lambton Junction to the Windsor terminal; and 323.9 mm from the Windsor terminal to Green Springs, Ohio. Connections to other pipelines exist at Riga, Michigan (Cochin); Woodhaven, Michigan (Buckeye Pipe Line Co.); Windsor (Cochin); just south of Sarnia (Petrosar Limited lateral), at the Sarnia plant to numerous pipelines and at Marysville (Shell Pipe Line Co.). The Cochin system and the EDS are also connected near the Lambton junction with 114.3 mm O.D. pipe but this connection is not used. All pipeline connections at the Sarnia fractionation plant, including the connection between the Marysville to Sarnia and Sarnia to Windsor sections of the EDS, involve the use of piping and breakout storage that are the property

of the plant owners. As discussed in section 2.3, a similar situation exists with respect to the connection between the EDS and the Cochin system at Windsor.

The Marysville to Sarnia section of the system is used to deliver NGL mix to the Sarnia plant for storage and subsequent fractionation. This pipeline is not presently capable of operating in the other direction.

The capacity of the Windsor to Sarnia section of the EDS is rated at 6 300 M^3/d (40,000 bpd) but actual throughput is restricted by the receiving capacity of the caverns at the Sarnia plant. These facilities are not designed to receive at EDS flow rates. Another restriction in the receipt capacity at Sarnia is the fact that some of the caverns are sometimes used simultaneously to receive propane, or other NGL'S, from the Sarnia plant.

Deliveries to the Petrosar lateral, through a 114.3 mm O.D. pipe, require a 6 895 kPa (1,000 psia) delivery pressure, which may cause a reduction in the capacity of the Windsor-Sarnia pipeline when used for deliveries initiated in Windsor.

The capacity of the EDS is a limiting factor in the amount of propane that can currently be shipped from western Canada to Sarnia via the Cochin system and the EDS by bypassing the Windsor terminal. Transfers from the Cochin system to the EDS at Windsor could occur directly, without the need for storage, if the capacity of the EDS between Windsor and Sarnia were increased to equal that of Cochin, by adding pumping stations. The maximum rate at which propane has been bypassed is 4 900 m^3/d (31,000 bpd). This throughput rate was partly due to the restricted injection rate into the Sarnia storage.

Currently, six product movements are made on the Windsor-Sarnia section of the EDS, as follows:

(i) NGL mix from the Sarnia fractionation plant to the Windsor storage facilities;

(ii) NGL mix from Windsor storage to the Sarnia fractionation plant;

(iii) propane from Sarnia to Windsor;

(iv) propane from Windsor to Sarnia;

(v) butanes and propane from Sarnia bypassing Windsor storage to the export markets; and

(vi) propane from the Sarnia plant to the Polysar Limited lateral.

Historically, the only shippers on the EDS between Windsor and Sarnia have been Dome and Amoco.

The capacity of the pipeline between Windsor and Green Springs, Ohio is approximately 13 500 M^3/d (92,000 bpd). Since Columbia's Green Springs, Ohio SNG plant has no storage, it must have a continuous supply of ethane. To achieve this, ethane can be transferred directly to the EDS from the Cochin system either at Riga, Michigan or Windsor, or it can be transferred to the EDS from the storage caverns in Windsor. This latter transfer occurs when, due to batching in the Cochin system, ethane is not available in the pipeline at either Riga or Windsor.

2.5 Other Relevant Facilities In the Sarnia Area

2.5.1 The Dow Plant

The Cochin pipeline system ends at the Dow plant in Sarnia. On the site, there are eight storage caverns for LPG's and four brine caverns owned by Dow. The total capacity of the LPG storage caverns is approximately 318 000 M^3 (2,000,000 bbls). There are several petrochemical lines leaving the Dow storage area, but there are no NGL lines to other plants.

The Cochin system could deliver products (in addition to ethylene) to the Sarnia area, specifically to the Dow site, at the same delivery rate as into Windsor, provided storage was available at the Dow plant. The Cochin owners and Dow have begun negotiations on this proposal, and Dow has undertaken a feasibility study to examine the proposal. The results of this study were expected about the end of 1985.

Although the discussions are only at a preliminary stage, the Dow representative on the Cochin panel said that his company is investigating converting four existing brine caverns, each of a capacity of 16 000 to 32 000 M^3 (100,000-200,000 bbls), to LPG storage use. This would allow one cavern for each of ethane, propane, and interface and a spare cavern for emergencies. Dow has not considered developing new caverns. The development of new caverns could be limited by the existence of designated gas reefs in the area since the Ontario Government prohibits drilling within one mile of such reefs.

Cochin considers that storage at Dow would be the best long-term solution for the transportation of ethane, propane and NGL mix from western Canada to Sarnia.

2.5.2 The Dome/Amoco/PanCanadian Plant

This plant is located at the northern terminus of the Windsor-Sarnia section of the EDS. The complex is a large plant for the fractionation of NGL mix with extensive underground storage facilities. There are 270 000 M^3 (1,700,000 bbls) of storage capacity for NGL mix designed to accept full stream delivery from the IPL system and 570 000 M^3 (3,590,000 bbls) of storage for LPG products from the plant. The LPG caverns are designed to accept plant production at a maximum rate of 2 550 M^3/d (1 6,000 bpd). The storage at the Sarnia plant was built for the operation of the fractionation plant, and this remains its primary use.

The EDS does not own any storage caverns at the Sarnia plant. A potential shipper on the EDS must make arrangements with the respective owners of the Dome/ Amoco/PanCanadian facilities or the Petrosar facilities in order to ship on the EDS to or from Sarnia.

2.5.3 The IPL System

The Interprovincial Pipe Line Limited pipeline system, extending from Edmonton, Alberta to Sarnia, Ontario (via Marysville), provides the main source of NGL's in Sarnia. It transports these in an NGL mix consisting mainly of propane, butanes, and condensate. In Sarnia, the mixture is delivered to the Dome/Amoco/PanCanadian fractionation plant where specification product is produced. At present, this plant is the only recipient of NGL mix from the IPL line.

Recently, IPL has experienced capacity shortfalls in the line carrying NGL mix. To solve the problem of volumes tendered for shipment exceeding the available capacity, IPL has initiated apportionment procedures and has also filed an application with the Board for a major expansion of capacity.

2.5.4 Sarnia to Marysville

Other than the EDS and IPL, there are three other NGL and condensate pipelines between Sarnia and Marysville (see Appendix V).

(i) Dome/Amoco:

Dome NGL and Amoco jointly own two pipelines, each 219.1 mm O.D., between Sarnia and Marysville. One of the lines is for LPG and carries propane, and occasionally butanes, from the Dome/Amoco/PanCanadian fractionation plant in Sarnia to the Consumers Power Co. plant in Marysville. The LPG line cannot readily batch different specification products and it is not currently able to operate in the opposite direction. The other line is for condensate and it can operate in either direction.

Both pipelines utilize 141.3 mm O.D. river crossings and the condensate line includes a 152.4 mm O.D. lateral to the Petrosar plant.

(ii) Sun-Canadian Pipe Line Limited:

The 219.1 mm O.D. Sun pipeline also crosses from Marysville to Sarnia. The pipeline originates in Toledo, Ohio and ships crude oil, butanes and propane to Sarnia. The Canadian section is owned and operated by Sun-Canadian.

All of these lines start or finish within the Sarnia fractionation plant and as such, do not connect to the Windsor-Sarnia EDS line except through the plant owners: facilities. In order to transfer product between the EDS and any of these three 219.1 mm O.D. pipelines, access to the plant storage at Sarnia is required. For example, it is possible to ship propane through the EDS from Windsor to Sarnia and then via the 219.1 mm LPG line to Marysville, but due to the different capacities, breakout storage at the Sarnia plant is required if the two systems are to be operated efficiently.

2.5.5 The Marysville, Michigan Area

During the course of the hearing, discussion took place on whether storage was needed in Sarnia rather than Windsor. Evidence was submitted on the availability of storage in Marysville, Michigan, across the river from Sarnia.

CanStates Energy, a partnership of Rankin Petroleum Marketing Limited (a wholly-owned subsidiary of Polysar Limited) and Polysar, operates the Consumers' SNG plant at Marysville, Michigan with storage, truck and rail facilities. Existing storage at the site totals 176 000 M^3 (1, 100,000 bbls). Currently, only 17 000 M^3 (107,000 bbls) are in gas liquids service. The remainder is for the storage of intermediate products. This facility is currently connected to the IPL, Dome-Amoco, Sun and EDS pipelines previously mentioned.

In addition to the existing storage at Marysville, CanStates is engaged in an expansion of storage capacity at the Consumers' site. The expanded facility will have nine caverns, each with an estimated final size ranging from 33 390 M^3 (210,000 bbls) to 125 130 M^3 (787,000 bbls). It was estimated that the expansion would be completed by the end of 1986 and provide a total storage capacity of 815 940 M^3 (5,132,000 bbls).

Polysar is proposing to build a connection to either the Dome EDS or Cochin lines to transport product to storage at the Consumers' plant in Marysville. The details of this line are unconfirmed, but it is expected to be completed by the summer of 1986. Polysar anticipates that the line will be operated as a regulated common carrier. Polysar may be willing to take the ethylene/ ethane interface into storage at Marysville and, depending on the economics, use the interface as either a feedstock or a fuel supply in its Petrosar plant. This offers the possibility of eliminating the need for interface storage at Windsor or at the Dow plant.

CanStates is developing a 4 800 M^3/d (30,000 bpd) fractionation facility at Marysville and hopes to have it on stream in the third or fourth quarter of 1986.

St. Clair Underground, located near Marysville also has underground storage facilities consisting of approximately 275 000 M^3 (1,730,000 bbls) of which 190 000 M^3 (1,200,000 bbls) is usable for gas liquid storage.

2.6 Other Storage Options

Dome has not considered the development of additional storage at the Sarnia fractionation plant. It estimates that a new cavern at the site of the Sarnia pump station would cost $1,750,000, not including surface facilities.

With respect to the potential for other further underground storage cavern development in the Windsor-Sarnia corridor, a witness representing the Minister of Energy for Ontario stated that 14 new caverns are currently being developed in the Sarnia-Windsor area, although not all of these are intended for hydrocarbon use. It was his opinion that, despite restrictions governing the disposal of the brine produced in washing the caverns (and the time and investment involved), there was virtually unlimited potential for underground storage in the Windsor to Sarnia corridor.

2.7 Handling Interface

Since Cochin is responsible for disposing of interface material transported through its line, it is presently negotiating with various fuel customers in both the Sarnia and the Windsor-Detroit areas regarding sale of the ethane/ethylene interface. These negotiations are underway since the Columbia SNG plant, which currently uses the interface material, may be ceasing operations.

If ethylene batches could be sufficiently buffered to satisfy the strict purity requirements, then propane, NGL mix and other products could also be shipped to Sarnia through the Cochin line. However, to effect this change, Cochin would have to successfully market the ethylene interface material in the Sarnia area and develop storage for the other products transported through the line to Sarnia.

CanStates stated that it has the technical ability handle an ethane/ethylene interface at Marysville. Polysar may also have a potential market for that interface in Sarnia.

With respect to other buffer materials for the ethylene, Cochin stated that it would be difficult to market an NGL mix/ethylene interface because of its high price. It was also indicated that the Dow plant could not use the particular product mixtures expected in a propane/ ethylene interface.

2.8 Operational Integration of Cochin, the EDS and the Windsor Facilities

Dome employees operate the Cochin system, the Windsor terminal, and the EDS. The Cochin system between Sarnia and Riga and the EDS are controlled through the Dome control centre in Sarnia. The control centre for the Cochin system from Fort Saskatchewan to Riga is located in Calgary, Both centres are operated by Dome personnel and have access to the same data for monitoring movements between Riga and Windsor. Consequently, both centres share enough data to coordinate their systems' operations. The dispatching orders for the Cochin system and the EDS originate with the Cochin schedulers in Calgary and Dome in Calgary, respectively. The actual coordination of the scheduling of shipments is done, in consultation with the appropriate dispatcher in Calgary, through the appropriate local control centre. The two control centres are integrated to the extent that scheduling can be arranged so that shipments can be transported from Fort Saskatchewan to Sarnia using both Cochin and the EDS.

