

Before the
Nova Scotia Utility and Review Board

Re: Application for Approval of Load Retention Rate – P-871

NOVA SCOTIA POWER INC.

Direct Testimony of
Fred Hussey

On Behalf of
Stora Enso Port Hawkesbury Limited

December 1999

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Q. Please state your name, occupation and professional qualifications

A. My name is Fred Hussey. I am Vice-President, Engineering and Special Projects for Stora Enso Port Hawkesbury Limited ("Stora Enso"). I have a Bachelor of Mechanical Engineering degree from Memorial University in Newfoundland.

Q. Please describe Stora Enso, its place within the Stora Enso Group, and your responsibilities at Stora Enso.

A. Stora Enso is a Nova Scotia company, and is a wholly-owned subsidiary (through a number of intermediary companies) of Stora Enso Oyj, headquartered since 1998 in Helsinki, Finland. Stora Enso Oyj is a global forest industry company with operations worldwide.

Stora Enso owns and operates a newsprint mill and the world's largest Supercalendered (SC) paper mill at Point Tupper on Cape Breton Island. At Stora Enso I am responsible for engineering and special projects, including in particular energy supply and management. I am familiar with Stora Enso's current mill processes and energy needs, as well as its potential future developments, having been employed by the Company in a senior executive capacity for 10 years.

Q. Have you ever appeared as a witness before the Nova Scotia Utility and Review Board or any other regulatory tribunal?

A. I appeared as a witness on behalf of Stora Enso before the National Energy Board of Canada in its Hearings in late 1998 with regard to the proposed installation by Maritimes & Northeast Pipelines of the gas lateral from Goldboro, NS to Point Tupper, NS.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to support Nova Scotia Power Inc.'s ("NSPI") Application for a Load Retention Rate. I will outline Stora Enso's present and potential energy requirements, and the potential for Stora Enso to provide its own source of energy supply (electricity and process steam) by the installation of a combined cycle cogeneration plant at or near its Point Tupper facilities. I will also explain the desirability, from Stora Enso's point of view, of having the proposed Load Retention Rate as an alternative to self-generation.

Q. Please describe in general terms the operations presently carried on by Stora Enso.

A. Stora Enso operates a standard newsprint line, sometimes known as PM-1 (for "Paper Machine No. 1"). PM-1 produces 185,000 metric tonnes of newsprint per year for sale on world markets, primarily the Northeast USA.

Stora Enso also operates a Supercalendered (SC) paper line, which it opened in April 1998, sometimes known as PM-2 (for "Paper Machine No. 2"). PM-2 is designed to produce 350,000 metric tonnes of SC paper per year, when in full production. It will take approximately four years for PM-2 to reach full production, i.e., in early 2002. Production in 1999 was 260,000 metric tonnes, and for 2000 is forecasted to be 330,000 metric tonnes.

SC paper is an uncoated publication grade that has been specially treated to make it suitable for use in magazines, catalogues, inserts and flyers. In order to achieve the pulp properties that are necessary for this grade a large quantity of electrical energy per tonne of product is required. When at full capacity, PM-2 will produce approximately 10% of the total North American supply of SC paper.

Q. Please describe Stora Enso's present energy usage and requirement.

A. At present, Stora Enso purchases approximately 155 MW of power and energy from NSPI, under the Interruptible Rider of the Large Industrial Rate, the Industrial Expansion Rate and the Generation Replacement and Load Following Rate. These purchases will increase to 205 MW when PM-2 is in full production. In addition, Stora Enso has in-house generation capacity of approximately 25 MW.

The figure of 205 MW of purchased power is much higher than the 155 MW under contemplation at the time of NSPI's Industrial Expansion Rate Application in 1995. This is due to a design change in the production process for our SC paper which called for increased production of energy-intensive thermo-mechanical pulp (TMP), and also due to an increase in the design capacity of PM-2. (TMP is produced at Stora Enso's Point Tupper location and is used as the basic raw material for the manufacture of SC paper.)

The newsprint and SC paper manufacturing process also uses large quantities of process steam. This steam is derived from two principal sources: as a by-product from the manufacture of TMP, and from the operation of Stora Enso's two in-house boilers. These boilers are powered partly by Bunker C oil and partly by hog fuel (bark, wood waste and full tree chips). These boilers have been converted to receive natural gas as soon as it is available from the Sable Offshore gas field.

