

M E M O R A N D U M

TO: WEST BURLINGTON CITIZENS GROUP FILE

FROM: FRANK GIORNO

RE: SOCIAL ANALYSIS FOR OWMC MILTON SITE

DATE: FEBRUARY 4, 1987

I. SITE SELECTION PROCESS - PHASE 4A:
SELECTION OF A PREFERRED SITE(S) - SOCIAL ANALYSIS

Social impact analysis attempts to predict the changes that will or will likely occur as a result of project implementation. Social impacts are alterations that occur in people's living conditions as a result of the development and implementation of a new policy program, or project.

This report documents the social impact analysis which contributed to the selection of a preferred site from among the alternatives.

The following components of facility development were individually assessed in terms of their potential social impacts:

- Refinement of Site Boundaries
- Rail Access Options
- Access Route Options
- Location of the Physical/Chemical Treatment Plant for Partially Integrated Siting Options
- Siting Options

A. Refinement of Site Boundary

Three of the candidate sites - P11N, LF3C and LF1E had more area than required for the development of the facility. Their boundaries were refined. P11N, LF3C and LF1E were then compared for

- displacement of residents, the number of residents displaced, their characteristics and attachment to place
- displacement of community and recreation features - the number displaced

If the above indicators failed to crystallize the differences among potential options the following factors were compared:

- disruption of daily activity, and the use and enjoyment of property - the number of adjacent properties that are disrupted
- the number of community and recreation features adjacent to the site option and disruptions to their operation.

B. Rail Access Options

Rail access options were compared on the following factors and indicators:

- estimated population
- community and recreation features

Alternative rail access options were compared on the following factors and indicators:

- Disruption of day-to-day activity
 - number of residents displaced
 - number of residents within 170 metres of the rail options who might be affected by noise
 - number of residents within 250 metres of the rail options potentially disrupted due to evacuation in the event of an accident
- Displacement: the number of community and recreation features displaced due to construction
- Disruption of operations of community and recreation features within 170 metres by an increase in noise; potential disruption to community and recreation features within 250 metres due to evacuation in the event of an accident.

High priority has been assigned to the number of people displaced. Moderately high priority was assigned to the number of residents in the 170 metre impact zone. Moderate priority was given to residents in the 250 metre impact zone.

C. Access Route Options

The following factors were applied for the preliminary evaluation of the access route options:

- number and type of community/recreational features
- estimated population
- population concentrations.

Priority was given to options with the fewest residents, the smallest population concentration, and fewest community and recreation features. Population-related factors were given preference over community and recreation features.

The detailed evaluation was based on the following factors:

- displacement of residents - number of residents
- displacement of community and recreation features
- disruption of day-to-day activities and/or the use and enjoyment of property
- disruption of operations of community and recreation features.

The ranking of the access route options was accomplished by assessing the route options in terms of the number of residents and features within the 800 metre study area. Community features which were used frequently and used by children or the elderly were given the most weight in the ranking.

D. Location of the Physical/Chemical Treatment Plant for Partially Integrated Siting Options Pl13N/LF4N, Pl1N/LF4N and Pl27E/LF1E

Evaluated on the basis of:

- Disruption of day-to-day activities and/or the use and enjoyment of property; the number of residents within the daytime and night time noise impact zones; the number of residents within the noise impact zone in each access route vicinity; an impact index for residents adjacent to and within the 800 metre study area of each access route.
- The disruption of operations - an impact index for community and recreation features adjacent to and within the 800 metre study area of each access route.

Disruption to day-to-day activities and/or the use and enjoyment of property was considered more significant than disruption to community and recreation features:

- High priority was assigned to the number of residents within the noise impact zones
- Moderately high priority to the impact index of residents adjacent to the access route.

E. Siting Options

1. Potential impacts were considered within 3 factor groupings:
 - Impact on Residents
 - Impact on Community and Recreation
 - Impact on Community and Region
2. Analyses of impacts on residents and community based on
 - site
 - adjacent to site
 - site vicinity (2 km around the site)
 - adjacent
 - adjacent to access route
 - access route vicinity 800 metres along both sides of the route
3. For the factor grouping for impacts on residents the factors include
 - displacement of residents on-site
 - disruption of day-to-day activities and/or the use and enjoyment of property - adjacent to the site, in the site vicinity, adjacent to the access route, in the access route vicinity.
4. Within the factor grouping for impacts on community and recreation features are:
 - displacement of features on site
 - disruption of operations of community and recreation facilities adjacent to the site, in the site vicinity, adjacent to the access route, in the access route vicinity.
5. Within the factor grouping community and region are the following factors:
 - social stability
 - social cohesion
 - community character.

