
RECOMMENDATION:

That the Ministry of Environment Assessment and Approvals Branch of the Ontario Ministry of Environment be advised that should the Ministry approve the application CA-008-001, Liberty Energy Resources Inc., Applicant, for a Provisional Certificate of Approval for a waste disposal site (processing), to be located at 675 Strathearn Avenue, Hamilton, as shown on Appendix “A” to Report PED08082, that the City of Hamilton requests the following to be undertaken:

(a) That the Certificate of Approval include the following requirements:

(i) That prior to receiving any waste materials, the proponent obtains final site plan approval from the City’s Planning Division; obtains a building permit from the Building Services Division for the new facility; and completes construction of the proposed facility and all required site works, all to the satisfaction of the Director of Planning, Planning Division, City of Hamilton.

(ii) That the proponent be required to provide financial assurance to the Ministry of Environment to cover final clean-up of the site, following the cessation of use.

(iii) That the Provisional Certificate of Approval limits the maximum waste capacity to 1,560 tonnes received daily, and limits the maximum daily stored waste capacity, including biosolids, biomass and ash, to 14,560 tonnes daily.
(iv) That the Provisional Certificate of Approval include a comprehensive air monitoring program to be implemented, to the satisfaction of the Ministry of Environment. Real time/integrated sampling should supplement mathematical modelling monitoring at opportune times (i.e. abnormal operating conditions). Mitigative actions should be well detailed out. Emission Summary Reports, and/or other test results, be made available to the Public. All engineering controls relating to gasifiers, biofilters, etc., be maintained in excellent condition/operating state, at all times, with proper maintenance. A comprehensive odour/dust control plan be implemented with specifics for day-to-day operating criteria, as well as abnormal conditions. Hard roofed trailers be required for transport of fly-ash. Alternatively, if a tarp style system is permitted, a through fly-ash emergency response plan be incorporated.

(v) That the Provisional Certificate of Approval include the requirement for a Memorandum of Agreement between the proponent and the City, to the satisfaction of the Manager of Solid Waste Planning Management for the City of Hamilton. (See attached letter of January 14, 2008, for details and protocol, attached as Appendix “C” to Report PED08082).

(vi) That the waste accepted be limited to waste generated only from the Province of Ontario.

(vii) That prior to receiving any waste materials at the facility, the proponent obtains written approval from the Chief Fire Prevention Officer, Hamilton Fire Services, indicating that the constructed facility is in compliance with the Ontario Fire Code. That a Fire Safety Plan shall be prepared, in accordance with the Ontario Fire Code, and approved by the Chief Fire Official.

(viii) That the proponent implements spills prevention on site, and containment measures be included in the Provisional Certificate of Approval. That the contingency plans for spills on site and clean-up procedures are covered under the Provisional Certificate of Approval, and that the City’s Spills number (905) 540-5188 is included in the company’s on-site Contingency Plan. That a private sampling manhole be installed for each sanitary sewer connection and each storm connection, to the City sanitary sewer and City storm sewer, to the satisfaction of the Manager, Water and Wastewater, Public Works Department.

(ix) That a Ministry of Environment staff person be identified to the City as the contact for all issues and complaints regarding the subject property.

(b) That a copy of Report PED08082 be forwarded to the Environmental Assessment and Approvals Branch of the Ministry of Environment for their consideration.
(c) That the Environmental Assessment and Approvals Branch of the Ministry of Environment be requested to forward a copy of its final decision respecting the Certificate of Approval to the Clerk, City of Hamilton.

Tim McCabe
General Manager
Planning and Economic Development Department

**EXECUTIVE SUMMARY:**

The applicant, Liberty Energy Resources Inc., has applied to the Ministry of Environment (MOE) for a Provisional Certificate of Approval for a Waste Disposal Site (processing) to accept a maximum of 1,560 tonnes per day of solid non-hazardous wastes. The proponent indicates that they will store a maximum of 14,560 tonnes of solid non-hazardous wastes being: biosolids (sewage sludge), biomasses (wood waste) and ash on the site at any time. These waste materials are proposed to be used as fuel to generate steam which will drive a turbine generator to produce approximately 10 megawatts of electricity.

The Ministry of the Environment requests affected municipalities to provide comments on new and amended Certificate of Approval applications. The MOE then makes a decision on the application, on the basis of the comments received, in addition to various technical and environmental considerations. Comments from the City of Hamilton on Certificate of Approval applications are forwarded to the MOE.

City staff were not given sufficient time to bring forward a report to the Economic Development and Planning Committee to meet the January 31, 2008, Ministry’s timeline to receive comments on the proposed Provisional Certificate of Approval for a Waste Disposal Site (Processing). Staff had requested an extension from the Ministry of the Environment to comprehensively review the Liberty Energy Centre proposal under the new requirement for a MOE Certificate of Approval for Waste (Processing). City staff also indicated to the Ministry, the concern that they were requesting comments on the proposed Provisional Certificate of Approval for Waste without first providing a decision on the City’s request for an Individual Environmental Assessment to be undertaken for the project. The Ministry’s response to City staff concerns was that the two processes could run parallel. As a result, staff provided an interim response to the Ministry of Environment on the proposed Provisional Certificate of Approval for Waste from the General Manager, Planning and Economic Development, dated January 31, 2008 (see Appendix “C”).
BACKGROUND:

What is a Certificate of Approval

A “Certificate of Approval” pursuant to Part V of the Environmental Protection Act is a legally binding document, through which an individual, company or municipality is permitted, by the Ontario Ministry of Environment (MOE), to undertake an activity related to the management of waste.

Each Certificate of Approval is drafted to address the site-specific considerations relevant to the proposal and contains enforceable requirements that ensure environmental and health protection, compliance with legislation and policy requirements. The Certificate of Approval stipulates the types of wastes that can be managed at the facility and contains “conditions” that describe the manner in which the facility is to be operated. Failure to comply with any of the Certificate’s conditions constitutes a violation of the Environmental Protection Act and is grounds for enforcement through the Provincial Offences Act.