Chapter 3
Attracting New Business to the Cochin System

3.1 Existing and Forecasted Throughputs

The Cochin pipeline system was constructed to transport to market quantities of ethane and ethylene surplus to Alberta's requirements. Surplus ethane served fuel markets in the U.S., whereas ethylene was shipped to Dow's Sarnia facilities as a petrochemical feedstock. From 1978 until 1984, the Cochin system transported ethane, ethylene and propane at close to full capacity. The shipments of propane to U.S. terminals were initiated in 1978 to permit Cochin to maintain lower ethane and ethylene tariffs. Cochin submitted that it was not until 1985 that the Cochin system throughput fell off appreciably, primarily due to decreasing U.S. fuel markets for ethane.

Cochin testified that it was the commitment of the ethane and ethylene shippers, pursuant to shipping agreements, that permitted the construction of the Cochin system. The shipping agreements, which contain ship-or-pay clauses applicable to the ethane and ethylene shippers, are in place for twenty years from the commencement of shipments and cannot be terminated during the first ten- year period but can be terminated thereafter if a notice of termination is provided two years prior to the effective date. The first opportunity for the shippers to terminate the agreement would be at the end of 1988 for ethane and 1989 for ethylene. Cochin indicated that it does not know what the ethane or ethylene shippers' intentions are at this time with respect to termination of the shipping agreements. Cochin stated that deliveries of ethane to Columbia's Green Springs, Ohio SNG plant have declined and accordingly there will probably continue to be an under-utilization of its system. On a daily basis, ethane shipments to Green Springs, Ohio were 7 700 M^3 (48,739 bbls) and 6 800 M^3 (42,703 bbls) in 1983 and 1984 respectively, and were forecasted for 1985 at 4 300 M^3 (27,000 bbls).

Cochin also indicated that there was a possibility that deliveries to Columbia would terminate in the spring of 1986, although they had not received a notice of termination at the time of the hearing (90 days advance notice is required).

Dow is the only ethylene shipper on the Cochin system. As of July, its 1985 shipments had averaged 1 100 m^3/d (6,860 bpd).

For 1986, Cochin provided the following forecast:

Table 3-1
COCHIN PIPELINE SYSTEM 1986 FORECASTED
VOLUME THROUGHPUT
BPD

QUARTER	PROPANE (1)	ETHYLENE	NGL MIX (2)	SUB-TOTAL	ETHANE (3)	TOTAL (3)
1st	20,800	6,800	6,300	33,900		
2nd	6,500	8,900	6,300	21,700		
3rd	8,000	10,900	6,300	25,200		
4th	28,300	3,300	6,300	37,900		
AVERAGE	15,900	7,500	6,300	29,700	17,800	47,500

(1) Does not include incentive tariff volumes.

(2) Quantities to be shipped pursuant to the NGL incentive tariff. Does not include the potential for IPL to lease up to 25,000 bpd of space.

(3) Quarterly breakdowns were not provided, although it was indicated that the first quarter ethane throughput would be 23,000 to 25,000 bpd.

Cochin's 1986 forecast of 7 500 M^3/d (47.500 bpd) of propane, ethylene, NGL mix, and ethane compares with a current capacity of 14 310 M^3/d (90,000 bpd). The addition of NGL mix reduces the system capacity to 12 720 m^3/d (80,000 bpd). Thus for 1986, there is potential spare capacity of approximately 5 000 M^3/d (32,000 bpd).

Cochin testified that its 1986 average daily throughput forecast of 7 500 m^3/d (47,500 bpd) assumed that Columbia's ethane demand would fall to zero by March 1986, but that there would be fuel markets in the U.S. (Michigan), and in Sarnia, so that ethane would continue to be shipped after March 1986.

Dome testified that it does not, at this time, have firm commercial arrangements in place to replace the Columbia volumes, but does have letters of intent. It was also indicated that sales of ethane into U.S. markets may be limited by U.S. regulatory restrictions.

With respect to the possibility of ethane sales at Sarnia, a witness for Cochin stated that, in obtaining the ethane removal permit, an undertaking was made to the Province of Alberta not to sell the material for petrochemical uses. The same witness could not comment on Alberta's current position on this matter.

It would appear, therefore, that the success of these ethane marketing efforts and the negotiations to lease pipeline capacity to IPL will determine the extent to which, over the short term at least, Cochin will have to rely on attracting other incremental business to fill its pipeline.

3.2 Cochin's Policies for Attracting New Business

Cochin submitted that the under-utilization of the Cochin system resulting from the decline in deliveries of ethane to Columbia's Green Springs, Ohio facilities, will be remedied by developing tariff policies that will attract new and/or additional business to establish the system as a long-term competitive alternative for the shipment of products to eastern Canada.

A witness for Cochin stated that it is working with IPL to assist in alleviating the current shut-in oil production problem in western Canada. Specifically, Cochin is discussing the possibility of leasing 4000 M^3/d (25,000 bpd) of capacity on its system to IPL for shipping NGL mix to Windsor. This is in addition to the 1986 forecast of 1 000 M^3/d (6,300 bpd) of NGL mix which is to the account of Dome.

Both Dome and Cochin testified that the future of the Cochin system lies in attracting additional shippers of specification products, notably propane and butanes. It was noted that the advantages to a potential shipper of shipping specification product, as opposed to an NGL mix, is that the shipper can retain in Alberta the condensate portion of the mix where there is a significant and growing demand for condensate as a heavy crude oil diluent. Cochin believes, however, that NGL mix shipments represent an immediate opportunity that can fill the pipeline in the short term.

3.3 Issues Related to the 1985 Summer Incentive Tariffs

CanStates and Gulf adduced evidence during the hearing indicating that, as potential shippers, they were unable to ship propane to Windsor at the incentive rates in effect during 1985 because they did not have access to storage. Cochin did not accept CanStates' offer to move 7 950 M^3 (50,000 bbls) of propane to Windsor on the grounds that CanStates did not have the necessary terminalling arrangements to receive propane at Windsor Section 3 of Cochin's General Rules and Regulations as set forth in tariff NEB No. 6 states that Cochin will accept product for transportation only when the shipper has made arrangements, satisfactory to Cochin, for the necessary storage and other facilities at the receiving, injection, and delivery points. Accordingly, Cochin contended that-it had no responsibility to provide storage at Windsor.

Gulf testified that Dome refused Gulf's request to lease storage space for propane at Windsor, stating that Dome was not in the business of leasing storage. During the hearing, Dome explained that it could not lease the storage to Gulf because of its own shipment of 159 000 M^3 (1,000,000 bbls) of propane at that time. In the summer of 1985, Dome shipped, under the incentive tariff, 179 000 M^3 (1,128,000 bbls) of propane to Windsor and 25 400 M^3 (160,000 bbls) to U.S. destinations. Petro-Canada also shipped 12 700 M^3 (80,000 bbls) of propane to U.S. destinations under the incentive tariff.

With respect to the filing of tariff NEB No. 31, intervenors questioned the appropriateness of the lead time which had been provided to non-owner shippers. Given that the incentive tariff became effective on 18 July 1985, and was to expire on 1 September 1985, Cochin agreed that third party shippers could not have made shipments in August, since normally August nominations have to be submitted by 15 July. However, Cochin said that when it filed tariff NEB No. 31, it informed as many shippers as possible that it would waive the advanced tendering requirement on tenders for that tariff and that it was prepared to work with potential shippers to ensure that as many barrels as possible went through the system at the discount rate.

In response to questions about the lead time provided to Dome as compared to third party shippers, Cochin stated that Dome first proposed to ship propane to Windsor on 8 April 1985, but that the plans at that time were only at a formative stage. The tariff was not established at that time and Dome's proposal was not formally communicated outside the Cochin group. The Cochin owners may thus have been in a better position to build up the inventory necessary to take advantage of the incentive tariff than third party shippers. However, Cochin said that other people in the industry may well have known what was happening.

The evidence shows that Gulf, a potential shipper of propane, came to know about the incentive propane tariff on 17 June 1985. The following day, Cochin filed tariff NEB No. 29 with the Board. On 20 June 1985, the Cochin pipeline accepted a batch of propane from Dome which was ultimately delivered to Windsor on 23 July 1985. In response to questions about how Cochin could accept a propane batch destined for Windsor before the Board had approved Windsor as a delivery point, Dome explained that this particular batch of propane was initially destined for the United States. Later, when tariff NEB No. 27 was approved and Windsor became an authorized delivery point, the destination was changed to Windsor. Dome said that if the incentive tariff had not been approved, the deliveries would still have been made to Windsor but at the full toll.

During cross-examination, the representatives on the Cochin panel of A.G. Pipe Lines and Dow disagreed with the suggestion that the incentive tariff was designed for the sole benefit of Dome. The Cochin pipeline owners must approve any Cochin pipeline tariff by at least an 85 percent majority vote which allows either A.G. Pipe Lines or Dow to veto any tariff proposals advanced by Dome. A.G. Pipe Lines said that it is neither a producer nor a shipper of propane. A.G. Pipe Lines and Dow said that their interest, as owners of the Cochin system, is to optimize the revenue from the Cochin system.

Dow said that the incentive ethylene tariff was passed by the operating committee when Dow made a commitment to ship a minimum volume. Dow stated that the shipment of 23 800 M^3 (150,000 bbls) of ethylene at the incentive tariff was incremental to its normal demand and that the shipment of this ethylene would not have taken place without the incentive tariff. Dow denied that it allowed its inventory to run down in August in order to take advantage of the incentive tariff.

3.4 The Incentive Tariffs for 1986

On 24 October 1985, Cochin filed with the Board tariffs NEB No. 32 and No. 33, applicable to NGL mix and incentive volume propane shipments respectively Tariff NEB No. 32 provides for the shipment of NGL mix from either Fort Saskatchewan or Kerrobert to Windsor. The toll from Fort Saskatchewan to Windsor for the Canadian section is \$5.98/M^3 (\$0.95/bbl) which when combined with the FERC tariff No. 39, makes the total toll to Windsor approximately \$19.18/M^3 (\$3.05/bbl). Cochin stated that, due to expected constraints on the movement of products on IPL line No. 1, Dome expects to move significant volumes of NGL mix through Cochin as early as December 1985, Tariff NEB No. 32 was approved by the Board on an interim basis, effective 1 December 1985.

Propane tariff NEB No. 33 is proposed by Cochin to be effective 1 April 1986 but has not yet been accepted by the Board. It provides for the shipment of propane at rates which are 40 percent lower than in the existing propane tariff to Windsor (NEB No. 27). The proposed toll for propane shipments from Fort Saskatchewan to Windsor is the same as for the NGL mix incentive tariff described above. Tariff NEB No. 33 applies to volumes shipped during the off-peak period of April through August. The tariff also provides that, by shipping during the off-peak period, a shipper would earn the right to ship an equal volume during the peak period of September through March at the incentive rate.

Cochin stated that the proposed \$19.18/M^3 (\$3.05/bbl) toll for propane was market oriented and was set at a level which would attract propane shipments. The Company explained that the current east to west propane market selling price differential translated to about \$30.90/M^3 (\$4.93/bbl). This was about \$6.16/M^3 (\$0.98/bbl) higher than the total cost of shipment of \$24.85/M^3 (\$3.95/bbl) from Fort Saskatchewan to Sarnia through Cochin and the EDS. This total cost was comprised of \$1.57/M^3 (\$0.25/bbl) for batch accumulation and injection facilities at Fort Saskatchewan; \$19.18/M^3 (\$3.05/bbl)

for the Cochin pipeline toll; $1.57/M^3 ($0.25/bbl) for Windsor terminalling; and $2.52/M^3 ($0.40/bbl) for the EDS toll. In Cochin's view, a profit margin of about $6.16/M^3 ($0.98/bbl) was an adequate incentive for shippers to move propane through its system.