Q. Does Stora Enso support NSPI's present application, and if so, why?

A. Stora Enso strongly supports NSPI's initiative in bringing forward the present Load Retention Rate proposal.

For some months, Stora Enso has been closely examining the possibility of installing at its Point Tupper location a combined cycle co-generation facility sufficient to supply part or all of its electrical and process steam requirements. This facility, producing up to approximately 200 MW of electricity, would be fired by natural gas from the Sable Offshore field, and would replace part or all of the electricity currently purchased by Stora Enso from NSPI. While it is too early for final conclusions to be drawn, preliminary indications suggest that Stora Enso could achieve considerable savings on its electricity and steam costs by installing its own combined cycle cogeneration facility.

In principle, if electricity rates less than or equivalent to those which can be obtained from such an installation were available from NSPI, that solution would be preferable from Stora Enso's point of view. The installation of such a facility could cost, in very approximate figures, up to \$200 million. Stora Enso would prefer to focus the expenditure of such capital on its core business of making paper and leave the production

of energy to the experts in this field, such as NSPI. However, given the highly competitive nature of our global business, we must continually search for ways to control costs and maintain our relative competitiveness. Deregulation and energy alternatives in other areas of the world have increased those competitive pressures. Energy is our largest single cost input and would therefore warrant a major capital expenditure for a combined cycle plant if no other alternatives are available.

On the other hand, if Stora Enso is able to avail itself of a Load Retention Rate at prices less than or equivalent to those which would be available through self-generation, that would be a "win/win/win" situation. The Stora Enso Group's ability to deploy capital on its core business would be enhanced, thereby improving the profitability of, and thus better securing the future of, the Nova Scotia subsidiary. Employment in the Strait of Canso region, and the economy of Nova Scotia in general, would be enhanced by any such capital expenditures. And NSPI's other customers would benefit from Stora Enso continuing to stay on the system as NSPI's largest customer

Q. How significant are energy prices in Stora Enso's cost structure?

- A.** The cost of electricity typically represents the largest single cost of producing paper – more than the cost of wood, capital, or labour – and this is true of Stora Enso Port Hawkesbury Limited as well.

Because Stora Enso sells its products on the world market, electricity prices are extremely important if the company is to remain competitive with other producers selling on world markets.

Q. Are you able to provide any specifics?

- A.** Attached as Attachment A to this evidence is a graph I have prepared, based on 1998 information supplied by the Canadian Pulp & Paper Association (CPPA). The graph shows the electricity costs experienced by all newsprint producers in Canada, on a \$/MW basis. The information underlying this graph is provided to all members of the CPPA, including Stora Enso, on a regular basis. Although none of the individual companies are identified on this graph, the rates which Stora Enso pay to NSPI are publicly available. From them, it will be readily apparent that Stora Enso's costs are at the extreme high end

of this graph. It follows that, in comparison with other Canadian producers of newsprint (including SC paper, which is an enhanced form of newsprint), Stora Enso's operations at Point Tupper are very uncompetitive, insofar as the single largest input cost (electricity) is concerned.

The CPPA also produces similar figures for newsprint mills by region, including Atlantic Canada. Attached as Attachment B is a graph I have prepared, based on those figures. It will be seen that the average electricity cost in Atlantic Canada is approximately \$32/MWh, (actually \$32.02/MWh), a figure which includes Stora Enso's much higher electricity costs. The average cost of all other producers in Atlantic Canada (i.e., excluding Stora Enso), is approximately \$30/MWh. Stora Enso's electricity costs are, therefore, far in excess, not only of its competitors generally across Canada, but even of those located relatively close to Stora Enso geographically.

Finally, it is important to understand that Stora Enso Port Hawkesbury Limited is a member of the Stora Enso Group, which has a large number of plants competing for capital resources. Therefore, in order to attract the investment capital essential for the long term viability of its core paper business, it is important that the Nova Scotia operation remain competitive with other members of the Group with respect to input costs. Moreover, in Sweden, Finland and Germany (where the majority of the Stora Enso Group plants are located), there already exists a completely free market in electricity. Plants located there are free to negotiate the best possible electricity prices, from any provider. This provides other companies in the Stora Enso Group with further opportunities for savings which are not now available to Stora Enso Port Hawkesbury Limited. This in turn makes it more difficult for the Nova Scotia subsidiary to attract future capital from the Group than would otherwise be the case.

Q. Would you please summarize your evidence?

A. Yes. Stora Enso Port Hawkesbury Limited is in the final stages of its engineering study and will soon be in a position to install a gas-fired, combined cycle cogeneration facility at its Point Tupper location, substantially reducing its cost of energy (both electricity and steam). Stora Enso would prefer not to have to go forward with such a project, since the capacity already exists within NSPI, but rather to focus its attention on its core business.