ANALYSIS/RATIONALE:

The applicant, Liberty Energy Resources Inc., has applied to the Ministry of Environment for a Provisional Certificate of Approval for a waste disposal site (processing) in order to receive a maximum of 1,560 tonnes daily, and a maximum allowable waste storage limit of 14,560 tonnes of biosolids (sewage sludge), biomasses (wood waste) and ash on the site at any time. These waste materials are proposed to be used as fuel to generate steam which will drive a turbine generator to produce electricity.

On June 7, 2007, the proponent received conditional site plan approval from the City of Hamilton for the 2.3 hectare (5.68 acres) site which was being used for industrial uses. The existing buildings and recycling/scrap yard were proposed to be removed under the proposal. The site plan includes a phased development with two buildings proposed in Phase 1, containing 9,144.80m², and a third building proposed in Phase 2 of 2,094.36m² (see Appendix “B”).

The Ministry of the Environment has also indicated in a letter of February 19, 2008, to the Mayor (see Appendix “D”), that a decision had been made that an individual environmental assessment is not required for this project, as requested by the City. Also, that the issues raised would be considered under the Environmental Screening Process (ESP).

In March of 2008, the Ministry of Environment indicated that they had requested and received additional information from the proponent. Upon our request, the proponent provided this operational information to the City of Hamilton on March 5, 2008 (see Appendix “E”). City staff circulated this additional operational information to City departments for review and comment. Comments received from the Health Protection Branch, Public Health Services, Public Works, Waste Management Division and
Hamilton Emergency Services - Fire Prevention Division indicated that their comments remained unchanged, as noted below.

This report indicates that the recommended conditions previously identified in the interim January 31, 2008, response to MOE should be implemented through the Certificate of Approval.

City Departments including: The Health Protection Branch, Public Health Services; Hamilton Emergency Services - Fire Prevention Division; Waste Management Division, Public Works Department; Water and Wastewater Division, Public Works Department; Traffic and Operations Section, Public Works Department; have all reviewed this proposal and have indicated that they have no objections to the proposal, subject to the proponent satisfying specific conditions.

The Health Protection Branch, Public Health Services, advises that due to the sensitivity and relatively new utilization of the proposed technologies in Ontario, they strongly recommend that Liberty Energy follow all prescribed requirements set forth by the MOE and any City of Hamilton Department. In particular, that the Provisional Certificate of Approval include a comprehensive air monitoring program. Real time/integrated sampling should supplement mathematical modelling monitoring at opportune times (i.e. abnormal operating conditions). Mitigative actions should be well detailed out. Emission Summary Reports, and/or other tests results, be made available to the Public. All engineering controls relating to gasifiers, biofilters, etc., be maintained in excellent condition/operating state, at all times, with proper maintenance. A comprehensive odour/dust control plan be implemented with specifics for day-to-day operating criteria, as well as abnormal conditions. Hard roofed trailers be required for transport of fly-ash. Alternatively, if a tarp style system is permitted, a through fly-ash emergency response plan be incorporated, as identified in the Recommendation Section, for these requirements (see Recommendation (iv)).

The Public Works Department, Waste Management Division, has requested that to address the competing interest of Liberty Energy’s use of biomass in their proposed process with the City of Hamilton’s Central Composting Facility, it requires a Memorandum of Agreement between Liberty Energy and the City’s Waste Management Division. This requirement is requested to be incorporated as part of the Provisional Certificate of Approval, as identified in the Recommendation Section for these requirements (see Recommendation (v) and Appendix “C”)

The Public Works Department, Water and Wastewater Division, indicates having no objections, subject to implementation of a spill prevention and containment program through the Provisional Certificate of Approval. That the contingency plans for spills on site and clean-up procedures are covered under the Provisional Certificate of Approval, and that the City’s Spills number (905) 540-5188 is included in the company’s on-site Contingency Plan. That a private sampling manhole be installed for each sanitary sewer connection and each storm connection, to the City sanitary sewer and City storm, as identified in Section (viii). It is understood that any solid and liquid waste will be appropriately dealt with by the proponent following the proper MOE guidelines.
The Public Works Department, Traffic and Operations Section, has indicated having no concerns with the proposal as transportation aspects have been reviewed through the site plan application submitted to the City.

Hamilton Emergency Services, Fire Prevention Division, indicates having no objections to the proposed MOE Provisional Certificate of Approval, subject to all site plans and construction being finalized and completed under building permit from the City of Hamilton. Also, that the operation is required to comply with the Ontario Fire Code, as identified in the Recommendation Section for these requirements (see Recommendations (i) and (vii)).

Proposed MOE Certificate of Approval

This MOE application for a Certificate of Approval is considered acceptable, subject to the recommended conditions. Based on the comments received from the circulated departments, and the analysis undertaken, should the MOE approve the Certificate of Approval, the City of Hamilton requests a number of matters to be undertaken, as outlined in the Recommendation Section of this report and previously outlined in the City’s interim response of January 31, 2008.

ALTERNATIVES FOR CONSIDERATION:

The City of Hamilton is not the approval authority for Certificate of Approval applications, but has been requested to submit comments on this application to the MOE. The MOE will consider the City’s comments in making a decision on the application. The following alternatives are available to the City in providing comments to the MOE.

1. Request MOE to Deny the Application

   The City could request MOE to deny the Certificate of Approval application.

2. Request MOE to Incorporate the City’s Conditions

   The circulation of the application to City Departments did not result in any objections to the proposal. Staff has identified requirements that are to be addressed through the Certificate of Approval.

FINANCIAL/STAFFING/LEGAL IMPLICATIONS:

Financial - N/A.

