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July 26, 2006

Steven J. Doleski, Regional Permit Administrator
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203-7165

Re: CWM Chemical Services, LLC, Draft Public Scoping Document for the RMU-2 Landfill Proposal

Dear Mr. Doleski:

In accordance with the Public Notice in the above-referenced matter, I am submitting comments on behalf of Niagara County (the "County") on the scope of the CWM Chemical Services ("CWM" or the "Applicant") proposal for a new hazardous waste landfill ("RMU-2") and accessory facilities.[1]

The following technical memoranda on specific subjects are attached as exhibits hereto and should be considered fully incorporated into these comments:

Exhibit A. (radiological impacts): Memorandum by M. Resnikoff and A. Schneider of Radioactive Waste Management Associates (RWMA), dated May 10, 2005. Mr. Resnikoff is the principal researcher at RWMA, and his resume is attached to his memorandum.

Exhibit B. (hydrogeological impacts): Memorandum by K. Scott King of King Groundwater Science, Inc., dated July 26, 2006. Mr. King's resume is attached to his memorandum.

Exhibit C. (seismic impacts): Comments by Dr. Robert Jacobi of the University at Buffalo, Department of Geology, dated July 14, 2006. Dr. Jacobi's resume is attached to his comments.

Exhibit D. (engineering scope): Letter to me by Dr. Anirban De, Assistant Professor of Civil Engineering at Manhattan College, dated July 24, 2006. Dr. De's resume is attached to his letter.

Exhibit E. (surface water and wetlands impacts): Memorandum by Charles P. Rosenburg of Northern Ecological Associates, Inc., dated May 24, 2006. Mr. Rosenburg's resume is attached to

[1] The comments below should not be deemed to exhaust the interest of the County in the scope of CWM's DEIS. Specifically, County Legislators and executive officials will offer oral and written scoping comments that may go beyond those provided here.

his memorandum.

In addition, in April 2003 the Applicant submitted to the Department a pre-draft "6 NYCRR Part 361 Permit Application" for RMU-2 (hereafter "2003 Permit Application"). Since this document provides additional information on the RMU-2 proposal, it will be referred to below in addition to the Draft Public Scoping Document (hereafter, "Scoping Doc.").

I. The County objects to consideration of a Scoping document at this time.

The County considers the Draft Public Scoping Document inadequate to identify potential issues raised by the landfill expansion proposal. As an initial matter, the County objects to consideration of the scope of CWM's proposal at this time because (1) any revised scope will have to be revisited in light of the Department's forthcoming state-wide Hazardous Waste Facility Siting Plan; (2) CWM has not demonstrated it can safely excavate on site soils that are likely to be contaminated with radioactive materials; (3) CWM has not determined the source of ongoing discharges of Polychlorinated Biphenyls (PCBs) and Volatile Organic Compounds (VOCs) detected in surface water runoff; and (4) the scope of this proposal should await the outcome of pending state legislation that would prohibit siting RMU-2 if a potential for discharge to Great Lakes basin waters cannot be demonstrated.

Should the Department decide to finalize the scope of the CWM proposal, the County's objections should be considered comments on the inadequacy of the CWM-drafted scope.

A. State-Wide Hazardous Waste Facility Siting Plan

The County objects to consideration of the scope of CWM's application at this time because recently enacted state legislation bars the Department from accepting CWM's application as complete until the Department has first determined that the application is consistent with a state-wide Hazardous Waste Facility Siting Plan adopted by the Department. Envtl. Conserv. L. (ECL) §27-1109[6]. CWM's Draft Public Scoping Document recognizes the applicability of this provision of the ECL to the RMU-2 proposal, and suggests without explicitly stating that the proposal can nevertheless be reviewed under State Environmental Quality Review (SEQR) procedures. Scoping Doc., p. 3. The Department's SEQR regulations contemplate that scoping is to be used to determine when to commence public review of a draft environmental impact statement (DEIS). 6 N.Y.C.R.R. § 617.9(a)(2) (lead agency must determine whether a DEIS is "adequate with respect to its scope and content for the purpose of commencing public review."). The ECL requires commencement of a public comment period on a DEIS with the proper scope once the DEIS is filed with Department. ECL §8-0109[4]. The ECL further contemplates that review of a DEIS "run concurrently with other procedures relating to the review and approval" of a permit application. ECL §8-0109[5]. The Department's effort to finalize the scope of CWM's DEIS may therefore create an enforceable duty to commence public review of the application prior to determining its completeness.

