

**BEFORE THE COASTAL ZONE INDUSTRIAL CONTROL BOARD  
OF THE STATE OF DELAWARE**

In re:	)	
	)	
APPEAL OF SIERRA CLUB	)	Appeal No. CZ 2010-01
(Coastal Zone Act Permit No. 386)	)	

In re:	)	
	)	
APPEAL OF CITIZENS	)	<i>consolidated with</i>
COALITION, INC., CITIZENS	)	Appeal No. CZ 2010-02
ACTION FOUNDATION, INC.,	)	
SOUTHERN NEW CASTLE COUNTY	)	
ALLIANCE, INC.	)	
(Coastal Zone Act Permit No. 386)	)	

In re:	)	
	)	
TIDEWATER ENVIRONMENTAL	)	<i>consolidated with</i>
SERVICES, INC.	)	Appeal No. CZ 2010-03
(Coastal Zone Act Permit No. 386)	)	

**DECISION AND FINAL ORDER**

**NATURE AND STAGE OF THE PROCEEDINGS**

Pursuant to public notice published in accordance with 7 Del. C. § 7007(d) and 29 Del. C. § 10122, a public hearing was conducted by the Coastal Zone Industrial Control Board ("the Board") on September 16, 2010, at the Charles L. Terry Campus of the Delaware Technical and Community College, 100 Campus Drive, Dover, Kent County, Delaware, concerning three appeals filed in response to the issuance of Coastal Zone Act Permit No. 386 ("the Permit") under the Coastal Zone Act, 7 Del. C. § 7001, *et seq.* ("CZA") by the Delaware Department of Natural Resources and Environmental Control ("DNREC"). Specifically, the Board heard the following appeals: Appeal No. CZ 2010-01, filed on August 10, 2010 by Sierra Club; Appeal

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No. CZ 2010-02, filed on August 10, 2010 by Citizens Coalition, Inc., Citizens Action Foundation, Inc., and Southern New Castle County Alliance, Inc.; and Appeal No. CZ 2010-03 filed on August 11, 2010 by Tidewater Environmental Services, Inc. ("TESI"), the party granted the Permit below. For purpose of this Order and Final Decision, the Sierra Club, Citizens Coalition, Inc., Citizens Action Foundation, Inc., and Southern New Castle County Alliance, Inc. are collectively referred to as the "Environmental Appellants".

The three appeals pertain to the issuance of Secretary's Order No. 2010-CZ-0022 ("the Order"), which sets forth the findings, reasons and conclusions regarding DNREC Secretary Collin P. O'Mara's ("the Secretary") issuance of the Permit for TESI's proposed wastewater treatment and disposal facility known as the "Wandendale Regional Wastewater Treatment and Disposal Facility" in Sussex County, Delaware ("the Wandendale Facility" or "the Facility").

Members of the Board present and constituting a quorum for the hearing were Christine M. Waisanen (Chair), Victor Singer, Robert Wheatley, Pallatheri M. Subramanian and Albert W. Holmes, Jr. Members John S. Burton, Sr. and Robert D. Bewick, Jr. disqualified themselves from consideration of the matter. Members Robert D. Welsh and Alan Levin were absent but not disqualified.

The Environmental Appellants were represented by Kenneth T. Kristl, Esquire, of the Widener Environmental and Natural Resources Law Clinic. TESI was represented by Jeremy W. Homer, Esquire, of the law firm of Parkowski, Guerke & Swayze, P.A. Deputy Attorney General Robert F. Phillips represented DNREC and the Secretary.

Deputy Attorneys General Frank N. Broujos and Patricia Davis Oliva represented the Board.

This written decision and order is issued by the Board pursuant to (and in accordance with) 7 *Del. C.* § 7007(b) and 29 *Del. C.* § 10128.

**PRELIMINARY MATTERS**

The Board consists of nine voting members, five of whom are regular members appointed by the Governor and confirmed by the Senate. 7 *Del. C.* § 7006. These regular members are Christine M. Waisanen (Chair), Robert D. Welsh, Pallatheri Subramanian, John S. Burton, Sr. and Robert D. Bewick, Jr. The remaining four *ex-officio* members are Alan Levin, Director of the Delaware Economic Development Office; Victor Singer, Chairman of the New Castle County Planning Board; Albert W. Holmes, Jr., Chairman of the Kent County Regional Planning Commission; and Robert Wheatley, Chairman of the Sussex County Planning and Zoning Commission.

As noted above, two Board members, Messrs. Levin and Welsh, were absent from this proceeding and two Board members, Messrs. Burton and Bewick, disqualified themselves. For purposes of establishing a necessary quorum of Board members, the Board relied upon 7 *Del. C.* § 7006 and *Shields v. Keystone Cogeneration Systems, Inc.*, 611 A.2d 502 (Del. Super. 1991) in determining that four of the seven present (including non-disqualified) Board members constituted the “total membership” of the Board, and that a majority (four) of that total membership (seven) would be necessary to establish a quorum *and* to render a final decision on a CZA permit request.

Additionally, the Environmental Appellants objected to Board member Wheatley’s participation and claimed he had an inherent conflict of interest requiring his disqualification from this matter pursuant to 7 *Del. C.* § 7006. The basis of the Environmental Appellants’ objection is that Wheatley, as Chairman of the Sussex County Planning and Zoning Commission,

voted to recommend Sussex County Council grant TESI a Conditional Use permit in an AR-1 Agricultural Residential District for the Facility and that any Chairperson of a County Planning Commission who votes to approve a project inherently has a conflict when that project comes before the Board.

The Board finds that here there is no factual or legal basis to require disqualification. The CZA contemplates Board members, especially *ex officio* members, will oftentimes be in the position of having previously voted on another issue an applicant may have had before a quasi-state agency or a county board. Indeed, the *ex-officio* membership consisting of State and County officials is indicative of legislative intent that an open, statewide discussion of local issues as they affect the shared Coastal Zone is one of the purposes of the Board. Further, nothing in Chapter 58 of Title 29 dictates recusal in circumstances such as these.

Lastly, all parties stipulated that the three appeals would be consolidated into a single case for hearing by the Board. The consolidation combined all the appeals and rendered all of the parties in the separate appeals parties in the consolidated case. The parties' stipulation was approved by the Chair prior to the Board hearing.

#### **SUMMARY OF THE EVIDENCE**

The Board considered the following exhibits, admitted without objection and made part of the record:

1. Tidewater Environmental Services, Inc.'s Application for a Coastal Zone Act Permit (received September 25, 2009, revised March 19, 2010)
2. Secretary's Environmental Assessment Report for a Coastal Zone Act Permit Application (dated April 23, 2010)
3. DNREC EXHIBITS PRESENTED AT MAY 19, 2010 PUBLIC HEARING

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- 3.a. DNREC Exhibit 1 – Tidewater Environmental Services, Inc.’s application for a Coastal Zone Act Permit, dated September 24, 2009 and received September 25, 2009
- 3.b. DNREC Exhibit 2 – Affidavit of Publication, *The News Journal*, dated October 5, 2009
- 3.c. DNREC Exhibit 3 – Letter from Philip Cherry, DNREC, to Kenneth Davis, CABA Associates dated December 3, 2009 regarding offset calculations
- 3.d. DNREC Exhibit 4 – Letter from Kenneth Davis, CABA Associates, to Philip Cherry, DNREC dated January 5, 2010 regarding offset calculations
- 3.e. DNREC Exhibit 5 – Letter from Bruce Patrick, Tidewater Environmental Services, Inc. to Jack Hayes, DNREC, dated March 3, 2010 regarding a phased approach to implementing the wastewater treatment and disposal system
- 3.f. DNREC Exhibit 6 – Letter from Hilary Valentine, DNREC to Bruce Patrick, Tidewater Environmental Services, Inc. dated March 10, 2010 regarding a phased approach to implementing the wastewater treatment and disposal system
- 3.g. DNREC Exhibit 7 – E-mail correspondence from Lyle Jones, DNREC, to Lee Ann Walling, dated March 15, 2010 regarding the project’s ability to satisfy provisions of the Inland Bays Pollution Control Strategy
- 3.h. DNREC Exhibit 8 – Revised Application for a Coastal Zone Act Permit, dated March 19, 2010 and received on March 19, 2010.
- 3.i. DNREC Exhibit 9 – Secretary’s Environmental Assessment Report, dated April 2010 and signed on April 23, 2010
- 3.j. DNREC Exhibit 10 – Affidavit of Publication, *News Journal*, dated April 26, 2010
- 3.k. DNREC Exhibit 11 – Revised Offset Chart from Secretary’s Assessment Report, dated May 17, 2010
- 3.l. DNREC Exhibit 12 – E-mail from Rich Anthony, Plan Delaware, to Kevin Coyle and Lee Ann Walling, with an attachment memorandum dated May 18, 2010
- 4. PUBLIC EXHIBITS PRESENTED AT MAY 19, 2010 PUBLIC HEARING
- 4.a. Moyer Exhibit 1 – Research paper by A. Scott Andres, Delaware Geological Survey
- 4.b. Austin Exhibit 1 – Statement from John Austin
- 4.c. Austin Exhibit 2 – Aerial photograph of proposed Rapid Infiltration Basins (“RIBs”) areas

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- 4.d. Austin Exhibit 3 – Aerial photograph of proposed RIBs areas
- 4.e. Austin Exhibit 4 – Letter from Office of State Planning Coordination dated June 13, 2008 regarding PLUS review of the Wandendale Regional Water Recharge Facility
- 4.f. Granke Exhibit 1 – Statement from Mabel Granke
- 4.g. Callanen Exhibit 1 – Statement from Steve Callanen on behalf of the Southern Delaware Group of the Sierra Club, including an attached report from the U.S. Geological Survey
- 4.h. Callanen Exhibit 2 – Statement from Sallie Callanen on behalf of Save Our Coastal Communities
- 4.i. Delaware Nature Society Exhibit 1 – Statement from Brenna Goggin on behalf of DE Nature Society
- 4.j. Center for the Inland Bays Exhibit 1 – Statement from Chris Bason on behalf of the Center for the Inland Bays
- 4.k. League of Women Voters Exhibit 1 – Statement from John Sykes on behalf of the League of Women Voters
- 4.l. Citizens Coalition Exhibit 1 – Statement from Henry Glowiak on behalf of the Citizens Coalition
- 4.m. Ferragut Exhibit 1 – Statement from Ted Ferragut
- 5. POST-HEARING EXHIBITS OF MAY 19, 2010 PUBLIC HEARING
- 5.a. Callanen Exhibit 1A – Email from Steve and Sallie Callanen to Robert Haynes, dated May 19, 2010
- 5.b. Green Delaware Exhibit 1A – Email from Alan Muller, Green Delaware, to Robert Haynes, dated May 19, 2010
- 5.c. Green Delaware Exhibit 2A – Email from Alan Muller, Green Delaware, to Collin O'Mara and Robert Haynes, with an attached letter dated June 1, 2010
- 5.d. Austin Exhibit 1A – Email from John Austin to Collin O'Mara, dated May 19, 2010
- 5.e. Austin Exhibit 2A – Email from John Austin to Robert Haynes, dated May 20, 2010
- 5.f. Austin Exhibit 3A – Email from John Austin to Robert Haynes and Collin O'Mara dated May 29, 2010