Cochin stated that, unlike the propane tariff, there is no winter volume restriction on the NGL mix tariff. The main reason for the difference is that NGL mix is not as seasonal a product as propane. If Cochin were to leave the incentive tariff for propane in effect year round, it would be giving up a significant amount of revenue from propane shipments to the U.S. during the peak heating season. Another reason cited for the difference was that NGL mix is currently not being shipped and if Cochin does not provide an attractive toll year round, the NGL mix shippers would not ship during the winter when the toll would be too high.

Cochin stated that it filed the new propane tariff early to allow sufficient time for shippers to complete the necessary arrangements. Cochin believed that the elimination of the volume restriction and the right to ship equal volumes during the peak season at the same rate as during the off-peak season would encourage a more uniform distribution of shipments to destinations where storage was available, thereby allowing better utilization of the entire system.

In respect of the requirement in the tariff of a 7 950 M^3 (50,000 bbl) batch size and a 790 M^3 (5,000 bbl) minimum tender, Cochin explained that it accumulates a number of propane tenders to get a batch size of 7 950 M^3 (50,000 bbls). It cannot ship smaller batches through the line. In the case of NGL mix, Cochin assumed that it would get minimum 7 950 M^3 (50,000 bbl) tenders for NGL mix deliveries from individual shippers.

Cochin stated that it does not currently anticipate large shipments of butanes being tendered but it will remain open to the possibility and will try to accommodate any shippers with significant quantities of butanes. Cochin wants to be satisfied that storage is available at drop-off points before it will file a butanes tariff for Board approval.

3.5 The Attractiveness of Cochin Tariffs NEB No. 32 and 33

Evidence was presented on three aspects of the attractiveness of tariffs No. 32 and No. 33:

(i) the risk associated with the incentive tariffs;

(ii) the structure of the proposed tariffs; and

(iii) the likelihood of shippers moving product under these tariffs.

The evidence on these aspects of tariffs NEB No. 32 and No. 33 is summarized below.

3.5.1 The Risk Associated with the Incentive Tariffs

Several potential shippers stated that, to commit themselves to ship significant volumes of product through the Cochin system, they would need assurances of stable long-term tariffs for the pipeline. If, for their purposes, it is uneconomic to ship on the Cochin system under the regular tariff, then they cannot be expected to make the investments necessary to accept shipments since the incentive tariff could be terminated at any time. For the same reason, they did not see how Cochin could expect them to enter into ship-or-pay agreements for storage under these conditions of substantial economic uncertainty.

3.5.2 The Structure of the Proposed Tariffs

Comments on the structure of the tariffs were limited, but ICG Liquid Gas Ltd. noted that the proposed NGL mix tariff NEB No. 32, is substantially lower than the winter component of the regular propane tariff (for non-incentive volumes) and that tolls should reflect the relative costs of shipping the products. This argument was also advanced with respect to the ethylene tariffs. Ethylene has, in the past, been given the same toll (regular and incentive rates) as propane to Windsor although ethylene goes further, to Sarnia, and incurs the additional cost of Cochin having to deal with the ethane/ ethylene interface.

Shell stated that it opposed the structure of the proposed propane tariff as, in its view, it is not designed to maximize throughputs on the Cochin system but rather, to benefit the major shipper ICG also objected to the "seasonality component" of the proposed propane tariff.

3.5.3 The Likelihood of Shipments Under Tariff NEB No. 32

CanStates and Polysar expressed interest in shipping NGL mix via Cochin to Windsor for ultimate delivery to Marysville, Michigan. However, they would not commit themselves to shipping under Cochin's NGL mix tariff.

Rather, they would prefer to have access to the greatest range of feedstock options possible to enable them to utilize the most economically attractive alternative according to prevailing circumstances. CanStates noted that, as the end point for the tariff is Windsor and Dome is the only company with NGL storage facilities in Windsor, the tariff will currently only benefit Dome and is not attractive to CanStates.

Other potential shippers indicated that their interest in shipping NGL mix under NEB tariff No. 32 is limited.

Cochin noted that IPL's current toll to Sarnia is $\$7.55/M^3$ ($1.20/bbl) compared to the total cost to move NGL mix to Sarnia, via the Cochin system and EDS, of $\$24.85/M^3$ ($3.95/bbl). In addition, the charge by Cochin of an allowance for shipping losses of one half of one percent is ten times larger than that charged by IPL.

As to who will use Cochin's NGL tariff, given the attractiveness of IPL's tariff, Cochin stated that the IPL line was full and that a shipper could move the excess NGL mix through Cochin. Alternatively, IPL could lease some capacity on Cochin for the shipment of NGL mix. Cochin suggested that this arrangement would benefit both IPL and the crude oil shippers on its pipeline because IPL's capacity would be freed up almost immediately for the movement of additional crude oil and NGL mix. This would help to alleviate the current shut-in oil production problems in western Canada.

Cochin stated that it was generally aware of IPL's plan to further expand its system, but stated that it is continuing discussions regarding IPL leasing 3 980 M^3/d (25,000 bpd) of capacity from Cochin. Cochin said that it could ship 1 590 M^3/d (10,000 bpd) immediately and 3 980 M^3/d (25,000 bpd) of NGL mix in about six months.

3.5.4 The Likelihood of Shipments Under Tariff NEB No. 33

Most of the potential propane shippers stated that their future shipments of propane to Windsor under tariff NEB No. 33 will partly depend upon the relative costs of buying specification propane shipped

on the Cochin system, compared to buying propane from other sources, including product from Dome's fractionation plant in Sarnia. The relative costs of these two sources of propane will in turn depend upon the attractiveness of the propane tariff on the Cochin system.

ICG submitted evidence indicating that there was an $\$11.45/M^3$ ($1.82/bbl) cost advantage during July 1985 in buying specification propane in the west and shipping it on the Cochin system under the incentive propane tariff then in place. ICG also estimated that there will be about an $\$11.87/M^3$ ($1.87/bbl) cost advantage on 1 April 1986, assuming that the proposed Cochin tariff NEB No. 33 will be in effect at that time and that present prices in the west and at Sarnia prevail. Other potential shippers on the Cochin system agreed that these numbers were indicative of the incentive to use the Cochin system but noted that the size of the incentive can easily change if, among other things, Dome reduces its selling price for propane from its Sarnia plant.

Shippers also stated that shipments of propane to Windsor under tariff NEB No. 33 and their use of any storage or terminalling facilities at Windsor will partly depend upon the relative end market conditions and relative availability of storage and terminalling facilities at Sarnia and Marysville as compared to Windsor.

Chapter 4
Initiatives Put Forward by Cochin and Dome for Storage

4.1 OC-28 and OC-29

The Reasons for Decisions issued by the Board at the time that Certificates OC-28 and 29 were issued, authorizing construction of the EDS and the Cochin system, respectively, record some of the storage undertakings made by company representatives before the Board.

With respect to OC-28, the Board's Reasons for Decision dated September 1973 contained the following passages:

> "Facilities p. 12
>
> ... Initially Dome NGL will not own any underground storage facilities. Storage facilities available to the pipeline are owned by Dome and are committed to serving its Columbia contract. If third party shippers require storage at Windsor, Ontario, Dome NGL stated it will develop storage on a tariff basis as required."
>
> "Financial p. 17
>
> .. The pipeline will be connected to Dome's underground storage at Windsor. Dome NGL will not initially own storage but would provide it if there were assurance of a sufficient volume of material over a long enough time to provide an economic base."

During the course of the hearing that is the subject of this report, Dome noted that the wording in the latter passage implies that the Board understood that the initial storage was not to be owned by the pipeline but rather by Dome.

With respect to OC-29, the Board's Reasons for Decision dated January 1974 contained the following passage:

> "Facilities and Routing p. 6-11
>
> Cochin does not propose to have storage facilities on the pipeline system but shipper owned storage facilities will be utilized at Fort Saskatchewan, Kerrobert, and Sarnia. It undertook to provide storage on a fee basis it requested."

During the hearing that is the subject of this report, Cochin stated that if a reasonable quantity of storage is required, then Cochin could provide it by leasing storage from others, thereby fulfilling any previous commitments to the Board.

Dome and Cochin both agreed during the hearing that, notwithstanding the exchange between the two companies of pipelines between Windsor and Sarnia, the commitment made by Dome NGL to provide storage at Windsor on a tariff basis remained with Dome NGL.

4.2 Current Initiatives

Cochin submitted that it is committed to transporting additional quantities of propane and NGL mix on the Cochin system through to the Windsor-Sarnia area. Cochin agreed that shippers have to get their product into and out of the line and that terminalling and storage facilities have to be available.

Cochin said that, at Windsor, the Ethane Shippers Joint Venture is prepared to convert one or more of their caverns to propane or NGL break-out storage. The Ethane Shippers also would be willing to lease tank-car loading facilities or additional storage, as required and available, from Dome. Shippers could gain access to these facilities for a fee through negotiations with the Ethane Shippers.

As well, Cochin indicated that it is prepared to assist potential shippers in their negotiations to gain access to pipeline or storage facilities in the Windsor-Sarnia area owned by others.

4.2.1 Facilities Provided by the Cochin System

Cochin stated that its facilities, as they currently exist, are available without discrimination to shippers. Cochin provides storage for its own use to handle the ethane/ethylene interface at Windsor and to handle ethane and propane at Regina. It also provides limited surface storage at U.S. terminals to facilitate tank truck and tank car deliveries of propane. Notwithstanding the above, Cochin stated that its policy is that shippers should provide or arrange for their own storage. Cochin said that it does not own any loading facilities in Windsor, but that if there is sufficient demand, and shippers were prepared to ship-or-pay, Cochin would build such loading facilities.

Dome agreed that, subject to an 85 percent affirmative vote by the operating committee, pursuant to the Joint Venture Agreement, the Cochin pipeline owners could expand the Cochin system by developing additional storage facilities, Dome stated, however, that it would not be supportive of Cochin building additional facilities if there was a cheaper way of providing service. If there were no better alternatives, Dome stated that it would be a good idea for the Board to order Cochin to provide storage.

4.2.2 The Ethane Shippers Joint Venture Caverns

Dome and Cochin stated that if surplus storage capacity develops then the Ethane Shippers would be prepared to convert one or more of the ethane storage caverns E-1, E-3 and E-5 from ethane service to propane, butane or NGL mix service, if shippers committed a total shipment of 7 950 M^3 (500,000 bbls).

They confirmed that a shipper would be charged a $1.57/$M^3$ ($0.25/bbl) terminalling fee, which would include breakout storage and dehydration services but would not include use of the rail or truck loading facilities. Cochin confirmed that the $1.57/$M^3$ ($0.25/bbl) charge would cover whatever breakout storage period was necessary to complete the transfer from Cochin to the EDS, which period, according to a Dome witness, could be as much as 30 days. Dome could not confirm whether the $1.57/$M^3$ (0.25/bbl) charge had been approved by the operating committee pursuant to the Windsor Storage Facility Operating Agreement.

Dome stated that, where two common carriers are interconnected and the product movement was uninterrupted, unmetered and did not require pumping, a terminalling fee should not be charged. However, if a product moved from Cochin to the EDS even without going through storage, a

terminalling fee would be justified because the storage service, although not used, was nevertheless made available for the product.

Dome indicated that it was not intended that the ethane caverns would be leased to the Cochin system. Rather, they would be made available to shippers for a separate fee. The arrangement would be similar to that at Fort Saskatchewan where the accounting was done as a package; a fee was charged on account of the Ethane Shippers and the pipeline toll was charged pursuant to the NEB tariff. Cochin said that, if storage caverns were to be regulated, the storage cost would be about $8.43/ M^3 ($1.34/bbl) as opposed to the $1.57 ($0.25) now proposed. The estimate of $8.43 ($1.34) that was provided was based on the assumptions of a 7 950 M^3 (500,000 bbl) per year per cavern throughput, a non-incentive rate toll methodology, and an annual cost of service of $670,000 per cavern calculated in accordance with the methodology approved by the Board for the Cochin system.

4.2.3 Dome's Caverns and Loading Facilities

Cochin stated that if the ethane storage caverns E-1, E-3 and E-5 were inadequate or if loading facilities were needed, the Ethane Shippers would lease the facilities from Dome, if available, and offer them to other shippers. Dome confirmed that it would be prepared to lease some use of its loading facilities and a portion of its cavern facilities (caverns B-7 and P-8) to the Ethane Shippers. It also volunteered to share in the apportionment of space in any facilities which it agreed to lease, if it became necessary.