Moreover, in some respects it is expected the substance of CWM's application will need to be revised in light of an adopted a state-wide Hazardous Waste Facility Siting Plan. One possible outcome of developing, soliciting public comments on, and ultimately adopting such a Plan is that the Department may determine New York State does not need additional hazardous waste disposal and treatment capacity. Indeed, as noted below, a draft Plan prepared by the Department in 2004 but not adopted found that there is no need for any additional capacity through at least the year 2013. An adopted Plan may include the same finding. An adopted Plan may also identify and/or recommend actions that would further reduce the need for additional capacity sufficient to obviate the need for a new land disposal facility.

In the absence of a state-wide Hazardous Waste Facility Siting Plan, it is impossible to determine whether the application, including the scope of the DEIS, will be consistent with the Plan. The Department should therefore defer further processing of CWM's proposal until a state-wide Hazardous Waste Facility Siting Plan is adopted by the Department. Finalizing the scope of the proposal now may prejudice the scope of CWM's analysis of need for additional capacity and alternatives, including the "no action" alternative, which CWM is required to consider. At the least, processing the application now gives the public the impression that the application's scope, however revised, will be accepted as complete well in advance of adoption of the final state Plan. This is clearly at odds with the spirit if not the letter of the law. ECL §27-1109[6].

B. The Results of Radiological Investigations Should be Provided Prior to Scoping

Technical comments addressing deficiencies of CWM's remedial investigations into existing radiological contamination at the Model City Facility on behalf of the County by Dr. Marvin Resnikoff are attached and incorporated hereto. **Exhibit A.** Dr. Resnikoff states that ground penetrating radar should be used to determine the location and extent of buried radioactive waste; CWM should demonstrate instruments used to survey surface contamination are sufficiently sensitive to measure proposed action levels of radiation; and CWM should analyze further methods for specifying an acceptance rate for individual radionuclides where both water and soil are found to be contaminated.

The following comments on the background for CWM's investigations build on and expand Dr. Resnikoff's conclusion that a more comprehensive assessment of the history of radioactive waste dumping at the Model City Facility than CWM has so far undertaken is called for. The County strongly urges the Department to require more information, particularly on subsurface radioactivity, prior to finalizing the scope of the RMU-2 proposal.

A 1972 NYSDOH Order requires prior approval from the New York State Department of Health (NYSDOH) for disturbance of soil on the CWM site. The 1972 Order was issued to protect the public from adverse health effects of radioactive wastes presumed to be contained in soils on and around CWM property. On May 10, 2004, NYSDOH directed CWM to undertake a remedial investigation of the potential for radiological contamination from excavation proposed

for RMU-2 and related relocation and upgrades of facilities, specifically requiring that the investigation be "consistent with current decommissioning methodologies such as MARSSIM," the federal interagency guidance on cleanup of radiologically contaminated sites.[2] On June 17, 2005, NYSDOH reiterated that MARSSIM methodologies would be minimum standards with which a series of phased investigations of radiological contamination must comply.[3] In its August 5, 2005 renewal permit for RMU-1, the Department adopted the substance of requirements NYSDOH has established for approval of excavation anywhere on CWM property. Cf. Scoping Doc., p. 11.

It has been over two years since CWM was put on notice that it would have to comply with MARSSIM methodologies, but CWM's Draft Public Scoping Document falls short of compliance with such standards. Until CWM has completed the remedial investigations required by NYSDOH and its current permit, it is impossible to determine whether major excavation at the facility is safe.

This basic historical information and the results of enhanced site investigations on existing radiological contamination at CWM's facility should be provided before the Department and the Applicant decide to invest the considerable resources it will require to determine whether the RMU-2 proposal meets the complex siting and permitting requirements for major hazardous waste landfills.

The Draft Public Scoping Document acknowledges in broad terms that the history of uses of the project site is part of the history of the uses of Lake Ontario Ordnance Works (LOOW), a former federal facility used from the 1940s that was progressively released from federal custody and sold to private owners. See Scoping Doc., pp. 8-10. However, CWM's conclusion, that "DOE surveys provide reasonable assurances that widespread, immediately dangerous radioactive contamination is not present on the surface of the property," (id., p. 11), avoids addressing underground contamination that would be exposed by major excavation.

