



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

Michael Healy
Charbert- Division NFA Corp
299 Church Street
Alton, Rhode Island 02894

19 December 2007

RE: Charbert, Division NFA Corp
299 Church Street, Alton, Rhode Island 02894
Case # 99-037

Dear Mr. Healy:

This letter supersedes the cover letter dated 18 December 2007, only. The Order of Approval (Order) for the proposed soil vapor extraction and air sparge system as outlined in Section 5.02 of the Remedial Action Work Plan (RAWP) dated October 15, 2007 for the above referenced facility remains unchanged. As part of the proposed remedial alternative, ongoing source areas (observed soil and groundwater contamination) are to be addressed through the use of a Soil Vapor Extraction (SVE) System coupled with a shallow Groundwater Air Sparging (AS) System. This Order is for the SVE/AS portion of the remedial action only. The remaining remedial alternatives being proposed at the site will be addressed in a separate Remedial Action Approval letter. Please review the stipulations of this Order thoroughly to ensure your compliance with the requirements.

Please notify this office 48 hours prior to the beginning of any work related to the remediation of the Property. If you have any questions regarding this matter, please contact me by telephone at (401) 222-2797, extension 7514 or by e-mail at joan.taylor@dem.ri.gov.

This Order shall be recorded in the land evidence records of the Town of Richmond as required by law, and a recorded copy must be returned to the Department within fifteen (15) days of recording.

Sincerely,

Joan Taylor, Senior Environmental Scientist
RIDEM/Office of Waste Management

cc: Leo Hellested, RIDEM/Office of Waste Management
Matthew DeStefano, RIDEM/Office of Waste Management
Cynthia M. Gianfrancesco, RIDEM/Office of Waste Management

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

In the matter of the application for Remedial Action Approval at:

299 Church Street, Alton, RI
Plat 11A, Lot 6
Case # 99-037

ORDER OF APPROVAL

In the above entitled matter wherein, Charbert, Division NFA Corp. (Charbert), in its capacity as Performing Party for the remediation of the property located at 299 Church Street, Richmond, Rhode Island (Plat 11A, Lot 6) ("the Site") has filed with the Rhode Island Department of Environmental Management (RIDEM/ the Department) the following documents which collectively fulfill the requirements of Section 9.00 (Remedial Action Work Plan) of the Department's 2004 amended Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (the Remediation Regulations):

1. Environmental Audit/Phase 1 Investigation, Charbert, Inc, Church Street, Alton, Rhode Island, dated August 8, 1991, by Rizzo Associates (in UIC Files);
2. UIC Issues at Alton Operating/Charbert Facility, Richmond. Status Report of Charbert, Division of N.F.A. Corp. 299 Church Street, Town of Richmond, Alton, Rhode Island, dated March 19, 1997, by Clayton Environmental Consultants (in UIC Files);
3. Findings of the Lagoon #4 Sediment Investigation at Charbert, prepared by Clayton, dated 3 August 2001;
4. November 2003 Groundwater Sampling Report, Charbert, Division of N.F.A. Corporation, dated 17 February 2004;
5. Interim Site Investigation Report for Charbert, prepared by Clayton Group Services, dated 13 May 2004;
6. Deep Aquifer Investigation Interim Data Report and Monthly Progress Report #2, prepared by GZA dated 24 September 2004;
7. Stockpiled Soil Reuse Plan for the Charbert Facility, prepared by GZA, dated 13 April 2005;
8. Response to RIDEM Comment on the April 13, 2005 Stockpiled Soil Reuse Plan prepared by GZA, dated 29 April 2005;
9. Phase II Site Investigation Report and Drawings for the Charbert Facility, prepared by GZA, dated June 2005;

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10. Phase II Site Investigation Responses to Comments for Charbert, Division of NFA, prepared by GZA, dated 18 August 2005;
11. Supplemental Site Investigation Report for Charbert prepared by GZA, dated 9 January 2006;
12. Bedrock Aquifer Evaluation Work Plan prepared by GZA, dated 15 March 2006;
13. Additional Sediment Sampling Supplemental Site Investigation Report prepared by GZA, dated 28 April 2006;
14. Old Lagoon 5 Sediments Supplemental Site Investigation Report prepared by GZA, dated 7 August 2006.
15. Technical Memorandum, Recommended Monitoring Well Installation Zones for Bedrock Boreholes prepared by GZA, dated 23 February 2007
16. Solid Waste Area Remediation & Wetland Restoration prepared by GZA, dated 29 May 2007.
17. Bedrock Aquifer Evaluation Phase III Subsurface Investigation Program Progress Report # 2 prepared by GZA, dated 17 September 2007.
18. Remedial Action Work Plan prepared by GZA, dated 15 October 2007.
19. Interim Compliance Monitoring Plan for Source Control Remedy prepared by GZA, dated 4 December 2007.

