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REPORT ON THE FORT DIX CONSUMER ELECTRONICS RECYCLING CENTER PILOT PROGRAM

September 25, 2009

Background

On June 14, 1996, the Pinelands Commission adopted an amendment to the Pinelands Comprehensive Management Plan relating to the establishment of pilot programs (N.J.A.C. 7:50-10.1). At that time and in subsequent years the Commission exercised its authority under this amendment to permit the application of land-use techniques in the Pinelands that were not previously allowed in order to determine whether such innovations would afford similar or superior protection to the resources of the region. Pilot programs were established to examine the acceptability and efficacy of off-site clustering, certain educational facilities and specific alternative design septic waste treatment systems.

On March 11, 2005 the Commission approved another pilot program which permitted the continued operation of a consumer electronics recycling center that had been built at Fort Dix in New Hanover Township (see N.J.A.C. 7:50-10, Part V). This recycling center had been established under the auspices of a pilot program developed by the New Jersey Department of Environmental Protection following the Department's reclassification of certain hazardous wastes, including those defined as consumer electronics, as "Class D Recyclables." The intent of this reclassification was to allow for the reclamation of certain electronic components and their removal from the waste stream in favor of reuse in new or renovated consumer products. The electronic equipment that could be recycled under the Department's revised rules comprised items that incorporate circuitry and included, but was not limited to, cathode ray tubes, computers, printers, stereos, VCRs, televisions and telecommunications devices.

The Department had established the recycling center at Fort Dix apparently under the mistaken belief that the base was not within the Pinelands Area. The entirety of Fort Dix is within a Military and Federal Installation Area of the Pinelands and development of the recycling center required submission of a development application to the Pinelands Commission pursuant to N.J.A.C. 7:50-4.52. Moreover, the provisions of the Pinelands Comprehensive Management Plan then in effect prohibited the recycling of hazardous materials anywhere within the Pinelands Area (N.J.A.C. 7:50-6.73(b)) and the materials being processed at the center, while determined to be recyclable by the Department, were still classified as hazardous waste, both by the Department (N.J.A.C. 7:26A-7.1(e)6.) and by the Commission (N.J.A.C. 7:50-2.11).

Nevertheless, the Commission was sympathetic to the Department's efforts to reduce the volume of the waste stream in New Jersey by instituting an innovative recycling pilot program and to return



hazardous electronic components to a useful life. Consequently, the Commission adopted a parallel program permitting continued operation of the Fort Dix consumer electronics recycling center until June 6, 2010, provided that functions at the recycling center are otherwise consistent with the standards of N.J.A.C 7:50-5 and 6 and meet other specific benchmarks as well.

Facility and Operations

The recycling center primarily comprises two buildings located near the intersection of Doughboy Loop and Erie Street within Fort Dix. One building (referred to as Building A for purposes of this report), where the delivery and initial, rough sorting of the materials occur, is outside of the federal prison on the base and the other building (Building B in this report), where the final sorting, dismantling, bundling and distribution of recyclable and non-recyclable components take place, is within the prison compound. According to information received from personnel at the center in July, 2004, staffing at the facility included one manager and three employees, as well as approximately 100-150 prison inmates, who are housed in nearby buildings and involved in the general handling and processing of the incoming waste.

The Commission staff has undertaken two inspections of the center. New Jersey Department of Environmental Protection personnel have also completed inspections there on a more regular basis. A Commission staff member first visited the facility on April 23, 2009. At that time he was given a thorough tour of the facility and provided with the following description of the operations:

- Trailers with unsorted electronic appliances are backed up to Building A where they are offloaded and the items are rough-sorted into piles of similar components (e.g., keyboards, monitors, towers, laptops, televisions, radios, VCRs, stereos, cell phones, etc.);
- Materials not qualifying as consumer electronics are separated during this phase of the operation for disposition elsewhere outside the Pinelands;
- The accepted materials are boxed, dated, returned to the trailers and delivered across the street into the prison compound where they are offloaded into Building B;
- The electronic equipment is initially disassembled and sorted into bins containing like components, such as memory cards, fans, cords, hard drives, picture tubes, transistor boards, metal cabinets, plastic housings and knobs, screws, etc.;
- Usable hard drives are wiped clean of data and installed into computers, tested to ensure they work and then packed with salvageable monitors for shipment elsewhere (usually overseas);
- Non-electronic, recyclable materials (plastics, metals, rubber, etc.) are bundled by type and shipped outside the Pinelands for sale to recyclers.