The storage of radioactive residues from the Manhattan Project began in 1944 at the LOOW, which includes the Model City Facility, and led to the rapid contamination of not only the designated storage area (the former LOOW water treatment plant), but also the site drainage

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[2] Environmental Protection Agency, MULTI-AGENCY RADIATION SURVEY AND SITE INVESTIGATION MANUAL (MARSSIM), NUREG-1575/EPA 402-R-97-016 (December 1997), available at <http://www.epa.gov/ radiation/marssim>). See Letter, Steven M. Gavitt, NYSDOH, to John Hino, CWM, October 21, 2004. All documents cited here are on file with the author.

[3] Letter, Steven M. Gavitt, NYSDOH, to John Hino, CWM, June 17, 2005.

ditches, which allowed radioactive contamination to spread to the surrounding land.[4] When the Atomic Energy Commission (AEC) was established in 1946, it assumed responsibility for the radioactive residues at LOOW and expanded its operations to the land south of Balmer Road.[5] AEC assumed the expanded area was already contaminated with radioactivity, and on this basis made the area the principal depository for radioactive waste from the eastern United States.[6]

Waste disposal at LOOW was characterized by poor recordkeeping and general mismanagement with radioactive waste being buried, left on the surface in several areas of the site, and openly burned.[7] In the 1950s and 1970s attempts were made to remediate the areas of LOOW which had been contaminated with radioactivity, but these attempts proved largely unsuccessful.[8]

Manhattan project residues and wastes shipped to the LOOW are characterized as naturally occurring uranium, radium and thorium, but subsequent waste streams accepted at the LOOW under AEC stewardship subsequent to the Manhattan Project include man-made radioactive isotopes, which present an additional radiological hazard.[9] For example, wastes shipped to the LOOW from the University of Rochester were contaminated with plutonium and certain wastes shipped from the Knolls Atomic Power Laboratory were contaminated with mixed fission products and plutonium, byproducts of the nuclear reprocessing of irradiated uranium (reactor fuel).[10]

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[4] NYS Assembly Task Force Report, "The Federal Connection," January 29, 1981, p 246.

[5] Id., p. 249.

[6] Id., p. 224.

[7] The Aerospace Corporation, "Background and Resurvey recommendations for the Atomic Energy Commission Portion of the Lake Ontario Ordnance Works," Contract No. DE-AC01-82EP15100, November 1982, pp. 28-29.

[8] NYS Assembly Task Force Report, "The Federal Connection," p. 242.

[9] J. Hughes Robillard, Director, Controls and Safety Division, DOE Schenectady Naval Reactors Office, to Steven M. Gavitt, NYSDOH, August 10, 2005 (attaching historical documentation).

[10] Id., annotation to Attachment 3: D.A. Manieri, Foreman, Knolls Atomic Power Lab., to R.S Collins, Knolls Atomic Power Lab., "Estimated Curies Shipped [to] LOAS from KAPL," December 2, 1954.

The AEC sought to conceal the extent of the radiological hazard at LOOW for several years, which led to incomplete site surveys and incomplete data on the extent of radiological contamination on site.[11] Subsequent surveys found subsurface radioactive levels in excess of then-applicable safety standards, although in general surface exposure rates are acceptable.[12] No investigation has found underground soils and groundwater, including discharge of groundwater to surface water at the LOOW, are safe.

The project site includes specific areas that were not accessible when efforts to remediate adjacent areas were undertaken, and so these areas were never remediated.[13] These areas should be presumed to suffer the most from the legacy of poor recordkeeping and waste mismanagement that characterizes the LOOW.

In light of the readily available history of widespread radiological contamination of the Model City Facility, the Applicant cannot rely on Department of Energy cleanup certifications. See Scoping Doc., pp. 10-11 (discussing Vicinity Properties C, D and F). See also Exhibit B, p. 4 (comment 10). CWM should instead comply with the federal MARSSIM protocol for identifying and remediating radiologically contaminated sites. A preliminary step in the protocol is the compilation of the history of the site.[14] This has been done for Department of Defense uses,[15] but

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[11] NYS Assembly Task Force Report, "The Federal Connection," pp. 261-264.

