



STATE OF DELAWARE  
**DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL**

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DOVER, DELAWARE 19901

Office of the  
Secretary

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**Secretary's Order No. 2006-A-0002**

**Re: Applications of Delaware Solid Waste Authority for Solid Waste Management  
and Air Pollution Control Permits for a Proposed Expansion of the Cherry Island  
Landfill**

Date of Issuance: **January 6, 2006**

Effective Date: **January 6, 2006**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("DNREC" or the "Department") under *7 Del. C. §§6003*, the following findings, reasons and conclusions are entered as an Order of the Secretary:

Based on the record, as reviewed in the Hearing Officer's Report ("Report"), dated January 5, 2006, and appended hereto and incorporated herein, I find and conclude that the Department should issue the Delaware Solid Waste Authority ("DSWA" or "Applicant") the permits to expand the Cherry Island Landfill ("CIL"). The permits shall be issued; however, only if DSWA accepts certain reasonable and well-supported conditions that the Department determines are necessary and appropriate to protect the environment and public safety, and promote important public policies consistent with the Department's and DSWA's statutory purposes.

The Report reviews the record of decision developed, including information provided by the public during the public hearing process, the applicant and DNREC's

technical experts within the Division of Air and Waste Management (“DAWM”). The Report recommends issuance of the permits; however, only if they are subject to numerous and admittedly extraordinary conditions that the Department has determined are necessary and appropriate given CIL’s important role in Delaware’s solid waste management. I concur and find that these permit conditions are reasonable and necessary in order to justify the expansion of CIL.

The permits’ conditions will ensure that an expanded CIL will operate in compliance with all applicable regulatory and legal requirements. In addition, the conditions will direct DSWA to promoting recycling and waste diversion from CIL. The conditions are designed to extend the remaining useful life of CIL, and promote sound environmental policies consistent with the statutory purposes of the Department and DSWA. The conditions will allow sufficient time for an orderly transition to selecting and building CIL’s replacement. While this planning is already underway, it will take considerable time. CIL is the most significant method for disposing of Delaware’s solid waste. Consequently, its replacement could have a profound impact on Delaware and its environment. The permit conditions will direct DSWA and Delaware towards promoting more sustainable environmentally solid waste management practices, but this Order will not satisfy all of the concerns over the expansion or even continued operation of CIL. I find that there is no near-term alternative to replace CIL as the most significant method in Delaware for disposal of solid waste, and that the expansion will allow the time needed to select the solid waste management options.

The noteworthy conditions the Department will impose upon DSWA by this Order are that DSWA shall: 1) not seek any further expansion at CIL and direct DSWA

to undertake the planning towards closure of CIL and selecting its replacement for solid waste disposal; 2) submit to the Department a comprehensive plan for recycling and diverting materials from CIL with a goal to produce a forty percent (40%) reduction in New Castle County's municipal solid waste in the near future, and require the update of DSWA's plan required by *7 Del C. §6404(j)* to reflect certain changed conditions; 3) establish and operate a facility by March 1, 2006 for accepting, processing, and marketing recyclable materials other than glass at no cost to the delivering parties; 4) ban the disposal at CIL of yard waste, effective January 1, 2007; 5) provide frequent (not less than every three months) hazardous household waste collection events within New Castle County; 6) support and promote expanded curbside recycling in all three counties within six months of the issuance of the permits authorized by this Order; 7) effective six months from the date of issuance of these permits, ban the delivery of solid waste to CIL from DSWA's Pine Tree Corners Transfer Station; 8) within three months of the issuance of these permits, establish a Citizen Advisory Board, largely composed of residents who live within five miles of CIL, in order to provide more community involvement in CIL's operations; 9) provide funding for a Department employee to monitor and inspect CIL's operations in order to ensure that the operations comply with all permits, laws and regulations; 10) perform periodic cleaning of designated streets used by trucks that use CIL; 11) construct the expansion of CIL to extend its remaining service life as an active landfill for an additional estimated fifteen years, and 12) operate CIL in a manner consistent with the permits and all applicable laws and regulations.

The majority of the public comments opposed any issuance of the requested permits, which would require the closure of CIL within five years. After considerable

review and deliberation, the Department's experts have concluded: 1) the proposed expansion satisfies all technical and regulatory requirements, and 2) expansion is justified only to allow sufficient time for the solid waste management options needed when CIL is closed. I agree and find that closure can realistically be accomplished only after there has been considerable study and analysis of alternatives well before CIL's closure. There currently are several groups working on evaluating alternatives to CIL.

The permits authorized by this Order will provide time to select among alternatives, as well as provide DSWA an incentive based upon the fact that no other CIL expansion will be approved. There is no near term (less than ten years) alternative for the disposal of the solid waste that CIL now receives. The time until CIL's closure will allow consideration of long-term alternatives, which are currently being considered by Governor Minner's task force. I find that the public and Delaware's environmental interests are best served by establishing a clear, unambiguous closure date based upon when CIL reaches its capacity, as expanded by these permits. The actual closure date will depend on many unknown future events that cannot now be determined with any certainty other than reasonable predictions based upon CIL's actual usage and growth trends. Regardless of the exact closure date, it is clear that a significant amount of time will be required to provide for the healthy public participation in the difficult and undoubtedly controversial task of selecting from among the many solid waste management alternatives to waste disposal at CIL.

In conclusion, the record supports approval of the applications for the permits, subject to the Department's conditions, and the following findings, conclusions and directives are entered:

1. The Department has jurisdiction under its statutory authority to make a determination in this proceeding;

2. The Department provided adequate public notice of the pending application and the public hearing, and held a public hearing in a manner required by the law and its regulations;

3. The Department considered all timely and relevant public comments in making its determination;

4. The record supports the issuance of permits authorizing the expansion as requested; however, this approval is subject to the terms and conditions imposed that will allow an orderly progression to selecting an alternative to the disposal of solid waste disposal at CIL,

5. The Department's authorized delegated official shall issue DSWA the permits, subject to conditions that DSWA must accept if it wants to expand CIL, consistent with this Order.