There is no further disassembly or reduction of electronic components at the facility. Items like transistor boards and memory cards are shipped out of the Pinelands intact for further processing at other recycling centers. Recovery of primary materials, such as metals within circuitry, is not performed at the Fort Dix center.

At the time of the inspection the recycling center appeared well-ordered, clean and efficiently operated. There was no haphazard storage or exposure of materials to the elements. The components were kept in secure buildings or in trailer trucks at all times, as required by provisions in the pilot

program. No liquid wastes or other, inappropriate hazardous materials were observed during the course of the inspections. Prompt recycling of the accepted materials was promoted by the practice of dating the boxes in which the rough-sorted items were stored after delivery to Building A. All of these operational procedures were required to satisfy the pilot program. A more recent inspection of the center conducted by Commission staff on August 26, 2009 confirmed these initial impressions. The recycling effort was systematic and performed at all phases in good order. Electronic and other components were neatly and securely stored and were seemingly being shipped out after processing in a timely fashion. The program appeared to be functioning in a manner consistent with the standards of N.J. A. C. 7:50-10.29.

Recycling Tonnage

The pilot program requires submission of an annual report to the Commission identifying the tonnage of consumer electronics received at the facility for recycling and the tonnage sent from the facility for disposal in a landfill. Only one such report has been submitted to the Commission and it is attached to this report as Attachment A. The annual tonnage report was received on March 10, 2009 and covers the year 2008. The recycling center was also required to submit reports to the Department of Environmental Protection, Division of Solid Waste Management. According to a staff member there, prior to 2009 the facility reports comprised simply compilations of monthly tonnage reports and were not a cumulative assessment. With submission of the report for 2008, the center is addressing this deficiency.

The report indicated that a total of 4,104,914 lbs of consumer electronics, originating from both in-state and out-of-state generators, were processed at the Fort Dix recycling center that year (out of a total of 4,875,115 lbs received, presumably indicating that 770,201 lbs of delivered material did not qualify as consumer electronics and were not accepted). Of the amount processed, 274,274 lbs of material were not retrievable and were disposed of in the Burlington County landfill outside the Pinelands, while 3,796,176 lbs were successfully recovered and recycled. Consequently, 92.5% of the total volume of material accepted at the center was recycled and 7.5% was shipped to a landfill.

Evaluation

N.J.A.C. 7:50-10.30 provides criteria by which the success of the Fort Dix recycling center pilot program is to be assessed. These criteria incorporate the general operational standards and requirements for the program contained in N.J.A.C. 7:50-10.29. In addition, they require that: neither this facility nor any other similar facility in New Jersey have suffered any incident that would result in spillage of hazardous material to the environment and the consequent implementation of contingency plans for containment and remediation (as described in N.J.A.C. 7:26A-4.6(c)); that the amount of solid waste returned to the waste stream has been significantly reduced as a result of the facility's operation; and that the net effect of the pilot program is that Pinelands resources have been afforded the same or a greater level of protection as would otherwise be provided by the provisions of N.J.A.C. 7:50-5 and 6.

While the Comprehensive Management Plan requirements for the pilot program have not been observed in every detail (e.g., the attached annual tonnage report is the only comprehensive summary that has been generated), inspections of the facility have been undertaken and some data regarding the volume and tonnage of hazardous consumer electronics received and processed has been submitted. Overall, this information suggests substantial compliance with the conditions imposed by the program.