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- 5.g. Kratt Exhibit 1A – Email from Betty Kratt to Kevin Coyle, dated May 22, 2010
- 5.h. Kratt Exhibit 2A – Email from Paul Kratt to Kevin Coyle, dated May 26, 2010
- 5.i. Maegerle Exhibit 1A – Email from Robert Maegerle to Robert Haynes, dated May 23, 2010
- 5.j. Love Creek Woods Exhibit 1A – Petition from the Love Creek Woods Home Owners Association of Lewes, dated May 2010 (Received May 24, 2010)
- 5.k. Payne Exhibit 1A – E-mail from Bill Payne to Kevin Coyle, with attached letter, dated May 24, 2010
- 5.l. Moyer Exhibit 1A – Letter from William Moyer to Collin O'Mara, dated May 27, 2010.
- 5.m. Wuslich Exhibit 1A – E-Mail from Ron Wuslich to Robert Haynes and Kevin Coyle, with an attached e-mail to George Bunting and Gerald Hocker, dated May 29, 2010
- 5.n. Sierra Club Exhibit 1A – E-mail from Steve and Sallie Callanen, Sierra Club to Robert Haynes and Kevin Coyle, dated June 1, 2010
- 5.o. Artesian Water Company Exhibit 1A – E-mail from Chris Hogenmiller, Artesian Water Company, to Kevin Coyle, with an attached letter from John Thaeeder, dated June 1, 2010
- 5.p. TESI Exhibit 1A- Letter from Kenneth Davis, CABA Associates, to Philip Cherry, DNREC, dated May 6, 2010 regarding minor updates to the permit application
- 5.q. TESI Exhibit 2A – Letter from Jeremy Homer, Parkowski, Guerke & Swayze, to Robert Haynes, with an attached letter from Bruce Patrick, Tidewater Environmental Services, Inc., dated June 1, 2010
- 6. Transcript of Public Hearing, prepared by Wilcox and Fetzer, Ltd. From Coastal Zone Act Public Hearing (conducted on May 19, 2010)
- 7. Sign-in Sheet of Coastal Zone Act Public Hearing conducted on May 19, 2010
- 8. Technical Response to Wandendale Public Comments, dated July 22, 2010
- 9. Hearing Officer's Report, dated July 23, 2010
- 10. Secretary's Order 2010-CZ-0022 - Application of Tidewater Environmental Services, Inc. for a Coastal Zone Act permit for Wandendale Regional Wastewater Treatment and Disposal Facility, dated July 23, 2010

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11. Delaware Coastal Zone Act Permit No. 386 issued to Tidewater Environmental Services, Inc. (dated July 23, 2010)
12. Affidavit of Publication from the News Journal (dated July 28, 2010)
13. Application to Appeal from a Coastal Zone Act Decision filed by The Sierra Club (dated August 10, 2010)
14. Application to Appeal from a Coastal Zone Act Decision filed by the Citizens Action Coalition, Citizens Action Foundation, and Southern New Castle County Alliance (dated August 10, 2010)
15. Application to Appeal from a Coastal Zone Act Decision filed by Tidewater Environmental Services, Inc. (dated August 11, 2010)
16. Motion of Appellant Sierra Club to Amend Its Reasons for Appeal (dated August 13, 2010)
17. Motion of Appellants Citizens Coalition, Inc., Citizens Action Foundation, Inc. and Southern New Castle County Alliance, Inc. to Amend Their Reasons for Appeal (dated August 13, 2010).
18. Parties' "Detailed Statement of Arguments" (dated September 1, 2010)
19. DNREC's Prehearing Brief (filed September 9, 2010)
20. Appellant Tidewater Environmental Services, Inc.'s Prehearing Memorandum (filed September 9, 2010)
21. Appellants "Sierra Club, Citizens Coalition, Inc., Citizens Action Foundation, Inc., and Southern New Castle County Alliance, Inc." Prehearing Memorandum (filed September 9, 2010)
22. Stipulation of Parties to Consolidate Appeals
23. Affidavit of Publication from *The News Journal* regarding publication of public hearing notice on August 28 & 29, 2010
24. Affidavit of Publication from the *Delaware State News* regarding publication of public hearing notice on August 28 & 29, 2010
25. Soil Investigative Report for Community, Large On-Site Wastewater Treatment and Disposal for Siting Rapid Infiltration Basins and Site Selection and Evaluation Report for Spray Irrigation for The Lands of Wandendale Farms, Inc.



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26. Hydrogeologic Evaluation of Subsurface Wastewater Discharge Capacity for The Lands of Wandendale Farms, Inc., September 2009
27. Basin Infiltration Test Addendum to Hydrogeologic Evaluation for Subsurface Wastewater Discharge Capacity for The Lands of Wandendale Farms, Inc., May 2010.
28. Letter from John G. Hayes, Jr., DNREC Environmental Scientist to Tom Dwyer, of Eastern Geosciences, Inc. regarding the Hydrogeological Evaluation and Supplemental Addendum
29. State of Delaware 2010 Combined Watershed Assessment Report (305(b)) and Determination for the Clean Water Act Section 303(d) List of Waters Needing TMDLs, dated April 1, 2010
30. DNREC's Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems
31. DNREC's Guidance and Regulations Governing the Land Treatment of Wastes
32. Joint Stipulation of Facts Concerning Timeliness of Appeal Issue
33. Aerial Map of the Wandendale Proposed Project
34. Depth to the Water Table Map of Eastern Sussex County
- 35(a). Chart of Treatment Improvements between Community System and Apartments and Townhouses
- 35(b). Chart of Treatment Improvements between New On-site and Existing On-Site Septics
- 36(a). Chart of Wastewater Treatment with Activated Sludge (Advanced Waste Treatment) (BNR) 1995-2005
- 36(b). Chart of Wastewater Treatment and Activated Sludge (Secondary Treatment) 1970-1985 and 1985 -1995
37. DNREC's Division of Water Resources, Watershed Assessment Section Code of Regulations 7400, Subsection 7403, Pollution Control Strategy for the Indian River, Indian River Bay, Rehoboth Bay and Little Assawoman Bay Watersheds
38. Written comments by Roger Anderson, Sailing Chairman, Rehoboth Bay Sailing Association
39. Jack Schreppler's map of Sussex County

40. Environmental Appellants' Objection to Board Member Robert Wheatley Hearing the Appeal

In addition to the documentary and demonstrative evidence, the Board heard and considered sworn testimony from a number of live witnesses.

TESI was the first party to present its case on appeal. Mr. Bruce Patrick was the first witness called by TESI. After being sworn, Mr. Patrick testified that he is currently employed by TESI as the Vice President of Engineering and has been with TESI for eight years. He has a Bachelor's degree in Civil Engineering from the University of Delaware and a Masters of Business Administration from Delaware State University. Mr. Patrick testified that he has 18 years of experience in the wastewater industry, essentially with the design and permitting of water and wastewater systems, construction administration, utility management, as well as owning and operating and maintaining water and wastewater systems. Mr. Patrick testified that he spent six years at DNREC in the large on-site wastewater systems branch. During that time he was responsible for reviewing large on-site wastewater systems and spray irrigation systems. Approximately half of the time he was the Program Manager of that group, where he oversaw both the large on-site program and the spray program. In addition, Mr. Patrick testified that he spent about three years as the Kent County Engineer, where he oversaw the operation and maintenance of the State's second largest regional wastewater facility. The Kent County facility essentially spanned the length of the county. It started in southern New Castle and served as far south as northern Sussex and Milford. Mr. Patrick testified that for the last eight and a half years, he's been the Vice President of Engineering with Tidewater Utilities and its affiliated companies, TESI, where he has been responsible for the planning, permitting, and oversight of

the capital improvements program and essentially managing the capital improvements program for TESI.

Mr. Patrick testified that TESI is a regulated wastewater utility that owns and operates wastewater systems. TESI is overseen by the Delaware Public Service Commission (rates they charge, areas they are allowed to operate in, certificates of public convenience and necessity), DNREC (CZA permits, operating permits), and local governments (zoning issues, building permits, etc.).

Once a corporation has a certificate of public convenience and necessity (a CPCN), the franchise granted by the Public Service Commission is for a given territory, and no other company may provide a public service for that given territory.

The purpose of the Wandendale project is to design, build and operate a wastewater treatment facility. It will allow the opportunity to connect existing septic systems, and allow TESI to provide the treatment and disposal of wastewater. TESI will provide this service outside of any county planning area and outside of any county sewer district.

With regard to the proposed placement of the Wandendale Facility, Mr. Patrick testified that it is on both sides of Delaware Route 24, and on both sides of Camp Arrowhead Road. The site is about four miles from the Route 24 and Route 1 intersection, and approximately four and a half miles from the Atlantic Ocean. In the immediate vicinity of the proposed Facility is the Marsh Island golf course, which is just to the south of the Facility, and Love Creek, where boating and fishing activities take place. The proposed Facility will have no negative impact on any of these activities. TESI will be treating wastewater to a very high degree to public access standards. The Facility itself will be in the corner of the woods. The buildings associated with the Facility will be barn-like, blending in with the area, and the treatment tanks will be

underground. The agricultural fields in the area will remain agricultural. There will be two treated water storage ponds.