[12] Certification Docket for the Remedial Action Performed at the Niagara Falls Vicinity Properties in Lewiston, New York, From 1983 Through 1986. Prepared for U.S. Department of Energy, Oak Ridge Field Office, Under Contract No. DE-AC05-910R21949 by Bechtel National Inc. Oak Ridge, Tennessee, Bechtel Job No. 14501, July 1992, pp. I-17 and I-18. See also U.S. Army Corps of Engineers, FUSRAP FACT SHEET, NIAGARA FALLS STORAGE SITE (June 2004) (finding that Vicinity Property G, which would be disturbed by the RMU-2 proposal, has isolated areas of buried radiological contamination from two independent sources, the Manhattan Project and the University of Rochester, and concluding that further remedial investigation is warranted);Shaw Environmental, Inc. (for CWM), SUMMARY REPORT: HISTORICAL RADIOLOGICAL ASSESSMENT, NFSS VICINITY PROPERTIES E, E', AND G (July 2004) (finding that these three Vicinity Properties contain buried radioactive waste "considered to have the potential for residual radioactive contamination in excess of NYSDEC acceptance criteria").

[13] NYS Assembly Task Force Report, "The Federal Connection," p. 240; J. D. Berger, Oak Ridge Associated Universities for Division of Remedial Action Projects, Comprehensive Radiological Survey Off-Site Property G Niagara Falls Storage Site Lewiston New York, Final Report, April 1984.

[14] MARSSIM calls for a graded approach under which greatest scrutiny is imposed on areas "known" or "likely to exceed the acceptance criteria" for release of a site, less scrutiny on

not for other uses of the site. As discussed above, the history of the site is likely to yield significant additional information about the nature, quantity and likely location of radiological wastes sent to or adjacent to the facility site. CWM should therefore compile a history of the site pursuant to the MARSSIM protocol.

All of CWM's current plans for investigation of radiological contamination are limited to an investigation of surface soils. Because it is likely that residual buried radioactive waste exists in areas that would be disturbed by RMU-2, CWM should include ground penetrating radar surveys in its on site investigations. Where buried wastes are found, soil sampling at the location and depth of buried wastes should follow.

Potential impacts of major excavation cannot be meaningfully assessed in the absence of the results of an enhanced site investigation of the legacy of radiological contamination. A history compilation, surveys using ground penetrating radar, and deep soil sampling where appropriate, in addition to radiological surveys of the site surface and testing surface soils, should therefore be performed before a scope is finalized.

C. Remediation of PCBs and VOCs in Surface Water Runoff

For the last several years CWM's discharge of surface water runoff has intermittently but continuously exceeded permitted concentrations of PCBs and VOCs to Outfall 002, at the northwest corner of the facility, flowing north ultimately to Four Mile Creek. See DEC Response to Comment 94, Responsiveness Summary, Hazardous Waste Management Permit Renewal for CWM Chemical Services, LLC, Model City Facility(2005).[16]

CWM's permit limit for PCBs is virtually zero discharge, 0.001 ng/L, or one-hundredth of one-billionth of a gram per liter. CWM SPDES permit, p. 5. However, the detection limit for PCBs is 65 ng/L. The exceedences discussed above exceeded the latter limit, triggering the requirement for a long-term remediation plan under the permit. Id., footnote 7.b. However, no such plan was submitted by CWM and exceedences of permitted PCB and VOC limits continued

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areas where "no evidence" of exceedence exists but where "where contamination is known or suspected to exist," and least scrutiny on areas "where contamination either is not believed to exist, or exists [at insignificant levels] compared to the acceptance criteria." MARSSIM, ch. 3 (Historical Site Assessment). Cf. Exhibit A hereto.

[15] USACE: HISTORY SEARCH REPORT, LAKE ONTARIO ORDNANCE WORKS, NIAGARA COUNTY, NEW YORK (August 1998).