Staffing - N/A.
SUBJECT: Application for a Provisional Certificate of Approval for a Waste Disposal Site (Processing) Ministry of Environment Reference 3815-795K9T, 675 Strathearne Avenue (PED08082) (Ward 4) - Page 7 of 8

Legal - Certificate of Approval applications are processed by the Ontario Ministry of the Environment under the authority of the *Environmental Protection Act*. The City of Hamilton has been formally requested to provide comments to the Ministry on this specific application.

**POLICIES AFFECTING PROPOSAL:**

**Provincial Policy Statement**

The application has been reviewed with respect to the Provincial Policy Statement (PPS). Staff notes that via the Certificate of Approval process, the applicant will demonstrate consistency with the sustainability of healthy, liveable and safe communities, as outlined in Policy 1.1.1 (c) of the PPS.

**Hamilton-Wentworth Official Plan**

The subject property is designated as “Urban Area” within the Hamilton-Wentworth Official Plan. Policy 3.1 outlines that a wide range of urban uses, defined through Area Municipal Official Plans and based on full municipal services, will be concentrated in the Urban Areas. Therefore, as the application is for an MOE Certificate of Approval for waste materials to be used as fuel for a privately owned electrical generating facility, the proposal is consistent with the policies of the Hamilton-Wentworth Official Plan.

**City of Hamilton Official Plan**

The proposal conforms with the Hamilton Official Plan. The subject lands are designated “Industrial” in the Hamilton Official Plan.

**Hamilton Zoning By-Law**

City Council approved Zoning Application ZAR-05-26 on June 29, 2005, and executed By-law No. 05-226 on August 10, 2005, to permit a private utility (electrical generating facility) on the subject lands. The renewable energy facility will use biofuels to produce electricity, and the waste materials to produce electricity are permitted within the Heavy Industrial District.

**RELEVANT CONSULTATION:**

Public notification/consultation requirements for Certificate of Approval applications are regulated by the *Environmental Protection Act* and administered by the MOE. Upon receipt of the application, the MOE normally requires the applicant to circulate an Information Notice to abutting property owners. The Notice provides a description of the proposed operation and the MOE requires a Notice of the proposal to be posted on the Environmental Registry (website). However, for this proposal the proponent has indicated on their application to the Ministry of the Environment that they followed the Environmental Screening process, which was completed on October 11, 2007, and not the above noted process.
CITY STRATEGIC COMMITMENT:

By evaluating the “Triple Bottom Line”, (community, environment, economic implications) we can make choices that create value across all three bottom lines, moving us closer to our vision for a sustainable community, and Provincial interests.

Community Well-Being is enhanced. ☑ Yes ☐ No
Community well-being is safeguarded by providing for continued opportunities for recycling waste materials, subject to the Ministry of the Environment requiring appropriate safeguards in place to protect the community.

Environmental Well-Being is enhanced. ☑ Yes ☐ No
Waste is reduced and recycled and is subject to the Ministry of the Environment requiring appropriate safeguards being in place to protect the environment.

Economic Well-Being is enhanced. ☑ Yes ☐ No
Investment in Hamilton is enhanced and supported subject to the proponent not impacting the economic viability of the City’s waste diversion program by following the protocol and Memorandum of Understanding with the City regarding use of biomass material.

Does the option you are recommending create value across all three bottom lines?
☑ Yes ☐ No
Utilizing waste materials to produce electricity creates a valuable resource, provided that appropriate safeguards are in place to protect the environment, the community, and that the amount of waste material used in its production does not impact the economic viability of the City's waste diversion efforts.

Do the options you are recommending make Hamilton a City of choice for high performance public servants?
☐ Yes ☑ No

:SH
Attchs. (5)
Subject Property
675 Strathearn Avenue

A portion of 675 Strathearn Ave. (Liberty Energy), as shown on Site Plan.
Location Map

File Name/Number: CA-008-001
Date: Feb. 15, 2008
Appendix "B"

Subject Property
675 Strathearn Avenue - Site Plan
January 31, 2008

FILE: CA-008-001

Margaret Wojcik, P. Eng.
Senior Waste Engineer
Ministry of Environment
Environmental Assessment and Approvals Branch
Floor 12A
2 St Clair Avenue West
Toronto, ON M4V 1L5

Dear Ms. Wojcik:

Re: Application for a Provisional Certificate of Approval for a Waste Disposal Site (Processing) - Liberty Energy Centre Disposal Site - Ministry of Environment Reference 3815-79539T - 675 Strathorne Avenue, City of Hamilton (Ward 4)

This is in an interim response to the Ministry of Environment’s (MOE) request for comments from the City of Hamilton for the Liberty Energy disposal at 675 Strathorne Avenue for electricity production, now considered as a Waste Disposal Site (Processing) by the Province, requiring a Provisional Certificate of Approval for Waste under Part V of the Environmental Protection Act (EPA).

City staff feels it is premature for MOE to proceed with the Provisional MOE Certificate of Approval for Waste prior to resolving issues with the ESR Part II Order as, identified in this response. While there may be opportunity for some overlap of the two processes, the timelines that the Ministry has allowed the City to respond to the proposed MOE Provisional Certificate of Approval for Waste is unrealistic. It is not known whether a decision will be made by the Director of the Environmental Assessment and Approvals Branch to elevate the project to an individual environmental assessment (EA) under the Environmental Assessment Act, prior to comments being required from the City on the proposed MOE Certificate of Approval for Waste.

City staff had requested an extension from the MOE until March 3, 2008, in order to conduct a proper review, prepare a comprehensive report to the Economic Development and Planning Committee, and provide the MOE with a City Council resolution on the proposed Provisional Certificate of Approval. This request has been
Re: Application for a Provisional Certificate of Approval for a Waste Disposal Site (Processing) - Liberty Energy Centre Disposal Site - Ministry of Environment Reference 3815-795K9T - 675 Strathmore Avenue, City of Hamilton (Ward 4)

January 31, 2008

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denied by the MOE, and the City has been given only until January 31, 2008, to comment on the application. Please be advised that the City will follow up with a subsequent report to Committee and City Council at the next available date following completion of its review of the proposal.

