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May 8, 2007

Deborah Ogilvie  
Public Affairs Manager  
Chem-Nuclear Systems, LLC  
140 Stoneridge Drive  
Columbia, SC 29210

Dear Deborah:

This responds to your letter dated May 1, 2007, which I received through the mail on May 4, asking for my thoughts on the types and amounts of waste that may be expected from Atlantic Compact generators in Fiscal Years 2009 and 2010.

To help speed the process along, this letter provides a preliminary analysis, including the basic assumptions that are used. Feel free to adopt any of the assumptions, modify them in light of better information or data that you may have, or to use any other assumptions that you believe are well supported. We are also inviting input from the Atlantic Compact waste generators, since they are in the best position to project waste volumes.

Here are some assumptions I would offer for the period beginning July 2008:

Regular Operational Waste Volume Projection Assumptions:

- Atlantic generators will not ship containerized waste to disposal facilities outside the Atlantic Compact beginning July 2008. I would assume this because the generators within the Atlantic Compact region understand that potential Barnwell disposal revenue that is lost to other facilities must be made up in some manner by the same generators.
- Waste will not be processed off-site for the purpose of volume reduction, except where necessary to meet waste acceptance criteria. For the same reason, Atlantic Compact waste generators are more likely to ship waste directly to the Barnwell for disposal instead of to waste processors located predominately in Tennessee. Generators will most likely use on-site compactors or make use of the box compactor

facility in Barnwell. The money saved in extra transportation, treatment and handling of the waste can be applied to disposal. Specifically, it is assumed that:

- All resins are de-watered instead of thermally processed
- DAW is not incinerated, but is compacted instead
- Compactable trash is not Super-compacted, but is compacted at the place of generation or is compacted near the Barnwell site.

- Haddam Neck decommissioning will be complete and no more waste will arrive from that facility.

Using these assumptions, the attachment walks through a series of steps to project waste volumes that might be expected in Fiscal Year 2009 and thereafter, *other than volumes of irradiated hardware, large components, or "volume-held" backlog from Fiscal Years 2007 and 2008*. The results are:

Class A	15,092 cubic feet
Class B	2,039 cubic feet
Class C	1,462 cubic feet
TOTAL	18,593 cubic feet

In the final step of the projection exercise, these volume results are each reduced by 25%, for conservatism, due to uncertainties inherent in each assumption.

Class A	11,319 cubic feet
Class B	1,529 cubic feet
Class C	1,097 cubic feet
TOTAL	13,945 cubic feet

#### Assumptions for Volume-Hold Waste

Based on information from the generators, between 5,000 and 10,000 cubic feet of waste generated prior to Fiscal Year 2009 will be held for disposal in Fiscal Year 2009. The wide range is due to ongoing discussions with one generator who is still evaluating its options under the program. For planning purposes, you might assume 7,500 cubic feet of waste, for the time being. Based on the FY2006 distribution of utility waste at Barnwell, 63% would be Class A, and the remainder Class B and Class C. I should get better information in the coming weeks, and will let you know.

#### Assumptions for Large Components

In order to help meet operating costs, we are encouraging nuclear power plants within the Atlantic Compact region to ship steam generators and other large components for disposal over several years beginning July 2008. I have provided regional utility representatives a survey form for large components in storage. We have received one completed form, and are still awaiting information from the others. We believe that most of the utilities will dispose

of their stored large components at Barnwell over the next several years for the following reasons:

- We are not aware of any reason to store steam generators at the nuclear plants until decommissioning. An NRC official told me that the decommissioning funds currently do not account for disposal of old steam generators in storage. It is unlikely that regulators will allow this waste to become a stranded cost.
- Hauling steam generators via barge and special train to the Utah disposal would raise significant ALARA issues, given the alternative of disposal at Barnwell.
- The Atlantic Compact generators recognize that disposal of steam generators at Barnwell over the next several years is in their self-interest because it improves economies of scale at the Barnwell site.
- While other disposal alternatives may become available over a period of several decades, none is likely to be near the eastern seaboard with nearby barge dock access.
- We are prepared to recommend substantial disposal price incentives to Atlantic Compact and South Carolina utilities for disposal of large components over the next several years.

The Salem Plant in New Jersey will most likely ship 4 steam generators for disposal in July or August of 2009. The 4 large components total 27,300 cubic feet. They are considered Class A waste; they are structurally stable; and are lower in radioactivity than an equivalent volume of regular operational waste.

We believe it would be reasonable to assume disposal of 3 steam generators of the same size in Fiscal Year 2009 (20,475 cubic feet), although we do not have commitments as of today.