[16] Available at <http://www.dec.state.ny.us/website/dshm/hzwstman/cwmmodelcity.html>.

at least to April 2005. DEC Response to Comment 94. Accordingly, the Department included as a condition to the RMU-1 renewal permit in 2005 the requirement that CWM prepare and implement a "Process Area Investigation Plan" intended to determine the source of PCBs and VOCs in upstream soils and sediments causing the exceedences. Despite its history of discharges, as recently as last December CWM resisted acknowledging this history, prompting the Department to require CWM to include the Department's "Response to Comment 94" in CWM's description of the problem.[17]

In view of the Applicant's failure to meaningfully implement remediation of acknowledged discharges of PCBs and VOCs to surface waters that flow to Four Mile Creek and Lake Ontario, completion of the Process Area Investigation Plan should be required before further processing of this proposal for a new landfill unit. Until the source or sources of PCBs and VOCs in surface water runoff is determined, there can be no assurance that major excavation will not increase discharges of these substances.

D. Effect of Pending State Siting Legislation

Earlier this year by unanimous votes in both houses, the State Legislature approved an amendment to the ECL that would add a new siting restriction on hazardous waste landfill expansions located, as here, in the Great Lakes basin. S8107 and A1173 (amending ECL §27-1109). An applicant for a covered permit would be required as a threshold siting consideration to demonstrate the absence of a potential for discharge to tributaries of the Great Lakes. Id.

Due its proximity to Lake Ontario, the RMU-2 proposal would be covered should the pending legislation become law. In that case, a demonstration by CWM of no potential for discharge would become a threshold siting requirement.

Since the RMU-2 proposal would be covered, and since a decision by the Governor to sign the pending legislation is imminent, scoping should be delayed until the legislation is approved or it is vetoed and withstands a legislative override. If the pending legislation is enacted, the scope of CWM's DEIS should include alternatives to discharge, including containment of all surface runoff at the facility.

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[17] James G. Strickland, NYSDEC, to Jill A. Banszak, CWM, December 21, 2005, Enclosure (comment 3). CWM initially attempted to explain the PCB discharges as the result of excavation in connected ditches that would subside once sediments in the flow settled. See CWM, Report of Noncompliance Event, March 22, 2001.

II. Alternatives to RMU-2 and the Need for this Project

Both the Department and EPA have found that there is no need for any additional hazardous waste land disposal capacity through at least the year 2013.[18] In addition, both agencies recognize that the market for hazardous waste disposal is national in nature.[19] Illustrating this fact, waste has come to RMU-1 from as far away as California and Texas.[20] In addition, over 70% of the waste received at RMU-1 in the year 2000 came from outside of New York.[21] DEC has therefore proposed that applicants wishing to site hazardous waste disposal facilities in New York State should provide an assessment of need based on the need for additional capacity at the national level.[22]

Particularly in light of the questionable need for the project, reasonable alternatives to RMU-2 should be more fully discussed in a DEIS, addressing specifically a number of problematic assertions made in the Draft Public Scoping Document. Cf. 6 N.Y.C.R.R. § 617.8(f)(5).

CWM asserts that disposal capacity at the current operating landfill would be exhausted "in about 5-6 years based on current waste receipt rates." Scoping Doc., p. 48. Alternatives to the current waste acceptance rate that would extend the life of the current operating landfill should be discussed in a DEIS.

CWM also asserts that, if no new disposal capacity is constructed at its facility, "significant capacity shortfall would develop based on the projections for need developed by New York State." Id. The projections for need should be fully analyzed in any DEIS in order to support the assertion that a "significant capacity shortfall" will result from the no action alternative. In particular, whether the asserted shortfall is national or limited in scope to New York State should be addressed, and in both cases the precise degree of any shortfall assertedly expected should be justified.

CWM also asserts that "traditional market forces" would respond to any shortfall by

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[18] DEC, NEW YORK STATE HAZARDOUS WASTE FACILITY SITING PLAN (2004 DRAFT) ("DEC SITING PLAN"), p. 8-1, available at <http://www.dec.state.ny.us/website/dshm/hzwstman/hazsiteplan.htm>.

[19] Id., p. 6-1. See also Scoping Doc., p. 48.

[20] DEC SITING PLAN, p. 1-10.

[21] Id., p. 5-2.

[22] Id., p. 8-2.

