

RE: PROPOSED LIQUID NATURAL GAS STORAGE PLANT
IOCO AREA

ITEM 8
MANAGER'S REPORT NO. 60
COUNCIL MEETING 1981 11 30

MUNICIPAL MANAGER'S RECOMMENDATION

1. THAT the report of the Director Planning & Building Inspection be received for information purposes.

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TO: MUNICIPAL MANAGER PLANNING DEPARTMENT
FROM: DIRECTOR PLANNING & BUILDING INSPECTION 1981 NOVEMBER 25
SUBJECT: PROPOSED LIQUID NATURAL GAS STORAGE PLANT -- IOCO AREA

RECOMMENDATION:

1. THAT this report be received for the information of Council.

REPORT

The Planning Department, on today's date, received notification that there is to be an "Open House" held on Wednesday, 1981 December 02 concerning a proposal by B.C. Hydro to develop a liquid natural gas storage plant about half a mile north of the existing Burrard Thermal Generating Plant.

Staff, in reacting to this proposal, have some serious concerns particularly with respect to the possible safety hazards of such a facility within the metropolitan area, the potential establishment of an allied L.N.G. dock facility and the aesthetic impact of this tank, approximately 130 feet high and 210 feet wide, on the developing Barnet Marine Park immediately across the Inlet.

While information is presently somewhat sketchy, it is hoped that the Open House session will provide an opportunity to obtain a more in-depth understanding of the proposal. Apparently, Hydro is scheduling a public forum in early 1982 to receive formal briefs and comments on the L.N.G. Storage Plant proposal. If, as is expected, concerns remain following the Open House, it would be appropriate for a submission to be prepared for presentation by the Municipality.


The Open House is to be held at:

Display Room
Kyle Sports Centre
125 Kyle Street
Port Moody, B.C.

The Open House is open to the public anytime between 14:00h and 21:00h on 1981 December 02. Members of Council who wish to attend the Open House have been asked to attend between 12:00h and 13:00h. Staff will attend.

A copy of a brochure, just received from Hydro, outlining the proposal is attached for the information of Council.

JSB/tgg
attachment


A. L. Parr
Director Planning &
Building Inspection

c.c. Chief Public Health Inspector
Director - Fire Services
Director Recreation and
Cultural Services

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How can you participate?

- Complete and mail the attached prepaid reply card;
- Come and talk with us about the project at our Open House;
- Follow coverage of this project in the news media;
- Discuss the project with friends and neighbors;
- For general information about this project or the public consultation and review process, call Community Relations, B.C. Hydro, 663-2324;
- For detailed information about LNG or proposed design of the storage plant, call project manager Dan McGuire, 298-1311.

Open House

Obtain further information, ask questions of our staff and contribute your suggestions and comments at the Open House on Wednesday, December 2, at:

Display Room
Kyle Sports Centre
125 Kyle Street
Port Moody, B.C.

Drop in any time between 2:00 p.m. and 9:00 p.m.

What happens next?

December 1981 — January 1982.

Public response to this proposed project will be considered, environmental and other studies will be completed and further discussion organized.

Early 1982.

A public forum will be held to receive formal briefs and comments on the LNG storage plant proposal.

Proposed Natural Gas Storage Plant



Introduction

Demand for natural gas is increasing steadily in the Lower Mainland, requiring B.C. Hydro to increase its storage capacity for liquefied natural gas (LNG). Following evaluation of several potential locations, a site on Hydro-owned property west of Ioco, southwest of Sasamat Lake, is being investigated as the most suitable place for an LNG storage plant.

Information about the proposed plant is provided in this pamphlet and you are invited to attend an Open House in Port Moody on Wednesday, December 2, to obtain further information and to discuss the proposed project with Hydro representatives.

Your comments, questions, and suggestions will be used in environmental and other studies now under way.

Why build a storage plant?

LNG storage allows gas to be taken from the main pipeline during the six to eight warmest months of the year and stored for delivery during cold weather months when the demand by customers is greatest.

This results in reduced costs to Hydro and hence its customers, while ensuring adequate supply.

B.C. Hydro has operated a liquefied natural gas plant in Delta since 1970. However, increasing use and cost of natural gas now requires additional LNG storage capacity. The increased use of B.C. natural gas is encouraged by the provincial and federal governments.

We would like to start preparing a site in 1982 and have the plant in service in 1984.

What is LNG?

LNG is natural gas taken from the gas transmission system and chilled by a refrigeration cycle until it is liquefied at -163°C (-260°F).

LNG is colorless, odorless, and non-toxic. It is stored at a low temperature in a double-walled, insulated sealed tank.

LNG is particularly practical for storage since as a liquid its volume is reduced to 1/600 of its volume as a gas.