Mr. Patrick testified that the process this wastewater treatment facility will use is a membrane bioreactor. This is very high end treatment. It will meet the Pollution Control Strategy standards of 5 mg/l of nitrogen, .5 mg/l of phosphorus. It will meet public access standards, drinking water standards. By meeting public standards, Mr. Patrick testified that the discharge water could be sprayed on a golf course or anywhere the public will have access. This wastewater treatment technology is used by Glen Riddle in Ocean City, Maryland. It has been in operation for about seven years. Baltimore County has one that discharges to the Gun Powder Falls River. Hart's Landing, a TESI-owned wastewater treatment facility, has been operating for over three years with very good results. Cecil County also has one that has had very good results for the past six years.

Mr. Patrick was then referred to Exhibit 3.g. (DNREC Public Hearing Exhibit 7). Mr. Patrick identified this document as an e-mail from Lyle Jones, which states that as proposed, the Wandendale wastewater facility will meet the applicable provisions of the Inland Bays Pollution Control Strategy. Mr. Patrick explained that there was a total maximum daily load ("TMDL") process done on the Inland Bays Watershed. As a result of that process, regulations were created, specifically the Pollution Control Strategy ("PCS"), which determines the allowable loading in that watershed. There are non-point source loading created as part of the PCS.

Mr. Patrick testified that the spray disposal system will, in the agricultural areas, have center pivot irrigation systems. In the wooded areas, fixed pivots and two water treatment ponds will be used. This is similar to the county's Wolf Neck facility except that this new facility would treat the water to an even higher level.

The proposed Facility will use rapid infiltration basins ("RIBs"). There are typically six RIBs in a facility. The six basin system allows for a day of rest between each basin. This Facility's RIBs are proposed off of Route 24 and Jolyns Way in a 16-acre area. All of the treated water that goes in the RIBs is treated to drinking water standards before it goes into the RIB.

Mr. Patrick testified that there has been extensive soil work done in the proposed area. There have been soil borings and test pits. Those results were very favorable. DISR, which is a detailed soil testing report, was submitted to DNREC and approved. It is a very detailed report. Mr. Patrick testified that the hydrogeological work done was that soil data has been collected, 25 shallow table monitor wells installed, and water readings were taken from the wet season period from December to May. There were 43 deep geo-probes conducted. Pump tests were done on four different 4-inch wells. All of this data was compiled with the soil data to ensure that the site is capable of accepting the amount of water TESI is proposing.

Mr. Patrick testified that the hydrogeological testing report is identified as Exhibit 26. After that study, DNREC required a RIB loading test. TESI went on-site and constructed a couple of rapid infiltration basins. Mr. Patrick testified that the basin infiltration test from May of 2010 is identified as Exhibit 27. Following the submission of this addendum dealing with the loading test, DNREC sent a letter in late June 2010. Exhibit 28 is a letter dated June 28, 2010 from DNREC. In that letter, DNREC indicates that the results of the two basin infiltration tests within the primary disposal area, RIB area A at the Wandendale farm site, have successfully demonstrated that infiltrated wastewater should reach the water table without pushing in the vadose zone. In addition, infiltrations gathered from the tests were comparable to the proposed design infiltration rates previously stated in both the SIR and PGIA. Although the infiltration rates were determined to be slightly higher using the infiltration basins, "the applicant will still

be limited to a maximum of 1.45 million gallons per day ("gpd") due to the limited spare area available."

Mr. Patrick testified that he sent a letter in March 2010 to DNREC proposing a phased-in development of this wastewater treatment facility. The phase 1 permit requested was for the disposal area of 1.45 million gpd. The March 3, 2010 letter is a schedule of the phasing proposed. The construction permit for Phase 1 is 1.45 million gpd. Mr. Patrick testified that the March 10, 2010 letter from Hillary Valentine of DNREC approved TESI's phased approach but limited the construction permit to 1.45 million gpd.

Mr. Patrick testified that the Secretary's Order is Exhibit 10 in the record. Turning to page 5, Mr. Patrick read "the Department will require six conditions as part of the CZA permit." Mr. Patrick testified that the conditions included reducing the capacity from 3 million gpd to 1.45 million gpd. TESI never agreed to reduce the total limit to 1.45 million gpd, but recognizes it is a condition of the Secretary's Order and TESI accepts it. TESI anticipates the Facility will run favorably for many years and it may seek an amendment in the future.

Mr. Patrick attended DNREC's public hearing. Following the hearing, TESI had an opportunity to submit a written comment. He prepared TESI's written comment. Exhibit 5.q. is his letter as well as the cover letter from Mr. Homer. It was mentioned that the Delaware Geological Survey held that RIBs would not work in Delaware. This survey was a literature search on RIBs and an analysis of RIBs. The conclusion was that 10-15% of Sussex County may be appropriate for rapid infiltration basins with the right hydrogeological conditions. TESI is proposing a process that will treat for nitrogen and the hydrogeological conditions are appropriate for the use of RIBs. A review of the Sussex County water table indicates that the

RIB area is in accordance with the hydrogeological tests results TESI found and it is a "very good site" for the intended use of RIBs.

With regard to the Environmental Appellants' argument that the environmental benefits are too speculative because no one knows if the RIBs are going to work, Mr. Patrick responded that the benefits are not speculative at all because a lot of planning has gone into this. The hydrogeological survey has been approved, the treatment facility is a high end treatment facility, the science behind it is sound, there is a 150 acre spray area that is available and that is a proven technology. TESI is aware that it may have to do spray before it does RIBs.

With regard to the Environmental Appellants' argument that the environmental benefits are too speculative because no one knows how many existing septic systems will switch to the Wandendale Facility, Mr. Patrick responded that there is no environmental impact until a connection occurs. In the TMDL process, the Pollution Control Strategy, there is a financial incentive for consumers to switch. When a septic system fails, the consumer is required to replace their systems or tie-in. It can cost between \$20,000 and \$30,000 to upgrade these types of systems.

With regard to the Environmental Appellants' argument that the benefits from the new hook-ups are too speculative, Mr. Patrick's response is that this is "not true at all." Any system that a consumer hooks into will be treated to a much higher standard than the current septic system. Currently, total phosphorus must be 4 milligrams per liter ("mg/l") under the PCS, and the proposed wastewater treatment facility will be treating to 0.5 mg/l. Currently, total nitrogen must be 10 mg/l under the PCS, and the proposed system is treating to 5 mg/l.

With regard to the Environmental Appellants' argument that the proposed facility will be worse than the new on-site wastewater treatment and disposal system, Mr. Patrick responded that

the first phase of the proposed facility is two treatment units in parallel. Each treatment unit would need 40-50 homes to get to the point of having enough flow to operate. Until then, wastewater will be pumped to existing facilities. The new facility will not be placed into operation until it has sufficient flow to remove the nutrients.

With regard to the Environmental Appellants' argument that the benefits have been overstated because the capacity has been reduced from 3 to 1.45 million gpd, Mr. Patrick responded that the Facility has gone down in capacity, so they are only going to be able to hook up to half as many consumers, but they'll only need half the number of consumers to connect. The impact doesn't happen until a connection occurs and the mere fact that it's connected is proving the benefit, because of the high level of treatment.

Mr. Patrick testified that the three key advantages of the project: (1) water quality as the project will be connecting the proposed developments, providing the opportunity to connect the existing septic systems and treating to a much higher degree than would otherwise be provided; (2) the Facility will be recharging the groundwater; and (3) the farm land will remain open and remain agricultural.

With regard to the question of whether this Facility actually requires a CZA permit when TESI is not making a product which the CZA contemplates, Mr. Patrick responded that he is aware of several private systems in the Coastal Zone that were permitted to operate without a permit. The Baywood Greens development has a wastewater system with a spray irrigation disposal system that operates in the Coastal Zone without a permit; West Bay Mobile Home Park has an SBR that discharges to RIBs; and the Herring Creek spray facility is in the Coastal Zone.



Upon cross-examination by Mr. Kristl, Mr. Patrick admitted that he doesn't know if any of the private systems he just mentioned are 1.45 million gpd facilities. He doesn't know if they are 500,000 gallon per day facilities. Mr. Patrick admitted he just got the information today.

In the revised application, Mr. Patrick could not say on cross-examination that TESI indicates that the membrane bioreactor treatment of the proposed facility treats phosphorus down to 3.2 mg/l without seeing the application. However, Mr. Patrick testified that the intent was to treat down to .5 mg/l.

Mr. Patrick turned his attention to Exhibit 10, the Secretary's Order. This was after an exchange of letters between TESI and DNREC. Mr. Patrick admitted that the Secretary says the Department "continues to have concerns about the appropriateness of rapid infiltration beds in Sussex County and the long term consequences on water quality should such a system fail." Mr. Patrick further admitted that DNREC was going to require continued geological testing.

Turning to the map, Mr. Patrick admitted that the vast majority of the site is east of Route 24 and that the proposed service area is mostly west of Route 24. Route 24 is the dividing line between the Coastal Zone. The Facility is inside the Coastal Zone, but Mr. Patrick admitted that "a fair amount" of the service area is outside of the Coastal Zone.

Upon cross-examination, Mr. Patrick admitted that there is an Artesian treatment facility several miles away from the proposed site. Mr. Patrick conceded that if a consumer is 10 miles away from the proposed facility and wants to hook up, it would not be practical to go out and hook up that one person. It makes economic sense to connect only when there is a "critical mass" of septic systems that want to hook up. There are many factors to consider when deciding including their location and their location to the proposed "main line" serving the proposed facility.

Upon cross-examination from Mr. Phillips, Mr. Patrick admitted that spray irrigation will have a "small" offset to the need for chemical fertilizers and that treatment will be to drinking water standards before the wastewater is spray irrigated.

Upon questioning from the Board, Mr. Patrick testified that septic systems do not fail overnight, they usually clog in one area, and then maybe another. There is sometimes warning time, sometimes not. Under surface failures may be piecemeal, but the age of the system should be taken into account because systems don't last forever. TESI does not handle individual septic systems. If the Facility fails, there are redundancies in the system. There won't be a massive failure. The six RIBs at the proposed facility rotate day to day so there is back-up built into the system. Further, there is back-up power to the system.

Upon re-direct, Mr. Patrick testified that some of the service territory is outside the Coastal Zone. In those areas, the water drains to the Inland Bays watershed.

Upon further questioning from the Board, Mr. Patrick testified that the function of the equalization tank is to even out the flow throughout the day so that input to the system is equalized. The plant is designed to handle peaks of up to two and a half times the average daily flow. All of the tanks are sub-surface. The 500,000 gallon equalization tank will be deeper than two feet. TESI does not foresee any leaking underground. These will be concrete tanks. The final design is not completed, although TESI envisions closing the tanks off at the top with some sort of webbing. There are many water treatment facilities that operate without tops.