These documents describe a plan to remediate existing contamination pursuant to R.I. General Laws 23-19.14-1 et seq., the Department's Remediation Regulations, as amended February 2004.

Upon consideration thereof, the Department's Office of Waste Management (OWM) approves said plan or means to remediate contamination through this Order of Approval for the Soil Vapor Extraction and Air Sparge (SVE/AS) portion of the remedial action as described in Section 5.02 of the RAWP only provided that:

1. All work, operations, activities, tests and schedules must be performed in accordance with the terms and conditions of this Order, Section 5.02 of the RAWP, Section 11.00 (Remedial Action) of the Remediation Regulations and all other applicable federal, state and local laws and regulations.
2. It is the Department's understanding that construction of the SVE/AS System has been initiated and is near completion. Construction specific to the SVE/AS system shall be completed within thirty (30) days of receipt of this Order and

that continuous operation of the full scale SVE/AS system will commence within forty five (45) days of receipt of this Order.

3. No hazardous waste shall be accepted from any off-site sources for treatment or disposal at the Site.
4. Sampling and analysis of all media involved in the Remedial Action shall be conducted in strict accordance with the RAWP, the requirements of this Order, and the Remediation Regulations.
5. Results of all environmental sampling shall be sent to Joan Taylor of the Office of Waste Management, 235 Promenade Street, Providence, RI 02908.
6. As part of the Site remedy, the following has been proposed and shall be implemented by Charbert and its consultant and shall incorporate the following:
 - A. **A Soil Vapor Extraction/Air Sparge (SVE/AS) System** to be installed beneath the building and in the area between the facility and the Old Lagoon #5 to be operated according to Section 5.02 of the RAWP. Charbert and its contractor shall comply with Section 5.02 of the RAWP including but not limited to Section 5.02.1 (SVE/AS System Performance Monitoring and Reporting) and the 4 December 2007 Interim Compliance Monitoring Plan (ICMP)
7. The groundwater remedial objective shall be the Method 1 GA Groundwater Objectives, as defined in the Remediation Regulations.
8. The soil remedial objectives shall be the GA Leachability Criteria and the Method 1 Industrial/Commercial Direct Exposure Criteria as defined in the Remediation Regulations provided that the proposed Environmental Land Usage Restriction (ELUR) is implemented;
9. Any portion of the RAWP conducted on the Site which falls under the jurisdiction of the Department's Office of Air Resources (OAR) shall be performed in compliance with all appropriate OAR Rules and Regulations, including but not limited to the monitoring and control of any air emissions and any terms and conditions outlined by the OAR. This includes registration of the system with OAR or obtaining an air discharge permit, if necessary.
10. Following installation and initial performance evaluation (approximately four to six weeks), results of SVE/AS System start up shall be reported to the Department within thirty (30) days. Thereafter, monthly SVE/AS System performance monitoring must be conducted and reports shall be submitted to

the Department on a quarterly basis and shall include the following information:

Soil Vapor Extraction System:

- a. Air flow rates;
- b. Vacuum response in inches of water column (IW);
- c. Total Volatile Organic Compounds measurements using a photoionization detector equipped with a 10.6 eV lamp;
- d. Oxygen, carbon dioxide and Lower Explosive Limit measurements utilizing a Land-Tech infrared gas meter (or equivalent);
- e. Explanation of any system interruption, including date and time of interruption, length of interruption, cause(s) and remedy.