Dome stated that it would not lease its facilities directly to the pipeline because the Ethane Shippers would already be providing a similar service and there was no point in getting another party involved in the exercise. Cochin agreed that since the Ethane Shippers would provide storage in caverns E-1, E-3 and E-5, it would be preferable for the Ethane Shippers to provide any other leased facilities. Cochin said the use of a non-regulated entity to lease the caverns would increase the flexibility of adding, subtracting or switching cavern service from one year to the next without the complication of going through the regulatory procedures and filing tariffs. The arrangement would be comparable with that at Fort Saskatchewan where the propane shippers use facilities provided by the Ethane Shippers.

4.2.4 Dow's Caverns

Dow is examining the feasibility of offering, for use at the Cochin system terminus in Sarnia, four existing brine caverns on its storage site with a total capacity of 95 400 M^3 (600,000 bbls). However no firm agreements had been entered into at the time of the hearing and no commitments were made as to whether or not these caverns would be operated as part of the Cochin system.

4.2.5 Summary

In summary, the initiatives put forward by Cochin which Dome referred to as the "Cochin Solution" consist of the following; Cochin undertakes to:

(i) assist in negotiations for access to the ethane caverns,

(ii) assist in negotiations with Dow for storage at Sarnia,

(iii) assist in negotiations with Dome for the use of their Windsor caverns,

(iv) assist in the negotiations for the use of the loading and unloading facilities owned by Dome at Windsor,

(v) assist in negotiating access to the EDS, and

(vi) assist in negotiations for access to other pipelines and storage facilities in the Windsor-Sarnia area.

Further to (i) above the Ethane Shippers Joint Venture have undertaken to convert their ethane caverns to store other products provided that surplus capacity is available and firm ship-or-pay commitments are entered into by potential shippers. The Ethane Shippers have also undertaken to lease, based upon availability, Dome's Windsor storage and loading facilities and possibly some of Dow's storage in Sarnia.

4.3 The Objections of Shippers to These Initiatives

CanStates stated that the Board has jurisdiction to direct Cochin to provide terminalling service at Windsor and should do so. Cochin-Dome's offer to assist shippers in piece-meal negotiations for terminalling service was unacceptable to it as such service should be provided on a tariff basis and be subject to review by the Board, although the initial proposal could come from Cochin itself. CanStates said that even with these safeguards, if the tariff including terminalling were to be uncompetitive, there was little prospect for increased product movements.

Gulf said that its main concern was Dome's potential conflict of interest as an owner of Cochin pipeline and as a major shipper on the IPL system. Gulf held the view that the potential conflict of interest would be eliminated if the Windsor storage and loading facilities were regulated by the Board as a common carrier Gulf said that it would prefer having Dome's Windsor facilities leased to the Cochin system, rather than the Ethane Shippers, because it operates as a common carrier. In Gulf's view, the Board could direct Cochin under Section 59(3) of the *National Energy Board Act* to provide the facilities that are available at Windsor. It also had the view that if products other than ethylene were to be shipped by the Cochin system to Sarnia, the storage facilities at Sarnia should be part of the Cochin system in the same manner that storage facilities at Windsor should be.

Chapter 5
The Storage and Terminalling Needs of Potential Shippers

5.1 Potential Use of the Cochin System and the Windsor Terminal

The intervenors were requested by the Board to provide information regarding the potential use of storage and loading facilities at the Windsor terminal assuming these facilities were available and competitive as a supply point. Of the eleven intervenors who responded, ten indicated that they would be interested in using such facilities. The responses varied in the amount of detail provided. Some of the information provided was modified during the testimony of company witnesses.

All of the respondents stressed that economics would be the prime determining factor regarding usage of the Cochin system and Windsor terminal. Most intervenors could not predict the volumes that they would ship through the Cochin system to the Windsor/Sarnia area. It was generally agreed that this would be determined by the relative cost of acquiring specification product in Alberta and shipping on the Cochin system (including injection charges, pipeline tariffs, and terminalling and storage charges), versus the cost of product available from current sources.

The following table outlines the potential annual volumes suggested by some of the intervenors.

Table 5-1
Potential Cochin and Windsor Terminal Usage**
(10^3m^3)

COMPANY	VOLUME	PRODUCT	YEAR
CanStates	290	propane	*
	145	butanes	*
Canterra Energy	255	propane/butanes	1990
Chevron	20	propane	*
Gulf Canada	100-250	propane	*
	20-50	butanes	*
SOQUIP	290	butanes	1986
	290-350	propane or butanes	1989
	1 160	NGL mix	1989

* Note: estimates were not qualified by the year that they were forecasted to commence.
** Note: all of the above estimates were subject to the relative economics of the Cochin system versus alternative transportation networks.

In addition to these volumes, CIGAS Products Ltd. and ICG expressed interest in moving specification propane through the Cochin system, while Esso Resources Canada Limited, Petro-Canada and Shell expressed interest in moving both propane and butanes. Gulf, Shell and CanStates raised the possibility of shipping NGL mix through the Cochin system in the future. Chevron and Esso said they

might be interested in shipping some ethane through the Cochin system to eastern Canada. The Cochin panel representative from Dow indicated that Dow had been studying the possibility of shipping butadiene and propylene through the Cochin system.

Other factors that were cited by the intervenors as relevant to the potential future need for storage in Windsor were the future supply and demand for NGL's in eastern and western Canada, pipeline and storage capacity constraints, as well as any contractual terms and conditions associated with access to either the pipeline or storage facilities.

5.2 Windsor versus Sarnia

Most intervenors expressed interest in delivering to the Sarnia area. According to current pipeline configurations, they felt that access to the facilities at Windsor would be required to allow for the transfer of product between the Cochin system and the EDS in order to make deliveries to the Sarnia area.

CIGAS, Gulf, ICG and Shell stated that they would like to use Windsor to supply local specification propane markets using rail and truck loading facilities at Windsor ICG said that the fact that the Windsor facilities are on a different rail system was attractive due to rail traffic congestion problems in Sarnia.

Polysar stated that access to storage at Windsor might be useful in trading NGL'S.

Many intervenors indicated that access to the terminalling facilities at Windsor would be an improvement over the current situation.

Dow stated that it would continue to ship past Windsor on the Cochin system and therefore had no interest in storage at Windsor

Dome indicated that it would use its own facilities and had no interest in additional storage at Windsor

5.3 Storage Needs

Given the lack of specific information regarding storage arrangements and costs, most intervenors were unable to specify the amount of storage they would require at Windsor.

In addition to CanStates and Polysar (see section 2.5.5), ICG also indicated that it would consider providing its own storage facilities.

ICG said that it requires long-term propane storage, for the heating season or longer. Under the right economic circumstances, ICG would be prepared to acquire storage at Windsor either through an agreement with the owners or by building its own. If it became necessary, ICG would also install truck loading and tank car facilities. ICG is only prepared to invest in such facilities if it reasonably assured that the pipeline tolls will remain stable. However, since the incentive tariffs for the System could, in their view, be eliminated at any time in the future, ICG is reluctant to make such an investment.

CIGAS also expressed a need for long-term storage at Windsor due to the summer to winter fluctuations in propane demand. The remaining intervenors were primarily interested in terminalling facilities with associated short-term storage at Windsor

5.4 The Concerns of Dome and Cochin

Cochin stated that the owners of the Cochin system, including Dome, have proposed that the Windsor facilities be made available to other shippers. It also said that Dome and the Cochin system owners are prepared to permit pipeline connections to the EDS or the Cochin system in the Sarnia area, to the extent that they can be justified.

However, Cochin argued that it needs to know how much product various shippers are prepared to ship through its system to Windsor or Sarnia and that only through such discussions with various potential shippers can Cochin ascertain whether or not these shippers are serious about shipping propane and other products.

Both Dome and Cochin noted with concern the absence of firm commitments from potential shippers to both ship product on their system and to obtain storage at Windsor. In Dome's view, this made the evidence on the need for storage at Windsor inconclusive,

Dome noted that considerable time was spent by some potential shippers in trying to determine if it would be possible to tightline product past the Windsor terminal. In Dome's view, this demonstrated to a large extent that the availability of storage at Windsor was of secondary concern to these potential shippers. Cochin maintained that the provision of storage for its system near the Dow plant in Sarnia is the best long-term solution.

The Cochin system owners argued that it is unreasonable to expect them to undertake expenditures to provide storage and terminalling facilities in the absence of firm commitments from shippers. Potential shippers replied that. if Cochin is truly interested in increasing throughput on the system, it would be in their own interest to provide such facilities since the cost of the investment would not be great relative to potential returns to the pipeline.

Cochin noted that its proposal is not dissimilar to the arrangements in Fort Saskatchewan where storage is provided to shippers at competitive rates in the absence of toll regulation. Several of the shippers were opposed to the concept of individually negotiating charges for terminalling and storage services as they perceive Cochin to be in a conflict of interest position, They also pointed out that the Fort Saskatchewan case is different because many companies offer storage, thereby creating competition, whereas competition amongst storage suppliers is absent at Windsor

5.5 General Industry Practice Regarding the Provision of Storage and Terminalling Facilities

Cochin's opinion is that a pipeline is not obligated to provide storage for its shippers, and that the provision of such storage should be decided by the pipeline owner. In planning the pipeline, Cochin made the decision to provide surface propane storage at five U.S, locations to encourage shipments. However, it stated that shippers have many choices in Windsor for storage and, therefore, believes that it is not necessary to provide storage and terminalling facilities there.

According to Dome, a common carrier pipeline should not be required to provide shippers with a means of getting on or off the line. However, if storage were to be considered a necessary and an integral part of a pipeline system, it agreed that such storage should be regulated.

Gulf stated that there is no general industry practice regarding the provision of storage and that storage is supplied according to shipper needs. In some cases, several shippers will get together and construct

one facility but have the pipeline company operate it, whereas in other cases, shippers will supply their own. Occasionally, pipelines will both construct and operate such facilities.

ICG suggested that terminalling storage is critical to the development of a Canadian propane market to be served by Cochin. It considers that Canadian distributors should be provided with the same type of terminalling services as Cochin provides in the U.S.

Shell's opinion was that if shippers require terminalling facilities, then pipelines should provide such services. Shell stated that crude oil pipelines generally provide terminalling and tankage; specification product systems do not.

According to CanStates, the Texas Eastern Transmission Corporation pipeline in the U.S. provides public facilities for propane shippers at the beginning and end of its pipeline, as well as at other locations on the pipeline. However, it agreed that some of the storage along this pipeline is shipper-owned. CanStates also understands that Hydrocarbon Transportation Inc. and MAPCO, both pipelines operating in the U.S., provide some terminalling facilities for shippers of propane, butane and high vapour pressure product.

According to Cochin, IPL does not provide storage at Edmonton, breakout storage at Superior, or receiving storage at Sarnia for shippers of high vapour pressure product. Such storage is provided by the shippers
.
Evidence was given indicating that Trans-Northern Pipe Line Company does own some storage but that the majority of storage on its system is shipper-owned. Its tariff and conditions of transportation require that shippers provide the necessary facilities for deliveries and receipts without restricting the full flaw capacity of the Trans-Northern system. Questioned on the reasons for this, a witness for Gulf suggested that shippers of fungible products such as propane, butanes, and ethane are content to permit the pipeline company to be responsible for storage, for reasons of simplicity and economies of scale. However, shippers of non-fungible products would build storage for their own use, in order to protect the characteristics of their product.

Chapter 6
Summary and Conclusions

The following is a summary of the relevant considerations and issues discussed during the hearing exclusive of the legal arguments dealing with jurisdiction.

