

IN THE MATTER OF SECTION 13 OF the Consolidated Hearings Act, S.O. 1981, c.20

- and -

IN THE MATTER OF an application by the Regional Municipality of Halton for:

- a) the acquisition of land for the construction operation and maintenance of a sanitary landfill site to contain 7.96 million cubic metres of waste in the Regional Municipality of Halton by one of two alternative methods as follows:
 - i) landfilling at the site referred to in Halton's Environmental Assessment as Site F in the City of Burlington;
 - ii) landfilling at the site commonly referred to in Halton's Environmental Assessment as Site D in the Town of Milton.

- and -

IN THE MATTER OF a decision by the Joint Board under the Consolidated Hearings Act, S.O. 1981, c.20, dated February 24, 1989.

TO: THE LIEUTENANT GOVERNOR IN COUNCIL

REPLY OF THE WEST BURLINGTON CITIZENS' GROUP
TO THE APPLICATIONS OF THE CORPORATION OF THE
TOWN OF MILTON, THE MILTON AREA CITIZENS'
COALITION ET AL AND NSP INVESTMENTS LIMITED

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REPLY OF THE WEST BURLINGTON CITIZENS' GROUP
TO THE LIEUTENANT-GOVERNOR IN COUNCIL

MAY IT PLEASE YOUR HONOUR:

1. This reply is filed on behalf of the West Burlington Citizens' Group, hereinafter called "WBCG", in response to applications brought by the Corporation of the Town of Milton, the Milton Area Citizens' Coalition et al and NSP Investments Limited.

I. ORDER REQUESTED

2. The WBCG respectfully submits that the applications brought by the Corporation of the Town of Milton, the Milton Area Citizens' Coalition et al (hereinafter "MACC") and NSP Investments Limited (hereinafter "NSP") be dismissed and that the Lieutenant Governor in Council affirm the decision of the Joint Board dated February 24, 1989.

II. BACKGROUND

3. The West Burlington Citizens' Group (WBCG), is a ratepayers association consisting of approximately 600 members living in the West Burlington area in the vicinity of Site F. The WBCG has been actively involved in waste management and disposal issues since the early 1980s. The WBCG was granted party status at the Joint Board hearing in regard to the Regional Municipality of Halton's application for a landfill site and through its counsel, actively participated in the proceedings. Two expert witnesses in the areas of hydrogeology and social impact assessment were called by the WBCG and gave testimony at the hearing. In addition, over 40 lay witnesses who were either members of the WBCG or who supported the position of the Group testified at the hearing.

4. The position of the WBCG was that Site F should not be approved and that Site D should be approved for landfilling by the Joint Board. The areas the group focussed on in its cross-examination of witnesses and its own case were the site selection process, the hydrogeology of the two sites and the social impact assessment. The WBCG maintained throughout the hearing that Site F should have been eliminated at an early stage from the site selection process, based on the Region's own criteria. The WBCG also maintained that Site D was hydrogeologically more suitable for landfilling than Site F as the former was designed as a containment site while Site F as designed and even with a liner would allow the escape of leachate into the environment. Finally, the WBCG maintained that the Region's social impact assessment was flawed in that it did not take into account the communities living to the south and east of Site F.

III. THE HEARING PROCESS

5. The Joint Board hearing commenced on May 5, 1987 and concluded after 194 days of evidence and argument on November 8, 1988. Over 950 exhibits were filed in the course of the hearing, and over 50,000 pages of transcripts recorded. Forty-seven expert witnesses were called by the parties to the hearing as well as over 75 lay witnesses. To date, this is the longest hearing conducted by the Joint Board. Throughout the 194 days of public hearings, the views of all the parties were thoroughly canvassed and the Joint Board fully considered all of the evidence, as demonstrated by the carefully reasoned decision of the Joint Board. It is submitted that the rules of natural justice were observed throughout the lengthy hearing conducted by the Joint Board.

6. The applications filed by the Town of Milton, NSP and the MACC contain submissions that were advanced, canvassed and rejected by the Joint Board. Throughout the Board's 210 page decision, extensive reference is made to the evidence adduced on behalf of the

applicants and careful analysis is made of that evidence by the Joint Board. It is our submission that the Joint Board has the power and authority to weigh and assess evidence and to give whatever weight it deems appropriate to such evidence. The Board, throughout the hearing, was in a unique position to assess the demeanour of the witnesses and their responses to lengthy cross-examinations.

7. The Board in its decision, refers to the judgment of Middleton, J.A. in Bennett v. Beattie:

"When a case is complicated by the introduction of opinion evidence...it is, I think the duty of the judge to arrive at his own opinion after carefully weighing and considering the evidence of the experts, and availing himself of all the assistance they are able to give him, and himself to determine the question of fact in the light of that evidence" (Board Decision, p.54).

This is exactly what the Board did in this case and it is therefore our submission that the Lieutenant Governor in Council should not interfere with the decision of the Joint Board. As the applicants have noted, the Region of Halton's search for a landfill has been ongoing since the 1970s. A site was approved in the Town of Milton by the Ontario Municipal Board in 1979. However, no site was ever established in Milton. Subsequent to that date, the Minister of Environment had to make a determination of whether to apply the Environmental Protection Act or the Environmental Assessment Act to the selection of a landfill for Halton Region. It should be noted that the applicant, the Town of Milton was among the parties urging that the Environmental Assessment Act be applied.

8. It is our submission that the Lieutenant Governor in Council should not interfere with the decision of the Joint Board after such a lengthy, complex and technical hearing. To do so would undermine the process which all parties agreed at the outset was appropriate for a determination of the issue of the siting of the Region of Halton's landfill.

IV. REASONS WHY THE JOINT BOARD DECISION SHOULD BE AFFIRMED

A. OVERVIEW- THE STATUTORY FRAMEWORK

9. It was the submission by the Region in its opening statement that the foundation hearing before the Joint Board was the one under the Environmental Assessment Act because that is the hearing that considers both sites. The WBCG agreed with that position. A key feature of the Act is the requirement for the provision of an environmental assessment by the proponent in regard to the undertaking. Section 5(3) provides that the proponent must provide a description and rationale for the undertaking, alternative methods of carrying out the undertaking and alternatives to the undertaking.

10. This Act is the broadest statute that the Board had to consider in that it requires that alternatives to the undertaking must be examined. It should be noted that, in this case, the undertaking and application brought to the Board by the Region of Halton was for approval of a sanitary landfill site to contain 7.96 million cubic metres of waste by one of two alternative methods: landfilling at Site F or Site D. Thus the question squarely before the Board was which site is the most appropriate. The Board could, of course, have determined that neither site be approved. However, after weighing all the evidence, the Board chose Site D. The Lieutenant Governor in Council should not interfere with this selection.