Mr. Tom Dwyer was the second witness called by TESI. After being sworn, Mr. Dwyer testified that he is employed by Eastern Geosciences as its President and serves as its principal geologist. Eastern Geosciences is a hydrogeologic consulting firm, specializing in hydrogeologic evaluations for wastewater disposal and water supply. He has a Bachelors degree

in Geology from Old Dominion University, a Masters degree in Geology from Kent State, and he is a licensed professional geologist in Delaware, Pennsylvania, and Virginia. Mr. Dwyer has twenty-two years of experience in performing evaluations for wastewater systems in the mid-Atlantic region. He has experience with very small to very large systems and has assisted the states of New Jersey and Delaware with developing guidelines for wastewater disposal. Currently, Mr. Dwyer serves on a sub-committee for DNREC rewriting the large wastewater system regulations.

Mr. Dwyer testified that his organization became involved with the Wandendale project in March of 2007. He followed the preliminary soils evaluation, which had indicated favorable areas for wastewater disposal on the Wandendale site. Mr. Dwyer followed that soils investigation up with some preliminary test borings to confirm the soils findings, as well as to develop some information on the deeper portions of the flow system. That evolved into a full-blown study of the site over a three-year period, during which his company conducted more than forty continuous sample soil borings to depths of 40 feet to define the hydrostratigraphy of the site. This involved installation of more than 50 test wells for the purpose of measuring water levels, and conducting hydraulic testing, including four high-capacity test pumping wells, which were used to conduct four long duration aquifer tests, to again define the hydraulic properties of the site. All of this information eventually was rolled into a numerical ground water flow model for the site, which was then used to evaluate hydraulic capacity of the site.

Mr. Dwyer testified that the proposed site consists of three zones: the upper sandy zone (saturated soils and upper part of the water table), in the northeast portion of the Site; there is an intermediate zone of sand, silty sand, some clay; and then there is the deeper zone, a deeper part of the flow system. This is the highly permeable Beaver Dam sand aquifer. The site exhibits

favorable characteristics in that there are sandy characteristics at the surface. The southwest portion of the Site with the intermediate zone is discontinuous and largely absent. This provides good hydrologic connection to the permeable aquifer underneath. The site is also fairly distant from streams and creeks. The distance provides for long travel times, which allows for recharge and a large amount of dilution of the water even though it is already meeting the pollution control requirements.

Mr. Dwyer testified that his work included an effort to quantify the capacity of the system. All of his tests were to go into the construction of a numerical ground water flow model for the site. This covers the whole drainage area surrounding the site. That model was used to determine the capacity of the site for wastewater discharge. To analyze the capacity of a site, Mr. Dwyer testified that the ground water model has to be calibrated to the known conditions. It is calibrated to water levels, ground water flow directions, hydraulic testing actually viewed and taken from the site. Once that is done, the simulation assumes steady state conditions. They introduce the wastewater load and allow the model to calculate the response that will happen over a very long time. The model reaches this quickly and they run this over and over until they obtain the two foot unsaturated zone. This is then adjusted for flux in water level conditions from wet season monitoring.

Mr. Dwyer testified that the primary conclusion is that the site is ideally suited for this type of wastewater discharge. It has a large depth to ground water, good connection between the aquifer and long travel times, there is a large dilution factor, and the maximum capacity of the proposed RIB would be 1.6 million gpd, but that's been scaled back to 1.45 million gpd. He has evaluated many large systems and he believes this is one of the top two sites he has evaluated in his career.

Upon cross-examination from Mr. Kristl, Mr. Dwyer testified that the 15-35 year calculation is based on how long it takes the water to get from the RIB beds to the Inland Water Bays. Among the factors are how far the facility is from the water, how fast the water moves, the ground water transport system, the wastewater loading rate, and natural groundwater recharge. The flow will be slower if there is less water coming into the system. It is not a linear relationship however, it depends on how much the loading changes the hydrologic gradient. In this case, the loading doesn't change the hydrologic gradient that much. An increase from 150,000 to 600,000 gpd doesn't really change the slope of the gradient. The greater the distance the water travels away from the site, the greater the opportunity for phosphorous in the water to stick to the ground instead of the water. Water that is infiltrating the soil helps reduce the concentration of any pollutant because the water is diluting it.

Upon questioning from the Board, Mr. Dwyer testified that phosphorus is typically undetectable in the Bay because it is absorbed in the soils and the treated water from the proposed facility would be 5 mg/l nitrogen, a lower concentration than what is currently seen in the soil.

Mr. Lee Beetschen was the third witness called by TESI. After being sworn, Mr. Beetschen testified that he is the President of CABE Associates Consulting Engineers. Mr. Beetschen testified that he has a Bachelors degree in Civil Engineering from the University of Delaware. He also has a Masters degree in Sanitary Engineering. Mr. Beetschen testified that he was the sole source reviewer for a year-long study on what Exxon's oil refinery wastewater treatment center should look like. He worked for DNREC as the supervisor of water pollution and was soon promoted to supervisor of water treatment. Mr. Beetschen testified that he left DNREC in 1974 but still maintains his ties with DNREC. He is a Governor-appointed liaison for

surface water standing issues. He co-founded the CUBE associates in 1976. Mr. Beetschen testified that he was a member of the first clean water advisory council, appointed by the Governor. He is also chairman of the wastewater subcommittee for that group. He won the Leonard Glass Award for innovative industrial design.

With regard to the Facility, Mr. Beetschen testified that CUBE was retained to assist in obtaining a conditional land use permit from the Sussex County Council. Once that was obtained, CUBE helped TESI to complete its Coastal Zone Act Permit application.

Tuning to Exhibit 10, page three, Mr. Beetschen read into the record: "It is this decision by Sussex County to allow development in a level 4 area, and not the Facility itself, that will impact the rate of growth. If development is going to occur, the strong preference of the Department is to ensure that enhanced treatment services are provided through a central wastewater system, rather than allowing greater discharge of pollutants from on-site septic systems or other legally available options in amounts that will far exceed discharge levels from the proposed facility. Further, the proposed facility represents an opportunity to eliminate septic systems using 1600 existing homes through the connection to the proposed wastewater system."

Mr. Beetschen testified that he agrees with that statement. Mr. Beetschen testified that he started up most of the programs that Delaware uses. He was surprised to find that Delaware had no regulation to manage household wastewater until 1968. Discharge right into a water body was acceptable until that time. In 1968, Delaware adopted the regulation to handle wastewater treatment. In the early 1970s, Mr. Beetschen testified that septic tanks and tile fields were the state of the art. There was a glitch in the regulation where use of a septic field or tile field on the beach was prohibited because the soil was too sandy. There was a household treatment attempt,

but he stopped that in a hurry because the homeowners weren't doing it properly. It's a living organism that keeps these systems working properly.

Now, Mr. Beetschen testified that septic tanks are bad and there is a movement to get rid of them. In the 1970s, all treatment facilities were primary treatment facilities. Those facilities consisted of holding tanks where solids would settle and the "clean" water would overflow from the tank. They were only just beginning to "treat" the water. At that time, all he had to work with were the septic tank regulations. The Clean Water Act required updating all of these primary facilities to treatment facilities. This was to achieve total suspended solids of 30 mg/l. The idea behind the Clean Water Act was that this may not be enough and it is not known what it will take to make something better. Back then, they were still trying to figure out how to get the nitrogen out of the water. They were turning it into ammonia, but that is still a toxic chemical. They came up with an anoxic zone, or a zone with no fresh oxygen in it and the critters that live there were able to strip out the nitrogen. DNREC had the best water quality data of any state he's ever seen. Mr. Beetschen testified that there was a ban on spray irrigation that lasted almost a decade, but now it is the preferred model of wastewater treatment. Mr. Beetschen testified that the nitrogen and phosphorous loading on the Inland Bays' surface waters are causing low dissolved oxygen and algae blooms and basically killing the inland water bays. This is still considered a problem in Delaware.

Mr. Beetschen turned his attention to Exhibit 29, the State of Delaware 2010 Combined Watershed Assessment Report dated April 1, 2010. This is an excerpt from that long report. In the executive summary, Mr. Beetschen testified that as recently as 1975, Delaware suffered serious water pollution and health problems due to untreated wastewater discharge. Since then,

regulatory actions and significant public and private regulation has improved the conditions, but further improvements are needed.

In regard to the Environmental Appellants' argument that TESI failed to calculate the environment impact of human error or failure of the system, Mr. Beetschen testified that there are back-up systems in place, the regulations require that the government use 10 state standards. This requires redundancy in equipment, back-up equipment for power. A membrane bioreactor does not have a secondary clarifier. The secondary clarifier is where the bacteria-related problems usually occur. Those are all contained within the membrane system.

In regard to the Environmental Appellants' argument that TESI failed to analyze the location of the septic system to be replaced regarding the impact, Mr. Beetschen testified that they used a geographic information system to locate septic systems in the area.

Mr. Beetschen testified that there will be no environmental impact to wetlands from this proposed project. There are no facilities located in wetlands. In the original application, there may have been a secondary rapid infiltration system located there, but that didn't impact wetlands and was abandoned because the soil is too sandy.

With regard to the Environmental Appellants' argument that TESI failed to consider whether the facility will comply with TMDL, Mr. Beetschen testified that this is not a requirement of the Coastal Zone Act as far as he knows. Mr. Beetschen testified that it is the pollution control strategy regulation that implements the TMDL. There are two sources of pollution: point source and non-point source. A point source is a pipe dumping something into the water. A non-point source is a land application system, such as RIBs and spray irrigation systems.



With regard to the argument that TESI failed to consider all the impacts from the waste streams, including phosphorus, precipitation and storage of dried biological solids, Mr. Beetschen testified that the treatment system is designed to achieve phosphorus of .5mg/l, far better than Inland Bays Pollution Control Strategy. With regard to biological solids, the initial intention is to store these and then have them hauled off by a DNREC licensed hauler to a location outside of the Coastal Zone.