#### Irradiated Hardware

There are 2 BWR and 10 PWR units in the Atlantic Compact region. We have been told that, on average, BWR units make 2 irradiated hardware shipments every 4.5 years, and that PWR units make 1 irradiated hardware shipment over the same period of time. This averages to 4.5 irradiated hardware shipments per year to the Barnwell site from all Atlantic Compact nuclear power reactors.

For Fiscal Year 2009 and 2010, we believe that each of the plants in the Atlantic Compact region can make more specific projections of the number of irradiated hardware shipments they expect, and approximately when. A copy of this letter is provided to representatives of each of the power plants. We are requesting that they contact you directly with the information. If you do not hear from any of the plants by May 18, please contact Max Batavia at the Compact Commission Office and he will follow-up to obtain the information.

### Other Planning Assumptions

Following are three additional assumptions that appear reasonable for the period beginning July 2008. These assumptions address the concern in your letter about the pace and schedule of waste shipments.

- Most waste generators can adapt to the needs of the disposal site operator in scheduling the delivery of waste to the disposal site. This should allow Chem-Nuclear to establish shipment windows, or to place other parameters on shipping schedules, if that appears to be the most efficient mode of operating.
- If a volume of waste arrives that is not adequate to make the most efficient use of a concrete vault, then the Barnwell site should have an approved means to hold the waste for a reasonable period of time until enough is available to fill the vault. I believe we can assume that DHEC will work with you on any proposals you may have to make this happen, as long as they are protective of public and worker safety.
- Standard vaults can be re-sized if Chem-Nuclear staff determines that different internal dimensions are better suited to the mix of waste containers arriving from Atlantic customers. Chem-Nuclear staff may also examine standardization of container sizing.

Your letter also requests projections of disposal income that might be expected from the projected waste, and the timing of disposal receipts so that you can examine cash flow. We believe that it would be better initially to proceed with the projection of operating costs to accommodate the projected waste independently of cash flow considerations. Once we have a better understanding of operating costs, then we should be able to apply that information in preparing disposal rates, methods and other strategies to meet the operational cash flow needs.

I emphasize the preliminary and personal nature of these thoughts and assumptions regarding waste volumes that can be expected beginning Fiscal Year 2009. I am providing a copy of this letter to the Atlantic Compact Commission with a request that they distribute it to waste generators within the region. New information, corrections, or comments from the parties who plan to use and sustain the Barnwell site will help us better understand what to expect beginning July 2008.

Sincerely,

*signed*

Bill Newberry  
Manager  
Radioactive Waste Disposal Program

cc: Max Batavia, Atlantic Compact Commission

## STANDARD OPERATIONAL WASTE CALCULATION

1 FY2006 baseline	A	B	C	TOTAL
Direct	8,753	1,908	2,159	12,820
<i>Brokered</i>				
Studsvik	6	17	113	136
Bear Creek Ash	72	0	0	72
Bear Creek Super-C	1,306	0	0	1,306
Other broker	360	74	228	662
	10,497	1,999	2,500	14,996

2 Remove Haddam Neck	A	B	C	TOTAL
Direct	8,753	1,908	2,159	12,820
Remove Haddam Neck direct	-103	-28	-1,303	
Adjusted	8,650	1,880	856	11,386
<i>Brokered</i>				
Studsvik	6	17	113	136
Bear Creek Ash	72	0	0	72
Bear Creek Super-C	1,306	0	0	1,306
Other broker - Less Haddam Neck	360	74	41	475
	10,394	1,971	1,010	13,375

3 Convert Processed Waste Volumes to Equivalent Unprocessed Volumes	A	B	C	TOTAL
Direct	8,650	1,880	856	11,386
<i>Brokered</i>				
Studsvik	30	85	565	680
Bear Creek Ash <sup>1</sup>	1,440	0	0	1,440
Bear Creek Super-C <sup>2</sup>	2,612	0	0	2,612
Other broker	360	74	41	475
	13,092	2,039	1,462	16,593

1. It is assumed that Bear Creek incinerator ash, at 100:1 reduction ratios, is instead compacted at 5:1 ratios
2. It is assumed that Bear Creek supercompacted waste at 10:1 will be compacted at ratios of 5:1 instead

4 Bring Utah waste to Barnwell	A	B	C	TOTAL
Sub-totals	13,092	2,039	1,462	16,593
Utah waste <sup>1</sup>	2,000	0	0	2,000
	15,092	2,039	1,462	18,593

1. The MIMS system does not distinguish containerized waste from bulk waste received at the Utah site. Therefore, we do not have a good basis for determining how much waste would be re-directed to Barnwell in unprocessed form.

5 Reduce to 75% for Conservatism	A	B	C	TOTAL
Sub-totals	15,092	2,039	1,462	18,593
75%	<b>11,319</b>	<b>1,529</b>	<b>1,097</b>	<b>13,945</b>