11. Approximately 87 days of the 194 day hearing were spent in the examination and cross-examination of witnesses called by the parties in relation to issues of hydrogeology, hydrology, design and engineering of the two proposed sites. It is submitted that these issues were the key issues at the hearing and that all parties took this position before the Board. As the Ministry of the Environment stated very early in the process, hydrogeological factors must not be overwhelmed by other factors in the site selection process (Exhibit H-59, p.47). The WBCG argued that in dealing with the siting of a municipal landfill, the issue of hydrogeology and whether there will

be off-site migration of leachate is the key consideration before the Board. In the context of the Environmental Assessment Act in this case, it is the examination of the hydrogeology of the alternative sites which is the major issue. The MOE, in final argument, also took the position that if an undertaking is approved under the EAA, then the planning approvals and expropriation approvals should follow as a matter of course.

B. SITE SELECTION PROCESS

12. It is submitted that the Joint Board, after hearing all the evidence, clearly and categorically found that Site D should be approved and that Site F should not. In fact, the Board found that Site D should have been the only site brought forward to the hearing. It states:

"We believe that had all sites been evaluated with the same criteria at each stage of the process, there would have been only one site selected- Site D" (Board Decision, p. 157).

This was reiterated at page 59 where that Board notes:

"By the end of this Hearing the Board had reached the conclusion that only one site was acceptable. Board members think that the proponent could have reached the same conclusion fairly early in the process."

13. On page 169-170 of its decision, the Board deals with the issue of "perception of fairness." It lists eight examples of the Region's actions that appeared to be unfair and then concludes that:

"There were reasons offered for each of the individual actions described above, but collectively they could be taken to suggest that the proponent in this case preferred Site F before, during and after the environmental assessment process, and throughout the Hearing. We do not find supportable reasons for the resolute shifting of criteria in favour of one site only. It is not surprising, therefore, that the public often expressed their perception of a bias in the process, to the detriment of both the process and public support for Provincial policy in this area" (Board Decision, p. 170).

14. It is submitted that there is a substantial evidentiary base to support the examples cited by the Board. To summarize, it is very clear that in its site selection process, the Region accepted the fact that glacial tills were the accepted medium for landfill. Site D was identified early on in the process as being such a suitable site

on the basis of hydrogeological mapping. As the Board noted at page 155 of its decision, Site F would have been eliminated on hydrogeological and other grounds at the 2A stage had it not been for the decision to bring in pits and quarries. This was admitted in cross-examination by the Region's witnesses, Mr. Walker and Mr. Sobanski. Mr. Walker agreed that at the Stage 2A phase, site F would have been screened out and that Site F would not have re-entered the screening process except for the determination to look at pits and quarries as alternatives for the natural attenuation type of facility (Transcript, Vol. 66, pp. 15513, 15518). Mr. Sobanski also agreed that Site F would not have been chosen unless pits and quarries had been considered (Transcript, Vol. 38, p.8325).

15. In deciding to investigate pits and quarries, the Region's planner testified that "we were looking at pits and quarries to assess the potential for avoiding agricultural land and the potential for rehabilitating damaged lands" (Transcript, Vol. 60, p.13975). In the case of Site F, the WBCG argued that the reasons why the Region looked at pits and quarries did not apply in relation to Site F. It was our submission that in the case of site F, in which approximately 50 hectares out of an original 96 hectare site plan were proposed to be filled, only 30 hectares constituted the licensed quarry. The remaining part of the site to be landfilled consists of a oak/hickory forest complex containing rare plants. The Board in its decision, notes that:

"Mr. Walker admitted under cross-examination by counsel for Aldershot residents [WBCG], that the rules for quarry rehabilitation would not normally apply to a site such as Site F, because the NSP property was not a typical excavated site waiting to be filled up and rehabilitated. Rather, for most of this site, vegetation and soil would have to be removed in order that the resulting space could be filled with garbage and then rehabilitated." (Board Decision, p. 156)

16. NSP has argued that the Board erred in not considering relevant evidence which documented the prior use of pits and quarries and fractured rock sites for landfilling (NSP Application, Appendix B, p.12). It is our submission that first of all and most importantly,

none of the sites listed by NSP were selected as part of an environmental assessment process where alternative sites were considered. Second, as has been mentioned above, only a portion of Site F proposed for landfilling was actually a licensed pit and quarry with the remainder being an oak/hickory forest complex.

17. As well, the Board noted inconsistent treatment of potential pits and quarries sites in that the licensed part of Site F was inadequate for the volumes needed and could have been rejected on that basis alone. However, Site F remained in the running and was the only pit and quarry site that required "adjacent property" to provide adequate landfill capacity.

18. The Milton Area Citizens' Coalition has argued, as it did before the Board, that the Foodland Guidelines direct that Site F be chosen (MACC Application, p. 31). It is our submission that this is an incorrect interpretation. First, it is clear that the Ontario Ministry of Agriculture and Food (OMAF) has never taken this position. In its comments during the government review of the Region's environmental assessment, OMAF indicated that in their opinion the process had been satisfactory. Specifically, in a letter dated November 1, 1985, OMAF officials clearly state that they have reviewed the Environmental Assessment in view of the Foodland Guidelines. They then make the further comment that the Environmental Assessment should definitely indicate that Site D will be rehabilitated to agriculture should it be chosen as the landfill site (Exhibit 109, p.88) In a subsequent letter of December 26, 1986, OMAF again states that the material was reviewed in view of the Foodland Guidelines and they note that the matter of agricultural rehabilitation appears to have been addressed satisfactorily by the Region. Finally, the letter states that staff are therefore satisfied with the data and analysis provided in the environmental assessment and it would appear therefore that the requirements of the Act had been met. The Foodland Guidelines, in any event, have no binding legal effect.

19. It is our submission that first, as noted above, OMAF at no time took the position advocated by the MACC that the Foodland Guidelines directed the Region or the Board to choose Site F. Second, OMAF clearly recognized that the Environmental Assessment Act, was the lead statute and that agriculture was just one factor that had to be considered and that it had been properly considered by the Region. Third, there was considerable evidence that while glacial tills in Ontario are generally considered to be one of the better disposal mediums for landfill, they often form some of the better agricultural land (Exhibit H-9, pp.54-55). This is relevant to the fact that the Foodland Guidelines do anticipate and permit the use of agricultural land for other purposes when it is in the public interest. Finally, it is important to note that OMAF did not send anyone to the hearing or seek party or participant status as it has done in other cases.

20. It should also be noted that in the Region's site selection process, the factor of agricultural capability did not have the possibility of an unacceptable ranking largely because the attenuation potential for groundwater contamination is lowest for silt and clay sites (Exhibit H-10, p.33). Further, in the site selection process Site D was initially ranked "low impact" in terms of agricultural impact with 43 other sites having more severe impacts. One other site had the same low rating and only two were ranked lower (Exhibit H-11, Table 4, p.73). Only when Site D was ranked against Site F is it "high" in the agricultural impact factor. In the case of Site D, there was also evidence of the encroachment of estate residential in the area surrounding the site.

