State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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August 12, 2003

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SUBJECT: Review and Conditional Approval of *Remedial Design Report* and *Response to Remedial Design Report Review Comments* for Appleton City (Coal Tar), a.k.a. Appleton MGP, 337 Water Street, Appleton, WI
WDNR ERP Case #: 02-45-000042

Dear Mr. Collins,

On May 2, 2003, the Department received a *Remedial Design Report* (Report) for the Appleton City (Coal Tar) site located at 337 West Water Street in Appleton, Wisconsin (Site). The Report was submitted by Natural Resources Technologies (NRT) on behalf of We Energies (WE).

Electronic review comments were submitted by the Department to WE and NRT on May 20, 23, June 9 and 23, 2003. On May 29, 2003, a conference call was held by WE, NRT and the Department to discuss Department comments and questions on the Report. On July 16, 2003, the Department received a *Response to Remedial Design Report Review Comments* (Response Report), submitted by NRT on behalf of WE.

The Department has completed review of the Report and Response Report. The remainder of this letter details the evaluation of the design for remediation at the Site by the Department's Remediation and Redevelopment Program. Permits and approvals required by other Department Programs are not detailed in this letter.

Phase I

Installation of a Cofferdam, Fish Rescue Plan and Excavation of the Canal and Riverbank
Installation of the temporary cofferdam, FAS-DAM, as proposed was verbally approved. It is the Department's understanding that the Fox River was lowered on August 4, 2003 by the Fox River Paper Company for routine maintenance of their dam and that installation of the dam began on that date. The Fish Rescue Plan has been reviewed and approved by Fish Management and communicated verbally.

Maintenance and handling of storm water at the Site is addressed in the construction site storm water permit issued by Watershed Management on July 21, 2003. Dredging, riprap and grading is addressed in the ch. ~~NR~~ 30 permit issued by Watershed Management on August 1, 2003.

Excavation and Management of Unsaturated Soils at the Site
Excavated soils must be properly characterized prior to transportation, treatment and/or re-use. Historic or current soil sampling should supplement visual, olfactory or instrumental screening.

Transportation of contaminated soils that meet the definition of a solid waste by a licensed solid waste hauler to the thermal treatment location is approved. WE and its consultants and subcontractors must comply with all requirements in the NR 500 series.

Soils must be properly characterized in accordance with s. NR 605.08(1) through (4), Wis. Adm. Code to determine if soils meet the definition of a Resource Conservation and Recovery Act (RCRA) hazardous waste. Transportation of contaminated soils that meet the definition of a RCRA hazardous waste must be transported by a licensed hazardous waste hauler to a facility approved to accept hazardous waste. Mixing hazardous waste with non-hazardous waste is not adequate treatment and should not be performed at the Site. WE and its consultants and subcontractors must comply with all requirements in the NR 600 series.

On page 3-2 of the Report, NRT requested the Department designate the Site as an Area of Contamination (AOC) per the draft *Guidance for Hazardous Waste Remediation* dated November 21, 2002. Designation as an AOC does not appear to be appropriate since soils, if characterized as hazardous waste, will be "generated" or moved and will not be treated on the Site at which they are generated.

The treatment of unsaturated soils contaminated with arsenic through in-situ stabilization (ISS) and the treatment of saturated soils through ISS is addressed under the Phase II section discussed below.

Thermal Treatment of Soils at 619 S. Olde Oneida St. (Treatment Site)
DCI's waste management permits, issued by the Bureau of Waste Management on June 27, 2003, July 25, 2003 and July 31, 2003, address the plan of operation, plan modifications for addition of a second mobile soil thermal processing unit and plan modifications for storage of contaminated soils and treatment of contaminated soils that do not meet the location requirements as listed in ss. NR 718.05 and NR 718.09, Wis. Adm. Code.

DCI's air monitoring permit is scheduled to be issued by Air Management after August 18, 2003. Thermal treatment of soils may not begin until the air permit is issued.

Maintenance and handling of storm water at the Treatment Site is addressed in the construction site storm water permit issued by Watershed Management on July 21, 2003.