Should the MOE decide to proceed with the Provisional Certificate of Approval prior to receiving the City's comprehensive report and Council resolution, it may be proceeding without the benefit of having all the necessary information. Notwithstanding all of this, if the Ministry continues to still proceed, we have included below other essential background comments and preliminary recommendations on the proposed Provisional Certificate of Approval.

Environmental Study Report Part II Order

City staff has concerns that the MOE is proceeding with the Provisional Certificate of Approval for Waste Application prior to resolving issues with the ESR Part II Order. In particular, we believe that it is premature for the MOE to request final comments on the MOE Provisional Certificate of Approval from the City by January 31, 2008, without first completing the ESR Part II Order, and allowing sufficient time for the City to provide its Council Resolution on the Certificate of Approval.

Public Works staff has provided the following status update on the Environmental Study Report Part II Order:

October 24, 2007 – City of Hamilton Council passed a resolution requesting a Part II Order for the Liberty Energy Centre Environmental Screening.

October 25, 2007 – Mayor Fred Eisenberger forwarded letter to the Ministry.

November 6, 2007 – Alissa Sugar (Project Officer of the EA and Approvals Branch, MOE) e-mailed Mayor Fred Eisenberger requesting clarification regarding the reasons for the request.

December 12, 2007 – City of Hamilton staff submitted comments to the MOE of Council's request for a Part II Order.

In addition to the staff comments, Dillon Consulting completed a peer review consisting of the results of a previous peer review of the responses provided by Liberty Energy to Dillon's comments on the December, 2005 Screening Report, and a peer review of the human health risk assessment that was undertaken by Liberty Energy as part of the updated screening.
Appendix “C” to Report PED08082
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Re: Application for a Provisional Certificate of Approval for a Waste Disposal Site (Processing) - Liberty Energy Centre Disposal Site - Ministry of Environment Reference 3815-795K97 - 675 Strathearne Avenue, City of Hamilton (Ward 4)

January 31, 2008

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(ii) That the proponent be required to provide financial assurance to cover final clean-up of the site, following the cessation of use, to the satisfaction of the Ministry of the Environment.

(iii) That the Provisional Certificate of Approval limits the maximum waste capacity to 1,580 tonnes received daily, and limits the maximum daily stored waste capacity, including biosolids, biomass and ash, to 14,580 tonnes daily.

(iv) That the Provisional Certificate of Approval include a comprehensive air monitoring program to be implemented. Real time/integrated sampling should supplement mathematical modeling monitoring at opportune times (i.e. abnormal operating conditions). Mitigative actions should be well detailed out. Emission Summary Reports, and/or other tests results, be made available to the Public. All engineering controls relating to gasifiers, biofilters, etc., be maintained in excellent condition/operating state, at all times, with proper maintenance. A comprehensive odour/dust control plan be implemented with specifics for day-to-day operating criteria, as well as abnormal conditions. Hard roofed trailers be required for transport of flyash. Alternatively, if a tarp style system is permitted, a through fly-ash emergency response plan be incorporated.

(v) That the Provisional Certificate of Approval include the requirement for a Memorandum of Agreement between the proponent and the City, to the satisfaction of the Manager of Solid Waste Planning Management for the City of Hamilton. See attached letter of January 14, 2008, for details and protocol.

(vi) That the waste accepted be limited to waste generated from the Province of Ontario.

(vii) That prior to receiving any waste materials at the facility, the proponent obtains written approval from the Chief Fire Prevention Officer, Hamilton Fire Services, indicating that the constructed facility is in compliance with the Ontario Fire Code. That a Fire Safety Plan shall be prepared, in accordance with the Ontario Fire Code, that has been approved by the Chief Fire Official.

(viii) That the proponent implements spills prevention on site, and containment measures be included in the Provisional Certificate of Approval. That the contingency plans for spills on site and clean-up procedures are covered under the Provisional Certificate of Approval, and that the City's Spills number (905) 540-5188 is included in the company's on-site Contingency Plan. That a private sampling manhole be installed for each sanitary sewer connection and each storm connection, to the City sanitary sewer and City storm sewer.
Re: Application for a Provisional Certificate of Approval for a Waste Disposal Site (Processing) - Liberty Energy Centre Disposal Site - Ministry of Environment Reference 3815-795K9T - 675 Strathcona Avenue, City of Hamilton (Ward 4)

January 31, 2008

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(ix) That a Ministry of Environment staff person be identified to the City as the contact for all issues and complaints regarding the subject property.

Should you have any questions, please contact Stan Holiday, Acting Senior Project Manager, Legislative Approvals, at (905) 548-2424, Ext. 4280.

Yours truly,

[Signature]

Tim McCabe, MCIP RPP
General Manager
Planning and Economic Development Department

Attachment (letter from Pat Parker dated, January 14, 2008)

cc: Mayor and Members of Council
    Senior Management Team
    Wilson Nolan, Liberty Energy Inc.
January 14th, 2008

City of Hamilton
Planning and Development Department
Development and Real Estate Division
71 Main Street West – 7th floor
Hamilton, Ontario, L8P 4Y6

Attn: Stan Holiday

Re: MOE Certificate of Approval
Liberty Energy Centre
675 Strathcona Ave., Hamilton, Ontario
File: CA-008-001
MOE Reference Number 3815-795K9T

In response to your request for comments regarding the above, the application has been reviewed and waste management staff offer the following:

Liberty Energy will require the use of biomass in their process and the City of Hamilton's Central Composting Facility also requires biomass. A proposed Memorandum of Agreement between Liberty Energy and the Waste Management Division was drafted to address this issue. It is our understanding that the memorandum would become a condition of approval of the Certificate of Approval if the application is approved. The Memorandum of Agreement states:

Whereas the City of Hamilton has embarked on an aggressive waste diversion program and biomass diversion is a key element of the waste diversion program;

Whereas Liberty Energy will construct and operate Liberty Energy Centre, a 10 MW Waste Biomass fired thermo electric power plant in Hamilton;

Whereas the City of Hamilton has expressed concern regarding Liberty Energy's sourcing of biomass for Liberty Energy Centre, and whether such sourcing could negatively impact the City's waste diversion efforts;

Whereas the parties agree to the Protocol provided herein whereby Liberty Energy's biomass sourcing will be conducted in a fashion to avoid adversely affecting the City of Hamilton's waste diversion program.