21. On the issue of biophysical screening, it is very clear that the screening criteria were to be the criteria and guidelines used for the identification of environmentally sensitive and/or significant areas (Exhibit, H-10, p. 19). This was true of both the Stage 2A and 2B phases. NSP's own biophysical study done by Proctor and Redfern in 1982 indicated that:

"Our analysis shows that parts of the subject property may be considered Environmentally Significant since they satisfy criteria 1,3,4,5 and 6" (Exhibit WB-107, p. 35).

On December 1, 1982, the Halton Region Conservation Authority passed a resolution indicating that the oak/hickory forest portion of Site F should be designated as an environmentally sensitive area (Ex. B-106). The Board stated that since Site F met criteria 1,3,4,5 and 6 (for the designation of an Environmentally Sensitive Area), it would have been reasonable for the site to have been eliminated in the early screening (Board Decision, p. 43). This finding is entirely reasonable based on the evidence the Board had before it.

22. Ms. Hellas, witness for the Region, in cross examination also agreed that most of the area of significant biological resource is excluded from the licensed shale area and that the landfill plan before the Board would destroy the portion of Site F with the most diverse terrain and value-rich formations. Three provincially rare species would be totally destroyed on the proposed plan for landfilling at site F (Transcript Vol.5, pp. 1006,7) and as well more than 50% of the significant Carolinian Forest would be eliminated. The Procter and Redfern study done in 1982 on behalf of NSP concluded: "Not only did these forests contain many species which are rare in Ontario and regionally significant, but the forests themselves were also significant" (Exhibit WB 107, p.IV.).

23. It is submitted that the Board's conclusions regarding the site selection process and the weighing of the evidence as regards the resource issues and the biophysical issue were entirely appropriate based on the evidence that it had before it. Accordingly, we submit that the Board's conclusions in this regard should be affirmed.

C. HYDROGEOLOGY

1. Overview

24. As noted above, approximately half of the hearing dealt with a comparison of the hydrogeology, hydrology and design and engineering

of the two sites. It is submitted that all parties agreed that hydrogeology of the two sites was the key issue. The WBCG will therefore address the arguments raised by the applicants in regard to this matter.

25. The applicants have argued that the Board erred in finding that Site F is not hydrogeologically suitable for landfilling while Site D is hydrogeologically suitable (NSP Application, p.7 and MACC Application p.9). It is submitted that first of all, this statement must be considered in light of the discussion of the evidence that is found on pages 109-112 of the Board's decision. The seven matters under consideration therein led the Board to the clear decision that Site D was hydrogeologically more suitable than Site F in relation to these factors. There was considerable evidence before the Board that Site D was more suitable and preferable for landfilling than Site F.

26. It is submitted that the seven matters of significance that the Board considered in assessing the hydrogeological suitability of a landfill site (Board Decision, pp. 109-112) clearly favoured the choice of Site D as a landfill. This finding should not be disturbed by the Lieutenant Governor in Council.

27. To summarize the seven matters considered by the Board:

- a. The hydrogeology of the area must be comprehensible to the Board.

As the Board notes, the general hydrogeology of site D was undisputed throughout the Hearing while Site F hydrogeology was in dispute throughout, with the proponent withdrawing the original model as the hearing progressed.

- b. The loss of contaminants should be minimal (and preferably zero), as a result of either natural containment or engineered work.

No witness disagreed with the fact that Site D as designed will release no contaminants to the environment, while all agreed that Site F will leak. The Board concluded that Site F is expected to release between 1000 gallons per day and 12,000 gallons per day with

the engineered system working. The most likely losses would be in the neighborhood of 5000 gallons per day (Board Decision, p. 110).

- c. Natural containment and attenuation of contaminants is preferred to engineered containment and attenuation.

Here the Board notes that Site D was originally selected for its natural containment and attenuation potential, whereas Site F was not. This is readily apparent from the site selection documentation filed by the Region.

- d. If it is predicted that contaminants may move away from the landfill site, then the postulated contamination migration pathways should be predictable.

It is submitted that the evidence clearly demonstrated that the investigators were in general agreement about the critical pathways for leachate migration at Site D, should there be a failure at that Site. On the other hand, as the Board notes in relation to Site F:

"leachate egress at Site F would be towards the community of Aldershot and Lake Ontario, either through relatively permeable natural "drains" at unspecified locations, or through a layer of more permeable material of varying thickness at an uncertain depth, to questionable discharge areas" (Board Decision, p. 111).

As will be discussed below, the Region's interpretation of the hydrogeology of Site F was much disputed and changed significantly during the course of the hearing.

- e. It should be demonstrated that predicted leachate migration from the site will have no significant adverse impact on surface waters.

The Board notes that the evidence led to the conclusion that there would be no surface water impact at Site D, while at Site F, stormwater and surface water run-off is more difficult to control during construction and operation of the landfill. It should also be noted that Mr. Bowen testified that the off-site impact of leachate at Site F could have some measurable affect on surface water courses in the area which subsequently flow through the Aldershot area (Exhibit WB-906, p. 9).

- f. Monitoring to identify contaminant escape and migration pathways should be straightforward.

Again, monitoring was considered more straightforward at Site D than

Site F. As the Board notes, in the case of site F, the proposed monitoring measures might miss leachate "drains" if the subterranean strata are fractured in a complex and incompletely understood fashion, whether the engineered containment system was functioning or not.

- g. There should be the highest possible confidence in the effectiveness of contingency measures to intercept and capture lost contaminants.

Here, the Board makes the point that there are buffer zones at Site D which allow for the implementation of standard contingency measures for the interception of leachate, whereas at Site F, the complexity of possible leachate egress routes might compromise the effectiveness of contingency measures proposed at this site.

28. It is only after a consideration of the above-noted matters, among other things, that the Board finds that Site F is not hydrogeologically suitable for landfilling while Site D is hydrogeologically suitable. The Board then states that on this finding, in conjunction with other findings in the Public Health and Safety category and findings in other categories, it approves the undertaking to landfill at Site D only. It is submitted that the Board's decision is a cumulative one and that there is substantial evidence to lead the Board to its decision of approval for Site D only.

29. It is further submitted that the applicants cannot challenge the key difference between the two sites-- Site D as designed will not release any contaminants to the environment while Site F is expected to release between 1000 gallons per day and 12000 gallons per day with the engineered containment system working (Board Decision, p.110).

30. It is submitted that this distinction between the two sites is well-established by the following evidence:

-Mr. Hiraishi, the Region's landfill engineer, under cross examination agreed that a landfill design is

preferable that has no offsite migration versus a design that prevents offsite migration (Vol.51, p.11672). Mr. Hiraishi also agreed that no matter how closely the drains were spaced at proposed Site F, that there would also be an escape of leachate because of the downward gradients and that a hydraulic trap cannot be created at Site F (Transcript, Vol.51, p.11659).