6.1 Relevant Considerations

6.1.1 Purpose and Scope of the Hearing

This hearing was called in response to concerns expressed by potential shippers during the Board's assessment of Cochin's tariffs NEB No. 27 and No. 29. Some potential shippers were concerned that, with the addition of Windsor as a delivery point for propane, those who did not control the Windsor facilities did not have an equal opportunity to ship under the incentive tariffs. Thus the purpose of the hearing was to examine the facts relevant to a determination of whether the Board should be exercising jurisdiction over some or all of the Windsor facilities. In addition, the hearing was called to make a determination of whether, based on the present and future need for storage and terminalling facilities in Windsor, further action should be taken by the Board. The scope of the latter intention was clarified by the Chairman's opening statement wherein he said that:

> "I would like to stress at this time that, should it be determined that a problem exists with respect to the availability of storage and other facilities at Windsor. it is not within the scope of this hearing for me to gather information which would enable the Board to determine what would be the best solution to that problem. Such a determination could only be arrived at after a detailed examination of the relative strengths and weaknesses of each potential solution, Obviously, such an examination would be conducted more appropriately once the Board has made its finding with respect to its jurisdiction over the Windsor facilities."

6.1.2 The Common Carrier Consideration

The evidence for and against jurisdiction can be characterized by a recurring general theme; that is whether the absence of Board regulation over certain key facilities restricts the ability of pipelines in the Windsor-Sarnia area, under Board regulation, to actually operate as common carriers. Specifically, the issue of whether the absence of Board regulation over the existing facilities at Windsor, (which are necessary to remove product from the Cochin pipeline system for ultimate delivery to the EDS or to truck and rail cars), unduly restricts the ability of the Cochin pipeline to actually operate as a common carrier.

6.1.3 The Economic Purpose of Regulation

The call by some parties for Board regulation over the Windsor facilities is in contrast to the satisfaction expressed with the existing arrangements for storage and injection facilities at Fort Saskatchewan. This is understandable if one accepts that the main economic purpose of regulation is to protect the public interest to the extent provided by competition in an unregulated market. The evidence suggests that this protection is provided by competition in the storage and terminalling arrangements at Fort Saskatchewan.

The initiatives of Dome and Cochin could succeed in simulating a competitive environment in certain respects. There was general satisfaction amongst the parties with the fact that the facilities would be equally shared amongst the users and no one objected that the price offered for the service was unfair. However, there was considerable concern on the subject of risk. This was expressed with respect to uncertainty over the durability that the Dome and Cochin initiatives would prove to have. The same concern was expressed with respect to the recently proposed incentive tariffs.

In light of this uncertainty, potential shippers were reluctant to make firm commitments to ship under the incentive tariffs or to utilize the Windsor facilities. In many cases, such commitments would require making investments to adapt to the use of Cochin as a supply source without any form of assurance that it would remain economically attractive to them.

Cochin expressed an aversion to accepting risk, by stipulating that the Windsor facilities would be converted for use only if ship-or-pay commitments were received. It is natural for market participants to be risk-averse. In this case, a determination of whether risk is being appropriately distributed would have to take into account the relative status of the parties, and the size and nature of the required commitments and potential rewards. In this respect, the regulated status of the Cochin system, the underutilization of existing pipeline capacity, and the evidence as it relates to the required commitments and potential rewards would appear to favour the assumption of greater risk by Cochin than by potential shippers.

6.1.4 The Concerns of Ontario

The Ontario government argued that the Windsor facilities fell under provincial jurisdiction. However, the detailed evidence indicated that at present, it exercised this jurisdiction with respect to environmental matters, jurisdiction over well drilling and maintenance under the *Mining Act* and the *Petroleum Resources Act* and safety requirements under the *Labour Act*. No evidence was presented as to any regulation by Ontario on the use of tolls payable although it was suggested that these could be determined by the Ontario Energy Board. Ontario did not provide evidence to demonstrate that National Energy Board regulation would render any of Ontario's regulation programs at Windsor redundant or indicate that there had been any problems arising out of the National Energy Board's regulation over cavern I-4. Therefore, no reasons were presented upon which it could be concluded that National Energy Board and provincial regulation could not co-exist at the Windsor facilities, as is the case with other facilities under National Energy Board jurisdiction.

6.1.5 General Industry Practices

The evidence obtained during the hearing indicated that there is no general practice amongst pipelines for providing storage and terminalling facilities. However there was general agreement that storage provided by a pipeline company is usually limited to the short-term storage that is necessary to allow time to remove the product before the arrival of another batch of the same product, One witness suggested that shippers of non-fungible products have preferred to provide their own storage to protect the unique characteristics of their product, while common storage would often be more attractive to shippers of fungible products to take advantage of economies of scale.

6.l.6 Changing Circumstances

Evidence was presented during the hearing that changes are taking place or being contemplated affecting the utilization of the Cochin system and consequently, the present and future need for storage and terminalling facilities at Windsor. These include:

- the demise of some existing markets for products now handled by Cochin;
- the growing appetite for NGL's at Sarnia to serve the petrochemical industry and the desire of Cochin to participate in supplying this market;
- limitations in the capacity of the IPL system to deliver NGL mix to Sarnia;
- the commencement of NGL mix deliveries through the Cochin system;
- the development of NGL storage and fractionation facilities at Marysville;
- the possible extension of the multi-product use of the Cochin system to Sarnia;
- a potential connection between Cochin or the EDS and Marysville;
- the potential conversion of cavern I-4 and the ethane caverns to store other products;
- the development of Dome's caverns B-7 and P-8; and
- the potential expansion of the Dome rail and truck loading facilities.

The extent of these changes suggests that the NGL industry in the Windsor-Sarnia area is in a state of considerable transition.

6.2 Specific Issues

6.2.1 Cavern I-4

Cavern I-4 is used to store ethane/ethylene interface and is under the jurisdiction of the Board. If that interface could be stored elsewhere, Cochin would consider (if it had firm commitments for its use) expanding the cavern and converting it to another use. Cochin may at that time apply to have the cavern removed from the Board's jurisdiction. Ontario did not cite any difficulties as a result of the Board's regulation of cavern I-4.

6.2.2 The Ethane Shippers' Facilities

The facilities owned by the Ethane Shippers Joint Venture are set out in Appendix VI. They include three ethane caverns, surface piping and a connection between the Cochin system and the EDS via a dehydration facility. Connecting the two pipelines without flowing through the dehydrators might require minor piping modifications. The Ethane Shippers have offered to convert the ethane caverns to alternative uses if excess capacity develops and if firm commitments are received. They also offered to provide this service for $\$1.57/M^3$ ($0.25/bbl), which would include storage for whatever period was necessary to transfer the product from Cochin to the EDS, dehydration services, and the use of the connecting pipe between the two pipelines. These facilities were developed at the same time as the Cochin pipeline. The question of whether they were an integral part of Cochin pipeline was argued both ways. However, the fact that they were necessary to permit the Cochin system, while operating in batch mode, to continuously deliver ethane to Columbia, was not disputed.

6.2.3 The Dome Facilities

The facilities owned by Dome at Windsor including the original NGL mix caverns, the rail and truck loading facilities, and the dehydration facilities were developed and used prior to the development of the Cochin pipeline or the EDS from Windsor to Sarnia. However, it could be argued that the current

operation of these facilities, the connection between the two pipelines, and the development of the two new caverns (B-7 and P-8) are now integrated with the purpose and operation of the two pipelines.

Dome stated that, if sufficient demand were demonstrated, it would be willing to lease space in caverns B-7 and P-8 to the Ethane Shippers. The same offer was made with respect to the loading facilities. It was not prepared to lease space to the Cochin system. Dome stated that the facilities would be leased at a reasonable rate although it was not specified what that would be. It also stated that, if it became necessary, such a lease would provide for the apportionment of the use of any facilities which it leased.

6.2.4 Developing Facilities at Windsor

The Board could order the Cochin system to develop new facilities, pursuant to section 59(3) of the NEB Act. In this connection it should be noted that, in its application to obtain a certificate to build the line, Cochin committed to provide storage, if requested. With respect to this option, there is no evidence that further storage capacity at Windsor is necessary at this time. Although demand for further truck and rail loading facilities was also not demonstrated conclusively, it was suggested that there is a possibility of it developing. In each case, the future need for these facilities cannot be accurately estimated due to the uncertainties related to the numerous initiatives underway. As a partner in the Cochin system, Dome stated that it was unwilling to participate in the development of new facilities until other less expensive alternatives had been fully explored. Dome indicated that the cost of developing new loading facilities was relatively low and that there is space for four new tank car loading arms.

Chapter 7
Jurisdictional Issues

7.1 Arguments Pertaining to the Board's Jurisdiction

Parties submitted argument both for and against the proposition that Parliament, via the NEB Act, gave the Board jurisdiction over a part or all of the storage, loading and other facilities at Windsor.

All parties agreed that the legislative and judicial basis for the argument rests in a combined reading of paragraph 92(10)(a) and subsection 91(29) of the *Constitution Act 1867* which, as clarified by the Campbell-Bennett Ltd. v. Comstock Midwestern case [1954] SCR 207, has the effect of allocating to the Federal Parliament legislative authority over interprovincial or international pipelines and to the provincial legislatures legislative jurisdiction with respect to intraprovincial pipelines.

The next building block in the construction of the argument on jurisdiction is the definition of "pipeline" found in Section 2 of the NEB Act. Those arguing for Board jurisdiction argued that the effect of this section is to give the Board jurisdiction over storage and other facilities connected to an interprovincial pipeline (the Cochin system or the EDS) where these facilities are integral to the operation of the interprovincial undertaking (the pipeline itself). Some also argued that, by including "storage and other facilities' in the definition of pipeline, Parliament was indicating that, prima facie, these facilities are by nature integral to the operation of a pipeline.

Those arguing against Board jurisdiction contended that the definition contained in Section 2 is not relevant to the issue of jurisdiction because Parliament cannot, by defining an undertaking which, depending on one's interpretation of the *Constitution Act 1867* could fall under either the federal or provincial authority, widen its sphere of competence.

7.1.1 Arguments in Favour of Board Jurisdiction

The premise of the pro-federal argument is that a business or undertaking, even though it may be wholly situated within a province and owned and operated by a different entity than the entity controlling the interprovincial undertaking, can, by its very nature, be so integrated into an interprovincial undertaking as to be considered part of that undertaking for constitutional purposes. In order to determine the nature of the undertaking, the argument continues, one must ask whether the work performed or the services provided by the operation or business in question is an integral part of or necessarily incidental to the effective operation of the federal undertaking. The judgment must be made in each individual case and it is a functional-practical one about the factual character of the ongoing undertaking and does not turn on technical legal niceties of corporate structure or employment relationship. Nor should the fact that the operation could be viewed in isolation be sufficient to qualify it as an intraprovincial operation if, on a functional and practical basis, the operation is an integral part of the interprovincial work or undertaking.

The parties arguing this side of the issue put forward the following factors to support their contention that the Windsor storage facilities are an integral part of the interprovincial undertaking:

- the physical connection between the Windsor facilities and the Cochin system and the EDS;
- the direct operational connection between the Windsor facilities and the pipelines;

- the Windsor facilities are analogous to other types of operations which have been judicially determined to be subject to federal jurisdiction;
- the pipeline and Windsor facilities are dependent on each other;
- the presence of the pipeline is the storage facilities sole reason for existence, and
- the necessity of close co-operation between the storage facilities and the pipeline.

With respect to the ownership and control of the two facilities, it is argued that even if the corporate and organizational relationship were relevant (and judicial authority has indicated that ownership cannot be determinative of the question) then the corporate interrelationship between the owners of the pipelines and the owners of the Windsor facilities would be a factor in favour of the storage facilities being considered an indivisible part of the interprovincial undertaking,

Lastly, these parties point out that where there is no disharmony between federal and provincial legislation regulating the same undertaking in different respects, the two regulators can co-exist. Where there is a conflict, the federal power is paramount.

7.1.2 Arguments Against Board Jurisdiction

The premise of the pro-provincial argument is that an undertaking, which by its nature is a local separate work and undertaking, even though it may be physically connected to an interprovincial undertaking and serve or be complementary to that undertaking, does not warrant characterization as part of a single undertaking which would fall under federal jurisdiction.