*John A. Hughes*

John A. Hughes  
Secretary

## HEARING OFFICER'S REPORT

TO: The Honorable John A. Hughes  
Secretary, Department of Natural Resources and Environmental Control

FROM: Robert P. Haynes, Esquire  
Hearing Officer, Office of the Secretary  
Department of Natural Resources and Environmental Control

RE: Applications of Delaware Solid Waste Authority to Modify Its Solid Waste Management and Air Pollution Control Permits for a Proposed Vertical Expansion of the Cherry Island Landfill.

DATE: January 5, 2006

### I. BACKGROUND AND PROCEDURAL HISTORY

The Department of Natural Resource and Environmental Control (“Department”) held a public hearing on August 1, 2005, commencing at 6:00 p.m. at the Carvel State Office Building in Wilmington, New Castle County.<sup>1</sup> The hearing was held in order that the public may comment on the applications of the Delaware Solid Waste Authority (“DSWA” or “Applicant”). The applications sought modifications to DSWA’s Solid Waste Permit #SW-01/01 and Air Pollution Control Permit # 2004/0712.<sup>2</sup> The applications seek permits to expand DSWA’s Northern Solid Waste Management Center, known as the Cherry Island Landfill (“CIL”) located at 1706 East 12<sup>th</sup> Street within the City of Wilmington, New Castle County.

DSWA initially submitted to the Department a solid waste application in April 2003, but the Department’s preliminary review caused DSWA to revise this application, first in September 2003 and finally on June 20, 2004. This application sought to modify the current solid waste management permit to operate the CIL by construction of a vertical expansion. If approved, the

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<sup>1</sup> This Hearing Officer was assigned to preside over the hearing, to develop a record of decision and to prepare a report of recommendations for the Secretary of the Department.

<sup>2</sup> The focus of this Report will be on the solid waste permit insofar as it was crux of the public hearing controversy and the air permit changes are required because of the solid waste permit.

expansion would allow more solid waste to be disposed at CIL and thereby extend CIL's expected date for closure, which is based upon CIL reaching its capacity.

The Department's Solid and Hazardous Waste Management Branch ("SHWMB") and Air Quality Management Branch ("AQM") within the Department's Division of Air and Waste Management ("DAWM") reviewed the applications and determined that they were sufficiently administratively complete, which means that the applications complied with the permit application requirements the Department established. Consequently, the Department published legal notices, as required by law, and took other extraordinary public outreach efforts to notify the public of the pending applications. The Department's public notification efforts included a public workshop held on July 25, 2005, press releases to all Delaware media contacts, web site posting, e-mail notifications to subscribers to the Department's e-mail notice system and other efforts to provide the public with an opportunity to comment on the applications. The Department also determined that there was a significant public interest in the applications, and, accordingly, decided to hold a public hearing on August 1, 2005, without requiring a public request for a public hearing. This hearing was continued on August 2, 2005, because of the considerable public participation. At the request of several members of the public, the public hearing record was left open to allow the submission of written comments until October 31, 2005.

Following the public hearing, I met with the Department's technical experts and gathered additional information based upon the issues raised by the public comments. My research and addition information the Department's experts provided developed an ample record of decision for the Secretary to base his final decision on behalf of the Department.

## II. SUMMARY OF THE RECORD

This report of recommendations is based upon the record of decision, which contains: 1) a three hundred and fifty-two page verbatim transcript of the public hearing, 2) documents, marked as Exhibits (“Ex.”), which were admitted into the record as hearing exhibits, and 3) information I reviewed or obtained, including the Department files and records and post-hearing communications. This information includes certain information the Department’s technical experts prepared, and my independent legal research, file and document review. All timely received public comments are in this record of decision.

At the hearing, Robert Hartman, an Environmental Scientist in SHWMB and the Department’s project manager of the solid waste application, made a brief presentation and provided for the record the Department exhibits DNREC Ex. Nos. 1-7.<sup>3</sup>

Anne Germaine, DSWA’s Manager of Engineering, and Michael Houlihan, DSWA’s consultant with GeoSyntec Consultants, attended the hearing, made a presentation and answered questions.

Numerous members of the public attended the hearing, as shown by the names on the hearing sign-in sheets. The several letters in support of the application were submitted into the record at the public hearing, including from the Mayor of Wilmington, the Honorable James Baker. The vast majority of the public comments; however, opposed any expansion or even continued operation of CIL. The public hearing record remained open for additional written comments until October 31, 2005, and during this additional public comment period the Department received numerous communications, all in opposition to CIL’s expansion.

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<sup>3</sup> The Department’s role in developing a hearing record is to produce certain fundamental documents that should be considered, but the Department’s technical takes no position on the pending applications until after considering the public comments.

As noted in the procedural history, I discussed with the Department's staff and technical experts the issues surrounding the applications, and requested responses to certain questions. DAWM provided with invaluable advice that form the foundation of this Report's findings and recommendations. The oral discussions ultimately were set forth in a December 5, 2005 memorandum, which is attached hereto and incorporated into this Report. This memorandum sets forth more technical details than included this Report. I also have reviewed much of the Department's voluminous file on the CIL, and researched various prior orders and appeals. I consider the record to be well-developed and will provide ample support for the Secretary's decision based upon my recommendations, including various alternatives available from the recommendations.

### **III. DISCUSSION AND REASONS**

The Department's authorizing statute in 7 *Del. C. §6003(b) (5)* grants the Department plenary authority to regulate the disposal of solid waste. The regulatory authority is delegated to the Department, which administers the authority through the issuance of permits, denying applications for permits, or granting permits with conditions in lieu of denying a permit. The Department exercises most of its regulatory authority by including conditions to its permits, which a permit holder must accept in order to undertake the activity that is regulated. If the permit applicant is unwilling to accept the permit with conditions, then the applicant can elect to cease the regulated activity.

The Department promulgated *Delaware Regulations Governing Solid Waste, adopted December 1988, as amended* ("DRGSW" or "Regulations") to administer the statutory authority to issue solid waste permits. DSWA submitted the solid waste application to renew its current permit to operate CIL, which will expire on April 2006, and to modify the permit by increasing

the height of the CIL and thereby extending the capacity and expected life of CIL as an active sanitary landfill.