-Mr. Feenstra, called on behalf of the Region, in his first appearance before the Board stated that at Site D when everything is operating, there is no leachate movement into the underlying granular units and "...as a result of this, I categorically state that there should be no impact at Site D. ...At Site F the underdrain system is going to collect a significant proportion of the leachate, but some of the leachate is going to by-pass the under-drain and movement will occur into shale bedrock although it should not exceed drinking water standards" (Transcript, Vol.46, p. 10333).

31. It is submitted that all parties also agreed that even with a liner, Site F would still leak. While for example, the Milton Area Citizens' Coalition cite the fact that the hydrogeologists for the City of Burlington and the WBCG took the position that a liner would provide more certainty at Site F, the Coalition does not put that in the context of (1) the position taken by Mr. Bowen that Site D was a more suitable and predictable environment for a landfill than Site F and that (2) because the permeability and location of the fractured zones were not known at Site F, if the site were to be approved there should be a liner installed to ensure some certainty about the leakage. At site D, on the other hand, as Mr. Bowen noted (1) it was recognized by all parties that a properly functioning hydraulic trap would effectively prevent off site migration of contamination and (2) that all investigators identified the same critical

contaminant pathway for site D which can be contrasted to the differences of opinion regarding the permeability and delineation of the strata at site F. Mr. Bowen's conclusion was that Site D presented a more suitable and predictable hydrogeologic environment for landfilling than Site F (Exhibit WB-906, p.13).

2. Site F Hydrogeology

32. It is submitted that the Board carefully considered the evidence in regard to the hydrogeology of Site F. It is not surprising that the applicants do not spend much time discussing the complexity of Site F and the fact that the Region's interpretation of the hydrogeology of the site changed significantly over the course of the hearing. The Board summarizes the evidence at pages 83-109 of the Decision. On page 83, the Board summarizes the different opinions of the hydrogeologists as to the strata beneath Site F.

33. As the Board notes, there was a considerable amount of debate as to the extent and location of the strata beneath Site F. What is clear is that the Region in the course of the hearing changed its interpretation about the hydrogeology of Site F. As counsel for the Ministry of the Environment noted in argument, it was a "voyage of discovery" as far as the changing opinions about the hydrogeology at Site F were concerned. The Region's initial theory was that there were discrete zones of moderately fractured, weakly fractured and highly fractured shale beneath site F with specific abilities to retard or enhance the movement of groundwater. A key part of this model was that there was a specific discharge zone downgradient of the Site in the area between Highway 403 and the CNR tracks.

34. During the cross-examination of Mr. Sobanski and Mr. Beechinor, the principal hydrogeologists for the Region, their interpretation of the hydrogeology of Site F was shown to be inconsistent with the real data. Specifically, a detailed examination of all the permeability, fracture, RQD and tritium data did not support the Region's initial interpretation. By the end of the hearing, through

the evidence of Mr. Feenstra, the Region had changed its interpretation of the hydrogeology from that described above to an interpretation where there was an upper active zone and a deeper inactive zone.

35. In regard to the discharge zone, it was pointed out in cross-examination of Mr. Sobanski and Mr. Beechinor that there were downward gradients where the discharge zone was predicted and upward gradients further south. Mr. Feenstra agreed that it would be a reasonable assumption that the discharge zone could start further south (Transcript, Vol.45, p.10237). As the Board noted, there were many exhibits which showed downward gradients, not upward gradients, in the area between Highway 403 and the CNR tracks south of the site. Upward gradients are shown in the residential areas to the southeast. The Board notes the importance of this change of location of the discharge zone as follows:

"This means that if contaminants do migrate into a more conductive stratum beneath the landfill, they could emerge, not north of the residences, but in the vicinity of the residences." (Board Decision, pp.95-96).

36. The hypothesis put forward by the Town of Milton was to consider the entire area beneath Site F as a homogeneous and relatively impermeable stratum. It is submitted that the real data showed that there are vertical fractures in the shale that will constitute the pathways for leachate migration. In cross-examination, Dr. Charlesworth, on behalf of the Town of Milton, agreed that there was evidence that there are highly fractured zones capable of transmitting water and that these are the zones that would govern the first arrival of contaminants (Transcript, Volume 92, p. 22006, 22008).

37. Mr. Bowen testified that stratigraphic conditions at Site F are not as well characterized as those at Site D and that further it is difficult to understand groundwater flow through a fractured bedrock material except on a very large scale. He said that within several hundreds of metres, it is difficult to understand the flow system

(Transcript, Vol.160, p.38807). As the Board concluded:

"Because one cannot draw the boundaries of the hydrostratigraphic units with great confidence, one cannot reasonably apply any model which is dependent upon the clear delineation of such units. The complex geology at Site F doesn't allow the definition of variations at a scale of about 50 to 100 metres. So one could miss a significant contaminant plume in a monitoring program, be unable to develop a reliable model and be unable to use groundwater chemistry as a means of characterizing the site" (Board Decision, p. 97).

38. While NSP argues that the Board did not mention evidence of favourable attenuation characteristics of the shale at Site F, they do not address the fact that:

1. There will be off-site leakage at Site F versus complete containment at Site D;
2. The actual groundwater flow paths velocity and directions from Site F are not clearly defined; and
3. The level of understanding of hydrogeology within fracture media is considerably less advanced than in porous media.

39. NSP has argued that the Board erred in their rejection of the usefulness of the hydrogeological data available with respect to the adjoining Burlington and Bayview landfill sites (NSP Application, Appendix B, p 6-11). It is submitted that the Board did, in fact, deal with and weigh this evidence in its decision. While extensive contamination has not yet been detected at the two adjacent sites, there is still evidence of a leachate plume moving in a southerly direction. At the Burlington site, which has been operated for only 15 years, there was evidence of trace amounts of leachate at a monitoring well 100 metres from the site. Gartner Lee, the authors of the monitoring reports, believe that more testing is warranted (Exhibit H-625). They noted that previous MOE chemistry results were suspect in that they were stored too long and the volatiles might have had time to disperse. Considerable time was spent at the hearing discussing whether it would be possible to predict contaminant movement from Site F. Even after 5 years of relatively extensive monitoring at the adjacent Burlington Landfill, Gartner Lee was still

unsure as to whether the plume of contamination had been properly identified in their study (Exhibit H-625). It should also be noted that the distance to the site boundary of Site F was only 50 metres as compared to 100 metres at the existing Burlington landfill.

40. As well, questions arose during the course of the hearing about whether the Gartner Lee wells were located in the fracture zones. Under cross-examination, Mr. Feenstra agreed that because the Gartner Lee piezometers were not instrumented for fractures that it would be hard to conclude one way or another whether they were installed in the weakly fractured shale zone or the more fractured shale (Transcript, Vol.46, p.10402). This is significant because it is not known whether the more significant or fastest groundwater flow paths from the site have been intersected. The Board in its decision also noted that:

"Mr. Feenstra felt that the non-detection of volatile organics at the site boundary of the present Burlington landfill and the closed Bayview landfill were not indicative of anything, since according to the proponent's own model, leachates from these sites might not yet have migrated through the relatively impermeable layer" (Board Decision, p.95).