However, the potential savings over current energy rates are such that it outweighs other investment opportunities.

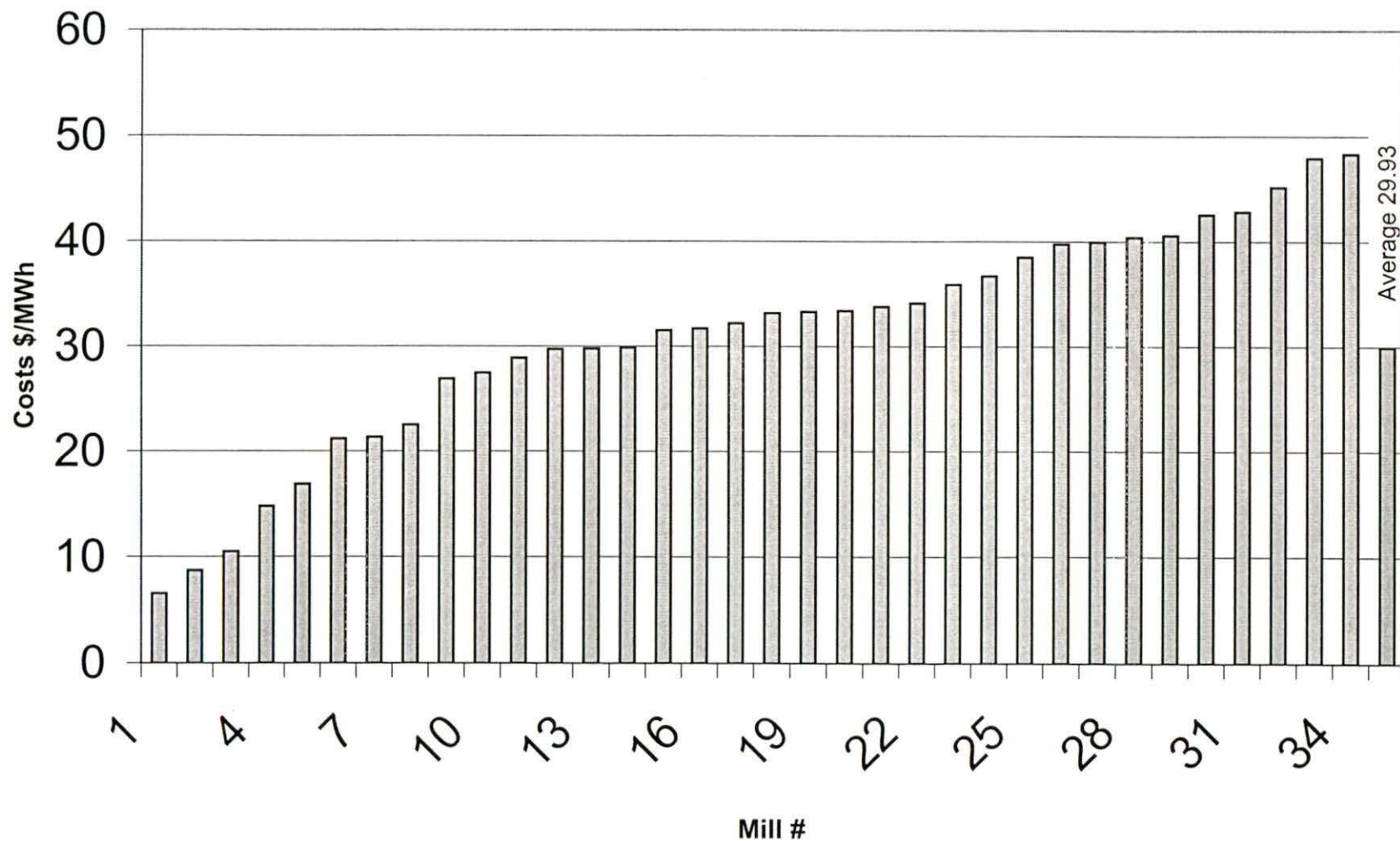
Given that such a Load Retention Rate would be of benefit to all other customers of NSPI, as compared with the situation in which Stora Enso ceases altogether to be a customer of NSPI, it would seem to be desirable and in the public interest, as well as in Stora Enso's, for the Nova Scotia Utility and Review Board to approve the present Application.

Q. Does that conclude your evidence.

A. Yes, it does.

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1998 Electricity Costs
Canadian Newsprint Mills
Source-CPPA Newsprint Costs Study 1998



1998 Electricity Costs by Region

Canadian Newsprint Mills

Source-CPPA Newsprint Costs Study 1998

