

ITEM "SUPPLEMENTARY" 31
MANAGER'S REPORT NO. 51
COUNCIL MEETING 85/07/29

RE: ENLARGED GREATER VANCOUVER SEWERAGE AND DRAINAGE
DISTRICT BURNABY INCINERATOR

MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendation of the Director Engineering be adopted.

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TO: MUNICIPAL MANAGER 85 07 26
FROM: DIRECTOR ENGINEERING
SUBJECT: ENLARGED GREATER VANCOUVER SEWERAGE AND DRAINAGE
DISTRICT BURNABY INCINERATOR

RECOMMENDATION:

1. THAT a copy of this report be sent to the Greater Vancouver Sewerage and Drainage District, 4330 Kingsway, Burnaby, B.C., V5H 4G8.

SUMMARY:

This report discusses the various factors which have a bearing on the enlargement of the G.V.S. & D.D. Burnaby Incinerator from one having a capacity of 140,000 tonnes per year to one of 210,000 tonnes per year and concludes that it is justified when it forms a part of an overall Solid Waste Disposal Plan for the entire Region.

REPORT:

I. INTRODUCTION:

Having been given the mandate by the Administration Board of the G.V.S. & D.D. in 1985 April to "...investigate, report and recommend on implementation of a Regional refuse disposal utility..." and to report within six months, the Solid Waste Committee of the G.V.S. & D.D. had concluded that its mandate could be met only by developing a plan which would be confined by the boundaries of the G.V.R.D. In examining the assets that would form part of such a plan, the Committee concluded that the Burns Bog landfill needs to be considered and incorporated into the plan in the interests of creating minimum total impact on the community as a whole from all waste disposal and handling facilities. In turn, the Committee decided that the following principles would be used in guiding its planning:

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1. Burns Bog will be used as the landfill for the plan area.
2. Quantity of refuse to Burns Bog will be equal to or less than that which has been previously agreed by Delta. That is, the quantity produced by Vancouver, Richmond, Delta, University Endowment Lands, and White Rock.
3. Waste reduction projects will be developed throughout the Region to accomplish the necessary waste reduction by incineration, resource recovery, recycling or other methods.
4. Existing landfills within the G.V.R.D. will be closed as soon as practical.

In order to accomplish the target waste reduction noted in point 2 above, the Committee determined that a variety of waste reduction projects are needed in addition to the 140,000 tonne per annum Burnaby Incinerator and the recycling proposals then on hand and, accordingly, a call for further waste reduction proposals was issued on 1985 May 28, returnable on 1985 June 27.

Seventeen proposals were received, of which three were given more detailed examination by the Committee. The Regional Manager advised the Committee that it appeared to him to be "...most unlikely that any of the proposals, other than those of Genstar and GKN, will result in a project within the next several years".

The Regional Manager further advised that:

"The options open at this time are:

1. Continue to work on development of a plan and recommendations and to delay any further positive action until a plan is accepted and in place.
2. Continue to work on development of a plan and recommendations, with positive action on those projects which are available at this time, and useful in reaching the plan objective."

Following upon consideration of the proposals and other information arising therefrom, the G.V.S. & D.D. Administration Board, at its meeting 1985 July 18, approved the following two recommendations:

"SOLID WASTE REDUCTION PROJECTS

- (1) that authority be given to award a contract to GKN Birwelco Ltd. to add a third stream to Contract No. 300 to increase the capacity of the Burnaby incinerator from 140,000 to 210,000 tonnes per annum at the tendered price of \$12.14 million, and to carry out all necessary work to satisfy the stack emission control requirements.
- (2) that authority be given to award a contract to Genstar Conservation Systems Ltd. for a 300,000 tonnes per annum resource recovery plant in the Municipality of Coquitlam at the tendered price of \$26.50 per tonne for waste recovered from the waste stream and \$14.50 per tonne for transporting the residuals to the City of Vancouver.

II ROLE OF THE LARGER INCINERATOR IN THE G.V.S. & D.D. WASTE MANAGEMENT PLAN

As was stated in the preceeding section of this report, the Solid Waste Committee of the G.V.S. & D.D. had concluded that it was necessary for them to turn their attention to the development of a waste disposal plan confined to the boundaries of the G.V.R.D. Your Director Engineering concurs with this conclusion, bearing in mind that opportunities for the establishment of waste disposal facilities outside of the G.V.R.D. boundaries are, effectively, no longer available.

In having adopted principle #2 which called for refuse going to Burns Bog being limited to an amount equal to or less than that to which Delta had previously agreed, it has been determined that the increased size of the Burnaby Incinerator and the adoption of the Genstar proposal to conduct a resource recovery operation at the Coquitlam Plant will jointly provide a total waste reduction volume of 285,000 tonnes per annum. This quantity comes reasonably close to meeting the total amount of 325,000 tonnes per annum which was required in order to satisfy principle #2 concerning Burns Bog volumes. It should be borne in mind though, that the Genstar resource recovery operation is expected to grow from the initial 25% to 50% over three years, which should provide the ability to more than meet the Burns Bog volume requirements when both the Incinerator and the resource recovery plants are in full operation.