41. It is submitted that based on the evidence before it, the Board did not err in not placing great weight on the often contradictory evidence of contamination from the two existing sites.

3. Site D Hydrogeology

a. General

42. The Board in its decision spent considerable time discussing the evidence about the hydrogeology of Site D (Board decision pp. 60-82). In that discussion, it quite properly considered and weighed the testimony of the many hydrogeologists it heard from and came to decisions as to what weight should be put on the various propositions put forward by these expert witnesses. It is submitted that the applicants' major complaint seems to be that the Board should not have rejected the theory of the potential for the unweathered upper till to be fractured. As will be discussed below, it is our submission that there was sufficient evidence before the Board to

reject this theory which was put before it in reply by the Region.

43. What is important is the fact that there was no evidence put before the Board by any hydrogeologists that Site D as designed with the hydraulic trap in operation would not act as a containment site and that as a result there would be no escape of leachate into the environment.

44. Furthermore, all witnesses agreed that the lithology, ie. the nature and character of the material beneath the site, is considerably easier to assess in the case of Site D and very difficult to assess in the case of Site F. This is important in terms of the ability to understand and predict groundwater behaviour beneath the two sites. Mr. Bowen, the hydrogeologist called by the WBCG, noted that on the basis of visually examining the core samples at Site F, it is very difficult to assess what the hydraulic properties of the fractured shale are. On the other hand, Mr. Bowen testified that at site D it is easier to categorize the strata based on visual inspection. This distinction was borne out by the evidence of the other hydrogeologists. Mr. Sobanski, when asked by the Board as to whether he was confident that he would not have missed a major geological feature of the site replied:

"We believe that we have given a plausible description for the mechanism by which groundwater moves at this site. The fracturing obviously is a complexity that has a greater degree of complexity at Site F than it does at Site D. I don't believe that we have missed anything major" (Transcript, Vol. 40, p.8846).

45. Mr. Feenstra was asked in cross-examination by the WBCG whether he agreed that it was more difficult to delineate the boundaries of a unit in a material that is the same lithology, that is shale [the case at Site F] rather than distinguishing between till and the other strata at site D. He agreed that it would be more difficult to delineate the hydrostratigraphic units at Site F than at Site D. Mr. Feenstra stated:

"At D the difference in units is largely expressed by the actual difference in the texture of the soils going from sands to silty clays. At this point, the lithology, nature of the shale bedrock, is reasonably

similar. What distinguishes one zone from the other is the hydraulic properties being influenced by secondary features such as fracture zones or other discontinuities. So, there is a fundamental difference between the two sites" (Transcript, Vol. 45, p.10199).

46. Mr. Beechinor, for the Region, also testified that it was "interpretive" to draw the lines between the hydrostratigraphic units at Site F where there is not a distinct difference in lithology. He said it is not a Site D situation where you can go from the till into the sand and say "Well, there is the line. Here we have to make some judgments."

47. Dr. Charlesworth, called by the Town of Milton, also agreed in cross-examination that the zones at Site D are clearly definable because they are visually definable and one can tell a granular unit from a till unit. At Site F it is more difficult to identify those various fracture zones on a visual basis (Transcript, p. 22014).

48. Mr. Feenstra also agreed that groundwater velocity is more easily measurable at Site D and that there was greater experience with contaminant transport modelling through a porous media such as till than in a fractured medium such as shale. All of this evidence is relevant to the feasibility of monitoring, contaminant transport modelling, and predictability of leachate migration. As the Board noted:

"In response to cross-examination from Mr. Tidball, Mr. Feenstra acknowledged that monitoring could be done at both sites, but at Site D it would be simpler, less expensive and more reliable than would be the case at Site F. The Board was not satisfied that a monitoring system at Site F could reliably intercept all contaminant migration pathways" (Board Decision, p.96).

49. Finally, NSP has argued that the Board ignored Mr. Hiraishi's evidence regarding the implications of a liner at Site D. NSP cites a memorandum written by Mr. Hiraishi in November 1987 in which he says that a liner would change the design of the site. The WBCG dealt with this submission in final argument and suggested that this quote had been taken out of context (Transcript, Vol.192, pp.47711-13). It is our submission that at the time of his 1987 memorandum which dealt

with liner costs, Mr. Hiraishi was not considering the installation of both a liner and a hydraulic trap, but rather a liner only without a trap and from that point of view, it would be a design change. However, when Mr. Feenstra brought up the possibility of a liner at Site D, he was talking about the liner and a trap working together. The purpose of the liner would be to slow down contaminant migration in the event of trap failure. It is not related to a change in the design philosophy proposed for Site D. It was the position of the WBCG that a liner was not necessary for Site D. The Board, in its Condition 5, section 5.4, provides that if the permeability of the unweathered till is found to be greater than a specified amount, than a liner should be constructed. The Board does not intend that this liner would not operate in conjunction with the hydraulic trap. In fact, the specifications for the leachate collection system are set out in the next section, 5.5.

50. In its application, the Town of Milton repeatedly argues that the design of Site D is based on the relatively new concept of an hydraulic trap. It is submitted that the concept of the hydraulic trap is based on the most fundamental and simple concept in groundwater, that is, that water flows downhill. Its design and implementation is not a new concept either in the hydrogeology or engineering sense. In fact, the Joint Board in 1983 approved a hydraulic trap to collect leachate at the County of Northumberland landfill (CH-81-10).

b. The Board Did Not Err In Rejecting The 'Fracture Theory' of the Unweathered Upper Till At Site D

51. NSP has argued that the Board should not have rejected the evidence of Mr. Feenstra regarding the potential for fracturing in the unweathered upper till. NSP also submits that the incorporation of certain conditions to attach to the Certificate of Approval for Site D reflects an inconsistency in the Board's approach to this issue. The Town of Milton makes a similar argument and in addition, is seeking an order that the Lieutenant Governor in Council "order a

new hearing as to the matter of fractures at Site D" (p 23). The applicants also take issue with the refusal by the Board to grant the motion brought by the Town of Milton to reopen its case and call evidence in relation to potential fracturing at Site D.

52. It is our submission that the Board, after hearing all the evidence, quite properly came to its decision that the fracture hypothesis should be rejected. It also came to an appropriate decision to reject the Town of Milton's motion.