Soil Cleanup Standards
Upon receipt of analytical data from treated soils, the Department will review site-specific residual contaminant levels (SSRCLs) proposed in the Report. If a written response is requested, a fee of $750 for review of "Site Specific Soil Cleanup Standards" is required in accordance with ch. NR 749, Wis. Adm. Code.

Temporary Storage of Treated Soils at We Energies' Hydroelectric Plant
DCI's waste management permit, issued by the Bureau of Waste Management on July 31, 2003, addresses plan modifications for storage of treated soils that do not meet the location requirements as listed in s. NR 718.05, Wis. Adm. Code.

Maintenance and handling of storm water at the hydroelectric plant is addressed in the construction site storm water permit issued by Watershed Management on July 21, 2003.

Phase II

In Situ Stabilization (ISS) of Saturated Soils at the Site

The proposal of in situ stabilization (ISS) as a remedy at this Site is approved contingent upon the following conditions:

1. WE submit the 90-day leachate test results to Jim Schmidt in the Division of Water and Jennifer Tobias with the Department.
2. WE is able to demonstrate to the Department that the groundwater pathway will be addressed.
3. WE is able to demonstrate to the Department that the surface water standards will be met.
4. WE receives approval from the Bureau of Waste Management for use of Mix Design 5 and Mix Design 6 at the Site, as proposed in the Report.

Contingent upon the conditions listed above, ISS may be implemented at the Site. At that time, unsaturated soils contaminated with arsenic and manufactured gas plant (MGP) residue are approved to be treated through ISS under ch. NR 724, Wis. Adm. Code. Also, saturated soils in Treatment Zone 2, as described in the Report, are approved to be treated through ISS under ch. NR 724, Wis. Adm. Code.

Phase III

In Situ Chemical Oxidation (ISCO) of Contaminated Groundwater at the Site

The proposal of injection of Fenton's Reagent as a pilot and possibly a remedy at this Site is not approved at this time. The Department has several concerns about the appropriateness of Fenton's Reagent at this Site and a more detailed submittal and request for Department evaluation is necessary. Some of these concerns are listed below:

- anticipated difficulty installing treatment wells through the monolith created by the in situ stabilization (ISS) process;
- the impact of the ISS monolith on Fenton's chemistry;
- pressure created by Fenton's reaction as applied under the monolith;
- total volume of Fenton's Reagent injected and the potential impact on contaminated groundwater migration;
- composition of the catalyst;
- pH adjustment to the subsurface;
- potential lateral conduits;
- potential detrimental effects to the Fox River habitat from heat or oxygen generation.

In addition, GeoClense, International states on page 16 of their report, "The effects of the ISS treatment above the ISCO treatment area cannot be fully known at this time...Another potential issue with ISS is the pathways for off-gas generated by the ISCO treatment to escape, which is typically through the formation, will be blocked." To add to these concerns, reagent volumes, injection depths, screen intervals, well design and well placement have not been recommended at this time.

The Department's Regional Hydrogeologist, Rick Stoll, and the Watershed Management Program are currently discussing whether an environmental assessment is needed for this action. Details of the application must be developed and submitted to the Department before this proposed action can be evaluated by the Remediation and Redevelopment Program and

the Division of Water. If WE requests a written response, a $750 fee for review of a "Remedial Design Report" will need to be submitted in accordance with ch. NR 749, Wis. Adm. Code.

Upon approval of the use of Fenton's Reagent, an application for an injection permit in accordance with s. NR 140.28(5) and NR 812.05, Wis. Adm. Code must be submitted to Rick Stoll in Green Bay. A fee of $500 for "other technical assistance" must be submitted to me in the Oshkosh office in accordance with ch. NR 749, Wis. Adm. Code, along with a copy of the injection permit application.

Phase IV

Post Remediation Groundwater Monitoring Plan
According to appendix B of the Response Report, the following wells are proposed for installation after site restoration: shallow well, MW-04-19S, lower till wells, MW-04-7RD, MW-04-12D, MW-04-15D MW-04-19D, and bedrock piezometers, PZ-04-7B, PZ-04-12B and PZ-04-15B.

In addition to these wells, lower till and bedrock wells should be installed at former MW-2, MW-3, MW-01-13, MW-01-14 and between former test pits, TP-2 and TP-3 on the Fox River Paper Company property. Additional wells may be needed to delineate contamination horizontally and vertically in the lower till and bedrock.

