North Country Environmental Services, Inc.

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January 8, 2008

Wayne Wheeler, P.E.
New Hampshire Department of Environmental Services
Solid Waste Compliance Section
29 Hazen Drive PO Box 95
Concord, NH 03302-0095

RE: North Country Environmental Services, Inc.
Landfill Facility - Bethlehem, NH
Incident Report

Dear Wayne:

(NCES) North Country Environmental Services, Inc. is writing to provide an Incident Report and Resolution to a leachate release that occurred at the above referenced facility. The incident report was reported to you via telephone on June 11, 2007.

On Monday June 11, 2007 leachate overflowed the Stage II Tank A leachate storage tank located north of the Stage I area of the landfill. The following describes the incident to the best of our knowledge:

Incident History: At approximately 9:20 AM on 6-11-07 as an NCES personnel was passing the Stage 2 tanks located on the north side of the Landfill adjacent to Stage I, leachate was observed dripping from the top of the manway on the underground 20,000 gallon Stage II Tank "A". The leachate flowed northward from the tank manway across the access road. NCES personnel immediately drove to the Stage 3 tank control panel and shut down the load out pump.

Remedial Activities: After disabling the Stage III load out pump, a loader and bulldozer built an earthen berm out of till to contain the leachate. NCES was able to contain the majority of leachate from entering the drainage swale north of the load out area. The leachate that spilled was discernible from stormwater in the area of the release. It is estimated that a total of 200 gallons drained from the tank and approximately 20 gallons entered a drainage swale. Sand was placed as an absorbent behind the berm where approximately 200 gallons of a leachate and sand mixture was vacuumed up with the site vacuum truck and disposed of at the landfill. A second load of approximately 1,200 gallons was vacuumed up from the end of the swale where the leachate entered. Much of the liquid removed from the swale was stormwater and was removed as a precautionary measure. Sand was placed on top of the remaining saturated soil in the bermed area and then removed, hauled and disposed at the landfill. An additional six to eight inches of soil under the bermed area was removed and also hauled to the landfill. A total of approximately 20 cubic yards of soil was removed from the area where the leachate was released.

Potential Cause: The cause of the leachate release was investigated and it was determined that leachate which was being pumped from the Stage III tanks to the Stage II tanks continued to pump after the Stage II Tank A and Stage II Tank B were filled (the Stage II tanks are interconnected). In normal operating mode when the Stage II Tank A and Tank B become full a high level alarm would inhibit the pump in the Stage III tank. In the event that the high level alarm does not deactivate the pumps a second high-high alarm would perform that function.

Corrective Action: NCES contracted with EOS Research (EOS) of Rochester, NH to perform an investigation and provide remedial measures and leachate control system modifications at the facility. All tanks, alarms, floats, controls and pumps were evaluated and checked to confirm proper operation. Several corrective and preventative measures were implemented to provide a greater margin of safety to prevent a tank overfill which are documented in the attached memo from EOS. NCES personnel are conducting more frequent inspections of the tanks, pumps and control panels.

If you have any questions please do not hesitate to call me at (802) 223-7221. My email address is gene.martin@casella.com.

Sincerely,

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

Eugene J. Martin, Senior Project Manager
Permits, Compliance & Engineering

Enclosures

John Gay, North Country Environmental Services, Inc. (via email, w/o encl.)
Larry Lackey, North Country Environmental Services, Inc. (via email, w/o encl.)
John Schwalbe, North Country Environmental Services, Inc. (via email, w/o encl.)
Karen Flanders, North Country Environmental Services, Inc. (via email, w/o encl.)
Kevin Roy, North Country Environmental Services, Inc. (via email, w/o encl.)
Al Sabino, North Country Environmental Services, Inc. (via email, w/o encl.)
Robert Banfield, North Country Environmental Services, Inc. (via email, w/o encl.)
Donald Monahan, North Country Environmental Services, Inc. (via email, w/o encl.)
Sean Moran, North Country Environmental Services, Inc. (via email, w/o encl.)
Bryan Gould, BOG

E O S
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MEMORANDUM

Date: August 6, 2007

To: Sean Moran, North Country Environmental Services

From: Ron Gehl, P.E.

Re: Redundant High Level Failsafe and Program Changes for Stage 2 Tanks Leachate Collection SCADA System, NCES Bethlehem

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This memo outlines control system modifications that were implemented on July 18, 2007 to provide redundant failsafes to inhibit a tank overfill condition at the former Stage 2 Tank A, which is now used to collect leachate from the Stage 3/4 cells prior to processing through the Leachate Consolidation System (LCS) at the site. A summary of the conditions that resulted in an overfill are outlined below, followed by corrective measures that were taken to prevent such an incident in the future.

Overfill Cause – after a detailed evaluation of data that was logged by the SCADA system at the site, it was determined that the Stage 2 Tank A overfill on June 11, 2007 was caused by an extremely unlikely combination of circumstances:

- While leachate feed to the former evaporator at the site had been discontinued, the control logic to govern evaporator feed had not yet been eliminated
- Limit switches showing valve positioning along the force main to the LCS were reading erroneously, likely as a result of moisture intrusion
- The erroneous limit switch readings placed the control logic in a mode to feed leachate from the Stage 3 tanks to the (now discontinued) leachate evaporator
- A high level alarm in Stage 2 Tank A was generated by the control panel at the LCS and communicated to the control panel at the Stage 3 tanks; however, the alarm condition was "ignored" by the control system, as it was in a mode to feed leachate to the evaporator

Corrective Measures – It was determined by NCES staff that, at a minimum, a high level condition in Stage 2 Tank A should serve as a "master inhibit" for leachate pumping between Stage 3/4 and the LCS, and between tanks associated with the LCS. The following measures were implemented to prevent a tank overfill condition:

- All control logic associated with leachate feed to the former evaporator was eliminated from the control program for the panel at the Stage 3 Tank area.
- A new high-level float switch was installed in Stage 2 Tank A, which is wired to an intrinsically safe relay in the LCS control panel (note that this results in triple redundancy, as high level alarms are already in place based on tank level transducer readings and a high-level conductivity probe).
- The new high-level relay is wired to disconnect coil power from all motor starters in the LCS control panel and the Stage 3 Tank area control panel should a high level condition occur.
- A new selector switch has been installed in the Stage 3 Tank area control panel. Before any leachate is transferred from the Stage 3 tanks, the destination for the transfer must be selected, and all limit switches on valves must indicate proper positioning for the desired destination. All previously existing safeguards related to manhole leak detection, tank levels, etc. remain in effect.

The elimination of motor starter coil voltage in the event of a high tank condition, and the institution of an additional step of manually selecting the leachate transfer destination, provide a greater margin of safety to avoid an overfill condition at the site.