The operational standards imposed by N.J.A.C. 7:50-10.29 and 10.30 have been largely met, to the degree this can be verified by the tonnage report submitted for the year 2008 and by the results of the Commission staff site inspections and inquiries submitted to the facility's director and to the Department of Environmental Protection. The center rejected over 770,000 lbs of waste received as not being eligible consumer electronics, which would indicate an effort to accept only appropriate waste material, and processed only approximately 4,100,000 lbs (2050 tons) of waste during the entirety of 2008 (the pilot program permitted the center to accept 400,000 lbs [200 tons] per day). The waste material was observed to be adequately stored during the inspections and protected from the elements. The discarded electronics appeared to be processed within the time constraints imposed by the program and the importation limits do not seem to have been exceeded. The facility has been maintained in accordance with the applicable provisions of the Burlington County Solid Waste Management Plan (SWMP). The June, 2009 version of the SWMP references the site specifically as the only Class D recycling facility in the county. The site is authorized in the SWMP to receive approximately 200 tons per day of consumer electronics (computers, printers, copiers, fax machines, VCRs, stereos, televisions and telecommunications devices) which may be repaired and returned to service as appropriate or disassembled and sorted by recyclable component. Non-electronic recyclables are to be separated, baled and trucked out to markets. The center appears to have been operated in accordance with these prescriptions.

The Commission staff queried the facility's personnel about the transport of waste materials to and from the facility and about any spillage or incidents which would require invoking the contingency plan specified in N.J.A.C. 7:26A-4.6(c). No such incidents were reported and the staff is otherwise unaware of any that have occurred within the state. The solid waste transporter is Waste Management, Inc., which meets the center's basic requirements, presumably reflecting those contained in N.J.A.C. 7:26-A-7.6.

The Commission staff also contacted the New Jersey Department of Environmental Protection regarding compliance with the stipulations contained in N.J.A.C. 7:50-10.29(a)7 and 10.30(b)2. The staff member contacted at the Division of Solid and Hazardous Waste had no record of any incident at a Class D consumer electronics recycling facility in the state that resulted in a contingency plan being put into effect and further stated that such an incident would be unlikely, given the fact that no liquid wastes were involved in the recycling. A minor expansion of the facility was permitted by the Department in 2008. The expansion involved use of an empty building adjacent to the existing facility for temporary, intermittent storage of excess incoming or outgoing materials. There was no increase in processing capabilities at the center. Notice of this expansion was posted on the Department's website, through which the Commission staff became aware of it.

A review of the annual report for 2008 provided by the recycling center indicates that only 7.5% of the material accepted for processing was returned for disposal in a landfill. This clearly constitutes a very substantial reduction.

Conclusion

The final evaluative criterion of N.J.A.C. 7:50-10.30, i.e., the degree to which implementation of the pilot program has resulted in protection of Pinelands resources that equals or exceeds that afforded by other provisions of the Comprehensive Management Plan, is perhaps the most significant in assessing the success of the pilot program. Although the reporting of the facility's operations has been deficient, there is no evidence currently available suggesting that operation of the Fort Dix recycling center has had any discernible, adverse impact upon the resources of the Pinelands. Operations at the center

were observed to be neat, orderly and efficient during the course of inspections and there has apparently been no degradation of the Pinelands environment due to improper handling, loss or disposal of the recyclable material. To the extent that the facility has reduced the amount of hazardous consumer electronics that would otherwise have been sent to landfills in and outside the Pinelands, thereby incrementally prolonging the useful life of the landfills while keeping a class of toxic materials out of them, the program appears to have had a marginally beneficial effect upon the natural and cultural resources of the region, above and beyond that otherwise provided by the Comprehensive Management Plan.