CIL's existing capacity is based upon the approved landfill cells where solid waste may be disposed. CIL's current permit allows disposal of solid waste up to a height of one hundred and seventy-two (172') feet above mean sea level ("msl"). The current height of CIL is approximately one hundred and twenty-five feet (125') msl, which, according to DSWA, will allow CIL to be used for approximately five more years, or until 2010.<sup>4</sup>

The proposed expansion seeks to increase the height by twenty-three feet, or to a maximum height of one hundred and ninety-five feet (195') msl, through proposed foundation improvements and other engineering changes that are designed to enhance the current systems' ability to protect the environment. The engineering changes also will include the installation of drains to remove water and the construction of perimeter berms. Together these improvements will support the expansion of CIL's capacity to dispose of solid waste. DSWA estimates that the expansion will extend CIL's estimated remaining service life for fifteen years, or until 2025, again based upon DSWA's assumptions on the waste disposed at CIL.

The Department's technical experts have reviewed the engineering plans and conclude that the proposed expansion is sound and consistent with good construction techniques. DAWM's January 5, 2005, memorandum explains in more detail the engineering and technical analysis that went into this review. Indeed, the Department supplemented its internal expertise with the use of outside consultants, who verified that the plans for the expansion will address the concerns with the risk of possible adverse environmental impact from the expansion.

Based upon the Department's experts' extensive evaluation, I am convinced that ample technical analysis supports the approval of the expansion based upon the applications'

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<sup>4</sup> DSWA's assumptions may not reflect recent increased growth in CIL's waste disposal.

compliance with the regulatory requirements designed to protect the environment and public safety. I find that CIL's expansion not only will satisfy the regulatory minimum standards, but that it will result in improvements that will provide increased environmental and public health protection over the current operations. The proposed improvements will increase the ability to collect and remove leachate and landfill gas, and will increase the structural stability of the solid waste. The expansion also will increase the size of the landfill's footprint, and this area will have a geomembrane liner to supplement the natural liner that already meets the Department's standards on impermeability. CIL is located on DSWA's existing two hundred and fifty acre site, and the berms and other changes proposed will use approximately an additional thirty acres of CIL's existing land.<sup>5</sup> I find that the proposed engineering of the expansion can be undertaken in a safe manner that will protect the environment and public health from the risk of environmental harm with the inclusion of the permit conditions recommended by the Department's technical experts.

The fact that the expansion can be engineered and constructed in a safe and environmentally sound manner does not end the Department's inquiry. The remaining question entails the broader public policy issue of whether the expansion should be approved. This issue entails significant state-wide issues involving waste management and CIL's future role in the state's waste management plan. CIL represents the primary waste disposal site for most of New Castle County's solid waste. CIL receives approximately 670,000 tons of solid waste annually, or approximately 67% of the approximately one million tons of solid waste generated by Delaware's citizens, visitors and businesses. Thus, the importance of CIL to Delaware is

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<sup>5</sup> The suitability of CIL's 250 acre site was reviewed in DAWM's December 5, 2005, memorandum. The current site has been in operation as a landfill since October 1985, and portions previously were used for dredge spoils prior to then since at least the 1920s and possibly as early as the late 1890s.

considerable in the context of state-wide solid waste management and environmental public policies.

The public comments raised many solid waste management and public policies issues. First, several public comments questioned CIL's site location, particularly as it is within an urban area and along two rivers. The presence of the existing site is not subject to review in this permit application since the site has been in use as a landfill since 1985. The site previously used to place dredge materials from the Army Corps of Engineers' dredging operations. I find that the current site is acceptable for continued disposal of solid waste for the duration of the permit requested. Of note, the record contains local support from the Mayor of the City of Wilmington, who indicated in his comments that the presence of CIL within Wilmington presents the City with both burdens and benefits. Overall, the Mayor supports the continued operation of CIL, subject, however, to certain safeguards that will protect the community. Several Wilmington residents voiced opposition to the continued operations based upon the presence of debris from trucks transporting solid waste to CIL.

I agree that CIL imposes a significant local burden that should be addressed in any permit through specific conditions designed to lessen the burden. The Department's technical staff provided possible remedies if a permit is issued, and I find that certain conditions should be imposed to protect the local environment and public health from these concerns. One remedy was a condition that would impose upon DSWA the responsibility to undertake periodic inspection and cleaning of any solid waste that may be deposited by trucks traveling to CIL along designated routes, as determined by the Department. Indeed, the Department often includes as a permit condition the requirement that a permittee is responsible for any solid waste debris that is deposited accidentally or otherwise attributable to a permittee's operations. I recommend that any permit issued for CIL's expansion include such a condition as a reasonable

and appropriate way to protect the public from possible adverse environmental harm from CIL's operations.

Another concern raised by public comments was DSWA's and the Department's oversight of CIL's daily operations. The specific comments included the placement of daily cover, water management, and site security, which were raised by CIL's current gas collection operating companies, Cherry Island Landfill Gas and Cereza Energy, Inc.<sup>6</sup> The Department's technical staff is concerned about these issues. The issues raise more problems with oversight, which normally is addressed through enforcement efforts. The specific problems are more related to operations and corrected through enforcement actions because they are conditions contrary to the current permit's conditions. Thus, the issue raised is the ability of the Department to maintain an on-site daily presence in order to continually inspect and monitor CIL's daily operations.

The Department indicates that the daily oversight is justified by the nature and extent of CIL's operations, and that the Department's current resources are not adequate. The Department could impose as a permit condition DSWA's funding of the Department's increased oversight cost, and the Department's experts recommend such a condition. I agree that the Department should have an on-site inspector in order to monitor and inspect the CIL's daily operations, and that it is appropriate to include this funding as a permit condition. The record indicates that greater oversight is needed, and the Department reasonably should require DSWA to fund the cost of an on-site inspector. This extraordinary condition is warranted by CIL's significant environmental impact. Thus, I recommend that any permit include DSWA funding cost of an on-site inspector as a reasonable condition related to CIL's operations and environmental protection.