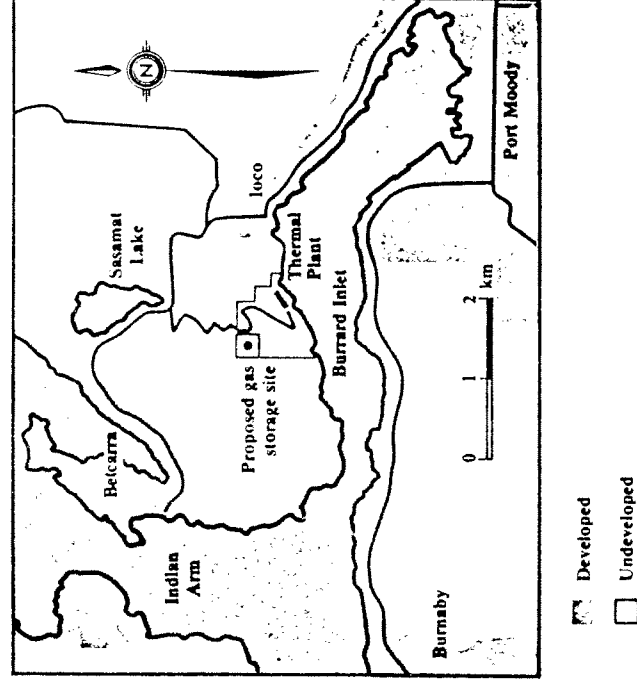
Why use the Sasamat site?

B.C. Hydro staff and their environmental and other consultants have examined many potential sites. The five most suitable sites were examined in detail. Study dimensions included safety, technical suitability, environmental factors and cost.

While all five sites were found to have some positive features, the Sasamat site, owned by Hydro, is preferred over the other locations because:

1. The area is currently used and zoned for industrial purposes;
2. There is an existing natural buffer zone around the site, which would be preserved;
3. There is a sparse population in the immediate area outside the buffer zone and future population growth is expected to be low;
4. The tank would be located in a hollow surrounded by hills, minimizing its visibility, and increasing safety;
5. There is a 50 cm (20-inch) natural gas pipeline nearby, together with electricity and water;
6. A good access road exists.

The plant would be situated approximately 800 metres (about half a mile) north of the Burrard Thermal Generating Plant.



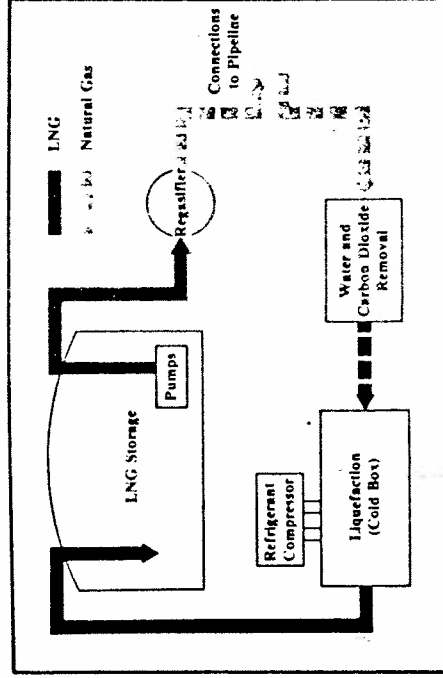
What happens in an LNG storage plant?

Natural gas enters the plant from a gas transmission line and passes through purification equipment to remove traces of carbon dioxide and water. It is then liquefied under regular pipeline pressure using a process similar to that of a household refrigerator.

Once the gas is liquefied, the pressure is reduced and the LNG is piped to the double-walled tank where it is stored at -163°C (-260°F) and a pressure of 6 kilopascals (less than 1 lb. per square inch).

To return the gas to the transmission system during periods of high demand the liquid is pumped up to transmission pipeline pressure and passed through a regasifier.

There are back-up systems built into the plant so that if one unit breaks down, another is ready to take over to ensure reliability of distribution. Operation of the plant is simple. Every aspect of the operation is monitored by electronic controls, although operating staff are always in attendance.



What about safety?

LNG storage systems have an excellent safety record:

- Hydro's plant in Delta has operated since 1970 without incident;
- there are 56 similar storage plants in the U.S. and two in eastern Canada. These have been operating without public hazard for an accumulated total of over 600 plant-years.

The storage tank and facility is designed to take the highly unlikely risks of fire or leakage into account using very stringent code

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requirements. For example, we must design for the most severe earthquake that could hypothetically occur in the area within 10,000 years.

Hydro has commissioned an independent risk analysis by specialists in the field. They conclude that in the worst case, of a large aircraft hitting the tank (our risk analysis consultant reports the likelihood of this occurring as less than one chance in a million years), combustible vapors would not go near any residential area.