In order for an activated sludge plant to work, Mr. Beetschen testified that you have to control the oxygen in the microbial community, give it enough food, and control the population. As the water influx increases, the water will come back through the Facility. With regard to Exhibit 2, the Secretary's environmental assessment, the Regulations covering the Delaware Coastal Zone state that the offset proposal must more than offset the negative environmental impacts of the permitting activity. Mr. Beetschen then read into the record that the regulations governing Delaware's Coastal Zones state that "Offset proposals must more than offset the negative environmental impacts associated with the proposed project or activity requiring a permit. "It is the responsibility of the applicant to choose an offset project that is clearly and demonstrably more beneficial to the environment in the Coastal Zone than the harm done by the negative environmental impacts associated with the permitting activities themselves." In this case, the Facility will treat effluent from residential development to total nitrogen and phosphorous standards that are, under any build-out scenario, more protective of water quality than discharge rates from systems it is designed to replace, thereby satisfying the offset requirement under the regulation.

Mr. Beetschen testified that he agrees with that assessment because the Pollution Control Strategy establishes different nitrogen and phosphorus concentration limits for different

facilities. If you have a new community system, they are held to the same nitrogen standard as Wandendale, but not the same phosphorus standard. The Facility will be almost 8 times better. If it's a replacement system, rebuilding their own system they are held to a 10 mg/l standard not the 5 mg/l standard TESI is held to. In every scenario, the Wandendale system is better than if you just went with the PCS regulations.

With regard to the argument that the Secretary's Order expresses doubts as to whether RIBs will be effective, Mr. Beetschen stated he disagrees. The disposal method isn't the benefit here, it's the treatment method that is the benefit here. With regard to Exhibit 30, Mr. Beetschen testified these are the regulations governing the design, installation and operation of on-site wastewater treatment and disposal systems. These govern the RIBs. Exhibit 31 is the State of Delaware guidance regarding the land treatment of wastes. These govern the spray irrigation operation.

With regard to the argument that the offsets aren't compensating for other impacts at that site, Mr. Beetschen explained that under the Coastal Zone Act, there can be a cross-media offset that is so significant that it covers all the minimal impacts, like dust construction, run-off, exhaust fumes from vehicles, etc. The offset in this case is the treatment plant itself.

With regard to the Environmental Appellants' argument that the benefit of the buffers that are part of the project are overstated and there is no proof they're effective, Mr. Beetschen explained that Appendix C to the Pollution Control Strategy explains the benefits of riparian buffers removing nitrogen from wastewater runoff.

With regard to the arguments about the timing of the application amendments, Mr. Beetschen explained that TESI's application was submitted in September 2009. This started the dialog with the Coastal Zone staff at DNREC. Thereafter, his group revised the application and

resubmitted it in March of 2010. In May 2010 they submitted a minor update to the application consisting of removal of the second RIB system because the soil couldn't support it and TESI noted that the 10 state standards permits use of two substations with primary feed lines as backup power for the treatment plant instead of a diesel-fired generator, so TESI removed the diesel-fired generator. This removed a minimal air emission and eliminated a RIB area that was close to inland waters. Therefore, these two changes were good for the environment.

The Environmental Appellants also have an argument regarding the completion of the construction permit application. Mr. Beetschen explained that when he first met with the Coastal Zone staff, TESI staff were told that DNREC does not use that portion of the Regulation because it is such a major expense, in this case, designing an entire wastewater treatment facility, until they have the Coastal Zone permit. Later, someone told him that was in error and the construction application permit had to be filed before the Coastal Zone permit could go to public hearing. They finally agreed that, if the design application was reviewed by groundwater treatment staff and if they confirmed that the design would "do what TESI claimed it would do," the staff would let them go to public hearing. The estimated cost to get the design of the plan was in the neighborhood of \$200,000.

Mr. Beetschen testified that it is not unusual to have permit conditions attached to a permit like this. The Coastal Zone Regulations are pretty sparse with what a permit applicant is supposed to do after the permit is received. There is a permit condition requiring a reforestation plan. This requirement is that every acre of forest taken out of service must be replaced 130%. Project meetings with TESI and his staff have taken place, and everyone agrees this will be incorporated into the construction permit project. There is no requirement that reforestation take place on this site, it can take place at a remote site.

There were certain recommendations about activities that would take place during the breeding season in some areas of the site. These areas were fairly remote and the construction documents pretty much address these. Further, Mr. Beetschen clarified that condition calls for the use of spray irrigation to the maximum extent practical. He designs spray irrigation systems and he knows the pluses and minus for RIBs.

Upon cross-examination by Mr. Kristl, Mr. Beetschen agreed that on May 6, 2010, TESI submitted a revision that removed one of the two RIBs from the application. The Coastal Zone permit came out two months later, after that RIB was removed. Nonetheless, Mr. Beetschen agreed that condition number 8 in the permit says that there will be a relocation of that RIB to a more appropriate location. Mr. Beetschen agreed the permit included a condition to relocate a RIB that he previously indicated would not exist. That condition does not apply to the remaining RIBs at the site. Mr. Beetschen agreed he has worked with systems that utilize activated sludge. This type of system uses microbes to break down contaminants in the system. The Wandendale system will have bacteria in the membranes. He is aware of one situation in which the microbes or bacteria died off in sufficient number at the same time such that the system couldn't treat the way it was supposed to. However, these microbes are always birthing and dying. Mr. Beetschen conceded that if the right amount of sludge is not there then the treatment efficiency could possibly suffer. Further, if the right conditions do not exist then the treatment efficiency could be different than designed, but only if the operator allowed the system to become unbalanced. If the microbes die off in sufficient quantity, it will take a variable amount of time to get the balance back. This could be just a matter of hours to drive bacteria down from a similar domestic wastewater system nearby. They may not even need time to acclimate if they come from the same type of system. Mr. Beetschen agreed that TESI's position is that the treatment

facility is the offset and that there is no need for an offset until there is a connection. When the connection is made, the offset is treating down the effluent quality down to better standards than pollution control strategy. The chemical to be used at Wandendale for the amalgamation will be determined at the design phase. This may have to be stored on-site, or it may be carted in and used and then the empty containers disposed of.

Upon questioning from Mr. Phillips, Mr. Beetschen testified that the plan for the Facility includes spare areas for RIBs. Currently, the spare area is now the spray area. If it becomes available to replace one of the RIBs, there is space for RIBs of this size, and the maintenance on the RIBs is going to be on-going. There are some basins that are over a century old. This is not new technology. By comparison, the minimum size lot for the use of septic systems in Sussex County is a half acre.

Upon questioning from the Board, Mr. Beetschen admitted that the regulation of pathogens is in a state of flux right now. While not required, these facilities are still using UVB or chlorination after treatment as a disinfectant process after the fact.

Mr. Kristl represented that the Environmental Appellants are not presenting any new evidence, and are relying on evidence already in the record.

DNREC called Ronald Graeber as its first witness. After being sworn, Mr. Graeber testified that he has a degree in Environmental Engineering from the University of Maryland. In 1981 he started at Draper Candy Company in Milton, DE as its environmental manager, wastewater treatment plant operator. Three years later, he took a job with Seaford as the superintendent of its wastewater treatment facility. In 1988, he joined DNREC as the Program Manager of the waste utilization program. Currently, he is the program manager of the large systems branch, responsible for permitting large community on-site systems in Delaware.

Mr. Graeber testified that the concern with using RIBs in Sussex County is that, if they are close to a body of water, there is a chance that large amounts of nutrients can travel into the water. However, the placement area of this proposed site is appropriate for the use of RIBs. The topsoil testimony given today indicates that the area was found to be appropriate. Mr. Graeber testified that he had experience operating wastewater treatment facilities while working for the Seaford and the Draper Candy Company. He believes that the technical review is satisfactory to verify that the infiltration rates are suitable at this site.

Turning to DNREC Exhibit 9 page 2, Mr. Graeber testified that the application for a wastewater permit has not been received but the Coastal Zone permit was issued nonetheless. The permit was issued before the application was completed because the process is a long one with many steps. The first step is to determine the actual on-site characteristics of the facility. That's been done. It can only be determined by doing physical tests at the site. All of these documents must be submitted and approved before the engineering plan will be accepted and reviewed. This is because DNREC won't entertain an application for a facility of a larger size than the disposal site is set up to accept. Now that DNREC knows the disposal site can manage 1.45 million gpd of wastewater disposal, the next step is for an engineer to submit detailed plans and specifications. There will be numerous safeguards in place to monitor the success of the RIBs. For example, they will be monitoring wells on-site. Also, background samples will be collected so the quality of the ground water will be known before it is started. Observation wells will also be in place and they will tell the level of ground water table rising over time. This can be used to validate the model over time. The normal levels of nitrogen in the groundwater in the area of Wandendale range from non-detectable levels to 10 mg/l of nitrogen.

Upon questioning from the Board<sup>1</sup>, Mr. Graeber testified that the average life of a RIB, if properly constructed should be longer than 20 or more years, especially if the appropriate scientific work was done up front with potential barriers identified, etc. Mr. Graeber explained that no further revision of DNREC's chart was necessary to reflect the change from 1.45 million gpd flow through to 3 million gpd. Finally, if just one existing septic system connects to the Facility, there will be a reduction in the amount of nitrogen discharged into the ground water in Sussex County.

In closing, the Environmental Appellants argued that this is a case about the permit for this Facility, but there are larger issues at stake. The Environmental Appellants urged the Board to look at DNREC's obligations under the regulations. The Board's role is to expect adequate evidence at the time of the permit application in order to reach decisions. This permit should be denied because TESI has failed to comply with the Coastal Zone Act and its regulations.

The Environmental Appellants argued that the Facility is a heavy industry, prohibited by the Coastal Zone Act. Further, size is one component and the Secretary has held that more than 20 acres is heavy industry. This project is 300 acres and the testimony today indicated that there may be chemical storage on-site. Further, public sewage treatment plants are excluded from the definition of heavy industry. Sewage treatment plants are heavy industry, but public plants are excepted. This is a more reasonable interpretation than saying the Coastal Zone Act doesn't apply at all.

When the Facility is operating at full 1.45 million gpd, the Environmental Appellants argue that the evidence suggests the Facility will be dumping nitrogen and phosphorous

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<sup>1</sup> Neither party had any cross-examination questions for this witness.

pollutants into the Coastal Zone. Specifically, 22,000 pounds plus of nitrogen will be dumped into the Coastal Zone.