53. The WBCG summarized this issue in its final argument in which it asked the Board to reject the fracture theory as set forward by Mr. Feenstra in reply. We noted that first, Mr. Feenstra clearly stated on numerous occasions that there is no direct data on Site D that would lead one to a conclusion that the till was fractured. Second, Mr. Feenstra testified that he was relying almost entirely on Mr. Ruland's Master's Project. Mr. Ruland's work and conclusions were only in relation to the Sarnia till. It was Mr. Feenstra who took these conclusions and extrapolated them to the Halton till at Site D 200 kilometres away. In cross-examination, it had become clear that Mr. Feenstra had not seen any of the raw data used by Mr. Ruland and thus in some circumstances there might not even be any raw data as students have different practices than consulting hydrogeologists in doing borehole logs. The WBCG noted:

"As well, it was clear in Mr. Ruland's project, that he had relied on the Rodvang thesis which Mr. Feenstra admitted he had not read until the City of Burlington provided him with a copy during these proceedings. In turn, the Rodvang thesis refers to other earlier testing that was done by other investigators. Mr. Feenstra agreed that Mr. Ruland, because of the nature of his work, did not go into many details about the physical characteristics of the Sarnia till. It is our submission that the evidence shows that there are important physical differences between these two tills and Mr. Feenstra did not look into these differences before transferring the Ruland thesis to Site D. Again, I took him through a comparison of some of the grain size analysis done at Site D in relation to the Sarnia tills which are considerably more clayey" (Transcript, Vol. 192, p.47697).

54. It is our submission, that based on the evidence, including the cross-examination of Mr. Feenstra, that the Board quite appropriately

came to its conclusion to reject the fracture hypothesis. It should also be noted that the Region and the Town of Milton chose not to cross-examine the WBCG's expert witness Mr. Bowen about this fracture theory, nor the other theories put forward by Mr. Feenstra in reply even though Mr. Bowen was qualified both as a hydrogeologist and a geotechnical engineer. The Town of Milton had the test pit data in April 1988 and deliberately chose not to put this evidence to Mr. Bowen when he testified in August 1988. The inference can be drawn that the Town did not believe that their test pit was significant or they would have questioned Mr. Bowen about it.

55. Finally, what must be stressed is the fact that even had the fractured theory been accepted, the fundamental difference between Site D and F still exists; ie. Site D, as designed as a hydraulic trap, is a containment site, while Site F is not. NSP has argued that by rejecting the fracture hypothesis, it became unnecessary to undertake a comparative assessment of the merits of landfilling at Site F and D on this issue. NSP argues that "on the evidence this assessment would clearly have favoured landfilling at site F " (NSP Application, p.43). It is our submission that on the evidence, this is clearly not the case. The evidence of all the hydrogeologists was that Site D with the hydraulic trap in operation would operate as a containment site and even if there was fracturing this would not affect the performance of Site D's operation as a containment site. The potential for fracturing of the unweathered upper till would only be relevant in a failure situation and would in no way affect the operation of the hydraulic trap. This can be contrasted with the situation of Site F where all hydrogeologists agreed that even with the leachate collection system in operation, there would be off-site leakage of leachate.

56. It is also submitted that the imposition of conditions in the Certificate of Approval to cover any possibility of failure is not inconsistent with the Board's rejection of the fracture hypothesis. It is submitted that, as a general proposition, Joint Boards have

often put in conditions of approval that provide for further testing and for contingencies if certain events are shown to occur. For example, in landfill cases, there will often be a condition that if monitoring shows that groundwater is contaminated, alternative sources of water will be found. The imposition of this kind of condition does not mean that the Board believes this event will occur, but just that it is covering all possibilities in the conditions proposed, and also that it is trying to alleviate any public concerns. Section 5(2) of the Consolidated Hearings Act clearly provides that the Board may impose terms and conditions in respect of any of the matters before it.

D. THERE IS NO CONFLICT BETWEEN THE BOARD'S DECISION AND THE MOE REASONABLE USE POLICY

57. NSP has argued that "the Board's findings effectively means that: (a) only engineering facilities which will provide for total containment of leachates are and will be acceptable in the future for sanitary landfill sites; and (b) the Reasonable Use Policy of the MOE, to the extent that it permits some leachate losses at landfill sites, and, further, leachate attenuation in appropriate circumstances as a reasonable use of groundwater is unacceptable" (NSP Application, p. 27). The Milton Area Citizens' Coalition makes the same argument in saying that "implicitly the Board found that the reasonable use policy of the MOE was inadequate or inappropriate for judging the hydrogeologic acceptability of F with a liner and for judging sites which are not designed to contain and collect 100% of the leachate generated by the site" (MACC Application, p.27). The Coalition says that this would rule out every future landfill that was not a trap. It is respectfully submitted that this is not what the Board concluded.

58. First of all, as has been discussed above, the issue before the Board was which of Site D or Site F was more suitable for landfilling. There was a choice of alternative sites before the Board. Second, the Board did not make any findings that the

Reasonable Use Policy was unacceptable, nor did it make any findings that a leachate attenuation zone could not be established in appropriate circumstances. What the Board did was state quite clearly that:

"the MOE policy does not say that "the most reasonable use of groundwater...is for waste disposal," as suggested by Dr. Charlesworth, nor does it encourage such use where there are alternatives which could prevent groundwater contamination" (p. 105).

59. Here the alternative that would prevent groundwater contamination was Site D. It is clear that the Board was dealing with a situation where there is a choice between a site that is by design a total containment site and a site that by design will leak, either with or without a liner. This was the feature of Site D and Site F respectively that the Board had to consider. No witness or party to the hearing testified or argued that Site F would not leak and all parties and witnesses agreed that Site D as designed with the hydraulic trap functioning would be a containment site.

60. Finally, the MOE itself did not make any argument before the Board that its policy would somehow be violated by a decision to approve Site D rather than Site F. The Board was not dealing with a situation where it was considering only one site and that site was not a containment site. As the Board stated at page 159: " At site F even the engineered fix is questionable, given that it contemplates daily losses of 4500 gallons of leachate to the environment. In contrast, the engineered solution at Site D is designed to prevent any leachate losses" (emphasis added). It is submitted that the applicants are stretching their argument on this point as evidenced by the fact that they preface their interpretation of the Board on this matter as "effectively" or "implicitly" making these findings. Moreover, it is submitted that the Board did not, as NSP argues, conclude that only a total containment engineering system is suitable but rather concluded that given the choice, it would choose a containment site rather than a site that was going to leak into the environment. In the context of the Environmental Assessment Act and the evidence that the Board heard about the two sites, it is

submitted that the Board's findings are entirely justifiable and appropriate.

61. Finally, the government's policy as expressed in the MISA White Paper, while dealing primarily with surface water impacts, does express the philosophy of reducing the loading of contaminants to the environment by controlling them at source. Page 53 of that policy which was filed as an exhibit (Ex. B-930) before the Board states:

"The toxic contaminants problem is not unique to water. Toxic contaminants also pose a threat to air quality and form toxic rain. Leachates from landfill sites can potentially contaminate groundwater and surface water supplies. All of these circumstances are interrelated aspects of an overall problem of environmental degradation since toxic contaminants can be transferred from one medium to another. To provide an effective solution to the management of toxic contaminants, Ontario has introduced an integrated and comprehensive strategy for attacking all sources of these contaminants in the ecosystem as a whole. In this respect all the air, water and land regulatory components will be made compatible and complementary."

62. The philosophy of the MISA policy is to reduce the loading of toxic contaminants to the environment. The Board's conclusion, that given the choice a site that will contain leachate is preferable to one that will not, is entirely consistent with both the MOE reasonable use policy and the MISA White Paper which is the policy of the Government of Ontario.