Business Reply Mail
No postage necessary if mailed in Canada

B. C. Hydro
Gas Storage Plant
c/o Community Relations Dept.
970 Burrard Street
Vancouver, B.C.
V6Z 9Z9

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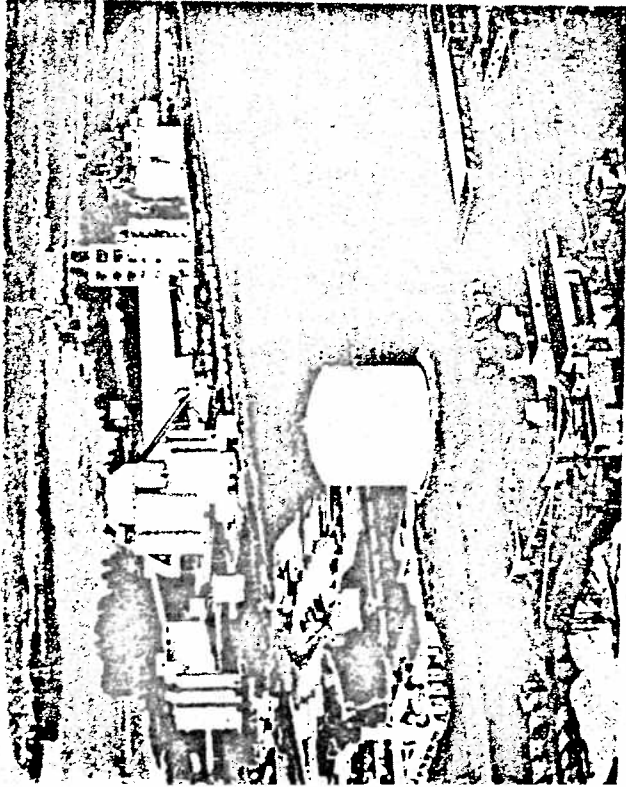
Who is involved?

B.C. Hydro is responsible for supplying energy safely and economically; this project is being handled by its Gas Engineering Division.

Provincial Government Agencies — Officials have been contacted in various agencies, including: Ministry of Transport and Highways, Ministry of the Environment and Fire Commissioner. Liaison will be maintained with these agencies as the planning for the project continues.

Consultants — Consultants with specialized knowledge of the design and operation of LNG storage plants have been retained. Consultants with expertise in environmental and social studies, geotechnical and seismic investigations, and site development also have been engaged.

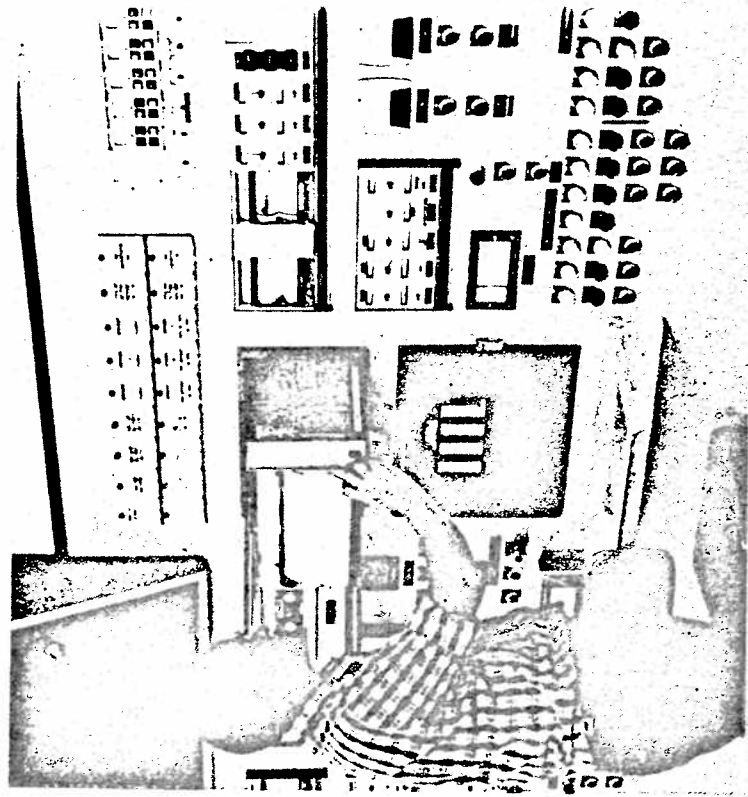
You — Hydro invites anyone interested to attend the Open House and to offer comments and suggestions. Your views will be considered.



B.C. Hydro's LNG storage plant in Delta, foreground.

What do you think?
 We would appreciate receiving your comments or suggestions.
 Area of residence: Belcarra Port Moody Anmore Ioco Other _____
 Comments and suggestions:

In general, what do you think about the proposed storage plant?
 Do not oppose Undecided Oppose



Control panel in existing LNG plant.