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<sup>6</sup> The public comments by the landfill gas operator, which operates based upon a contract with DSWA, may be attributable to an ongoing legal dispute, but the Department's technical experts confirmed the need for more oversight. See DAWM memorandum

The majority of the public comments voiced the opinion that CIL should be closed. The closure of CIL will occur at some point when it reaches its capacity, and the current permit application already reflects the closure plan as required by the Department's regulations. The immediate closure of CIL simply is not a responsible decision unless there is a suitable replacement site for the solid waste. The public comments offered the solution of DSWA's other two landfills, Central in Kent County and Southern in Sussex County. This option would result in the rapid need to replace these two landfills far earlier than they otherwise would need replacement. I agree with the technical experts' recommendation to reject the immediate or near term closure of CIL if no expansion is permitted. I find that immediate closure would be catastrophic. I find that even not authorizing the expansion would result in closure in less than five years, which still does not provide adequate amount of time to study the alternatives to solid waste disposal at CIL, and have the alternative(s) selected be in effect when CIL reaches its current capacity in less than five years. Instead, the Department recognizes the need to proceed with caution and undertake the orderly and long-term transition away from reliance on CIL as the most significant solid waste management resource in Delaware.

The Department's technical experts provided advice that will allow continued use of CIL, but also begin to divert waste from CIL and decrease the reliance on CIL. The advice entails several steps. The first step would be a permit condition that requiring DSWA to divert from CIL any solid waste that is now received from DSWA's Pine Tree Corners Transfer Station, which is located in southern New Castle County. This condition would reduce the current annual amount of solid waste delivered to CIL by approximately eighty thousand tons, or approximately 8% of CIL's current incoming waste. I find that this option provides an environmentally sound way to reduce the incoming waste delivered to CIL, which thereby will extend its remaining useful life

as a landfill. Consequently, I recommend the adoption of this permit condition in order to allow an orderly transition and reduce the reliance on CIL.

The second step the Department's experts recommended as a way to limit reliance on CIL was to increase recycling levels. The option of increased recycling also was mentioned by numerous public comments. The Department estimates that approximately 7.1% of CIL's total solid waste deliveries are from yard waste, which the experts recommend should be diverted to a yard waste management site for re-use. The diversion of yard waste through a condition that prohibits yard waste disposal at CIL will result in a significant environmental benefit by saving valuable landfill space for solid waste that cannot be re-used. I recommend the adoption of a condition that prohibits further use of CIL for the final disposal of yard waste.

The increased recycling also can be obtained from increasing the recycling levels from its approximate 6.5% level based upon voluntary drop-off locations to an aggressive curb-side effort that the Department's experts predict can achieve a recycling level of 40% of the total municipal solid waste produced within New Castle County. The experts recommend imposing as a condition that DSWA submit to the Department for approval a comprehensive recycling plan designed to obtain this goal. Indeed, several public comments indicated that such a plan was consistent with DSWA's statutory responsibility to maximize recycling. A comprehensive plan is appropriate way to address recycling on a state-wide basis, and CIL plays an important role for all of Delaware's solid waste management. This plan should be based on the available reports and should be submitted within six months of the issuance of any permit. As part of this plan, DSWA should include a plan for facilities for accepting, processing and marketing single stream material at no cost to delivering transporters. The Department's experts have determined that 40% of New Castle County's solid waste could be recycled by a comprehensive plan by December 31, 2007. I find that a goal of 40% is reasonable and well-supported, as shown in

DAWM's memorandum. Consequently, I recommend that it be established as a condition that DSWA should achieve in a comprehensive plan if a permit is issued and this condition is adopted by the Secretary.

The Department's experts recommend that a DSWA plan include provisions for the expanded curbside recycling for all three counties. I agree and find that a condition should be included in the comprehensive plan that will expend and promote curbside recycling. The DAWM memorandum details the implementation of enhanced curbside recycling, and I find these reasonable and recommend that they be included as permit conditions. The Department's experts consider that Delaware residents want curbside recycling as a convenience, and that it should be low or no cost to customers in order to overcome any customer resistance to this convenience. The expansion of curbside recycling in a manner that will avoid customer resistance will result in a significant increase in recycling. I find that the expansion of curbside recycling is an important goal to promote, and consequently recommend that such a condition be included as a reasonable condition in any permit allowing DSWA to expand CIL, as specified in more detail in DAWM's memorandum.

The Department's experts recommend that a condition be included that requires more DSWA collection of household hazardous wastes ("HHW") at local events on a periodic basis. This condition was not subject of any specific public comment at this public hearing, but the Department is aware of the need to increase the frequency of such events in New Castle County based upon the past events that DSWA held. I find that the inclusion of periodic collections events, at least every three months, is a reasonable condition because the possible alternative is for residents to simply throw these materials in the trash and thereby impose an administrative and safety burden on CIL's operations, which is not designed to handle HHW. I recommend the adoption of this permit condition, as specified in DAWM's memorandum.

The Department's experts set forth the ongoing efforts to implement increased recycling and recommend that any permit reflect these efforts through a condition that requires DSWA to update its Solid Waste Management Plan required by *7 Del. C. §6404(j)* in order to incorporate the final recommendations of the Solid Waste Management Technical Working Group ("Working Group") that Governor Minner established. This report is due May 15, 2006, and the Department's experts indicate that September 1, 2006, would be an appropriate deadline for DSWA to submit an updated solid waste management plan pursuant to *7 Del. C. §6404(j)*. I agree and find that a permit condition for any CIL expansion should include a requirement that DSWA update its plan, particularly since the proposed expansion, if approved, and the Working Group's recommendations will significantly change the state's future solid waste management, particularly in light of the conditions recommended by the Department's experts and this Report.