"foster[ing] private sector development of additional disposal capacity." Id. The DEIS should analyze the potential of traditional market forces to foster waste reduction, reuse and recycling, in response to any shortfall in land disposal capacity. The DEIS should also analyze the potential of additional land disposal capacity at the Model City Facility to discourage development of technologically feasible alternatives that would otherwise foster waste reduction, reuse and recycling. Without such analyses, CWM's assertion that "all future private sector development of new capacity could be stopped, thus creating a Nationwide shortfall," is at best speculative. Cf. id. Similarly speculative in the absence of such analyses is CWM's assertion that "overall costs [of waste management] would be increased and the current land use of another area would need to be modified, adding to the potential for the environmental impacts associated with a land disposal facility." Id., p. 50. CWM must first establish that a reduction of capacity in a nationwide waste market requires another land disposal facility.

CWM also asserts that if RMU-1 is not replaced by additional disposal capacity at the Model City Facility, "the majority of the economic benefits afforded by CWM would be eliminated or severely reduced." However, elsewhere in the Draft Public Scoping Document CWM acknowledges that groundwater remediation measures to which it has committed will continue in perpetuity. Scoping Doc., p. 32. CWM also acknowledges, "Post-closure care for the existing Model City Facility, including monitoring and maintenance of the properly closed landfills, surface impoundments and Corrective Action Units, will continue in perpetuity." Id., p. 41. If an alternative to RMU-1 is the reduction in waste receipts, with the effect that existing operations can be extended 10-12 years instead of 5-6 years, the majority of economic benefits afforded by CWM would not be eliminated for at least a decade, and thereafter such benefits would be reduced but may not be "severely reduced" as asserted. Cf. id., p. 48. The DEIS should therefore fully analyze the effect of both relatively quick cessation of land disposal (i.e., in 5-6 years) and a more gradual winding down of land disposal operations, together with the effect of operations CWM is committed to continue in perpetuity, on local, state and national economic benefits.

CWM also asserts that "Niagara and Erie Counties account for nearly one-third of the total tonnage" of hazardous produced in New York State. Id., p. 50. However, CWM is itself a substantial generator of hazardous waste. CWM transfers off site and out of state substantial volumes of liquid hazardous waste for incineration, and transfers substantial volumes of solid hazardous waste too toxic or reactive for land disposal off site and out of state. The DEIS should identify the exact quantities of hazardous waste generated for off site transfer by CWM, since presumably much if not most of this waste would cease to be generated were the Model City Facility to stop land disposal.

In addition, the DEIS should estimate the volume of hazardous waste that may be generated by excavation of contaminated soils required for the RMU-2 landfill, relocation of accessory facilities that would be displaced by RMU-2, and upgrading of stormwater ditches and storage ponds required to manage stormwater flow altered by RMU-2. Given the history of

radioactive and other waste dumping on and in the immediate vicinity of the Model City Facility, it can be expected that excavation associated with RMU-2 would generate substantial volumes of contaminated soils. The DEIS should therefore analyze the potential for increased generation of hazardous waste from excavated soils.

III. Safety Impacts

A. Seismic Impacts

Technical comments addressing seismic impacts on behalf of the County by Dr. Robert Jacobi are attached and incorporated hereto. **Exhibit C.** Dr. Jacobi states that seismically active zones and faults are located between three and nine miles from the Model City Facility, and seismic events that would compromise the stability of a landfill have occurred between two and 25 miles from the facility. These facts are not acknowledged by the Applicant and require further study in any DEIS. However, on the basis of the information identified in his comments, Dr. Jacobi concludes that compared to CWM's 2003 pre-draft permit application, slopes, berms and foundational sediments should be redesigned for a factor of safety up to three times greater than the safety factor adopted by CWM.

B. Traffic Impacts

CWM acknowledges that the requirement of substantial additional volumes of soils for construction of RMU-2 could increase truck traffic by an additional 100 trucks per day compared to current operations. Scoping Doc., p. 42. The DEIS should include an analysis of all vehicular accidents involving trucks and other vehicles going to or from the facility over the last ten years, and should address the potential for such accidents under the "no action" alternative, a gradual winding down alternative, and the full build RMU-2 proposal.

C. Homeland Security

The Applicant should discuss what measures, if any, are in place and proposed for security. Examples include perimeter security monitoring, entrance gate inspections, sensitive facilities (e.g., tanks, aqueous waste treatment, lagoons, Drum Maintenance Building, PCB Warehouse), and enhanced air sampling to warn for releases.