Further, the Secretary deferred deciding the environmental impacts and therefore the Secretary could not have made the determinations he was supposed to. The Environmental Appellants further argued that the positive environmental impacts of the Facility are speculative at best and the position of TESI that the offset of the project is the project itself does not satisfy the regulations. Finally, the Environmental Appellants argued that the conditions placed on the permit by the Secretary are void for vagueness.

At the conclusion of the sworn testimony and closing arguments, the Board heard and considered unsworn statements from members of the public, in accordance with 7 *Del. C.* § 7007(c).

The first member of the public to speak was Jack Schreppler from Artesian Resources, a competitor of TESI. Mr. Schreppler offered that Artesian has always read the Coastal Zone Act in the same way as the Environmental Appellants, that heavy industry includes wastewater treatment plants that are therefore precluded from being constructed in the Coastal Zone. Mr. Schreppler also agreed that the likelihood of existing homes hooking into this system is slim.

Jennifer Marsh Pulcinella was the second member of the public to testify. Ms. Marsh Pulcinella testified that she and her brother own Wandendale Farm, the site where the Facility is proposed. Ms. Marsh Pulcinella testified about her family's history of farming this area and assured the Board that a great amount of thought and consideration went into her family's decision to lease their land to TESI for this wastewater treatment facility.

Bill Moyer was the third member of the public to speak. Mr. Moyer informed the Board that he was the manager of the Wetlands and Subaqueous Lands Section of DNREC for 30 years



before he retired in 2004. He is familiar with the permitting process at DNREC and his concern is that this permit has been shut out from the normal public hearing process. Further, Mr. Moyer believes the plan to offset impacts is incomplete and the Secretary should never have issued a permit. Finally, Mr. Moyer expressed that he is concerned that Mr. Wheatley has a conflict of interest in this case.

Suzanne Marsh was the fourth member of the public to testify. Ms. Marsh wanted the Board to know that she is the wife of Russell Marsh. Also, Ms. Marsh believes that her husband and his family do not believe anything was presented today is a problem and her husband and his family believe the project is in the best of hands with TESI and that everything is as it should be because they received the permit.

Russell Marsh was the final member of the public to address the Board. Mr. Marsh stated that his family did not make this decision lightly and they did a lot of soul searching as they wanted to come up with the best solution to preserve the property the best way they could.

The Board admitted without objection the written statement of Roger Anderson, President of the Rehoboth Bay Sailing Association. Mr. Anderson, on behalf of the Association, expressed concern regarding preservation of the environment. He questioned TESI's permit application in four areas: the Facility's location relative to the area being served; the application will negate removal of wastewater from Rehoboth Canal; groundwater recharge is not being obtained with true groundwater; and the failure of the infiltration process resulting in groundwater pollution and migration in Love Creek.

**FINDINGS OF FACT AND CONCLUSIONS OF LAW**

**Timeliness of the Environmental Appellants' Appeals**

*Environmental Appellants' Appeals were filed timely*

Prior to the hearing, the parties (including DNREC) submitted a joint stipulation of facts regarding the timeliness of appeal issue raised by TESI in its Notice of Appeal. The Board finds that DNREC posted information about the Secretary's decision concerning the issuance of the Permit on DNREC's website on July 26, 2010. The Board also finds that DNREC published a legal notice in *The News Journal* on July 28, 2010 concerning the Secretary's decision to issue the Permit.

The Environmental Appellants filed their Appeal Nos. CZ-2010-01 and CZ-2010-02 on August 10, 2010, 15 days after July 26, 2010, and 13 days after July 28, 2010. TESI contends the Environmental Appellants' appeals were filed late, arguing because the appeal period began to run at the time of the July 26th website publication, not the July 28th *News Journal* publication. TESI contends that the Environmental Appellants' appeals should be dismissed as untimely because the appeal filing deadline was August 9, 2010 (fourteen days after the "website" publication).

Seven *Del. C. § 7007(b)* provides, in part, "[a]ppellants must file [a] notice of appeal with the State Coastal Zone Industrial Control Board within 14 days following announcement by the Secretary of [DNREC] of his or her decision." The term "announcement" is not defined in the CZA. The *Regulations Governing Delaware's Coastal Zone*, 7-100-101 *Del. Code Regs.* ("CZ Regulations"), also address timeframes for filing appeals to the Board. CZ Regulation 14.1.6 of the *Regulations Governing Delaware's Coastal Zone* provides that the "Secretary shall notify the public *by legal notice* when [there is a] decision on all permit applications." (Emphasis added).

Furthermore, CZ Regulation 16.1.6 states that “[i]f no appeal is received within 14 days following the date of the publication of the *legal notice*, the decision becomes final and no appeal will be accepted.” (Emphasis added).

While § 7007(b) does not define “announcement,” Regulation 14.1.6 directly addresses the process by which the Secretary must “announce” his decision to the public, that is by publication of a “legal notice.” The Board finds no merit in TESI’s position that the posting of the Secretary’s decision on DNREC’s website constitutes an “announcement” under § 7007(b) for the purpose of starting the 14-day appeal period. CZ Regulation 14.2 requires all legal notices by the Secretary to appear in one newspaper of statewide jurisdiction and a second newspaper of local circulation in the county in which the proposed project is located. The Board finds that a “legal notice” for purposes of this Regulation is a notice published in a newspaper, as opposed to an electronic medium such as DNREC’s website. Thus, the Secretary’s decision was not announced for purposes of starting the appeal period until it was published in a newspaper as a legal notice.

Accordingly, the Board finds that the publication of the legal notice on July 28, 2010 constituted the announcement of the Secretary’s decision, and the appeal period began to run on July 29, 2010, which was the day after the publication. See CZ Regulation 16.1.4. The Board concludes that the term “announcement” as used in § 7007(b) constitutes the publication of a legal notice as required by CZ Regulations 14.1.6 and 16.1.6, and that Environmental Appellants filed their appeals 13 days following the announcement of the Secretary’s decision on the Permit. Accordingly, the Board concludes that the Environmental Appellants’ appeals were timely filed and therefore the Board has jurisdiction to hear these appeals and render a decision thereon.

Furthermore, the Board notes that the website notice specifically referenced August 11, 2010 as the deadline for filing an appeal. Nonetheless, the Board rejects TESI's argument that the public should have been held to an earlier date that even DNREC contends is not correct. Unless the General Assembly amends § 7005(b) to provide for website notification as the beginning of an appeal period, or DNREC amends and the Board approves amendments to the CZ Regulations permitting such a notification method, the publication of a legal notice in a newspaper is required to "announce" a decision of the Secretary.

**Classification of the Wandendale Facility under the Coastal Zone Act**

*The Wandendale Facility's use is neither "heavy industry" nor "manufacturing", rather it is a "sewage treatment plant" requiring a Coastal Zone Act Permit.*

The question of the classification of a privately-owned wastewater treatment facility under the CZA is one of first impression for the Board. The classification of the Facility under the CZA for purposes of determining whether a CZA permit is required or even allowed for the Wandendale Facility's proposed use as a privately-owned wastewater treatment facility within the Coastal Zone is a threshold issue on which the parties disagreed.

The Environmental Appellants contend that the Wandendale Facility's proposed use constitutes "heavy industry use" as defined under 7 Del. C. § 7002(e) and is therefore a use absolutely prohibited under 7 Del. C. § 7003 for which no CZA permit may be issued under any circumstances. The Environmental Appellants argue that the Facility's characteristics when compared to the definitional terms set forth in § 7002(e) warrant a finding of heavy industry. The Environmental Appellants point specifically to the Facility's size (acreage), the type and size of equipment it will utilize (buildings, basin and tank capacities), and to its potential to pollute (release of chemicals during normal processes and during potential system failures). They also

rely on statutory interpretation principles to support their argument that the General Assembly intended sewage treatment plants to be classified as heavy industry under the CZA, and that the exclusion of “public sewage treatment, or recycling, plant[s]” from the prohibition against new heavy industry in the Coastal Zone under § 7003 meant that *non-public* (*i.e.* privately-owned) sewage treatment plants were intended by the General Assembly to be *included* in the heavy industry prohibition and therefore absolutely barred from the Coastal Zone.

TESI agrees with the Hearing Officer’s determination--adopted by the Secretary--that the Wandendale Facility’s proposed use does not constitute heavy industry as there is no basis to support any intent for a generic prohibition of new sewage treatment plants under the CZA. TESI argues that a privately-owned sewage treatment plant is not akin to the examples given by the statutory definition of “heavy industry,” which include “oil refineries, basic steel manufacturing plants, basic cellulosic pulp-paper mills, and chemical plants such as petrochemical complexes” in the definition of “heavy industry” under § 7002(e).

Further, TESI contends that the Facility does not even require a CZA permit because the Facility’s proposed use does not constitute a “manufacturing” use as defined by 7 *Del. C.* § 7002(d), because no new products will be manufactured at the Facility and the treatment process, the Facility’s primary purpose, is designed to improve the environment, not manufacture products or goods for sale commercially. The Environmental Appellants argue that if the Facility is not barred as a “heavy industry use” facility, then it constitutes a “manufacturing” use facility requiring a CZA permit, as the Hearing Officer concluded and Secretary adopted. The Environmental Appellants contend that a required liberal interpretation of “manufacturing” under the CZA supports the legal conclusion that the Facility is manufacturing not because it is manufacturing “new” products (*i.e.*, treated wastewater) for commercial sale, but because (1) the

treated wastewater will be used onsite to fertilize farmland with nitrogen (through spray irrigation); and (2) the Facility is selling something to the public, namely wastewater treatment services.

The Board finds that the Facility is (or will be) a privately-owned wastewater treatment facility to be located in the vicinity of State Route 24 and Camp Arrowhead Road, south of Love Creek in Sussex County, Delaware on a 320.21 acre tract, 296.55 acres of which are located in the Coastal Zone (the "Site"). The Site consists of four Sussex County Tax Parcels: Nos. 2-34-7.00-127.00, 2-34-11.00-50.00, and 2-34-7.00-130.00, all of which are within the Coastal Zone; and No. 2-34-11.00-48.00, which is entirely outside the Coastal Zone. The Site is currently used for hunting and farming vegetable crops. The Facility is approximately 4.5 miles from the Atlantic Ocean. The Facility's owner and operator is TESI, a state-regulated waste utility company licensed to own and operate public utilities in Delaware and other states. Required zoning and planning approvals for the Facility have been obtained from Sussex County. Love Creek is within the Coastal Zone in close proximity to the Facility and is used for fishing and boating, and the Marsh Island Golf Course is located just south of the Facility. There is no evidence on the record that will support a finding that the Facility will have any negative impact on those (or other) recreational or tourism-related uses within the Coastal Zone.