The final significant condition that the Department's experts support is particularly controversial. This condition entails the condition that any CIL expansion imposes on DSWA the acceptance that it will be the last expansion proposed for CIL. This condition sets DSWA, the Department and the public on a course to work together towards CIL's orderly closure and the transition to solid waste management planning without CIL as an alternative. The future closure requires the selection of an alternative site(s) or waste management method(s), which must be in place before closure occurs. Closure of CIL will occur when the expanded CIL is filled to capacity. DSWA estimates that this will occur fifteen years after the current approximate five years of remaining usage, or by approximately 2025. This target terminal date; however, may change and should change by the recommended waste diversion and recycling conditions. Nevertheless, as with any future predictions, the actual experience may differ from projections and CIL's closure could be much sooner or much later than currently predicted. I find the experts' predictions are reasonable and support the recommendations in this Report. It is

appropriate to impose a condition that will allow considerable time to transition to CIL's replacement as Delaware's most important solid waste disposal site and method.

Many public comments addressed the concern that the structural changes to CIL may support a height higher than the proposed one hundred and ninety five feet. The recommended condition that limits approval of this expansion as the final expansion should satisfy this concern. The proposed height that DSWA initially sought was well in excess of the 195' msl level recommended for approval in this Report.

This condition that closure will occur when the existing expansion is filled to capacity will allow Delaware, DSWA, the City of Wilmington, the public and local community residents, and the Department to better plan for the post CIL future now.<sup>7</sup> If the Secretary approves the proposed expansion, then it should be conditioned upon DSWA's acceptance that the expansion will be CIL's terminal, or final, expansion. This condition will allow plans for the future to be made with the knowledge that closure will occur sooner than later, albeit not soon enough for most of the public who commented during the public hearing process. Realistically, the Department recognizes that planning the replacement for CIL will take considerable time, particularly to allow for considerable public review, and undoubtedly will be very controversial. Thus, the recommended approval of this expansion as the final expansion will allow adequate time for careful study and selection of an appropriate replacement, as opposed to the option of finding a replacement in the next five years.<sup>8</sup>

As part of the orderly transition toward closure of CIL, the Department should develop increased community participation. This issue also was raised by numerous public comments. I

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<sup>7</sup> The Department is aware of many former landfill sites that have become assets to their communities through their re-use as valuable open space and parks. Such an option could be in CIL's future similar to the re-use of Fox Point State Park from a former industrial waste site.

<sup>8</sup> For example, this application for an existing site required several years of review before it was ready for a final Department decision.

agree that increased community participation in CIL's future operations should be included as a permit condition. Accordingly, I recommend that DSWA form a Community Advisory Board, which would have as members local residents appointed by the elected officials and have ex officio members from DSWA and the Department. The specifics of the Community Advisory Board are detailed by DAWM's memorandum, and I recommend these details be adopted as a permit condition.

#### **IV. RECOMMENDED FINDINGS AND CONCLUSIONS**

I find and conclude that the record supports approval of the issuance of the solid waste and air pollution control permits, subject to the extraordinary conditions necessary to reflect CIL's role as an integral part of Delaware's solid waste management plan. These conditions require recycling and waste diversion in order to extend the remaining useful life of CIL pending the difficult task of studying how to replace CIL significant role in Delaware's solid waste management. These conditions are reasonably related to CIL's operations, particularly in light of the CIL's significant role in the state's current solid waste management plans. CIL's closure in the future will dramatically impact the state's solid waste management plans and the environment and the extraordinary nature of the recommended conditions reflects the importance the closure will be for all of Delaware. I find that the recommended conditions reflect, and are consistent with, the Department's statutory purpose. Indeed, the recommended conditions are also consistent with DSWA statutory goals. *7 Del. C. §§6400 et seq.* The Secretary is to determine the policy course for the Department, and the recommended conditions, if approved, represent reasonable conditions that would implement sound environmental solid waste management policies consistent with the intent of the General Assembly and Governor Minner. I recommend the Secretary adopt the following findings and conclusions:

1. The Department has jurisdiction under its statutory authority to make a determination in this permit proceeding;

2. The Department provided adequate public notice of the proceeding and the public hearing, properly held a public hearing, and considered all timely and relevant public comments in making its determination;

3. The Department has reviewed the alternatives and finds that CIL remains the sole landfill suitable for serving New Castle County until such time as a suitable replacement site or method may be approved;

4. The Department considers that a multiple step approach will provide the best method to achieve an orderly transition away from reliance on CIL through waste diversion, increased recycling, and DSWA's acceptance that CIL will not be further expanded in the future as a condition to approval of this expansion, as explained in detail in DAWM's attached memorandum;

5. The Department should issue DSWA permits approving the planned expansion of DSWA's CIL because such approvals will protect the environment and public health with the reasonable conditions that will provide for the orderly transition away from DSWA's reliance on CIL for waste disposal and towards DSWA's increased reliance on waste diversion and recycling and the future closure of CIL.

6. The duly authorized Department officials shall timely prepare and issue a permit consistent with the Secretary's decision, and shall notify all interested persons of the Order.

[/s/Robert P. Haynes](#)  
Robert P. Haynes, Esquire  
Hearing Officer

To: Robert P. Haynes, Hearing Officer

Thru: James D. Werner, Director, DAWM  
Nancy C. Marker, SHWMB

From: Robert Hartman, Environmental Scientist, SHWMB

RE: DSWA Application for Expansion of Cherry Island Landfill-Public Hearing Record

Date: January 5, 2006

In your memo of December 12, 2005, you asked the Division of Air and Waste Management to address issues raised during the public hearing concerning the expansion of the Delaware Solid Waste Authority's Cherry Island Landfill (Northern Solid Waste Management Center-2). We have repeated (in *italics*) the six issues outlined in your memo and have provided our comments below.

*The public hearing raised several issues that I would like the Division of Air and Waste Management to address through a technical response document. The issues are:*

- 1. Whether the current site is suitable for the proposed expansion. Specifically, comments questioned whether the site is a suitable site now for a solid waste landfill. Consequently, I would like the Department's expert opinion if any expansion (whether the full requested level or some intermediate level) would cause unacceptable problems with the current site.*

SHWMB Response:

The expert staff opinion of the Solid & Hazardous Waste Management Branch, with concurrence by Management of the Division of Air and Waste Management it that, with proper controls, monitoring and permitting oversight, the landfill expansion as described in the application would result in a stable landfill, protective of groundwater and surface water.