Air Sparge System:

- a. Total Volatile Organic Carbon, oxygen, carbon dioxide levels within the drawdown soil vapor using above referenced meters;
 - b. SVE flows and the associated radius of influence;
 - c. Air Sparge flows and pressures and the associated radius of influence
 - d. Oxygen introduction and consumption; carbon dioxide generation; and estimated rates of hydrocarbon removal via biodegradation and physical venting to the granular activated carbon until; and
 - e. Granular activated carbon unit maintenance.
11. The ICMP is hereby approved to the extent that it applies to the SVE/AS system. Charbert will carry out compliance monitoring and reporting of the SVE/AS system in accordance with the ICMP, with the following stipulations:
- a. All 13 wells identified in the ICMP for monitoring of the SVE/AS system shall be sampled at least one time prior to SVE/AS system start up for parameters outlined in Section 4.40 of the ICMP to establish baseline conditions.
 - b. Groundwater monitoring must be conducted on a quarterly basis until which time that Charbert submits to the Department, for approval, a proposal and justification to change the monitoring frequency.
 - c. In accordance with Item 7 of this Order, groundwater remedial objectives shall be Method 1 GA Groundwater Objectives. In the event that GA Groundwater Objectives cannot be achieved across the entire site, Charbert must submit a request for approval to apply for a groundwater residual zone.

- d. Section 4:20 of the ICMP for decommissioning of monitoring wells is approved at this time provided that monitoring well CB-6 is replaced with a new monitoring well which will be utilized as part of the ICMP for the SVE/AS system.
12. All waste derived from implementation of the RAWP shall be managed in accordance with the Department's Remediation Regulations, Rules and Regulations for Hazardous Waste Management, and Rules and Regulations for Solid Waste Management Facilities, as well as any other applicable local, state or federal regulations. Documentation of proper disposal shall be provided to the Office of Waste Management in the Closure Report.
 13. The Department shall be immediately notified of any Site or operation condition that results in non-compliance with this Order.
 14. The Department shall be immediately notified in writing if Charbert or its consultant suspects or has reason to believe that any of the remedial objectives will not be met.
 15. The Department shall be notified a minimum of five (5) working days in advance of any changes in contractors and/or consultants for the remedial activities in Section 5.02 of the RAWP, and must be promptly supplied with complete contact information for each new contractor or consultant (including but not limited to company name and address, contact name and address, contact telephone number and e-mail address).
 16. Any interruptions in the SVE/AS system beyond that needed for regular routine maintenance shall be reported to Joan Taylor of the Office of Waste Management by telephone at (401) 222-2797 extension 7514 within one (1) working day and in writing within seven (7) days of occurrence.
 17. Within ninety (60) days of the conclusion of the remedial activities, exclusive of required monitoring, a Closure Report detailing the Remedial Action and current site status shall be submitted to the Office of Waste Management for review.
 18. This Order does not remove Charbert's obligation to obtain any other necessary permits from other state, local, or federal agencies required to implement the RAWP in a timely manner consistent with the RAWP schedules and deadlines in this Order.
 19. Charbert shall have this Order recorded in the Town of Richmond Land Evidence Records for the subject property within thirty (30) days of execution of this Order. A copy of the recorded Order (stamped with the book and page

number) must be submitted to the Department within fifteen (15) days of recording.

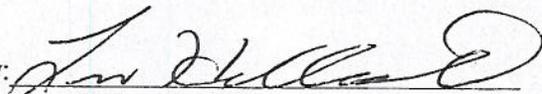
21. Prior to shut down, Charbert shall submit a compliance sampling plan to the Department for approval and perform all required confirmation groundwater and soil testing to ensure compliance with the GA Groundwater Objectives and GA Leachability Criteria.
22. Shut down, closure and removal of the remedial system(s) at the conclusion of the remedy will be contingent upon final Department approval. until which time it is determined that the drinking water treatment systems are no longer necessary and said determination is approved by the Department .
23. Based upon the results of groundwater monitoring program implemented after installation and start up operation of the SVE/AS system, and subsequent confirmation soil sampling, the Department reserves it's rights to require additional remedial actions at the Property to achieve final compliance at the site, if warranted.

This Order shall remain in full force and effect provided that Section 5.02 of said RAWP is implemented in a manner satisfactory to the Department. Failure to comply with all points outlined in Section 5.02 of the RAWP and stipulated in this Order shall result in the revocation of this Order of Approval and may result in the issuance of a Notice of Violation and Order against the performing party(s).

This Order shall be subject to modification or revocation in accordance with law.

Entered as the Order of the Department of Environmental Management this 18TH day of December 2007.

By:


Leo Hellested, P.E.

Chief, Office of Waste Management
Department of Environmental Management