D. Extreme Weather Events

Similar to seismic impacts, heavy storms, rapid thaw and snowmelt and extreme winds are examples of increased variability in weather patterns that can be expected due to climate change. The DEIS should discuss design features that address the potential impact of such extreme weather events. See also Exhibit B, p. 4 (comment 17).

E. Other Engineering Design Issues

Technical comments addressing engineering issues raised in both the Draft Public Scoping Document and CWM's 2003 pre-draft permit application on behalf of the County by Dr. Anirban De are attached and incorporated hereto. **Exhibit D.** Dr. De states that because RMU-1 does not employ a geosynthetic liner, the proposal to use such a liner for RMU-2 should demonstrate that the liner is chemically compatible with the kind of leachate that would be generated by the landfill; demonstrate that such a liner system will retain its shear strength so as to assure shear failure is avoided; and discuss alternative liner materials.

IV. Impacts to Surface Water Flow and Wetlands

Technical comments addressing surface water and wetlands impacts of the RMU-2 proposal on behalf of the County by Charles P. Rosenburg of Northern Ecological Associates, Inc., are attached and incorporated hereto. **Exhibit E.** Mr. Rosenburg finds that at least an additional 0.16 acre of impacts to wetlands would occur as the result of stormwater management upgrades RMU-2 would require, (cf. Scoping Doc., p. 16), and this must be added to 0.89 acres of wetlands CWM is currently proposing to remove.

In addition, an "altered flow pattern" would result from RMU-2 because, unlike runoff from RMU-1, which flows to Twelvemile Creek, runoff from RMU-2 "would discharge to a tributary of Four Mile Creek via an engineered outlet structure and open channels" 2003 Permit Application, p. 31. A "new stormwater retention basin" would be required to manage RMU-2 runoff because "in addition to the altered flow pattern, the rate of run-off from the capped landfill would be greater than the current rate of run-off due to the increased slope of the land surface." Id. Mr. Rosenburg notes that fish and wildlife species could be adversely effected by contaminants in the Outfall 002 watershed, discussed in Section I.C., above, as a result of increased flow to Outfall 002 expected from the altered flow pattern.

Additional contamination of surface flow could result from substantial volumes of soils and gravel that would be stockpiled for RMU-2. 2003 Permit Application, pp. 36-37. The current stockpiles are located immediately south of the east-west perimeter road south of Fac Pond 3. This location drains to the east-west ditch on the south side of the perimeter road (not depicted on the latest CWM drainage map). As currently proposed, "All stockpiles would be approximately 30 feet maximum height and have slopes no steeper than 1.5H:1V in order to obtain acceptable soil erosion rates." Id., p. 36. However, the proposal provides no more than the following guidance for stormwater management of these stockpiles: "Utilization of perimeter channels, silt fences, hay bales, rock check dams and other measures would provide the primary sediment controls to prevent soils from entering into the facility's stormwater drainage system." Id., pp. 36-37. The DEIS should therefore discuss the potential for contaminated runoff from stockpiled soils, and for discharge of chemical contaminants notwithstanding sediment controls.

In addition, the RMU-2 proposal requires a state Water Quality Certification pursuant to 6 NYCRR § 608.9. Section 608.9 requires the Applicant to demonstrate that the proposed activity will not cause any violation of various water quality requirements, including effluent limitations, water quality standards, standards of performance for new sources, and all other state requirements. However, as discussed in Section I.C., above, there is evidence that PCB and VOC discharges from facility drainage ditches draining to Four Mile Creek and Lake Ontario are ongoing, in violation of the applicant's current water discharge permit. Because PCB and VOC discharges from the site are ongoing, there is no assurance that authorizing disturbance of the site stormwater management system would avoid further violations of water quality standards. Thus, until this issue is addressed and the Applicant makes the demonstration of compliance required by the regulations, the proposal does not qualify for the required Water Quality Certification.

Mr. Rosenburg also notes that the RMU-2 proposal lacks any mitigation to replace wetland losses. Any DEIS must include a detailed wetland mitigation plan.

Finally, on the basis of a site visit earlier this year, Mr. Rosenburg finds that wetlands created by CWM to mitigate previous wetland losses are poor quality. For this reason any DEIS should include in its mitigation plan post-construction monitoring of wetland creation areas. Mr. Rosenburg recommends a minimum of five year of such monitoring.