The site has been used for the disposal of materials dredged from the adjacent rivers since 1896 and been operated as a landfill permitted by the Department since 1985. The original siting study for the facility was provided by the applicant in Volume 15 of the application (Gilbert Associates, "Site Suitability Study for the Northern Solid Waste Facility", January 1982). The Delaware Regulations Governing Solid Waste do not require a solid waste facility that has been properly sited to go through the siting process each time that a permit renewal or permit modification is requested.

The proposed expansion would not result in a change in activities at the facility from those considered during the original siting; however, because the application described an expansion to the footprint of the landfill (the horizontal extent of solid waste), the Branch required the applicant to reassess those siting criteria which may have been impacted by the expansion. That assessment was provided in Volume 1, Part XIII of the application, and demonstrates to the Branch's satisfaction that the applicant meets the siting criteria relative to the proposed expansion. Relative siting criteria for

this expansion include the flood plain restriction, wetlands impact, proximity to site boundary, and structural integrity within a seismic impact zone.

The Branch also considered the Coastal Zone Act implications and discussed this with Dennis Brown (Office of the Secretary). Because there would be no change in site activity, there would be no change in Coastal Zone Status. The Coastal Zone Act prohibits new Heavy Industry from locating within the coastal zone and requires permits for new manufacturing uses. The DSWA's CIL was sited over 20 years ago and that process included consideration of the requirements of the Coastal Zone Act (7 Delaware Code, Chapter 70). The CIL was not considered a Heavy Industry land use nor was a coastal zone permit required during the original siting of the facility.

2. *Whether there should be conditions imposed on incoming waste to regulate the amount of incoming waste and defer the need for any expansion at this time.*

SHWMB Response:

While recycling and waste diversion will not eliminate the need for waste disposal, we recommend the installation of additional permit conditions based upon the intent of the DRGSW, the purpose of 7 Del. C. 6001(c), the policy of the State as described in 7 Del. C. 6401(b) and (c), and the finding, policy and purpose for Recycling and Waste Reduction as stated in 7 Del. C. 6450. These conditions are not part of the DSWA's permit application; however, their inclusion in the NSWMC-2 permit is necessary to conserve landfill capacity, promote beneficial reuse and recycling, conserve the resources of the State as required by 7 Del. C. Chapters 60 and 64, and respond to extensive public comment. See the suggested permit conditions listed in items 3g, 3i and 31 later in this memo.

DNREC is supportive of a ban on landfill disposal of yard trimmings. The potential impacts of such a ban are well understood; DNREC's Yard Waste Management Committee, chaired by the Division of Air and Waste Management Director, James Werner, has considered them and has determined that this action would benefit the state not only by increasing landfill life but also by creating business opportunities for the private sector and returning a valuable natural resource to the economic mainstream. DSM Environmental Services, Inc., a qualified consultant hired by the DSWA, has provided estimates on the generation and potential diversion of yard waste in Delaware. Based on these estimates, a ban on the landfilling of yard waste would divert about 7.1% of the total tonnage being landfilled at CIL. The DSM estimate is consistent with, and not contradicted by, estimates in other states where yard waste bans exist.

In another study performed for the RPAC, DSM estimated that single-stream weekly curbside collection of recyclables could divert 45,000 tons annually from CIL (using waste generation data for the year 2000). This would be an increase of 34,300 tons over the amount diverted that year through the drop-off program. 34,300 tons is 6.5% of the total amount landfilled at CIL that year.

Combining the potential yard waste diversion (7.1% of total tonnage landfilled) and the potential recyclables diversion (6.5% of total tonnage landfilled) yields a total diversion rate of 13.6% of the material going into the landfill. This amount of savings in landfill space would not defer the need for expansion of the landfill at this time; however, these space savings coupled with expanded

commercial recycling are worth pursuing for environmental sustainability and legal policy reasons stated above.

We are providing the following table as an example of how recycling percentages can reduce landfill space consumption rates. This data is taken from the *Draft Memorandum of Agreement Report Summary, Statewide Mandatory Curbside Recycling Program*, prepared by the Delaware Recycling Public Advisory Council, the Department and the DSWA (November 2004). Please recognize that landfill tonnages are no longer current.

***An Example: Recycling’s Impact on Delaware’s Landfills:***

A 30% RSW recycling rate will result in an 18% reduction in total tonnage of materials landfilled (based on the estimate that RSW comprises 60% of MSW being landfilled, with commercial and industrial waste comprising the remaining 40%) thereby extending the useful life of these facilities. Table I below shows the impact that a 30% RSW recycling rate would have on each of the state’s landfills:

<b>Table I</b>				
<b>Landfill Impacts From 30% RSW Recycling Rate</b>				
	<b>Cherry Island</b>	<b>Sandtown</b>	<b>Jones Crossroads</b>	<b>Statewide</b>
<b>Annual Landfilled Tons</b>	525,000	125,000	200,000	<b>850,000</b>
<b>RSW Portion of Landfilled Tons @ 60%</b>	315,000	75,000	120,000	<b>510,000</b>
<b>RSW Recycled @ 30%</b>	94,500	22,500	36,000	<b>153,000</b>
<b><i>Net Annual Landfilled Tons</i></b>	<b><i>430,500</i></b>	<b><i>102,500</i></b>	<b><i>164,000</i></b>	<b><i>697,000</i></b>
<b>Net Total Recycled</b>	<b>18%</b>	<b>18%</b>	<b>18%</b>	<b>18%</b>
<b>Current Design Life Expectancy in Years</b>	<b>20*</b>	<b>58</b>	<b>33</b>	<b>28.6</b>
<b>Design Life Expectancy With 30% RSW Recycling</b>	<b>23.6*</b>	<b>68.4</b>	<b>38.9</b>	<b>33.8</b>
<b>Design Life Expectancy With 40% MSW Recycling</b>	<b>28.0*</b>	<b>81.2</b>	<b>46.2</b>	<b>40.1</b>

\*Based on DSWA’s application to DNREC for expansion of the landfill.

