



Consulting Engineers and Applied Scientists

May 19, 2006



Mr. Ed Mussler, III, PE
Permitting Branch Supervisor
1646 Mail Service Center
Raleigh, NC 27699-1646

Re: Modification of Permit No. 92-09
Wake County, North Carolina
Olver Project Number 20145.02

Dear Mr. Mussler:

As required by the General Facility Conditions specified in the Permit to Operate (No. 92-09) issued June 22, 2001, Olver Incorporated (Olver), on behalf of Wake County (County), is submitting this Permit Modification prepared in accordance with 15A NCAC 13B.1603(a)(3). This modification addresses the extension of the permitted operational life of the North Wake Landfill located on Durrant Road to allow full development of the facility. Based on site topography as of April 6, 2006, the remaining airspace capacity has been calculated to be approximately 1,190,000 cubic yards. Excluding cover soil requirements and using a disposal rate of approximately 450,000 tons per year, the remaining facility life is estimated at two (2) years. Once the permitted air space has been utilized, the County will complete the closure procedures as required under the permit conditions.

In addition to a permit extension, the County requests that this modification allow the use of an alternative daily cover (ADC). The County proposes to use the Posi-Shell system, where appropriate, in place of six (6) inches of earthen material for daily cover. This system has proven itself in numerous applications in North Carolina and elsewhere as a reliable, environmentally, and friendly alternative to daily earth cover. The ADC will meet all daily cover requirements in accordance with 15A NCAC 13B.1626(2). Enclosed are revisions to Section 6.2 – Alternative Daily Cover of the Operations Plan.

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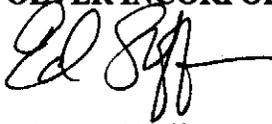
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If you have any questions regarding this Permit Modification request, please do not hesitate to call me at (704) 527-3227.

Sincerely,

OLYER INCORPORATED



Eddie L. Shuffler, PE
Senior Project Manager

ELS/det

Enclosure

cc: Dan LaMontagne



6.2 ALTERNATIVE DAILY COVER

Wake County will use the Posi-Shell system as an alternative daily cover (ADC) where appropriate in place of six inches of earthen material. The Posi-Shell ADC will meet all daily cover requirements in accordance with 15A NCAC 13B.1626(2). The Posi-Shell system consists of a mobile applicator, a mobile silo for storage of cement kiln dust or coal ash, a water truck for makeup water, and Posi-paks. The Posi-paks are pre-measured packages of cellulose fibers that act as a binding agent in conjunction with the pozzolonic material of the cement kiln dust or the coal ash. Water is used to produce a slurry that is sprayed over the active face at the end of the day or at other times as needed.

The ADC will be used as a temporary measure typically at the end of the day to control odors, insects, and scavengers. The next morning new garbage can be spread directly over the Posi-Shell face. After seven days, the face will be covered by another layer of garbage or intermediate cover of one foot of soil material. Application of the Posi-Shell ADC material sets up quickly to form a mat-like surface that immediately controls odors, windblown debris, and scavenging by birds.

The Posi-Shell ADC mixture is a slurry composed of water, the contents of Posi-Paks and a pozzolonic material. The following chemical description is taken directly from the Material Safety Data Sheet.

“The major constituents, mineral binder, is a non-specific pozzolonic material containing variable quantities of the following mineral compounds: CaCO_3 , CaO , SiO_2 , Fe_2O_3 , Al_2O_3 , K_2SO_4 , Na_2SO_4 . Other compounds may also be present. The slurry also contains cellulose fibers, P.E.T. fibers, water (or landfill leachate) and iron oxide coloring agent.

The manufacturer recommends the slurry be mixed in the following ratios for a single ADC application:

- a. Water ----- 1,500 gallons
- b. Posi-Paks ----- 2 to 4
- c. Pozzolonic material -- 5 to 7 tons (to achieve desired consistency)

When preparing the Posi-Shell mixture, landfill staff should pay careful attention to the mixture's consistency. To test the consistency, a trowel or paddle is used to scribe a line in the mixture. When the line remains, the slurry is considered thick enough for application.

Once the proper consistency is achieved, the mobile applicator is towed to the working face of the landfill. It typically takes between 30 and 45 minutes to cover the garbage on the working face.

Depending on the volume of Posi-Shell sprayed over an area, the thickness of the coating on the waste varies. Typically, landfill staff sprays over areas several times in order to get adequate coverage. Spraying from both the top of the slope and the bottom of the slope insures good coverage.

Factors that affect the thickness of the Posi-Shell layer are:

- a. Quantity of pozzolonic agent used.
- b. Number of spray-overs.
- c. Waste layer density.
- d. Slope of waste layer.
- e. Humidity.
- f. Temperature.

Once the slurry is exposed to air by being sprayed onto the working face, it begins to set up quickly and forms a barrier over the garbage. This barrier layer is what keeps the garbage in place and reduces odors. The Posi-Shell layer is similar to a very thin layer of cement which is bound together with fibers.