Protocol:

Liberty Energy will prepare and submit to the Solid Waste Planning Section, Waste Management Division, a Hamilton Public Sector Biomass Sourcing Quarterly Report (Quarterly Report), detailing any biomass expected to be sourced from the public sector under jurisdiction by the City of Hamilton within the upcoming quarter.
Subject: MOE Certificate of Approval
Liberty Energy Centre
675 Strathcona Ave., Hamilton, Ontario, File: CA-006-001
MOE Reference Number 3815-75K97

The Quarterly Report will be submitted at least two months but not more than three months before the beginning of the quarter. The Solid Waste Planning Section will have 30 calendar days in which to review the Quarterly Report. The report will be deemed acceptable to the Solid Waste Planning Section if Liberty Energy receives no comments with the 30 day review period. Unresolved comments issued by the Solid Waste Planning Section shall have the effect of amending the Quarterly Report.

Liberty Energy will only source biomass from the public sector within the jurisdiction of the City of Hamilton that is provided for within the Quarterly Report as approved or amended by the Solid Waste Planning Section.

The City of Hamilton Waste Management staff is generally satisfied that the renewable energy plant proposed by Liberty Energy will not impact on the City’s waste management initiatives, as provided in Appendix F Study 5: Assessment of Effects to Waste Management in Hamilton.

The Memorandum of Understanding is generally acceptable.

One logistical point would appear to be the time frame for the submission of the quarterly report. It is recognized that submitting the report 30 days in advance keeps Liberty Energy’s options open for as long as possible. If the city has 30 days to respond, the early part of the upcoming quarter may be impacted for Liberty Energy. However, since this is proposed by Liberty Energy, it is considered to be acceptable to them and city staff has no concerns.

The first three “whereas” clauses are fine. The remaining clauses should reflect the following wording which is acceptable to city staff.

a) Liberty Energy’s biomass sourcing will not adversely impact on the City’s waste diversion programs;

b) Liberty Energy will prepare and submit quarterly for approval a City of Hamilton public sector biomass sourcing report detailing any biomass expected to be sourced from the public sector within the boundaries of the City of Hamilton for the upcoming quarter;

c) The quarterly report shall be submitted to the Manager of Solid Waste Planning, Waste Management Division, Public Works Department, City of Hamilton, at least 30 days before the beginning of the quarter and the Waste Management Division will have 30 calendar days to review the quarterly report. Comments issued by the Waste Management Division shall have the effect of amending the quarterly report. If no comments are received by Liberty Energy within the 30 day review period, the quarterly report will be deemed acceptable to the City of Hamilton;

d) Liberty Energy will only source biomass from the public sector within the boundaries of the City of Hamilton for the upcoming quarter that is included in the quarterly report as approved or amended by the Manager of Solid Waste Planning.

There is no other impact on the City of Hamilton’s Solid Waste Management Master Plan System.
Subject: MOE Certificate of Approval
Liberty Energy Centre
675 Strathcona Ave., Hamilton, Ontario, File: CA-008-001
MOE Reference Number 3815-736K3T

If the application by Liberty Energy is approved, it is recommended that the Memorandum of Agreement together with the comments contained in this letter be included in conditions of the Certificate of Approval.

If you require further information, please contact Colleen Clark @ 905-545-2424 ext 5252.

Yours truly,

[Signature]
Pat Parker, MCIP
Manager of Solid Waste Planning

Copy to:
Scott Stewart, General Manager, Public Works
Beth Goodger, Director of Waste Management
Christine Lee-Morrison, Acting Manager, Capital Planning and Implementation, Public Works
FEB 19 2008

His Worship Fred Eisenberger
Mayor of the City of Hamilton
Hamilton City Centre
77 James Street North, Suite 230
Hamilton, ON L8R 2K3

Dear Mayor Fred Eisenberger:

On October 25, 2007, the former Director received your request that Liberty Energy Inc. (Liberty Energy) be required to prepare an individual environmental assessment for the proposed Liberty Energy Centre (LEC) (Project) in the City of Hamilton.

I am taking this opportunity to inform you that, based on a review of the Project documentation, the provisions of the Environmental Screening Process (ESP), the issues raised in your request and other relevant matters required to be considered under the ESP, a decision has been made that an individual environmental assessment is not required for this Project.

The basis for my decision and my reasons are outlined below.

The issues and concerns raised by yourself and the other requester were extensively reviewed. I am satisfied that the issues and concerns have been addressed by the work done to date by Liberty Energy, or will be addressed in future work that is required to be carried out and to which commitments have been made by Liberty Energy in its Environmental Screening Report (ESR) and other project documentation.

You raised concerns about whether gasification facilities of this size have been successfully implemented anywhere else. The screening process under O. Reg. 101/07 does not require proponents to assess the viability of a proposal by presenting empirical evidence from other similar projects. I am satisfied that the Liberty Energy Centre has met the requirements of O. Reg. 101/07 and will be required to meet relevant regulations and provincial standards to ensure environmental protection.