It is important not to lose sight of the fact that while a 30% to 40% recycling rate contributes significantly to landfill space savings, substantial landfill capacity is still needed statewide to manage the remaining MSW. The total annual tonnage landfilled is approaching 1 million tons per year, so even with a 40% recycling rate, there will still be a need to landfill approximately 600,000 tons per year of MSW.

3. *If a permit should be issued, what type of permit conditions would be appropriate to impose to protect the environment and public health from any undue risk of adverse harm and explain the reasons for the recommended significant conditions?*

SHWMB Response:

The current permit (SW-01/01, attached) already imposes significant conditions to protect the environment and the public health (including environmental/geotechnical monitoring and reporting) and we would begin with these established conditions in any subsequent permit drafted for this facility. Additional significant conditions that would be appropriate for a subsequent permit should be:

- a. We should expand geotechnical monitoring requirements to include specific references to the system described in the application documents. In any new permit, we should require that the applicant be held accountable for protecting, maintaining and repairing all in-place instruments and for reporting damage to any geotechnical monitoring instrument as part of the “Emergency Reporting” requirements contained in the permit. Specific geotechnical monitoring requirements and a mandate to protect, maintain, and repair monitoring instruments should ensure that this critical monitoring is as accurate and efficient as necessary to identify potential landfill stability concerns.
- b. We should expand groundwater monitoring requirements to include specific monitoring designed to identify potential impacts from the in-place dredge material to the Potomac Aquifer. The permit condition should stipulate that the applicant conduct a tracer test and report findings to the Solid & Hazardous Waste Management Branch. The permit should specifically require corrective actions for remedying any unanticipated groundwater resource problems attributable to the DSWA’s construction/operation of the landfill.
- c. In any subsequent permit, we should increase the requirements for stormwater monitoring to include all phases of the landfill and to consider and monitor for potential contaminants from alternate covers in use at the landfill. We should specifically require corrective measures for remedying any problems identified by this monitoring. These permit conditions should be designed to protect adjacent surface water from the impacts of run-off from the landfill.
- d. We should require DSWA to perform effective waste clean-up efforts along 12<sup>th</sup> Street, between Hay Road and Northeast Boulevard, and install specific conditions requiring daily inspections of this avenue. This inspection and cleanup should help ensure that the community is not affected by waste from vehicles traveling from a large area of Delaware that are being funneled to the landfill.
- e. In any subsequent permit, we should stipulate specific closure conditions and specific permit renewal conditions limiting the vertical expansion of the landfill to that presently proposed by the DSWA. The permit should reference specific lines and grades and specify when a final closure plan will be required to be provided by the DSWA. Specific post-closure care requirements should be referenced in the permit.

We recommend the following additional permit conditions based upon the intent of the DRGSW, the purpose of 7 Del. C. 6001(c), the policy of the State as described in 7 Del. C. 6401(b) and (c), and the finding, policy and purpose for Recycling and Waste Reduction as stated in 7 Del. C. 6450. These conditions are not part of the DSWA's permit application; however, their inclusion in the NSWMC-2 permit is necessary to conserve landfill capacity, promote beneficial reuse and recycling, and conserve the resources of the State as required by 7 Del. C. Chapters 60 and 64. The recommended additional permit conditions are:

- f. Outreach: DSWA shall establish a Citizens Advisory Board (CAB) composed of residents who live within 5 miles of the NSWMC-2.
  - (1) Members of the CAB shall be selected by (a) the Senator representing the district adjacent to NSWMC-2 (currently Senatorial District #2); (b) the Representative representing the district adjacent to the NSWMC-2 (currently Representative District #2); (c) Wilmington City Council; (d) Wilmington Mayor's Office; (e) New Castle County Executive; (f) New Castle County Council Chair; and (g) the Governor of Delaware.
  - (2) The Department and DSWA shall provide a regular "ex-officio" (i.e. non-voting) member.
  - (3) DSWA shall meet with this board at least quarterly, prepare meeting minutes and post the minutes on the DSWA web site, and present the issues discussed at these meetings to the DSWA Board of Directors for their consideration.
  - (4) Annually, the DSWA Chief Executive Officer or Chief Operating Officer shall present to the CAB an overview of the status of solid waste management in Delaware and the status of NSWMC-2 operations.
  - (5) The CAB will establish and abide by a charter for providing advice to DSWA and related state agencies and private sector companies on issues related to the operation of the NSWMC-2, minimizing impacts resulting from landfill operations and capacity, the role of NSWMC-2 in the overall state-wide Solid Waste Management Plan, and recycling and resource recovery options.
  
- g. Yard waste diversion: DSWA shall ban disposal of all yard waste from the NSWMC-2 effective no later than January 1, 2007. The NSWMC-2 yard waste ban shall be advertised in a manner to effectively educate the public and waste haulers, using technical support from academic extension and composting experts, regarding the ban's effective date and alternatives for yard waste management. To the extent no private sector alternatives for the sustainable management of the banned yard waste becomes available, DSWA will provide for a yard waste composting and mulching facility(ies) and operation(s) capable of managing diverted yard waste to that extent. If it is necessary for the DSWA to manage any yard waste generated as a result of the ban, the DSWA shall determine and implement a competitive tipping fee for the management of this material. The tipping fee shall be set at a rate to encourage recycling and discourage disposal, and not compete with private sector alternatives. "Yard waste" means plant material resulting from lawn maintenance and other horticultural gardening and landscaping activities and includes grass, leaves, prunings, brush, shrubs, garden materials, Christmas trees, and tree limbs up to 4 inches in diameter.
  
- h. Removal of household hazardous waste (HHW) from the waste stream: Beginning immediately, DSWA shall provide at least quarterly HHW collection events in New Castle

County. The DSWA will coordinate these events to ensure they are done safely, in compliance with applicable regulatory requirements, and with a frequency and user-friendliness that maximizes the amount of HHW collected.