The proposed Facility is a biological nutrient removal wastewater treatment plant that will treat only raw domestic wastewater and service new and existing subdivisions outside of the Coastal Zone. The raw domestic wastewater will be pumped via pipe from client subdivisions and will be treated using membrane bioreactor treatment technology involving chemical treatment followed by ultraviolet disinfection. Following treatment, the treated wastewater will be stored in an effluent dosing tank, and thereafter transported to rapid infiltration basins

("RIBs") for draining or distributed to irrigation systems for spraying on agricultural or wooded areas. Both the RIBs and spray irrigation systems will recharge the underlying aquifer at the Facility's site.

The Facility will include six RIBs covering approximately 16 acres and each RIB will be 18-24 inches deep and surrounded by 3-foot berms. Two treated water storage ponds will be constructed for use when spray irrigation can not be used, such as when the ground is frozen, wet, being tilled, or during inclement weather. Spray irrigation will take place in wooded areas through fixed pivots and in agricultural fields through center pivots. There will be approximately 150 acres available for spray irrigation.

The Facility's wastewater treatment capacity will be up to 1.45 million gpd and the system will be designed to remove the total nitrogen in the wastewater to less than 5 mg/l in accordance with the Inland Bays Pollution Control Strategy ("PCS"), and the total phosphorus to 0.5 mg/l. The effluent, prior to distribution to RIBs or the spray irrigation, will be clear and odorless and meet applicable drinking water standards.

When constructed, the Facility will consist of two above-ground structures: a 3,600 square foot enclosed control building and a 39,015 square foot enclosed membrane biological treatment building, inside which the actual wastewater treatment process will take place. The Facility will also consist of several subsurface basins and tanks: nine 93,000 gallon "aeration basins;" nine 35,000 gallon "post anoxic" basins; nine 25,000 gallon "membrane tanks;" one 300,000 gallon "aerobic digester;" one 500,000 gallon "dosing tank;" and six miscellaneous "chemical tanks" ranging from 400 to 3,000 gallons each. The Facility, once operational, will operated seven days a week, with operating shifts of five days a week, eight hour daily shifts.

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The Facility will not produce air emissions, but will produce, as a by-product of the wastewater treatment process, approximately 8,000 pounds per day of biosolids once the Facility is at full build-out capacity. Initially, those biosolids will be stored in a tank on-site and transported off-site for disposal at a site outside the Coastal Zone. In the future, as volume increases, the biosolids will be dewatered on site and then transported to disposal sites outside the Coastal Zone. No recycling of biosolids will occur at the Facility.

Biosolid by-products from one of TESI's other sewage treatment facilities, located in Milton, Delaware, are used commercially as fertilizer for golf courses, but TESI pays for the removal of those biosolids and does not sell them commercially.

Based on the evidence presented, the Board finds that the Wandendale Facility's proposed use is not "heavy industry use" as defined under § 7002(e). Therefore, the Facility is not absolutely barred under § 7003 as a new "heavy industry use" within the Coastal Zone. The Board also finds that the Facility's use is not a "manufacturing" use as defined under § 7002(d). Therefore, the Facility is not subject to the CZA permitting process as a "manufacturing use[ ] not in existence and in active use on June 28, 1971" under § 7004(a). However, the Board additionally finds that the Facility is a sewage treatment plant not excluded by CZ Regulation 5.20 and therefore requires a CZA permit pursuant to CZ Regulation 6.2.

The Board considered evidence regarding the size and scope of the Facility and concluded that the Facility is not the type of "heavy industry" use within the Coastal Zone that the General Assembly, through the CZA, intends to prohibit. The Board rejects the Environmental Appellants' argument that the Facility's characteristics "fall squarely" within the "heavy industry use" definition under § 7002(e).



The Facility will not negatively impact tourism or recreational uses, which are the primary uses that the CZA intends to preserve and protect through the prohibition on new heavy industry. In fact, the Facility will preserve existing open space and allow current agricultural and farming uses to continue for decades. No evidence was presented by the Environmental Appellants that the Facility will have above-ground tank farms, smokestacks, scrubbing towers, odors or unfavorable aesthetics that are common attributes of oil refineries and other industries set forth, by example, in § 7002(e) that are incompatible with recreation and tourism. The Board finds that “tanks” and “chemical processing equipment” will be utilized at the Facility but does not find that the RIBs are the equivalent of “waste-treatment lagoons” as that term is used under § 7002(e). In fact, the Facility’s wastewater treatment does not occur within the RIBs themselves, but rather in separate underground tanks.

The Board agrees with the Secretary’s determination that the CZA ban on new heavy industry use was intended to apply to oil refineries and similar heavy industry endeavors. However, the Wandendale Facility, by its size, scope and design, does not have the characteristics of an oil refinery and does not warrant a classification as a heavy industry under § 7003(d). The Board also agrees with the Secretary’s determination that the actual “footprint” of the Facility is well below 20 acres, which is less than the 20 acre characteristic threshold in § 7002(e). The Board does not view this “footprint” size as determinative to the “heavy industry use” issue, but finds that the vast majority of the Facility’s site will remain open space consisting of farmland, forest, and RIBs, as opposed to the relatively small area on which the chemical treatment tanks and basins will be located.

Regarding manufacturing use, the Board finds that even though some biosolid by-products will be produced by the Facility, manufacturing will not be the primary purpose of the Facility. The Board is guided by § 7002(d), which states that:

"[m]anufacturing" means the mechanical or chemical transformation of organic or inorganic substances into new products, characteristically using power-driven machines and materials handling equipment, and including establishments engaged in assembling component parts of manufactured products, provided the new product is not a structure or other fixed improvement.

The Board attributes plain meaning to the term "product" because it is not defined by the CZA or the CZ Regulations. In doing so, the Board finds that the term means an item produced for sale commercially. Accordingly, there will no new products manufactured at the Facility; there is no equipment "engaged in assembling components part of manufactured products" at the Facility. In essence, the process involves transporting wastewater into the Facility where it is chemically treated and transformed into cleaner water, *i.e.* dirty water in, clean water out, with resulting biosolid by-products, so that the process is more characteristic of a "recycling" use than "manufacturing" one. To that end, the Board disagrees with the Secretary's determination that the Facility's use constitutes a "manufacturing" use because of the generation of "new products" from its reliance on "power-drive machines" and "material handling equipment" and use of chemical and mechanical processes. Furthermore, the Board rejects the Environmental Appellants' argument that the by-products of the treatment process, namely spray irrigation and sludge, are "products," and that the sale of the wastewater treatment process itself to customers is a "product," both of which would warrant a classification of "manufacturing" under § 7002(d).

The Board heard evidence that some form of biosolids from one of TESI's other sewage treatment facilities, located in Milton, Delaware, may be used as fertilizer for golf courses, but

the witness testified that TESI must pay for the removal of those solids from that facility and, in any event, does not sell them commercially. However, there was no evidence presented by the Environmental Appellants that a commercially saleable product would be produced at the Facility and sold by TESI. No additional evidence was presented by the Environmental Appellants as to why the Facility's use is a "manufacturing" use under § 7002(d).

Regarding the Board's finding that the Facility is a "sewage treatment plant" for which a CZA permit is required pursuant to CZ Regulation 6.2, the Board notes that the CZA is silent with respect to privately-owned sewage treatment plants and in what type of use under the CZA such a plant would be engaging. Based on the evidence presented regarding the operation of the Facility, the Board finds that the Facility is a "sewage treatment plant" as defined under CZ Regulation 3.0 because it will be a "system used in. . . treatment [and] disposal of. . . sewage. . . of a liquid nature. . ." The Board acknowledges that the defined term in that Regulation is "public sewage treatment plant;" however, the Facility clearly constitutes a "sewage treatment plant," albeit a non-public one. The distinction here is that the Facility will not be "under the jurisdiction of a city, town, county, district or other political subdivision," but is a sewage treatment plant nonetheless.

The Board further acknowledges the "public sewage treatment plant" exemption under § 7003 as a prohibited heavy industry use, but finds that exemption is not inconsistent with the CZA permit requirement under CZ Regulation 6.2 for "sewage treatment plants" and rejects TESI's argument that CZ Regulation 6.2, standing alone, is inconsistent with the CZA and therefore must be void. The Board also rejects the Environmental Appellants' argument, based on statutory interpretation principles, that the General Assembly believed all sewage treatment plants to be heavy industry, but the exclusion of "public sewage treatment. . . plant[s]" from the

prohibition against new heavy industry uses in the Coastal Zone under § 7003 meant that non-public (*i.e.* privately-owned) sewage treatment plants were intended by the General Assembly to be *included* in the heavy industry prohibition and therefore absolutely barred from the Coastal Zone.

As noted previously, the CZA does not expressly address *privately-owned* sewage treatment plants but does address *public* sewage treatment plants in the context of “heavy industry use” in 7 *Del. C.* § 7003. For purposes of interpreting § 7003, the Board finds no distinction between “public” and “private” sewage treatment plants, because the treatment and permit requirements of sewage treatment plants was addressed through the promulgation of the CZ Regulations, nearly 28 years after the enactment of the CZA. The Board’s interpretation of § 7003 is a reasonable one in light of the types of public sewage treatment plants that were in existence at the time of enactment of the CZA in 1971, as described by TESI’s witness, a former DNREC employee who had regulatory responsibility over the City of Wilmington’s sewage treatment plant in the early 1970s.

Absent statutory guidance, the Board relies on the CZ Regulations, which expressly address whether or not a sewage treatment plant requires a CZA permit, and provide that not only are public sewage treatment plants *not* heavy industry uses, but they are exempt from the CZ permitting process if they are regulated by Federal Water Pollution Control Act, 33 U.S.C. § 1251, *et. seq.* and/or the Delaware Environmental Protection Act, 7 *Del. C.* Chapter 60. *See* CZ Regulation 5.20. Those sewage treatment plants not falling under CZ Regulation 5.20’s “safe harbor” must obtain a CZA permit to operate within the Coastal Zone in accordance with CZ Regulation 6.2.