Concerns were raised that an odour impact analysis should be part of Liberty Energy’s assessment, and should include a detailed odour monitoring and mitigation plan. Liberty Energy
Mayor Fred Eisenberg
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conducted a biomass storage and odour management study to specifically address the issue of odour, and has designed their facility to include enclosure of the biomass storage and offloading facilities. All equipment related to air quality and odour management will be subject to a Certificate of Approval (CoA) for Air under section 9 of the Environmental Protection Act (EPA), and additional modeling will be conducted as part of Liberty Energy’s CoA approval to demonstrate there will be no odour impacts from the facility. I am satisfied that Liberty Energy has provided suitable level of detail on odour impacts and that additional details will be required as part of its CoA approval.

Concerns were raised about the lack of details on an environmental monitoring program, including frequency and type of analysis or proposed mitigation measures. The ministry’s local regional office has established requirements for ambient and source emission monitoring by Liberty Energy for Total Reduced Sulphur (TRS, an indicator of odour), PM2.5, sulphur dioxide (SO2), NOx, TSP, and heavy metals. Ambient monitoring would include a combination of continuous and intermittent monitors. Details of a facility-specific monitoring plan will be required for CoA approval and Liberty Energy’s commitment to join the Hamilton Air Monitoring Network (HAMN) will require the public posting of air quality data. I am satisfied that Liberty Energy will be required to conduct a monitoring program through its membership with HAMN and requirements of its CoA approval.

You raised concerns about risks with transporting fly ash material, and if alternative types of transportation vehicles were looked at. Liberty Energy has confirmed, through testing, that the fly ash is non-hazardous and does not present a greater hazard than the transportation of similar bulk material, such as sand or gravel. Details concerning the precise means of safeguarding against any release of fly ash will be required as part of the supporting documentation for CoA approvals. The ESP under O. Reg. 101/07 does not require alternatives to be considered. I am satisfied that Liberty Energy has committed to implementing mitigation measures for fly ash transportation and that it is not required to evaluate alternative types of transportation.

Ministry technical staff reviewed your concerns related to the facility’s predicted air emissions and modeling. Based on a review of Liberty Energy’s documentation, including the methods and conclusions of the Emission Summary and Dispersion Modeling (ESDM) report and the Human Health Risk Assessment (HHRA), ministry staff verified that the emission estimating methodology and calculations, as well as the air dispersion modeling methodology, meteorology and model inputs and outputs, are correct.

With respect to modeling upset conditions, as process upsets are difficult to predict, and are not expected to occur routinely, they are generally not considered in ESDM reports. Liberty Energy has advised this ministry that process equipment has sophisticated controls to ensure process stability during upset conditions. Through Liberty Energy’s commitment to Join the Hamilton Air Monitoring Network (HAMN), actual measured ground-level impact data from air emissions, in the event of episodic impacts outside of normal operating conditions, will be
Appendix “D” to Report PED08082

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Mayor Fred Eisenberg
Page 3

recorded. In addition, Liberty Energy is proposing to install Continuous Emission Monitors to characterize emissions in-stack. With respect to potential impacts from start up, Liberty Energy has noted that for start up of the Fluidized Bed Reactor, which may take up to 24 hours, for first 12 hours natural gas will be used with gradual introduction of biomass. I am satisfied that this issue has been addressed, given the above, and the limited number of instances where shut down and start up is anticipated to occur.

With respect to biofilter concerns, in general, the biofilter specifications were detailed in Liberty Energy’s Biomass Storage and Odour Management. Detailed biofilter specification data will be required as part of the CoA review process; this level of detail is not required during the ESP. Potential odour impacts of the facility, which will be minimized by the biofilter, will be assessed through air dispersion modeling, also required in support of Liberty Energy’s CoA application.

To address your concern about fugitive emissions from the LEC, Liberty indicated that all uncontrolled and controlled air emissions from the site, including fugitive and point sources, have been assessed in the ESDM report. Technical support staff have reviewed the ESDM report and have concluded that the report is technically sound and acceptable with respect to fugitive emissions.

You requested that an updated ESDM be made available to the general public. An updated emission summary table, which includes a list of contaminants emitted and an executive summary of the ESDM, will be readily available at all times at the facility and posted on Liberty Energy’s website for public inspection. Liberty Energy has also made a commitment to establish a Community Liaison Committee (CLC) as a means of communicating with the community. Liberty Energy has proposed that the CLC have representation from the general public, special interest groups and public agencies.

With respect to your concern about a minimum adequate source material, Liberty Energy noted in its ESR that the biosolids fuel would come from a number of municipal sources and biomass fuel from a number of public and private sector sources throughout Southern Ontario. The contractual arrangement with the fuel suppliers will be finalized upon completion of the ETP. Fluctuations in fuel supply can be addressed by varying the biosolids and waste biomass firing rates. Biomass will help maintain constant steam production and process stability and natural gas will be used an auxiliary fuel to maintain process stability and the acceptable level of emissions during such events. I am satisfied that Liberty Energy has addressed this concern.

With respect to dust impacts, Liberty Energy considered the impacts of dust in its ESDM, and also evaluated the cumulative impacts of Total Suspended Particulate (TSP) and fine particulate matter at 10 micron (PM10) in its Ambient Air Monitoring Data Study and Dispersion Modelling Assessment. I am satisfied that Liberty Energy has adequately analysed the impacts of dust resulting from the operation of the LEC.
May 22/2006

Mayor Fred Eisenberg
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In accordance with the ESP, once Liberty Energy submits the required Statement of Completion to this ministry, it may then proceed with the Project, subject to any other permits or approvals required. The ESP indicates that Liberty Energy must implement the Project in the manner it was developed and designed, as set out in the ESR, and inclusive of all commitments, mitigating measures, and environmental and other provisions therein.

I would like to thank you for participating in the Environmental Screening Process and for bringing your concerns to my attention.

Yours sincerely,

Agatha Garcia-Wright
A/Director
Environmental Assessment and Approvals Branch.