Pursuant to N.J.A.C. 7:50-10.30(d), if the Executive Director finds that the pilot program has been successfully implemented in accordance with the criteria set forth in the Comprehensive Management Plan, he may propose an amendment to the Comprehensive Management Plan to broaden its applicability in the Pinelands. As described above, the program has been consistent with the land conservation and protection goals of the Comprehensive Management Plan. However, the future development of this waste management initiative can perhaps best be accomplished by the Department of Environmental Protection through expansion of its parallel program to locations nearer more heavily populated areas where most of this type of waste is generated. At present, eight privately operated, consumer electronics recycling facilities have been approved by the Department and are currently in operation. Four of them are located in southern New Jersey (Fort Dix, Camden, Lakewood and Deptford). Given the number of regional facilities presently operating and the opportunities for expansion elsewhere in the State, there would appear to be little need to broaden the program's applicability in the Pinelands at this time.

N.J.A.C. 7:50-10.29(a) authorizes the recycling of consumer electronics at the Federal Prison at Fort Dix until June 6, 2010. Continued operation of the existing recycling center beyond that date requires an amendment to the Comprehensive Management Plan that would effect one of the following outcomes:

1. Extending the existing pilot program for a specified period of time in order to continue monitoring the consistency of the facility's operations and reporting mandates with the standards of N.J.A.C. 7:50-10.29 and 10.30;
2. Authorizing the recycling of Class D consumer electronics as presently defined by the Department of Environmental Protection as a permitted use in the Military and Federal Installation Area, but restricted solely to Fort Dix. This would allow the existing facility to continue operating but would not provide an opportunity for additional similar facilities elsewhere in the Pinelands; or
3. Authorizing the recycling of Class D consumer electronics as presently defined by the Department of Environmental Protection as a permitted use throughout the Military and Federal Installation Area and perhaps the Regional Growth Area as well.

The Executive Director sees no need to continue monitoring the existing facility's operations through a pilot program, nor a compelling need to permit additional consumer electronics recycling facilities in the Pinelands. Therefore, #2 above is recommended. Proposed Comprehensive Management Plan amendments to accomplish this objective will be prepared and presented to the Commission within the next several months.

FCI Fort Dix

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Pine Lands Commission
Application #1994-0289.024
Annual Report

This Information is Provided to the
New Jersey
Department
Of
Environmental
Protection
2008-2009

Report on the Fort Dix
Consumer Electronics Recycling Center
Pilot Program
September 25, 2009
Attachment A

Jeff Eobstol
609-723-1100x1348

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NJDEP Universal Waste Weight Tracking

2008	Incoming Material Weight
2007 Total	
January	201,302
February	307,171
March	464,007
April	402,336
May	444,760
June	606,346
July	398,476
August	346,604
September	321,164
October	568,382
November	438,535
December	376,032
Totals	4,875,115

*Denotes Dumpster Pulls

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NJDEP Universal Waste Weight Tracking							
2008	Incoming Material Weight	Weight Processed	Residual Weight	Weight Transferred	End Market Weight	Incoming Storage Weight	End Market Storage Weight
2007 Total						266,819	12,210
January	201,302	179,960	*48,755	163,429	168,436	288,161	7,203
February	307,171	208,359	1,339	287,431	246,021	386,973	48,613
March	464,007	359,062	*25,055	260,962	273,100	491,918	36,475
April	402,336	382,659	*24,957	454,887	490,269	511,595	1,093
May	444,760	387,601	*24,693	261,132	225,437	568,754	36,788
June	606,346	483,752	*24,834	392,141	407,251	691,348	21,678
July	398,476	443,244	*13,225	485,605	382,320	646,580	124,963
August	346,604	389,944	*25,067	350,751	401,774	603,240	73,940
September	321,164	339,487	*24,520	326,440	343,353	584,917	57,027
October	568,382	499,863	*24,634	286,817	337,013	653,436	6,831
November	438,535	164,802	*24,630	266,319	255,784	627,169	17,366
December	376,032	266,181	*12,565	260,262	271,313	737,020	6,315
Totals	4,875,115	4,104,914	274,274	3,796,176	3,802,071		

*Denotes Dumpster Pulls

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