63. Mr. Bowen, the hydrogeologist called by the WBCG, testified that the leachate discharge from Site F would represent an intentional, uncontrolled source of contaminant loading to the environment (Transcript, Vol. 160, p. 38905 and Ex. WB-906, p. 13). The Board notes that "...leachate contamination does add to the general environmental burden in the vicinity..." (Board Decision, p. 102).

64. As well, it should be noted that the reasonable use policy does not apply to surface water and there was evidence before the Board that leakage from Site F could impact on the numerous streams running

through the site and into the residential neighbourhood to the south of the proposed landfill.

E. THE MOE ENGINEERED FACILITIES POLICY AND GUIDELINE IS NOT OUT OF CONFORMITY WITH THE APPROVAL OF SITE D

65. NSP has argued that the Board erred in failing to address the issue of the contaminating lifespan of a landfill at Site D and conformity of the site with the Engineered Facilities Policy. NSP also argued that Dr. Hughes, the MOE witness, had said that a leachate collection system would have to have a service life beyond that of the contaminating lifespan of the site, and that if the service life of the proposed leachate collection system was 20-25 years and the contaminating lifespan more than 50, this situation would not be acceptable under the policy and guideline.

66. It is our submission that the MOE policy would not be violated by the establishment of a landfill at Site D. At the outset, it should be noted that the MOE made no submission that this might be the case. It should also be noted that this policy is only a guideline and is not law and was only finalized on May 11, 1988, a year after the Halton hearing commenced. Furthermore, as pointed out in final argument by the WBCG, this argument made by NSP, if it had any validity, would apply equally to Site F, as the proposed leachate collection system for that site was also anticipated to fail before the end of the contaminating lifespan of the site. The WBCG raised this issue in the cross-examination of Dr. Hughes:

Q. Suppose we have a site that is located on quite sloping land and the evidence showed that having a leachate collection system was a necessity to stop mounding and leachate break-outs that could get to creeks that flow into residential area. You would agree that that system would have to operate for the contaminating life of the site?

A. If you consider maintenance and replacement as part of operating, yes. What you have said is if the leachate collection, and again Mr. Estrin's statement if the leachate collection is necessary, must it work, and yes, it must (Vol. 168 p.41840-41).

67. It is submitted that NSP's argument is a two-edged sword that applies equally to Site F as Site D. In the case of Site F, failure

of the leachate collection system would permit approximately 90-95% of the leachate to leave the site in the form of leachate springs, and thereby enter the surface water system which flows through the residential area to the south of the site. In the case of Site F, escape of leachate occurs both under the design and operating conditions proposed by the Region as well as in the case of failure. Mr. Bowen testified that in the event of plugging or failure of the leachate collection system at Site F, additional leachate escape will occur unless remedial work is undertaken. As he noted, the underdrain system is an essential part of the landfill design, which must be maintained and operated for the contaminating lifespan of the landfill at Site F (Exhibit WB-906, p.8). As the Board noted, the Region's witnesses did not consider the case of underdrain failure at Site F and that the calculations for "constant contaminant input" are based on the underdrain system working. The Board stated that "this represents another instance of the dissimilar evaluation of the two sites in favour of Site F" (Board Decision, p. 96).

68. However, it is submitted that in both cases leachate collection systems could be replaced and there were also contingency systems proposed. In respect to Site D, the Board summarized the evidence of Mr. Crutcher, witness for the City of Burlington, who testified that although the french drains and granular pads might become clogged, such blockages would be localized, and the resulting effect would not necessarily compromise the operation of the hydraulic trap (Board Decision, p.119). The Board also found that:

"careful and frequent monitoring should demonstrate the effectiveness of the design and, in the unlikely event of failure, contingency measures are straightforward, and are expected to be effective in preventing adverse impact in the surrounding environment" (Board Decision, p. 121).

It must also be noted that Dr. Hughes clearly testified that he had no knowledge of the two sites that were before the Board. His testimony was limited to a general discussion of Ministry policies and he at no time testified that Site D or indeed Site F would be in violation of the engineered facility policy.

69. Finally, Mr. Hiraishi, in cross-examination, agreed that in the event of a partial or total failure at site D, he expected a contingency perimeter drain and/or purge wells to contain the leachate until it is sufficiently renovated that he would turn the system off. He also agreed that he would expect the trend would be that the leachate would be at a lower strength after the initial 20-30 year period of the hydraulic trap. As the Board noted:

"Mr. Hiraishi agreed that the leachate collection system may have to be maintained for as much as 60 to 100 years after site closure, but he did not take into account evidence presented by witnesses Sobanski, Beechinor and Feenstra which showed a rapid decline in leachate concentration with time. Thus, by the time Cell 5 is filled, the concentrations of chemicals from Cell 1 would have already dropped to about 1/6 of that expected at the beginning of their operation" (Board Decision, p.119-20).

In the case of Site F, Mr. Hiraishi agreed that the proper interpretation was that even as designed there would be an escape of leachate from the bottom of the landfill from the outset at a time when the leachate strength is greater (Transcript, Vol.51, p.11674).

F. ADDITIONAL ARGUMENTS MADE BY APPLICANTS

1. Views of Past Investigators

70. NSP has argued that the Board erred in not taking into account the views of past investigators concerning Site F (NSP Application, APPENDIX B). It is our submission that the Board does note, quite correctly, that the earlier investigators had even less data than the Board had at the beginning of the hearing (Board Decision, p. 55). Specifically, they did not have Trow's detailed site work, including pumping tests or continuous core samples. Second, a number of these investigators were retained by NSP to examine the potential of a portion of Site F for landfill and were not asked to do a comparative examination with Site D, a clay till site. Third, none of these earlier investigators were called as witnesses, though at least one attended the hearing from time to time. Therefore, there was no opportunity to cross-examine these individuals. It is submitted that it is entirely appropriate for the Board to give these earlier reports little weight. Fourth, it must be noted that the earlier

consultants had a wide variety of views on such key issues as the permeability or the fractured shale at various depths, possible areas of discharge, and exfiltration rates. It is submitted that what these earlier reports point out is that, more than anything else, the site is highly complex. The one fact they all agree on is that there are strong vertical gradients on the site and that the site cannot be designed as a hydraulic trap. Thus, it is our submission that the Board, for the many reasons stated above, had every reason to not spend a considerable time in their decision dealing with the reports of the earlier investigators. The Board concentrated, again appropriately, on the witnesses that testified and were cross-examined before them and who had an opportunity to study a full data package and comment on a comparison of Sites D and F.