Attachment

c:  Mr. Wilson Nolan, Chief Executive Officer, Liberty Energy Inc.
    Mr. Doug Robertson, Senior Environmental Planner, Conestoga-Rovers & Associates Ltd.
Responses to Operations Review Comments
Application for Approval of a Waste Disposal Site
Liberty Energy Centre
Hamilton, Ontario
MOE Reference Number 3815-79SK9T
MOE Letter Dated January 7, 2008

Conestoga-Rovers & Associates (CRA) has prepared the following responses to the initial operational technical review comments provided by the Ministry of the Environment (MOE), dated January 7, 2008, on the Certificate of Approval Waste Processing Site for the proposed Liberty Energy Centre.

MOE Comment:
1. The building will be maintained under negative pressure. Are you proposing to monitor the pressure inside the building? Will there be an alarm to indicate that the negative pressure loss?

Response:
The building will be designed to maintain negative pressure under static conditions. An alarm system to indicate the loss of negative pressure will be provided within the most odourous areas of the building (i.e., the biosolids pit area).

MOE Comment:
2. The destruction of odours within the biofilter is undertaken by living organisms and normally one would expect a certain time delay to allow the numbers of the micro-organisms to grow so that higher volumes of odours can be handled. I understand that the manufacturer of the biofilter has guaranteed the performance of the equipment when the flow is increased from 10% to 100%, but before the Ministry could unconditionally accept this guarantee additional information on how this will be accomplished is required. If there is a possibility for diminished biofilter performance during the initial flow increase phase, how will this situation be handled?

Response:
It should be noted that in as much as the fuel feed to the reactor can be immediately stopped, the unit itself does not instantaneously shut down. Combustion air will continue to be supplied to the unit as it undergoes a controlled shut down using the natural gas fired burners to complete the combustion of residual fuel. This in turn will provide sufficient time to ramp up the biofilter in a fashion that does not diminish its performance. Notwithstanding this practical operational constraint, Liberty has taken
into consideration your concern for diminished biofilter performance during transitional occurrences and will reconfigure the biofilter to run within a 50 to 100 percent volumetric operating band and a 10 percent to 100 percent odour loading range. Further, the revised design of the biofilter will eliminate the need for ramping up the flow volumes so drastically. Very high levels of microbes (bacteria, yeast, fungi, molds) will be maintained and supported on the BIOSORBENS® or equivalent media. This will be made possible by continuously feeding a stream of high intensity odours, in addition to the biomass hall odours to ensure that the appropriate mix of microflora and microfauna are acclimated to the odiferous constituents present in the air stream.

Given the very large surface area of the biofilter media, a very large buffer or reservoir exists within the media to dampen the potential for contaminant mass loading variation (flow or concentration). This is due to the fact that the biofilm acts as a reservoir, solubilizing the water soluble components into the moisture layer. In addition to this phenomenon, the hydrophobic nature of the exposed surface of BIOSORBENS® media or equivalent also acts as an adsorbent, temporarily holding onto the odiferous molecules of low water solubility, until the microbiology has a chance to adapt to the changed conditions.

**MOE Comment:**

3. What is the mechanism for moisture addition in the biofilter?

**Response:**

Moisture control is critical for biofiltration. The oxidation of volatile organics present in the air follows an exothermic reaction, thereby contributing to moisture loss in the filter medium. It is addressed in three fashions for this application.

The first manner is to ensure greater than 98 percent relative humidity entering the biofilter. This is accomplished with a horizontal crossflow packed bed scrubber, supplied as a component of the biofilter system. The system design includes a mist eliminator to prevent carryover of entrained water droplets which adversely impact the media porosity.

The second manner is to provide a media supplemental moisture addition system directly at the interface of the media and odiferous air. This is the location with the highest potential for dryout, since this is where the highest concentration of volatiles are to be found.

The third manner is through the use of BIOSORBENS® media, which has an internal micropore and channel structure which tends to retain and wick moisture as needed to the surficial biofilm. As opposed to organic media that tends to go hydrophobic and repel water once dry, BIOSORBENS® re-wets easily and consistently.
MOE Comment:
4. What is the expected spraying pattern and the extend of the wetted zone (Biofilter)?

Response:
The expected wetting pattern is full coverage of the media cross-sectional area at the interface. Overlap is minimized to ensure proper and even air distribution. This is because air takes the path of least resistance and if areas are wetter than others, poor air flow distribution and the development of preferential flow paths will develop.

MOE Comment:
5. What is the trigger for the moisture addition (Biofilter)?

Response:
The moisture control philosophy is as follows:

Any time the fan is moving air, the humidifier must be working. An interlock is provided to ensure operation. Pressures and flows are consistently monitored to ensure that the spray patterns are adequate for optimized humidification. Routine maintenance is performed to ensure that all working parts are in good condition. A hygrometer is used to take spot readings to ensure >98 percentRH is entering.

The supplemental moisture addition system is on an adjustable timer to ensure consistent and reliable moisture addition. No soil moisture meters or load sensors are used as they are unreliable and tend to cause over-watering to the detriment of biofilter performance.

Quarterly media samples are retrieved and moisture analysis is performed. If the humidifier and irrigation systems are properly functioning (as measured by gauges), changes in media moisture will occur gradually enough to pick up changes via the monitoring program. Cycles and durations can then be adjusted without causing any negative impact on the performance.

MOE Comment:
6. Will the waste be received 24/7?

Response:
Yes, the facility will be open to receive waste 24/7. The actual delivery times and frequency will vary throughout the day.
MOE Comment:

7. On p. 19 it is stated that about 100 litres of water will be used to wash the trucks. Do you mean 100 litres/day?

Response:
The quantity of wash water that will be used to wash the trucks is estimated at 100 liters per truck.

MOE Comment:

8. On p. 29 it is stated that biosolids will be collected from the suppliers on a monthly basis and tested for metals. Please note that in order for waste to be deemed non-hazardous it has to meet all non-hazardous waste criteria from Ontario Regulation 347. Also, I am assuming that this procedure is for the existing waste sources as there is no mention of the timing of this testing. Will waste from potential new sources be tested prior to acceptance at the site? Please describe the procedure in detail.