In accordance with s. NR 724.07(2), Wis. Adm. Code, the Department requires post-remediation sampling and analysis from wells bimonthly (twice a month) for the first three months and quarterly thereafter for a minimum of two years unless otherwise directed by the Department.

Analysis for available cyanide, EPA method OIA-1677, is appropriate to compare to the ch. NR 140 enforcement standard (ES) and preventive action limit (PAL) for free cyanide. Since this method is not performed by certified laboratories in Wisconsin, analysis for total cyanide should be considered first. If total cyanide is greater than the ES and PAL then analysis for available cyanide is necessary.

According to Integrated Science Services with the Department, Frontier GeoScience in Seattle, Washington and Carnagie Melon University in Pennsylvania are appropriate laboratories to perform this analysis. If other laboratories are considered that are outside the Department's certification system, WE will need to have the laboratory apply with Integrated Science Services. An application is available on the Department's website, www.dnr.state.wi.us.

Analysis of groundwater during bimonthly sampling is to include volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), available or total cyanide, field parameters and geochemical parameters. The first round is to include analysis of semi-volatile organic compounds (SVOCs) in lieu of PAHs and also include RCRA metals.

Analysis of groundwater during quarterly sampling is to include VOCs, available or total cyanide, previously detected SVOCs, RCRA metals, field parameters and geochemical parameters. Sampling frequency and parameters analyzed will be evaluated annually by the Department.

A table summarizing well sampling frequency and parameter analysis should be submitted to the Department prior to completion of site restoration for confirmation. Results must be communicated to the Department per the Reporting section discussed below.

Air Monitoring Plan

On July 2, 2003, the Department received a separate *Air Monitoring Plan* (AMP), submitted by GZA GeoEnvironmental, Inc. (GZA) on behalf of WE. A review fee did not accompany this report. The AMP was verbally denied on July 16, 2003 and written comments were provided to GZA, NRT and WE by Department of Health and Family Services (DHFS) on July 18, 2003.

A *Revised Air Monitoring Plan* (RAMP) was received on July 29, 2003. A review fee of $500 for "other technical assistance" in accordance with ch. NR 749, Wis. Adm. Code was received on August 8, 2003. The RAMP has been reviewed by the Department, DHFS and City Health. The remainder of this section discusses Department comments on the RAMP.

The Department requests GZA and WE perform three or four full day (24 hour) exposure air monitoring events during the first week of excavation at the Site and during the first week of activation of the thermal treatment unit at the Treatment Site.

The perimeter short-term action levels proposed in section 4.2.2 of the RAMP are approved. These short-term action levels are tools to maintain the 24-hour perimeter air quality values, proposed in section 5.0 of the RAMP.

The 24-hour perimeter air quality values proposed in section 5.0 are approved with the exception of particulates. As discussed and agreed verbally on August 6, 2003, the national ambient air quality standard for particulates (PM_{10}) is 0.15 mg/m^3. GZA must use this standard for particulates.

It is not clear in section 5.0 of the RAMP if GZA intends to perform 24 hour sampling at the Treatment Site in addition to the Site while contaminated soils are stockpiled or the thermal treatment unit is operating. The Full Day Exposure Air Monitoring Program should include sampling at both locations. It is not clear how GZA will determine where to place the SUMMA canister for the Full Day events at the Site. The location of the SUMMA canister should be downwind at the perimeter.

The portable air sampling program discussed in section 6.0 of the RAMP does not specifically state that hand-held, portable instrumentation will be used on the northeast corner of the Fox River Paper Company (FRPC) parcel, north of the canal. This was clarified in a later discussion. The Department understands that portable air sampling will take place in this location during excavation of the canal, riverbank and unsaturated soils in this area and during other appropriate activities to supplement the air monitoring stations (AMS) since it is not logistically feasible to place an AMS on the FRPC parcel.

In accordance with s. NR 714.05(6), Wis. Adm. Code, the Department requires We Energies to provide DHFS and Appleton City Health Department weekly air monitoring reports that include the following:

- data acquisition printouts
- full day (24 hour) exposure air monitoring VOC results
- PUF PAH results
- portable air sampling results including field notes
- written log of alarms, notification times, causes and response activity.