The parties arguing against the Board's jurisdiction over the Windsor facilities urge one to look at the character and nature of the facilities, which they argue is that of a distinct operation not in the business of interprovincial transportation of hydrocarbons. The local business may feed the convenience of the interprovincial pipeline and may even render more efficient or more profitable the federal undertaking but that does not make the business necessarily incidental to the undertaking. The following points are relied on in the argument that the nature of the Windsor facilities is as a separate business and not an integral component of a larger undertaking:

- the types of services or businesses are different; one providing interprovincial transportation, the other local storage and loading;
- the Windsor facilities are not a service directly on the federally regulated pipeline. They cannot be considered the arms and legs of the core pipeline;
- the federal undertaking could operate without the particular facilities at Windsor. The Cochin Joint Venture has successfully operated the line for years without the need to purchase, lease or construct facilities like those of Dome. Shipments could be straight through to Sarnia or could be transferred to the EDS;
- the service provided by the Windsor facilities could as easily be carried on by a party other than the one who currently operates them;
- some of the storage facilities were developed before the pipeline and continue to be able to serve an undertaking other than the pipeline (e.g. rail car shipments);
- the storage is not at the terminus of the EDS or Cochin system, but is merely storage along both pipelines;
- the storage was developed to serve the particular needs of a customer (Columbia) rather than the needs of the pipeline. They are not integral to the line but provide it with an alternate source of supply;
- the Windsor facilities do not have a single purpose nor do they have a single owner but enjoy a variety of ownership, purposes and operations;

- the Dome and Ethane Shippers' facilities could not be an integral part of the pipeline operation since most potential users of the pipeline want to bypass Windsor;
- physically, the facilities are only connected to the pipeline (and some Dome facilities are not even connected). They are not part of the continuous pipeline system; and
- the whole picture shows three components (production of product, shipment of product and gathering of product at the beginning and end of the line) which are essential to each other but they are separate, not a single undertaking.

In conclusion, facilities such as those at Windsor are, prima facie, local works or undertakings tailing within provincial competence and the facts do not make them come within the exception found in the *Constitution Act 1867* which would bring them under federal jurisdiction. federal jurisdiction could only extend to the private facilities if Parliament were to declare them to be for the general advantage of Canada pursuant to Section 92(10)(c) of the *Constitution Act l867*.

7.1.3 Other Arguments

Certain intervenors did not fit squarely within either.of the two positions outlined above.

One intervenor applied essentially the same tests described above but came to the conclusion that though the Ethane Shippers' caverns are an integral part of the Cochin system, the Dome caverns are not. The Board would therefore only have jurisdiction over the former.

One intervenor, in addition to his assessment that the Windsor facilities fell under provincial competence, also argued that it would be inconsistent for the Board to assume jurisdiction over the Windsor facilities, while leaving the Fort Saskatchewan facilities under provincial jurisdiction.

Certain parties argued that, given the uncertainty surrounding the future use to which the EDS and Cochin system and the storage at Windsor, Sarnia and Marysville will be put, it would be premature for the Board to rule on the question of jurisdiction at this time. One intervenor argued that a ruling on jurisdiction at this time would no doubt engender protracted litigation - which would be to no one's advantage and of no help in solving any immediate problems that might exist. It was pointed out that the Board does not lose jurisdiction by failing to exercise it.

7.2 Section 59 of the NEB Act

Certain parties presented their views on the scope and meaning of section 59 of the NEB Act.

7.2.1 Subsection 59(l)

For the purposes of its argument, Dome assumed that the products moving through the Cochin system fall within the definition of "oil", so that subsection 59(l) rather than 59(2) is applicable. Given the wording of the subsection, and in particular the omission of any reference to storage therein, Dome argued that the clear intent of the legislation is that Cochin is not required to accept oil unless it can be satisfied that the shipper can get its product into and out of the pipeline.

7.2.2 Subsection 59(2)

For the purposes of its argument, Gulf assumed that propane falls within the definition of "gas' so that subsection 59(2), rather than 59(l), is applicable. It was Gulf's view that the Board should make an order, pursuant to subsection 59(2), formalizing the common carrier status which currently exists.

7.2.3 Subsection 59(3)

It was argued that subsection 59(3) gives the Board clear jurisdiction to direct Cochin or EDS to make storage and other terminalling facilities available at Windsor or anywhere else along the systems, provided this is in the public interest and no undue hardship will result. Certain parties were of the view that the order could only aim at facilities considered to be a necessary part of the pipeline.

It was also argued that the Board could not, under subsection 59(3), require Cochin to acquire the Dome facilities for shipper's: use. The Board could only have what would amount to a power of expropriation if the language giving it that power were clear and unequivocal, which it is not. Neither could the Board direct Cochin to make commercial arrangements with the owners of existing facilities, such as the facilities owned by the Ethane Shippers Joint Venture. If the Joint Venture owners were not interested in making storage available to the system on a commercial basis then Cochin would have no choice but to construct new facilities it the Board made an order under subsection 59(3).

Chapter 8
Disposition and Recommendation to the Board

8.1 Options

My review and consideration of the evidence lead me to the conclusion that the following options are open to the Board. For the purposes of evaluating these options, I will assume that they are courses of action open to the Board, given its powers under the NEB Act.

1. Leave matters as they now stand with the Board regulating only the Cochin pipeline system, including the interface cavern, and the Dome NGL pipeline. This was referred to during the hearing as the "Cochin solution".

2. Require the Cochin system to provide storage and terminalling in Windsor either by acquiring facilities currently owned by others or by creating new ones.

3. Assert and exercise jurisdiction over all of the facilities at Windsor owned by the Ethane Shippers Joint Venture (storage caverns, dehydration facilities and connecting pipelines).

4. Assert and exercise jurisdiction over the dehydration and product loading facilities currently owned by Dome.

5. Assert and exercise jurisdiction over Dome's storage caverns No.'s 32, 33 and 35.

6. Assert and exercise jurisdiction over Dome storage caverns B-7 and P-8.

7. Assert and exercise jurisdiction over any combination of items 3 to 6.

8. Assert and exercise jurisdiction over all of the facilities in the Windsor terminal.

9. Require the Cochin system to provide storage in Sarnia and make the adjustments to its pipeline that are necessary in order to allow the flow of products other than and including ethylene through to Sarnia.

10. Require the Cochin system and the EDS owners to integrate the two lines and provide storage in order to allow the flow of products through the Cochin system and the EDS to Sarnia.

As a preliminary step to arriving at a recommendation, I attempted to narrow down the options to those that seemed to me to be the most practical.

Option 6 did not seem practical to me, given my finding that the evidence did not indicate a need for the development of more storage at Windsor, and caverns B-7 and P-8 are not now ready for use or connected to the Cochin system.

Option 8 seemed to me too radical a solution in relation to the size of the problem put before me.

Options 9 and 10, though they may be attractive at some later time, did not seem to me, given the uncertainty of the evidence with respect to the use of the Cochin system past Windsor, to be ripe for serious consideration at this time.

This leaves options 1 through 5 and 7.

With respect to option 1, it was argued that the Board should allow the status quo to maintain because the "Cochin solution" would ensure access to all of the Windsor facilities at reasonable rates. The Cochin solution depends on the fulfillment of certain conditions. These are that surplus ethane storage capacity develops and is sustained, and that firm commitments are entered into by potential shippers of products other than ethane that would justify the conversion of one or more of the ethane caverns to other storage use. The solution also assumes Dome's willingness to share its loading facilities. This option does not give parties any assurance of a longer term provision of storage or of the maintenance, in the longer term, of a storage tariff acceptable to both Dome/Cochin and shippers.

With respect to options 2, 4 and 5, these options are recommended by those who hold the view that a common carrier system such as Cochin's, which operates in the batch mode, should provide at least short-term storage as well as dehydration and product loading facilities at the termini of its system, given that such facilities are essential to the proper utilization of the line. To reinforce the idea that the Cochin system should provide storage, it was pointed out that during the hearing held in connection with the certification of the Cochin system, the Applicant indicated that it would be willing to provide storage facilities at a future time if such were required and the need for them could be shown.

In my view, the evidence did not establish that the storage, dehydration and loading facilities now in operation are insufficient to meet potential needs, therefore, it would not seem logical to order the construction of new ones. On the other hand, I question the fairness of ordering a pipeline system to acquire another company's facilities, which now appear to be used mainly to service another pipeline. I would be especially reluctant to recommend such action in light of Dome's offer to discuss the sharing of its loading facilities, the prorationing of these facilities should demand exceed capability, and the expansion of its tank car loading facilities by four more positions.

With respect to option 3, the facilities owned by the Ethane Shippers Joint Venture were developed to allow the operation of the Cochin system for one of the purposes for which it was built - that is the fulfillment of the undertaking to supply ethane to the Columbia SNG plant at Green Springs.

It appears that this purpose can no longer sustain the continued viability of the Cochin system, but that other opportunities for the use of the line are presenting themselves. These opportunities can only be realized if facilities such as those owned by the Ethane Shippers Joint Venture continue to be dedicated to the pipeline.

With regard to option 7, since I consider that options 4 to 6 are not appropriate, it would also not be an appropriate solution to combine them.

8.2 Recommendations

While not specifically spelled out in the terms of reference under which I was appointed to conduct this hearing under Section 14 of the NEB Act, I feel that it is incumbent on me to make recommendations to the Board as to the action it should take having regard to the facts determined at the hearing and as set out in this report. My recommendations are set out below for the Board's consideration.

I consider that the best solution to the problem that gave rise to this hearing, is for the Board to commence to exercise its jurisdiction over all the facilities owned by the Ethane Shippers Joint Venture at the Windsor terminal (option 3). 1 recommend that the Board adopt this option. These

facilities include the three ethane storage caverns, the dehydration facilities owned by the Joint Venture, and the piping connecting all these facilities to the Cochin and EDS lines. My reasons for making this recommendation are as follows.

The current situation with regard to the operation of the Cochin pipeline without any storage facilities being available in Windsor effectively frustrates the use of the Cochin system as a common carrier. The reason for this is that it is impossible for any product, other than ethylene, being shipped in the Cochin system to move beyond Windsor without using storage facilities in Windsor. Theoretically, other products could be shipped in the Cochin line to Sarnia except that no facilities are available at the Sarnia terminus for receipt of product other than ethylene. At the present time, the section of the Cochin line between Windsor and Sarnia is always packed with ethylene and movement only occurs to deliver ethylene to the Dow facilities in Sarnia. Because of the different sizes of the pipelines, product cannot be delivered at full line rates from the Cochin system to the (northbound) Dome EDS without the use of some storage in Windsor Given this situation, any product, other than ethylene, shipped by Cochin to an eastern Canadian destination must be removed from the Cochin system in Windsor.

It is apparent from the evidence that, when Windsor was added as a terminal point for shipments of propane on the Cochin system and the incentive tariff was instituted, Dome refused use of its storage caverns in Windsor on the basis that it was not in the business of renting cavern space and in any event required all its storage for its own use. It is noteworthy that Dome and Cochin's apparent willingness to now negotiate for the use of facilities owned by Dome and/or the Ethane Shippers Joint Venture appeared only after the Board decided to conduct the hearing which is the subject of this report. I can understand potential shippers reluctance to put too much faith in this offer to negotiate. I can also sympathize with these shippers' desire for the comfort of a regulated toll for storage and related services rather than a toll negotiated by each shipper

Given the apparent decline in Cochin's ethane transportation business, it would appear that the Ethane Shippers Joint Venture facilities, which have always served the purpose of the Cochin system, could be made available to ensure the continued viability of the system as a shipper of products such as propane and NGL mix. Because these facilities already exist, because they are more integrally connected to the Cochin system from an historical, operational and ownership point of view than the other facilities in Windsor such as Dome's, and because I think it is important that potential shippers have some assurance of continuity, both in the provision of storage at Windsor and in the provision of that storage at a just and reasonable rate, I believe that option 3 is the option that the Board should adopt. Also, since the evidence did not establish, in my view, that additional storage is or will be needed in Windsor, or that the step of annexing facilities owned by an entity other than the one which owns the pipeline system is warranted, I believe that option 3 will sufficiently address the problems which exist at this time. In other words, I am of the opinion that the more extreme options are not necessary at present.