Response:
The generators/suppliers of the biosolids will be responsible for testing their biosolids in accordance with Ontario Regulation 347. Liberty Energy will require copies of all generator/supplier test results prior to acceptance at the Liberty Energy Centre. All potential new sources will be tested prior to acceptance at the Liberty Energy Centre.

MOE Comment:

9. Who would be responsible for sampling & testing of the waste at the source? Who would handle the samples?

Response:
Sampling and testing of the biosolids at the source will be the responsibility of the generator/supplier. Generator/supplier personnel will handle the samples.

MOE Comment:

10. Will all waste loads be accompanied by paperwork of some sort? What kind of information would be required to be included? Would inspection of such paperwork be a part of incoming waste screening?

Response:
Waste loads will be accompanied by paperwork in the form of standard forms prepared and provided to the suppliers/haulers by Liberty Energy for completion by the
supplier/hauler for each load shipped. The information to be included on the forms will include information such as: date, type of material, source, customer number, weight, driver name, truck and trailer license numbers, driver signature, etc. Each form will be numbered for tracking purposes. Example forms used at other Liberty Energy facilities are provided in Attachment A.

**MOE Comment:**
11. Where will the fly ash samples be collected?

**Response:**
A grab sample will be obtained from the conveyor feed (after location # 423 as shown of Figure 4.1 in the Design & Operation Report).

**MOE Comment:**
12. On p.30 it is stated that monthly testing of fly ash will be undertaken. Each silo has a 5-day storage capacity. So you are proposing to send the fly ash off site without testing it first. How you ensure that the fly ash is consistently a non-hazardous waste?

**Response:**
The fly ash will be produced on a continuous basis, and not on a batch basis. For this reason, control (testing) of the quality of the feed material (biomass and bioxids) will ensure the quality of the fly ash produced. The monthly sampling of the fly ash is an additional confirmatory step during normal production periods to ensure the fly ash is non-hazardous.

Sampling of ash during initial facility commissioning and startup will be rigorous and will be performed to monitor and adjust facility operation in addition to determining ash quality for the purposes of off-site re-use or disposal.

Following the commissioning and startup period, the initial three month normal production period will have samples of fly ash collected and analyzed following a staged progression of high frequency and progressing to less frequent sampling as follows; daily for the first week of normal production operation (7 samples total), three times per week for the next two weeks (6 samples total), once per week for the next three weeks (3 samples total), once every two weeks for the next six weeks (3 samples total), and then once per month thereafter.

Higher frequency sampling of the fly ash will also be implemented following any process upsets or when significant quantities of material are obtained from a new source (note that this is in addition to the sampling and analysis of the new source material that will also be performed).
MOE Comment:
13. In Study 3 it was indicated that stable biomass may be stored longer than the proposed 10 days. Where is this long term storage? What is the duration of this storage?

Response:
Long term storage would amount to an additional 7.5 days and would also be contained in the biomass storage building.

MOE Comment:
14. It is expected that biomass will contain undesirable substances that need to be removed prior to any required processing. In Study 6 you list a number of different processes that might be utilized. Please provide details on the waste cleaning processing and the procedures. Where will this be done?

Response:
Cleaning and processing of the biomass will consist of screening (e.g., trommel screen) and grinding and this will be done in the biomass storage building. Standard construction equipment (e.g., front end loader) will be used to load the biomass material into the screening equipment. The waste stream from this activity may include metal, plastic, glass and soil. This waste stream will be disposed of off-site at a licensed waste disposal facility on an ongoing, as-required, basis (e.g. waste will be loaded into hugger bins and the hugger bins will be picked up when full). Only biomass that visually contains undesirable substances will be screened. It is anticipated that the amount of undesirable substances present in the biomass will vary with different loads but will average less than one percent by weight.

MOE Comment:
15. How will this residual waste from the biomass be handled? How and where will it be stored? For how long?

Response:
See response to Comment# 14.

MOE Comment:
16. In Study 3 it is stated that moisture will be added to the biomass to manage dust. How will this be done? What is the trigger for addition of moisture?
Response:
Moisture addition to the biomass to control dust will be performed using fixed and/or portable spray nozzles. The amounts and locations of moisture addition will be based on visual observations of excessive levels of dust.

MOE Comment:
17. Fig 5.5 states that the biomass storage is for 9 days. On p. 8 it is stated that it will be 10 days. I am assuming that Fig 5.5 contains a typo. Please confirm that this is correct.

Response:
Your assumption is correct and the figure will be revised.

MOE Comment:
18. On p.7 it is stated that biosolids may be delivered in shipping containers. Will these shipping containers be immediately emptied and removed from the site or will they be temporarily stored at the site? If they are to be stored, where is the storage area? Will the containers be washed? If yes, where and how?

Response:
Shipping containers will be immediately emptied and will not be temporarily stored on site. The containers will be washed within the biosolids pit area in a fashion similar to the truck washing procedure (i.e. exterior of end dump location).

MOE Comment:
19. Will the biosolids reception units be washed? If yes, how will it be done and where will the water be collected?

Response:
The biosolids reception units would only be washed if required to facilitate maintenance activities. Washing would likely be performed using a pressure washer. Due to the limited quantity of wash water anticipated to be generated, the wash water would be collected at the base of the reception units and transferred the biosolids silos for subsequent feed to the reactors with the biomass or removed by vacuum truck and properly transported and disposed at an authorized facility.
MOE Comment:

20. On p.10 it is stated that the fly ash will be wetted to prevent fugitive emissions during loading. Is this the loading from the conveyor to the silos or from the silo to the trucks or both?

Response:
Fly ash wetting will only occur during the transfer from the silos to the haulage trucks. The conveyor system that will convey the ash into the silos is completely enclosed and as such will not be a source of fugitive emissions.
ATTACHMENT A

EXAMPLE SHIPPING FORMS
Appendix “E” to Report PED08082
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