The RAMP does not discuss how complaints of coal tar odors in the living space of nearby residents will be addressed or what means residents have to inform WE of the issue. This is further discussed in the Public Communications Plan section below.

Public Communications Plan

On June 4, 2003, a draft communications plan was submitted electronically to the Department by WE. A final communications plan was submitted along with the RAMP on July 29, 2003. A $500 review fee for "other technical assistance" in accordance with ch. NR 749, Wis. Adm. Code was received on August 8, 2003.

In accordance with s. NR 714.05(6), Wis. Adm. Code, the Department requires We Energies to perform the following:

1. Submit to the Department a list of individuals interested in periodic updates on the progress at the site along with the type of update they will receive and the frequency. Update the list as needed. This list should include individual public officials, residents, businesses, media, etc. that have specifically requested routine updates on the status of the project due to a specific concern or need. General inquiries on status of the site should be directed to Terry Bergman or Mark Collins with We Energies, the We Energies 800 number or We Energies website.
2. Issue a press release and hold a public information meeting after excavation of the canal and riverbank are complete and prior to initiation of in situ stabilization. We Energies is also to issue a press release after in situ stabilization is complete. Additional press releases or informational meetings may be needed as determined by the Department throughout the project.
3. Post a noticeable and legible sign at the excavation site and the thermal treatment site that informs the public to call Terry Bergman, Mark Collins or the We Energies 800 number with questions or concerns. If the We Energies website will include information on the project, the website address should also be included on the signs.

We Energies established a hotline number, 800-261-3425. In accordance with s. NR 714.05(6), Wis. Adm. Code, the Department requires the hotline number to be an appropriate mechanism for concerned residents and interested citizens to contact for the following:

- General project information;
- Receive an update on the activities performed at the site (dispatchers will be informed of major activity progress such as completion of canal excavation, removal of cofferdam, etc.);
- Receive timely information on confirmed red action level alarms and responses taken;
- Issue complaints regarding odors in their living or working space which are to be immediately communicated to the following: Site Engineer for immediate response at the Site; Terry Bergman of We Energies for follow-up with the Site Engineer and complainant; City Health. There is a reasonable expectation that any odors experienced by the public in their indoor living or working space should be tolerable when windows and doors are closed.
- Issue complaints regarding health symptoms experienced as a result of site activities. These are to be immediately communicated to Terry Bergman of We Energies and City Health to be addressed.

In addition, the dispatchers should be updated by the Site Engineer as needed of major activity progress at the Site, such as "excavation of riverbank commenced, excavation of canal completed".

If individual contaminant action levels are exceeded at the air monitoring stations or a potentially harmful condition is discovered during PUF sampling, the dispatcher should be notified of the situation and the action being taken within 30 minutes of a level two alarm (red signal), such as "action level is exceeded at perimeter due to dry wind conditions; wetting of soil is taking place to minimize dust emissions and excavation temporarily stopped".

Reporting

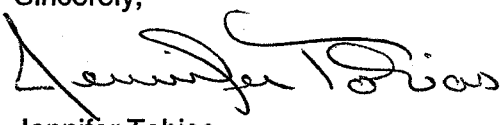
Quarterly progress reports must be submitted during active remediation (prior to site restoration) per s. NR 724.13(3), Wis. Adm. Code. The first progress report should be submitted by **October 31, 2003**. An annual O&M Report must be submitted during passive remediation (post site restoration). Quarterly progress reports must be submitted to supplement the O&M Reports per s. NR 724.13(3), Wis. Adm. Code.

Upon completion of site restoration, a Construction Completion Report must be submitted in accordance with s. NR 724.15, Wis. Adm. Code. In addition, continued reporting in accordance with s. NR 724.17, Wis. Adm. Code, long-term monitoring, must occur.

In accordance with s. NR 716.15(2)(h)3b, Wis. Adm. Code, groundwater data is to be reported in the units as listed in ch. NR 140, Wis. Adm. Code. For example, arsenic is to be reported in parts per billion (ppb) and iron in parts per million (ppm).

We Energies may move forward with implementation of the approved portions of the remedial design at this time. If you have any questions, please feel free to contact me at the number below.

Sincerely,



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