It can be concluded, then, that the enlarged incinerator, together with the Burns Bog Landfill and resource recovery plant(s), has a very important role to play in the development and implementation of the G.V.S. & D.D. Waste Disposal Management Plan with the obvious advantage of providing a coordinated and balanced approach to solving the overall problem.

Regarding the size of incinerators, one having a capacity of 210,000 tonnes per annum is definitely toward the lower end of the scale in comparison to others on both a world-wide and North American scale. Single location incinerators in Montreal and Quebec City, although embracing a somewhat different technology, have a capacity of 375,000 tonnes per annum each. These 15-year old incinerators (approximately) are equipped only with electrostatic precipitators for stack emission control purposes as opposed to the state-of-the-art flue gas scrubbers being provided in the Burnaby plant.

Although the plan for the Lower Mainland Refuse Project (Keith Henry) put forth one possible scenario calling for major incinerators being located in Burnaby and in North Vancouver with smaller modular units in Matsqui, Maple Ridge, and Langley, it must be remembered that the Lower Mainland Refuse Project embraced not only the Greater Vancouver Regional District but also the Central Fraser Valley Regional District and the Dewdney Alouette Regional District. When viewed from the context of a Solid Waste Disposal Plan for the G.V.R.D. only and its attendant much more limited geographical area, it seems to your Director Engineering that a single incinerator working in conjunction with the Burns Bog Landfill and resource recovery plant(s) is a reasonable scenario to replace the one in the Lower Mainland Refuse Project plan which called for five incinerators to serve three Regional Districts.

III. POSSIBLE ENVIRONMENTAL RAMIFICATIONS OF ENLARGED INCINERATOR

A. Noise levels, waste type control, and air emissions

Up-dated information concerning noise levels, waste type control, and air emissions is not yet available but the Chief Public Health Inspector will provide them in a separate report item, together with comment, as soon as the information becomes available. This is expected to be ready in time for the Council Meeting of 1985 September 09.

It should be noted that the resolution adopted by the G.V.S. & D.D. Administration Board at its meeting of 1985 July 18 with respect to enlarging the size of the incinerator contained the following words "... and to carry out all necessary work to satisfy the stack emission control requirements."

B. Traffic Patterns and Volumes and Effect on Roads

A major portion of the traffic to and from the incinerator will use Marine Way for east-west access but all incinerator traffic will use Marshland Avenue from Marine Way to the incinerator itself. Traffic volumes themselves are not really significant in numbers, there being only approximately 90 vehicles per day in total for the 140,000 tonnes per annum incinerator and approximately 136 vehicles per day for the one of 210,000 tonnes per annum, with the increase of approximately 46 vehicles approaching Marshland Avenue from both directions on Marine Way.

It seems reasonable to predict that neither the traffic volumes nor the axle loadings of the trucks delivering refuse to the incinerator will in themselves, acting singly or in combination, cause the early destruction of the roadway on Marshland Avenue. However, it must be realized that Marshland is built over moderately deep deposits of peat and unstable silts and was constructed before research developed more satisfactory methods to reduce long-term settlements. The result of this is that every vehicle using such a road contributes its own proportional share toward the road's deterioration; there is little doubt that Marshland Avenue will need to be reconstructed sometime in the next three to five years. Your Director Engineering and his staff have very recently reviewed how the reconstruction of Marshland Avenue might best be affected; a preliminary conclusion was reached that an opportunity may soon exist for a cost-sharing proposal to be developed between a major developer, the Corporation, and other existing industrial land uses in the area. It would seem reasonable for the Corporation to look to the incinerator operation to bear its share of the Marshland Avenue reconstruction cost; to this end it is intended to enter into discussions with staff of the G.V.S. & D.D. once we have a more accurate figure of the cost and have developed a more definite proposal for cost sharing.

IV. DISPOSITION OF BURNABY'S OWN REFUSE

Burnaby terminated its operations at the Stride Avenue Landfill in 1970 and for a period of approximately four years, Burnaby refuse was disposed of at the Terra Nova Landfill (private operation). From 1974 to the present time, the G.V.S. & D.D. has performed the solid waste disposal function for Burnaby, initially through landfill at Braid Street (Coquitlam) for several years and then transfer station at the same location with final disposition at Burns Bog.

Burnaby has been well served by G.V.S. & D.D. for approximately twelve years and your Director Engineering has no hesitation in stating that our present commitment to the G.V.S. & D.D. should continue under an updated Solid Waste Management Plan as well as into the future under revised Plans as such become necessary.

Even though all of Burnaby's refuse will probably not initially go to the incinerator in Burnaby, it is necessary for each member Municipality to consider its own territory within the context of the overall plan. Each member needs to let itself be governed by principles such as economic contributory areas which are aimed at optimizing overall disposal costs. Your Director Engineering is satisfied that such a course of action is the best one to follow.

V. CONCLUSION

The G.V.S. & D.D. 210,000 tonnes per year Burnaby Incinerator is justified when viewed within the context of a solid waste disposal management plan for the entire Regional District which calls for a coordinated approach involving the use of the Burns Bog Landfill and the operation of resource recovery plant(s).

EEO/ch


DIRECTOR ENGINEERING

c.c. () Director Planning & Buidling Inspection
() Chief Public Health Inspector