p.ix

Potential impacts on a community were predicted by using a numerically weighted analysis supplemented by a qualitative input as appropriate:

- a) Disruption of residents adjacent to the site was assigned the highest weight - 1,500 points
- b) Displacement of residents and disruption of residents in the vicinity - 1,200 points
- c) Disruption of residents adjacent to access route, social stability and community character - 800 points
- d) Disruption of residents in the access route vicinity - 600 points
- e) Social cohesion - 400 points

- f) Disruption of feature operations adjacent to the site - 300 points
- g) Displacement of features and disruption of feature operations in the site vicinity - 200 points
- h) Disruption of feature operations adjacent to the access route - 150 points
- i) Disruption of feature operation in the access route vicinity - 100 points

The numerical weighting of factors were applied by

- a) Distributing total points across all indicators or sub-indicators according to the importance of each
- b) Each indicator or sub-indicator was calculated as a proportion of one by dividing all values by its highest number
- c) The impact value for each siting option was produced by multiplying each proportion by the points that had been assigned to the indicator or sub-indicator. The value was divided by 1,000
- d) The relative impact for each siting option was added to the impact values
- e) Impact values for factors were added to produce overall ranking of site options.

p.x

Some qualitative analysis sensitivity tests were also undertaken and professional judgment was relied upon for modifications in the analysis:

A list of premises were assumed in the social analysis:

- minimal odour and lighting impacts off-site
- dust and particle emission impacts only within 2 km
- off-site air emissions would meet MOE standards
- physical-chemical treatment plant would operate 24 hours, 5 days a week
- incinerator would operate 24 hours, 7 days a week
- the landfill would operate Monday to Friday during daylight hours
- rail movements could occur any time, 7 days a week
- trucking hours would be Monday to Friday during daylight hours
- noise impacts beyond provincial guidelines would be confined to noise impact zones around the site and along the access route
- residue material from incinerator and physical/chemical treatment would be solidified before landfilling

Assumptions made by the social consultant in the development and application of the impact assessment:

- no displacement of residents, community and recreation features beyond the boundaries of the site
- off-site impacts would diminish over distance
- in-migration of facilities employees to the municipality would not be significant to create positive or negative impacts
- mitigation measures were incorporated into the analysis
- adjacent and vicinity study areas were considered in addition to the designated impact zones
- some population groups would be affected to a greater extent by the displacement or disruption; the populations most vulnerable would depend on the nature of the impact being considered.

p.xii F. Findings Relevant to the Milton Site

Rail access options

- revealed two preferred alternatives to each of P11N, LF3C, LF9C and LF1E and 3 preferred alternatives to LF4N (Milton site). P127E precludes the need for construction of a spur line.

Access route options

- two options to P127E would experience little impact
- one option to LF3C would be moderately affected while the others would experience little impacts
- one option P11N LF4N (Milton) would be moderately impacted.

Location of physical/chemical treatment plant and incinerator

- a facility combination consisting of physical/chemical treatment plant and incinerator were preferred for partially integrated siting options of P113N/LF4N, P11N/LF4N and P127E/LF1E

Siting option from most impacted to least impacted

LF3C
P113N/LF4N
P11N/LF4N
LF9C
P127E/LF1E
LF1E

Siting option ranking with qualitative input

- the same as achieved by numerical analysis but LF3C and LF9C became less attractive and P127/LF1E and LF1E became more attractive

Nuisance impacts associated with the construction of the OWMC facility

- detailed information is not available
- it is expected that those siting options with more residents, community and recreational features near the sites and access routes would experience greater disruption than those with fewer

Mitigation of Impacts

- through the provision of rail access for additives and reagents found that impacts would be related to the proximity to existing lines; the Milton options P113N/LF4N and P11N/LF4N would experience greater impacts

Basic acceptability analysis

- determined that all the 6 siting options were acceptable from a social perspective assuming appropriate mitigative measures

Sensitivity analysis

- showed that LF1E was still the best option
- mitigation of impacts through a Property Value Protection Plan would alter the rankings as follows from most to least impacted:
 - LF3C
 - P113N/LF4N
 - LF9C
 - P11N/LF4N
 - P127E/LF1E
 - LF1E

G. Ranking

p.xiv

Social analysis produced a comparison of relative social impacts of facility development by siting options. This relative comparison identifies the following order of preference:

1. LF1E
2. P127E/LF1E
3. LF9C
4. P11N/LF4N
5. P113N/LF4N
6. LF3C