- i. Pine Tree Corners Transfer Station Waste: DSWA shall not accept for disposal at the NSWMC-2, solid wastes collected at the Pine Tree Corners Transfer Station.
- j. DSWA shall provide funding to the Department for hiring and retaining an Environmental Compliance Specialist for inspecting operations at the NSWMC-2. The DSWA shall reimburse the Department for its costs, within 30 days of the date of each itemized statement submitted by the Department.
- k. By September 1, 2006 DSWA will update the DSWA Solid Waste Management Plan (SWMP) per 7 Del Code 6404 (j). The updated SWMP will incorporate the final recommendations of the Solid Waste Management. Technical Working Group (SWMTWG) established on October 24, 2005 by Governor Ruth Ann Minner (Note the SWMTWG final report is due May 15, 2006.)
- l. Recyclables diversion: Within six months of issuance of this permit, DSWA shall submit to the Department, the Recycling Public Advisory Council, the Citizens Advisory Board, and for public comment, a comprehensive recycling plan to maximize recycling and diversion of materials from landfill disposal with a goal of recycling 40 percent of the municipal solid waste (MSW) stream in New Castle County by December 31, 2007. The plan shall address both commodity (e.g. aluminum, steel, plastic, cardboard, newsprint, paper) and construction and demolition wastes (C&D, which is not MSW). The plan will include specific goals, with interim milestones, and include all possible efforts within the partial or complete control of the DSWA as granted in 7 Del. C. Chapter 64. The plan shall seek to incorporate existing recommendations made by the Recycling Public Advisory Council on how to advance recycling and shall be incorporated into the updated State Solid Waste Management Plan.
- m. Recyclables processing: DSWA shall, no later than March 1, 2006, establish and operate a facility for accepting, processing and marketing single stream recyclable materials generated in Delaware. It shall be the goal of the DSWA to operate said single stream processing facility without charging a tip fee for received materials as an incentive to promote recycling.
- n. Curbside Recycling: DSWA shall support and promote an extended curbside recycling program within six months of issuance of this permit by doing the following:
  - (1) Offering curbside collection in Sussex County.
  - (2) Seeking to maximize participation in the curbside collection service by:
    - (a) Identifying and evaluating changes in operations and marketing to maximize the user-friendliness and minimize the cost,
    - (b) Implementing a promotion plan that sets goals, provides incentives and uses a variety of routine and creative mechanisms to advertise and enlist participation,

- (c) Considering placement of advertisements for the curbside collection program at all DSWA drop-off sites and in the next and all subsequent issues of the yellow page recycling advertisements.
- (3) Educating all waste haulers that DSWA now accepts single stream recyclables so the waste haulers can offer convenient and cost effective curbside recycling to their customers should they choose to do so.
- (4) Performing an evaluation of partnering with private sector recycling operations, such as the RecycleBank incentive-based recycling program, and reporting the results of that evaluation to the Department, the RPAC and the Citizens Advisory Board within six months of issuance of the permit.

4. *Whether the engineering of the proposed expansion is consistent with the Department's regulatory review and how this issue will be addressed by the Department if a permit is issued.*

SHWMB Response:

Besides staff review of the engineering documents presented in the application, the Branch also hired Tetra Tech, Inc. as an independent third-party to review the critical design elements of the engineering design for the landfill expansion. The SHWMB found that the expansion is consistent with the requirements of the Delaware Regulations Governing Solid Waste, Section 5.B. (Design). The independent third-party engineer (reference attached letter from Tetra Tech, Inc. dated 9/12/03) found that the critical elements of the design, including the geotechnical characterization, site stability issues and geotechnical monitoring program were adequate. Both the third-party engineer and the Branch recognized the geotechnical monitoring program as a critical element in the performance of this landfill. If a permit were to be issued, we would continue to require this critical geotechnical monitoring and in fact, we would enhance the permit condition as described in item 3.a. above.

5. *There were statements in the public record that identified the percentage of the incoming waste stream that could be recycled, particularly the yard waste and paper products materials. I would like either the Department's expert opinion estimate or the factual knowledge currently available on this information of the types of incoming waste.*

SHWMB Response:

The available data suggest that paper products and yard waste together make up slightly more than 50% of Delaware's municipal (residential plus commercial) solid waste stream. The various forms of paper comprise almost 35% of the waste, while yard waste comprises almost 20%. These figures are derived from reports prepared by Franklin Associates (for DSWA) and DSM Environmental Services (for the Recycling Public Advisory Council).

The data also suggest that about 40% of the paper and almost 35% of the yard waste generated in the state are already being recovered for recycling or composting. As a result, paper and yard waste comprise slightly less than 30% of the material going into DSWA's landfills. Much of this material can and should be recovered, but a certain percentage either cannot be recycled or would be so

difficult or expensive to recycle that it would not make economic sense. For example, paper products such as used tissues, paper towels, paper plates and cups, and contaminated food packaging are rarely recycled. Recovery of these materials would require development of an infrastructure to collect, transport, and process the materials, and they would be suitable only for low-end markets (if markets could be found at all).

We believe that the most practical course of action to divert more material from the landfills would be the adoption of single-stream recyclables collection (targeting the full range of commonly recycled materials) combined with a ban on the disposal of yard waste (as discussed in the response to Question #2 above).

6. *Provide a response to the technical issues raised Cereza's (the gas collection operator's) presentation and how each issue would impact the issuance of any permit.*

SHWMB Response:

The issues raised by Cereza would not impact the issuance of the permit. The Attorney for Cereza Energy, Inc, was concerned with “ongoing operational problems” at the landfill, including: use of “smelly and ineffective” cover material, “the failure to implement effective water control and drainage measures and general lack of security and control procedures”. Please recognize that alternate cover materials, water controls and security procedures are already regulated by the current permit and the Delaware Regulations Governing Solid Waste. The Branch remains interested in hearing of any alleged violations of the permit and will take appropriate action when problems are discovered. If we were to include a requirement for a landfill inspector at this facility (see item 3.j. above), the Branch would be able to more quickly identify operational problems at the landfill.