2. Social Impacts

71. The Milton Area Citizens' Coalition has argued that the Board's findings that there would be a serious social impact at both sites with the impact at Site F being more diffuse and less serious for a large number of people while at Site D the impact would be severe for a small number of people, is "unreasonable, unrealistic, contrary to the expert evidence..." (MACC Application, p. 40). It is submitted that the Board's findings on social impact are appropriate, given the evidence before it. The Board discusses the evidence on pages 17-28 of its decision. The WBCG had argued that the original social impact study by the Region was fundamentally flawed in that it ignored communities to the south and east of Site F. Professor Lang, on behalf of the WBCG, critiqued the Region's report on a number of grounds. These are set out in the Board's decision at pages 20-21. The Board found that his criticisms were supported by the weight of the evidence. It stated:

"The Board considered all the social impact evidence carefully and found that the Region's original study was flawed in a number of respects, leading to the dismissal of certain community effects that should have been included. The result was a lower ranking of social impact in the Aldershot area than should have been the case" (Board Decision, p. 28).

72. In addition to Professor Lang, approximately 40 lay witnesses testified on behalf of the WBCG and outlined both their experiences living near the existing landfills and their concerns about proposed Site F. It is submitted that while the Milton Area Citizens' Coalition has characterized the impact on the residents around Site F as "perceptual", that is certainly not the case. In fact, the residents around Site F were able to testify about the real, adverse impacts of having landfills in their community for the last 40 years as well as the perceived impacts of Site F. This included factors such as noise, dust, traffic as well as knowledge of some of the problems of the Bayview Site which included off-site discharge of leachate into streams that run through their communities. In fact, in a letter filed at the hearing, the Ministry of the Environment noted that discharge of leachate from the Bayview site into creeks that flow through the residential area to the south of the site [the Aldershot community] had been identified as early as 1979-80 and had still not been addressed by 1985. The letter noted that several of the contaminants in the leachate exceeded provincial water quality objectives and may cause damage to plant and animal life as well as posing a potential hazard to human health (Exhibit 787). What is important to note is the fact that the inconsistent study boundaries used by the Region ignored the real experiences of people around Site F.

73. Further, while the Milton Area Citizens' Coalition has argued as it did at the hearing that the railway tracks and highway act as a psychological barrier to landfill impacts, again the evidence showed this was not the case. Witnesses testified that they had been experiencing noise, traffic, dust and visual impacts from the existing sites. They also testified as to the numerous springs and streams emanating in the vicinity of the landfill and travelling into the community. As the Board noted:

"There are many spring fed streams in the area, some of which emerge in the Aldershot community. Residents are concerned that the source of these spring fed streams lies beneath the dump site; contamination of that source means contaminated surface water and

contaminated ground in the vicinity of their homes"
(Board Decision, p. 25).

74. It is submitted that in the case of the siting of a landfill, leachate does not respect the so-called boundary of a railway track, nor does visual, dust or traffic impacts.

75. In the case of the impact on Site D, it is submitted that the length of time of residence of those people being dislocated is relevant. This is, in fact, taken into account by the Board. There are 3 households that require expropriation - the Watt Martins, the Reeds and the Thomas Martins; and one family that might be expropriated - the Tomoskys. The Board does find that the Watt Martins will be the most seriously affected. However, the Thomas Martins and the Reeds moved in during the site selection process when Site D had already been identified as one of the candidate sites. The Reeds moved into their lot in March 1986 and the Thomas Martins made an offer on their property in 1986 and began construction of their house in 1987. As the Board noted, the Thomas Martins were the recipients of a certified letter explaining that a hearing was to be held to consider landfilling on the property on which they planned to build a house (Board Decision, p. 22). The Board also found that the Tomosky's property of the northeastern portion of the lands to be acquired by Halton was believed by them to be within 500 feet of the landfill, while in fact their residence would be almost 2000 feet from the fill area (Board Decision, p.23).

76. It is submitted that factors such as length of time of residence, and the fact that two of the families required to be dislocated moved in during the site selection process are relevant. The Board heard from numerous residents living around both sites and was in the best position to sort out what concerns related to the facts about the proposed undertaking and which concerns did not.

77. It is submitted that the Board's findings in regard to social impact are entirely reasonable based on all the evidence it heard on

this issue. The Board did not downplay the dislocation factor and noted that serious social impacts would occur at both sites. It did however, look at the history of the property ownership at Site D.

78. The Milton Area Citizens' Coalition have argued that the fact that families are to be expropriated should be the driving factor in the decision as no expropriation of households is required at Site F (MACC Application pp.41-43). It is submitted that first, expropriation was considered as an important factor in the social impact assessment and that is the appropriate context for the issue of dislocation to be assessed. Second, the Milton Areas Citizens' Coalition itself argued that public health and safety, and not social impact was the number one priority. Third, it is submitted that because this undertaking involves the siting of a waste disposal site, hydrogeological issues and the question of off-site migration of leachate must be the driving consideration. Finally, as noted above, the history of residency is relevant to a determination of social impact and the dislocation factor.

V. CONCLUSIONS

79. The Board, after 194 days of evidence and argument, clearly and categorically found that Site D should be approved for landfilling and that Site F should not. As noted above at paragraph 13, the Board found that Site D should have been the only site brought forward to the hearing. In respect to the hydrogeology of the two sites, the key issue identified by all parties, the Board fully canvassed and weighed the evidence in coming to its decision to approve Site D. It is submitted that the seven matters of significance that the Board considered in assessing the hydrogeological suitability of a landfill clearly favoured the choice of Site D as a landfill. This finding should not be disturbed by the Lieutenant Governor in Council. It is submitted that the Board

did not err in rejecting the 'fracture theory' of the unweathered upper till at Site D. Further, the fundamental difference between the two sites remains, whether or not Site F is lined or whether or not Site D is fractured. Site D, as designed, will not release any contaminants to the environment while Site F will release contaminants to the environment even with the engineered containment system working and even if lined.

80. It is also submitted that there is no conflict between the Board's decision and the MOE reasonable use policy. It is submitted that the applicants have misconstrued the Board's decision when they say that only containment sites would be acceptable in the future for landfill sites. It is submitted that the Board did not conclude that only a total containment engineering system is suitable but rather concluded that, given the choice, it would choose a containment site rather than a site that was going to leak into the environment. In the context of the Environmental Assessment Act and the evidence that the Board heard about the two sites, it is submitted that the Board's findings are entirely supportable. In fact, the Board's choice of a containment site is entirely consistent with both the MOE reasonable use policy and the MISA White Paper which is the policy of the Government of Ontario. It is also submitted that the MOE engineered facilities policy and guideline is not out of conformity with the approval of Site D.

81. In summary, it is our submission that the Lieutenant Governor in Council should not interfere with the decision of the Joint Board after such a lengthy, complex and comprehensive technical hearing.

82. The WBCG, therefore is seeking an order that the applications brought by the Corporation of the Town of Milton, the Milton Area Citizens' Coalition et al and NSP Investments Limited be dismissed

and that the Lieutenant Governor in Council affirm the decision of the Joint Board dated February 24, 1989.

All of which is respectfully submitted.

Toby Vigod
Toby Vigod

Counsel for the West Burlington Citizens' Group

May 11, 1989