V. Impacts to Groundwater

Technical comments addressing deficiencies in the Draft Public Scoping Document's characterization of the site geology and hydrogeology on behalf of the County by K. Scott King of King Groundwater Sciences, Inc., are attached and incorporated hereto. **Exhibit B.** Among other things, Mr. King concludes that contrary to CWM's characterization, the integrity of underlying clay soils has not been adequately demonstrated; most of the upper clay soils would in any case be removed, subjecting groundwater to additional risk of contamination; the potential for migration of already contaminated groundwater should be addressed; there is no "low water table" at the facility site, contrary to CWM's assertion; and hydraulic conductivity values have been underestimated in previous CWM studies on which the DEIS may rely. In short, CWM has historically asserted that "the facility's hydrogeologic characteristics are well suited for a hazardous and industrial non-hazardous waste landfill facility," (Scoping Doc., p. 50), but the DEIS should provide specific demonstrations in support of that assertion, as discussed in Mr. King's comments.

VI. Impacts on Air Quality

Hazardous waste treatment, storage, and disposal facilities (TSDF), hazardous wastewater treatment operations exempted from air emission control requirements in 40 CFR Parts 264 or 265, and recovery operations that recycle or reprocess hazardous waste and are exempted from regulation as a TSDF in 40 CFR Parts 264 or 265 are nevertheless subject to EPA's National

Emission Standards for Hazardous Air Pollutants (NESHAP) from Off-Site Waste and Recovery Operations (OSWRO), promulgated in 1996 and amended in 1999 and 2001. 61 FR 34140 (July 1, 1996) (promulgating 40 CFR Part 63, Subpart DD); 64 FR 38993 (July 20, 1999); 66 FR 1263 (January 8, 2001).

CWM operates all three types of facilities at Model City. The OSWRO rule incorporates other subparts in 40 CFR part 63 for the specific air emissions control requirements to be used for tanks, surface impoundments, containers, individual drain systems, and oil-water and organic-water separators. CWM also operates each of these potential emission sources.

The OSWRO rule requires new and existing major sources to control emissions of hazardous air pollutants (HAP) to the level reflecting application of the maximum achievable control technology. To determine whether CWM is a major source of HAP emissions, the DEIS should provide a discussion of applicability of the OSWRO rule, RCRA air rules and other potentially applicable air rules to each emission source at the Model City Facility. Emission sources at the facility include:

- Open-air wastewater lagoons with a capacity of about 25 million gallons; currently utilized lagoons (Fac Ponds 1&2 and Fac Pond 3) are mechanically aerated to treat contaminants by evaporation to the atmosphere without further controls.
- Tanks; a number of tanks utilized for storage of landfill leachate and/or liquid hazardous waste are vented to the atmosphere.
- Storage buildings for hazardous waste drums and other containers; the Drum Maintenance Building and the PCB Warehouse, for example, can be expected to generate emissions from inspections and leaks. In addition, the rate of emissions from containers is significantly effected by filling methods. Splash filling, submerged filling and bottom loading each generate predictable emission rates.
- Roll-offs in storage; numerous roll-offs are stored at various locations around the Model City Facility, generally covered by only a tarp. Even empty roll-offs can be expected to generate emissions from residual waste.
- Landfills; in addition to RMU-1 and the proposed RMU-2, a number of closed and capped landfills at the facility can be expected to generate emissions. Department monitor reports indicate that at various times strong odors have been detected in the vicinity of both closed and active landfills.
- Equipment leaks; the Aqueous Waste Treatment System at the facility includes numerous fittings, valves and pipes that are subject to leakage of emissions.
- Spills; Department monitor reports indicate that at various times hazardous waste spills occur. Although generally in small amounts, to the extent these spills are routine events, a predictable volume of emissions can be expected to be generated from this source.
- PM (dust) emissions are generated from continual additions and removals to clay, gravel and soil stockpiles; truck traffic associated with stockpile management; truck traffic associated with waste management; excavation; and landfilling.

In addition to a comprehensive applicability analysis, the DEIS should identify all emission sources, identify appropriate guidance and apply applicable emission estimation procedures to all sources of emissions, and provide a discussion and analysis of combined emissions at the facility.

Respectfully submitted,

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