8.3 Jurisdiction

I have considered the arguments on the issue of the Board's jurisdiction. Those arguments are summarized in Chapter 7 of this report. My analysis of the facts leads me to the conclusion that the facilities owned by the Ethane Shippers Joint Venture form an integral part of the interprovincial and international undertaking that is the Cochin system. I find that, given the character of the said facilities at Windsor, we are dealing not with two separate and distinct undertakings but with one indivisible whole. On the basis of this finding, and of the mandate conferred by Parliament on the Board with

respect to "pipelines" that term is defined in the NEB Act, I hold the view that the Board has the legislative authority to implement my recommended option. My analysis of the jurisdictional question follows. When the history of the development of the facilities which now are contained in the Windsor terminal is investigated it is apparent that the whole terminal was not planned or constructed at the same time. Rather, various facilities were added as required by developments taking place in the pipeline systems serving the area. The facilities owned by Dome were originally developed in connection with the pipelines which were owned by Dome's wholly-owned pipeline subsidiaries. These facilities included the tank car and tank truck loading facilities, the storage caverns utilized by Dome for storing mixed NGL and specification product, and the dehydration facilities owned by Dome.

On the other hand, the facilities owned by the Ethane Shippers Joint Venture, including its dehydration facilities, were developed to provide storage to serve the Columbia ethane contract without which the Cochin system is unlikely to have ever been constructed. The ethane storage caverns and related facilities have always been dedicated to serve this purpose and in fact have never served any other purpose. These facilities are essential to the federal undertaking of the Cochin system and, in my assessment, given the changing purpose of the line, they will continue to be vital to its existence.

I have considered the arguments that the facilities are not, for constitutional purposes, part of the core federal undertaking because they provide a separate service, wholly within the province, which is distinct and by nature different than that provided by the federal undertaking. I have also weighed the argument that another storage facility could serve the Cochin system as well. The fact of the matter is that the ethane storage caverns always have, do, and I believe will continue to serve that interprovincial pipeline. They do so to such an extent that, in my view, they form part of the system. The degree of physical connection and operational integration between the facilities and the core federal undertaking has contributed to and reinforces this conclusion.

With respect to the question of ownership, the corporate interrelationship between the owners of the ethane storage facilities and of the pipeline, though not a determinating factor in my assessment of the ethane facilities' character as an indivisible part of the Cochin system, strengthens rather than weakens my position.

8.4 Other Considerations

I do not believe that my recommendation and my finding of jurisdiction, if adopted, will lead to any friction between federal and provincial regulatory powers. In my view, the two can peacefully co-exist. The exercise by the Board of its powers under the NEB Act should not hamper or even come close to interfering with the exercise by the Province of Ontario of its powers under the *Mining Act*, the *Petroleum Resources Act* or the *Environmental Protection Act*. In any event, if there were any conflict between the two levels of government in the exercise of their powers, it is my understanding that the federal power is paramount.

With respect to Gulf's request that the Board issue an order, pursuant to subsection 59(2) of the NEB Act "formalizing the common carrier status which presently exists, I do not think that it would be appropriate for the Board to issue such a general order. In my view, it would be more appropriate for the Board, at such times as it deems it appropriate to do so, to issue specific orders pursuant to this subsection to cover specific needs.

The above constitutes my report to the National Energy Board in accordance with Section 14 of the NEB Act, and my recommendations to the Board in respect of the matters which I was requested to examine.

J.R. Hardie
Presiding Member

Ottawa, Canada
January 1986

Appendix I
Hearing Order No. MH-5-85

HEARING ORDER MH-5-85
DIRECTIONS ON PROCEDURE
COCHIN PIPE LINES LTD. - DOME PETROLEUM LIMITED
TERMINAL FACILITIES INCLUDING STORAGE IN WINDSOR, ONTARIO

In considering tariff NEB No. 27, filed by Cochin Pipe Lines Ltd. (Cochin), which added Windsor, Ontario as a delivery point for propane, the National Energy Board ("the Board") became aware of concerns of interested parties relating to the existence of and access to terminal and storage facilities located in Windsor, Ontario for users of the Cochin pipeline and more specifically terminal, storage and related facilities ("Dome facilities") owned or leased and operated by Dome Petroleum Limited (Dome). The Board has decided, pursuant to subsections 14(l), 20(3) and 59(3) of the *National Energy Board Act*, ("the Act") to hold a public hearing:

(1) to obtain additional information with respect to the Dome facilities, to better enable the Board to assess its position concerning jurisdiction; and,

(2) to examine the general issue of the present and future need for and availability of terminal facilities including storage in Windsor, Ontario for users of the Cochin pipeline and to obtain submissions from Dome, Cochin and interested parties.

The Board therefore directs as follows:

1. A public hearing shall be held in the Centennial Room at the Sandman Inn, 888-7th Avenue S.W. Calgary, Alberta, commencing at 9:30 a.m. on 29 October, 1985 to receive the submissions of Dome, Cochin and interested parties on the matters outlined below.

2. Dome and Cochin are directed to file submissions by 30 September, 1985 which address the following matters:

- the relationship of the Dome facilities to the overall pipeline system;
- details of the physical layout of the Dome facilities and their connection to the Cochin pipeline;
- the ownership of the Dome facilities and the ownership of the pipeline;
- the degree of common operation between the pipeline and the Dome facilities;
- the reason for the existence of and the function fulfilled by the Dome facilities;
- the present and future need for storage in Windsor and whether any action is required by the Board;
- the availability of storage and any impediments preventing potential shippers from obtaining storage;
- such other matters, relevant to the issues outlined above, as the parties may wish to raise.

3. Dome and Cochin are also directed to file, as part of their submissions, a schematic diagram of the Windsor area facilities identifying respectively those facilities used by Cochin, Dome and Dome NGL Pipelines.

4. Dome, Cochin and interested parties are expected to provide witnesses at the hearing to speak to their submissions.

5. Parties wishing to intervene are directed to file submissions on any matters relevant to them with the Secretary by 30 September, 1985.

6. The Secretary will issue a list of interested parties shortly after 30 September, 1985.

7. All parties are directed to file 20 copies of their submissions with the Board and serve one copy on each other party as soon as possible after receiving a list of parties,

8. A copy of all documents will be available for viewing in the Board's Library, Room 902, 473 Albert St., Ottawa, Ontario and its office in Calgary at 4500-16th Avenue N.W

9. The Board will arrange for publication of the attached Notice of Public Hearing in the following publications:

PUBLICATION	CITY
"The Herald"	Calgary, Alberta
"The Journal" & "Le Franco-Albertain"	Edmonton, Alberta
"Leader-Post" & L'Eau-vive"	Regina, Saskatchewan
"The Winnipeg Free Press"& "La Liberté"	Winnipeg, Manitoba
"The Globe and Mail", "Toronto Star", "Financial Times of Canada" & "The Financial Post"	Toronto, Ontario
"Star" & "Le Rempart"	Windsor, Ontario
"The Citizen", "Le Droit" & "Canada Gazette"	Ottawa, Ontario
"The Gazette", "Le Devoir" & "La Presse"	Montréal, Québec
"Le Soleil" & "Journal de Québec"	Québec City, Québec

10. Cochin shall serve a copy of these Directions on Procedure and attached Public Notice forthwith on all shippers. The Board will serve a copy on those parties listed in Appendix 1.

11. The order of appearances, the order of calling of evidence and the submission of closing argument shall be dealt with. by the Board at the outset of the proceedings.

12. Persons wishing to file letters of comment should serve 1 copy of the documents on Cochin, 1 copy on Dome and file 1 copy with the Board by 30 September 1985, who in turn will provide copies for all other parties.

13. Unless otherwise directed by the Board the procedure outlined in Part III of the Draft NEB Rules of Practice and Procedure dated 18 February 1985 shall apply.

14. Simultaneous interpretation will be provided at this proceeding if requested by any party In order to facilitate the arrangement of this service, parties are asked to advise the Board by 30 September 1985 in this regard.

NATIONAL ENERGY BOARD

G. Yorke Slader
Secretary

Appendix II
Hearing Order No. AO-1-MH-5-85

ORDER AO-1-MH-5-85
(Amending Hearing Order MH-5-85)
Amendments to Directions on Procedure
Cochin Pipe Lines Ltd. - Dome Petroleum Limited
Terminal Facilities Including Storage In Windsor, Ontario

On 4 September 1985, the National Energy Board issued Hearing Order MH-5-85 setting out the Directions on Procedures for a public hearing the Board will hold in Calgary to obtain additional information regarding the Windsor, Ontario propane storage facilities to better enable the Board to assess its position concerning jurisdiction and to address the subject of the availability of propane terminal and storage facilities in Windsor to other users of the Cochin pipeline.

Realizing that it would be difficult for interested parties to formulate positions and file submissions on the issues to be examined at the hearing until they have had a chance to review the submissions of Dome and Cochin, the Board has decided to change the filing date for submissions from interested parties from 30 September 1985 to 15 October 1985. Accordingly, paragraphs 4 to 7 of Hearing Order MH-5-85 are revoked and replaced by the following:

> "4. Dome, Cochin and interested parties are expected to provide witnesses at the hearing to speak to their submissions. The Board would also expect parties to address in argument the matter of the Board's jurisdiction over the existing facilities.
>
> "5. Parties wishing to intervene are directed to advise the Secretary of their intention to intervene by 30 September 1985.
>
> "6. The Secretary will issue a list of interested parties shortly after 30 September 1985.
>
> "7(l) Dome and Cochin are directed to file 20 copies of their submissions with the Board by 30 September 1985 and serve one copy on each other party as soon as possible after receiving a list of parties.
>
> (2) Interested parties wishing to make submissions are directed to file 20 copies of their submissions with the Board and serve one copy on Dome, Cochin and each other party by 15 October 1985."

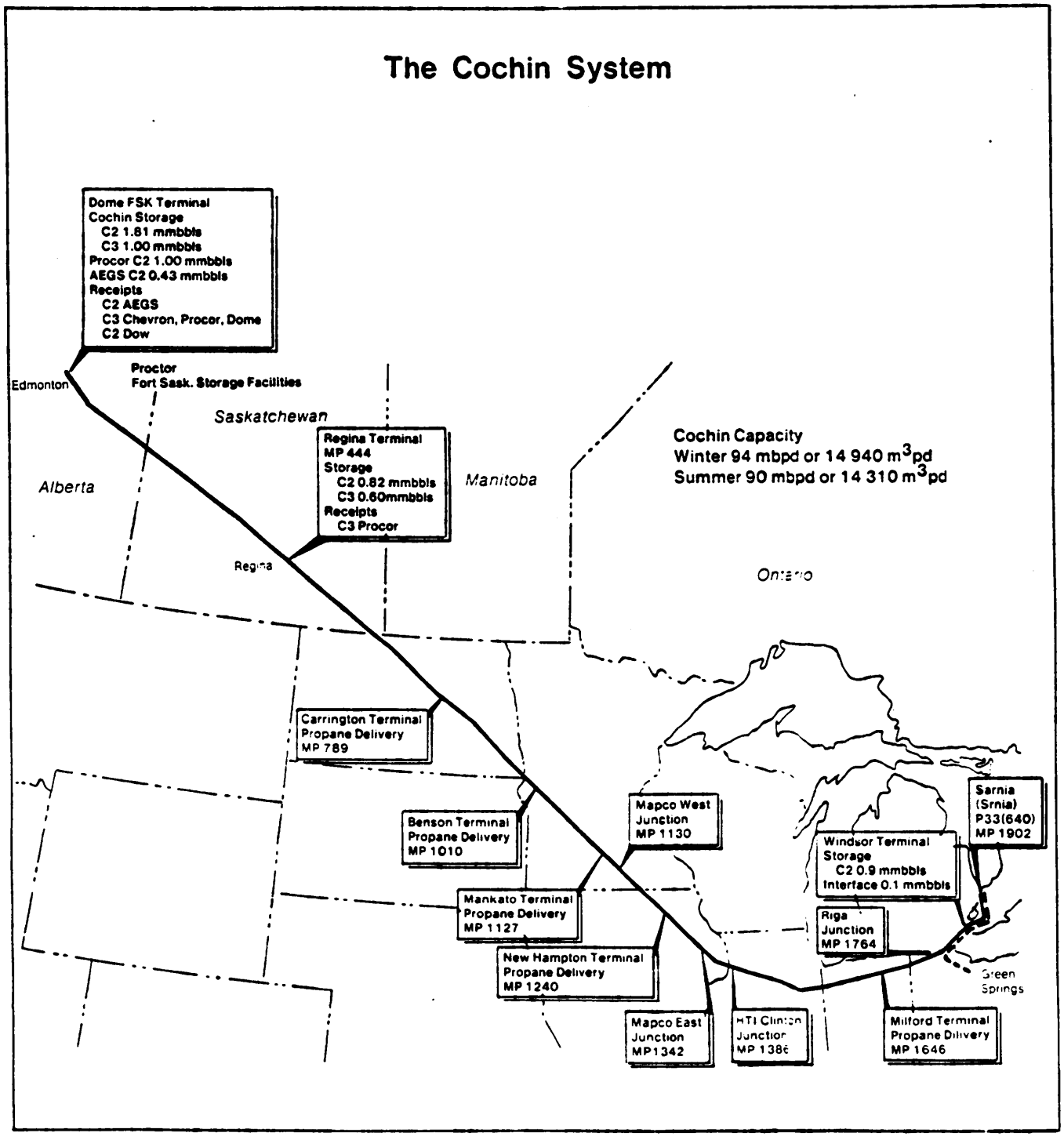
Also, the fifth paragraph of the Notice of Public Hearing attached to Hearing Order MH-5-85 is revoked and replaced with the following:

> "The deadline for receipt of notices of intention to intervene and letters of comment is 30 September 1985. The Secretary will then issue a list of submittors.
>
> The deadline for receipt of written submissions from Dome and Cochin is 30 September 1985 and for written submissions from interested parties is 15 October 1985."

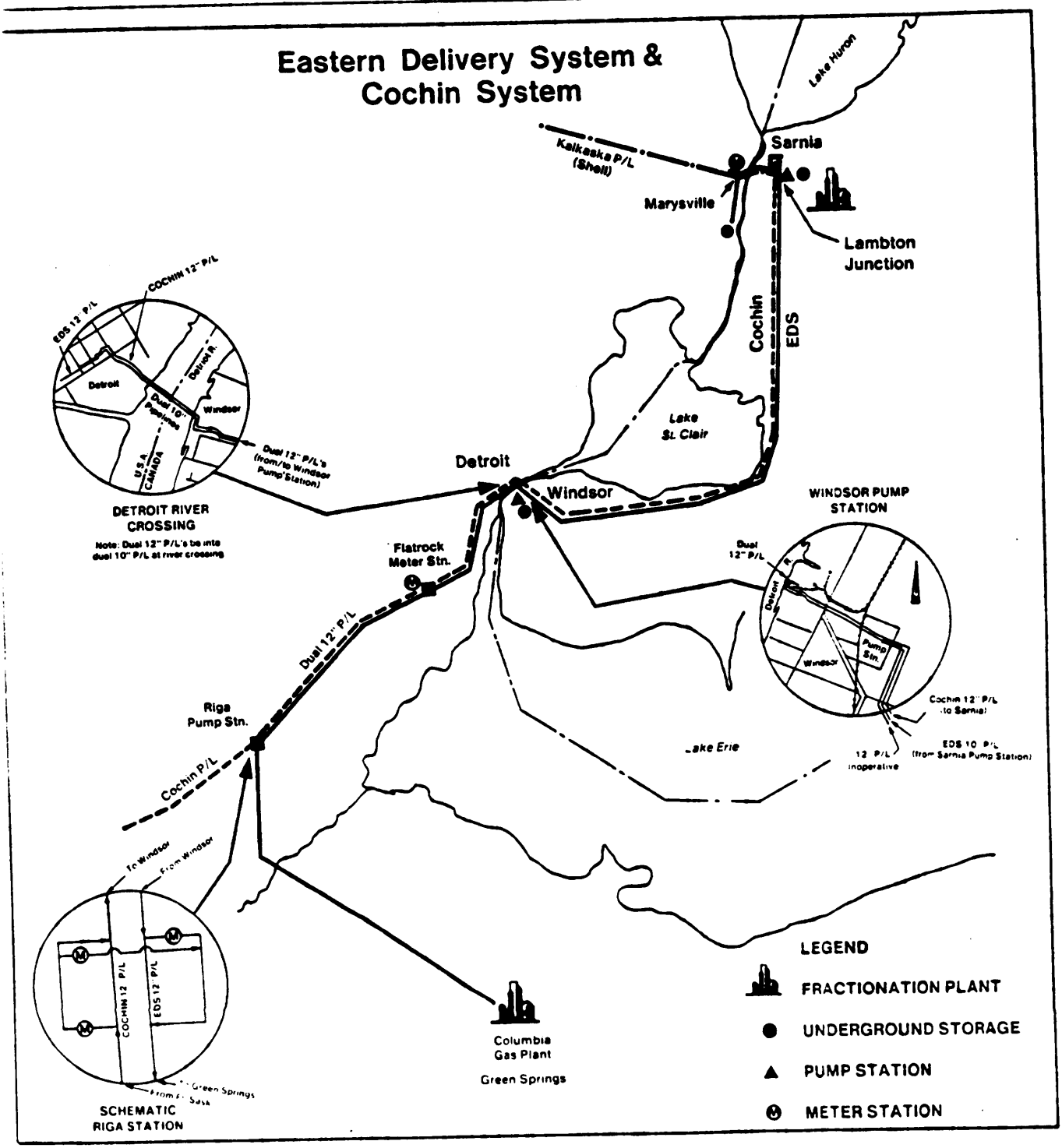
NATIONAL ENERGY BOARD

G. Yorke Slader,
Secretary

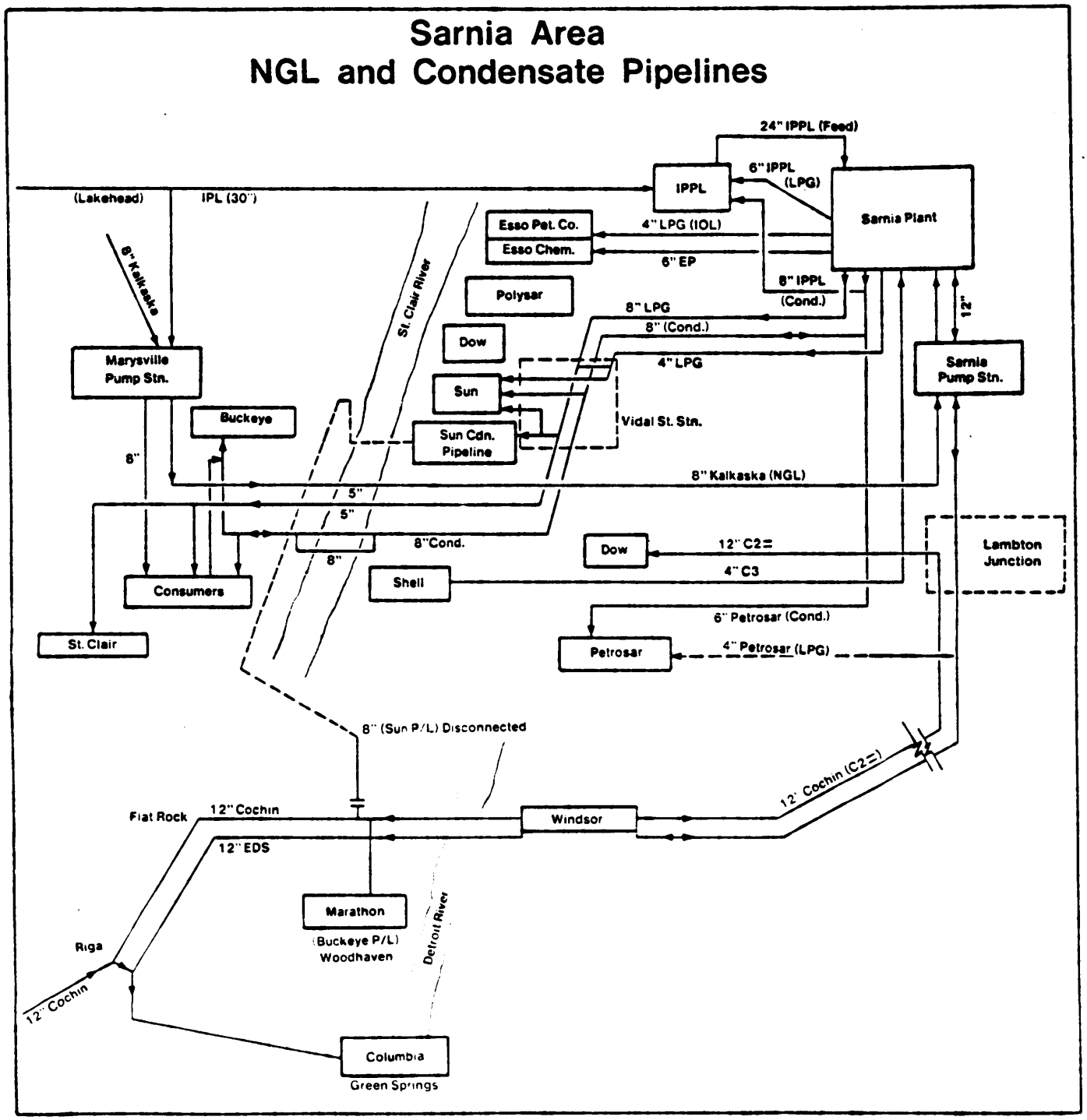
Appendix III



Appendix IV


Eastern Delivery System &
Cochin System
Lake Huron
Sarnia
Kalkeska P/L
(Shell)
Marysville
Lambton
Junction
Cochin
EDS
Lake
St. Clair
COCHIN 12" P/L
EDS 12" P/L
Detroit
Detroit R.
Windsor
Dual 10" P/L's
U.S.A.
CANADA
Dual 12" P/L's
(from/to Windsor
Pump Station)
DETROIT RIVER
CROSSING
Note: Dual 12" P/L's to into
dual 10" P/L at river crossing
Detroit
Windsor
Flatrock
Meter Stn.
Dual 12" P/L
WINDSOR PUMP
STATION
Dual
12" P/L
Pump
Stn.
Cochin 12" P/L
(to Sarnia)
EDS 10" P/L
(from Sarnia Pump Station)
12" P/L
inoperative
Lake Erie
Riga
Pump Stn.
Cochin P/L
To Windsor
From Windsor
COCHIN 12" P/L
EDS 12" P/L
From Green Springs
SCHEMATIC
RIGA STATION
Columbia
Gas Plant
Green Springs
LEGEND
FRACTIONATION PLANT
UNDERGROUND STORAGE
PUMP STATION
METER STATION

Appendix V


Sarnia Area
NGL and Condensate Pipelines
24" IPPL (Feed)
6" IPPL (LPG)
IPPL
Sarnia Plant
(Lakehead)
IPL (30")
8" Kalkaska
Esso Pet. Co.
Esso Chem.
4" LPG (IOL)
6" EP
8" IPPL (Cond.)
St. Clair River
Polysar
Dow
8" LPG
8" (Cond.)
4" LPG
12"
Marysville Pump Stn.
Sun
Sun Cdn. Pipeline
Vidal St. Stn.
Sarnia Pump Stn.
Buckeye
8"
8" Kalkaska (NGL)
5"
5"
8" Cond.
8"
Dow
12" C2=
4" C3
Lambton Junction
Consumers
Shell
6" Petrosar (Cond.)
St. Clair
Petrosar
4" Petrosar (LPG)
8" (Sun P/L) Disconnected
12" Cochin (C2=)
Flat Rock
12" Cochin
Windsor
12" EDS
Marathon
(Buckeye P/L)
Woodhaven
Detroit River
Riga
12" Cochin
Columbia
Green Springs

Appendix VI

WINDSOR STORAGE FACILITIES

Filed as part of Exhibit Nos. 17(Dome) and 19(Cochin)