The Board concludes that the Facility does not constitute a “public sewage treatment plant” subject to regulation by the Federal Water Pollution Control Act, 33 U.S.C. § 1251, *et seq.* and/or the Delaware Environmental Protection Act found in 7 *Del C.* Chapter 60, which CZ Regulation 5.20 states is a use *not* regulated under the Coastal Zone (and not requiring a CZA permit). Accordingly, the Board further concludes that the Facility is simply a “sewage treatment plant” not excluded by CZ Regulation 5.20 and therefore requires a CZA permit pursuant to CZ Regulation 6.2.

**Remaining Issues Raised by the Environmental Appellants  
Regarding the Issuance of the Permit**

Having found that the Facility constitutes a “sewage treatment plant” requiring a CZA permit pursuant to CZ Regulation 6.2, the Board next addresses the issues raised by the Environmental Appellants with respect to the issuance of the Permit. The Environmental Appellants argue that the record below clearly shows that the Secretary violated the CZA and the CZ Regulations on numerous grounds during his review and approval of TESI’s application for a CZA permit for the Facility. To that end, the Environmental Appellants introduced no new evidence in support of their arguments, relying solely on the record below. TESI and DNREC argue that the Permit was properly issued by the Secretary in compliance with applicable statutory and regulatory requirements. TESI contends, however, that if any violations occurred, those violations were neither serious nor prejudicial and therefore do not warrant the Board’s denial of the Permit.

Based on the evidence received and the record below, the Board finds that the Secretary complied with all applicable statutory and regulatory requirements in evaluating and issuing the Permit to TESI, with the following two exceptions: The Secretary violated CZ Regulation 9.3.1

in not setting forth schedules for the performance of the offset projects as enforceable permit conditions, and CZ Regulation 9.1.6 in not requiring the submission and approval of construction and operating permits for the offset projects. However, the Board finds those two violations standing alone do not warrant denial of the Permit. Accordingly, the Board affirms the Secretary's issuance of the Permit. The Board's findings and conclusions with respect to these issues are discussed below.

*The Secretary did not violate the Coastal Zone Act  
by approving and issuing Coastal Zone Act Permit No. 386  
to Tidewater Environmental Services, Inc.*

The Environmental Appellants argue that the Secretary violated the CZA by approving and issuing the Permit to TESI for a heavy industry use absolutely prohibited under 7 Del. C. § 7003. As discussed previously, the Board concludes that the Facility does not constitute a prohibited heavy industry use under the CZA; therefore the Board finds that no violation of § 7003 occurred.

The Environmental Appellants also contend that the Secretary violated the CZA by failing to comply with the requirements of § 7004(b) necessary for passing on the Permit request. Specifically, the Environmental Appellants argue that the Secretary failed to satisfy the § 7004(b)(1) requirement of considering the environmental impacts of the Facility in that: (1) the environmental benefits of the Facility are too speculative and thus unable to be properly considered; and (2) the Facility's negative environmental impacts were not adequately disclosed or considered by the Secretary.<sup>2</sup> In essence, the Environmental Appellants contend that the

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<sup>2</sup> The Environmental Appellants do not contend that the Secretary violated § 7004(b) with respect to any of the other five factors (economic; aesthetic; effect on neighboring land uses; number and type of supporting facilities required and their impact; and county and municipal comprehensive plans for the development and/or conservation of their areas of jurisdiction) required to be considered in passing on a CZA permit request.

Facility's environmental impacts were uncertain and not quantified and therefore provided the Secretary no basis under § 7004(b)(1) upon which to approve the Permit.

The Board considers these arguments in the context of the CZA's purpose, which is "to control the location, extent and type of industrial development in Delaware's coastal areas. . . [to] better protect the natural environment of its bay and coastal areas and safeguard their use primarily for recreation and tourism." 7 *Del. C.* § 7001. In adopting the Hearing Officer's recommendations and approving the Permit, the Secretary concluded that the Facility, once operational, will itself result in a positive environmental benefit to the Coastal Zone and the Inland Bays due to the level and method of wastewater treatment and its subsequent disposal through rapid infiltration basins ("RIBs") and spray irrigation, when compared treatment levels of existing, aging on-site septic systems. Sussex County's recent zoning decisions to approve residential development in the area of the Facility, in such close proximity to the Coastal Zone, make the issue of residential (domestic) wastewater treatment an extremely pressing environmental issue. The Secretary's rationale in approving the Permit is that, if residential development in the areas surrounding the proposed Facility is to occur, and the Board agrees with the Secretary that such development is inevitable, it is "the strong preference of [DNREC] to ensure that enhanced treatment services are provided through a centralized wastewater system, rather than allowing greater discharge of pollutants from on-site septic systems or other legally available options in amounts that will far exceed the discharge levels from the proposed Facility." The Secretary concluded that the Permit "should be issued with conditions because it will prevent the installation of thousands of septic systems and allow possible connections to an enhanced treatment system, which is consistent with [DNREC's] commitment to improving water quality and the Inland Bays PCS. The Facility will provide one way to achieve the

pollutant discharge reduction goals from development and improve Inland Bays' water quality to help meet federal and state standards." The Board finds that rationale to be reasonable and consistent with the intent and purpose of the CZA.

Regarding the Environmental Appellants' first set of issues alleging violation of § 7004(b), the Board considered the Environmental Appellants' argument that the environmental impacts of the Facility are too speculative to allow for a proper analysis under § 7004(b)(1) because certain technical issues have been deferred to the construction permit and certain environmental benefits have not yet been quantified. The Board rejects that argument and finds that, despite the "deferral" of certain technical issues to the construction permit phase, the Secretary had sufficient technical and scientific data to evaluate the Facility's environmental benefits (both positive and negative) under § 7004(b)(1) to support his approval of the Permit and his conclusion that the Facility would benefit the environment of the Coastal Zone and the Inland Bays by improving water quality.

As the record and testimony clearly reflect, extensive environmental testing was performed by TESI's contractors (and reviewed by DNREC) throughout the Permit application process to evaluate the Facility's suitability at its proposed location and its impact on the environment. Specifically, the environmental testing conducted included a soils investigation, involving drilling to determine permeability and groundwater depth at the proposed site. A detailed soils investigation report ("DSIR") was produced from that testing and approved by DNREC. In addition, a hydrogeological study was conducted by Eastern Geosciences, Inc. using the soil testing results. That study began in March 2007 and involved the drilling of 25 shallow table monitor wells across the Facility's site to measure groundwater depth at the Site over a three year period (specifically, three wet seasons lasting from December through May), as well



as 43 deep geoprobes on site borings to determine soil characteristics, and pump tests on four four-inch wells to determine aquifer characteristics. Using those test results, a comprehensive numerical groundwater flow model was created to calculate mounding and to evaluate the hydraulic capacity to ensure the Site was capable of accepting the amount of water proposed to be generated by the Facility. The model found the Site to be highly favorable based on soil characteristics (sandy) and a large depth to groundwater (19 to 22 feet) providing a good hydraulic connection to the highly permeable aquifer, particularly in the southern and western areas of the Site where the RIBs are proposed to be located. These test results determined the Site (RIB Area A) to have a highly favorable hydraulic capacity and supported the 1.45 million gpd capacity proposed by DNREC. In addition, the hydrogeological testing included two RIB loading tests (basin infiltration tests) that were performed on the Site. These tests involved the construction of actual RIBs, which were loaded with water continuously for several days to assess proper functioning to ensure that drained water would not "perch" in the vadose zone.

DNREC's Groundwater Protection Branch reviewed and confirmed the results of the hydrogeological testing in its June 28, 2010 letter to TESI, wherein it was indicated that the capacity of the Facility would remain limited to 1.45 million gpd (reduced from 3 million gpd) due, in part, to limited spare RIB area availability. That limitation was subsequently included as special condition number in the Permit and was not opposed by TESI.

In addition, the Board relies upon the testimony of TESI witness Bruce Patrick regarding the Delaware Geological Survey "Depth to Water Table" map of Sussex County, Delaware (Ex. 34), which indicated generally that RIBs generally "do not work" in 85-90% of Sussex County, due to water table depths. However, the DGS map indicates the Facility's 16-acre RIB area is in

a suitable location due to water table depths of 10 to 20 feet, supporting the same conclusions found in the hydrogeological testing conducted by Eastern Geosciences.

The Board finds that the results of the soil investigation and hydrogeological testing, in conjunction with the record prepared by DNREC, provided the Secretary with sufficient information and evidence to carry out his statutory duty under § 7004(b)(1). Specifically, that detailed testing assisted the Secretary in considering the environmental impacts of the Facility and to evaluate them in the context of deciding whether to issue the CZA Permit. The fact that the Secretary deferred specific related technical issues to the construction permit process does mean he did not “consider” them as required by § 7004(b) or that they were disregarded, as the Environmental Appellants’ argue. The evidence shows that those issues were, in fact, considered by the Secretary and that consideration resulted in his decision that they are more appropriately addressed through the construction permit under 7 Del. C. Chapter 60 requirements, which is the next required step in the regulatory approval process TESI must follow to obtain all necessary permits to construct and operate the Facility.

Therefore, the Board finds the Secretary’s action is appropriate in light of the simple fact that TESI must still comply with all applicable provisions of Chapter 60, as well as the “*Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems*” and the “*Guidance and Regulations Governing the Land Treatment of Wastes*” with respect to the design, construction and operation of the Facility before it treats *any* wastewater.

The Board also considered the Environmental Appellants’ related argument that the Secretary’s approval of the Permit despite his “concerns” regarding RIBs constitutes deferral of the RIBs’ environmental impact and therefore violates the CZA. In his Order, the Secretary

expressed DNREC's concerns regarding "the appropriateness of [RIBs] in Sussex County and the long term consequences on water quality should such a system fail." He stated that, as a result, DNREC "will require high performance standards, sound geologic science, and a rigorous technical review as part of the wastewater construction permit process."

The Environmental Appellants equate the Secretary's "concern" with speculation and therefore argue that the RIBs' environmental benefit cannot be known or assumed to exist, a result leading to their conclusion that the Secretary's failed to fulfill his statutory duty under § 7004(b)(1). The Board rejects this argument and finds that the performance and results of the soil testing, groundwater testing and resulting hydrogeological report, as well as the RIB loading testing, and DNREC's review and approval of such, provided the Secretary adequate information to consider the RIBs' environmental impact as required under § 7004(b)(1). In fact, the results of the RIB loading testing discussed above convinced DNREC to retain the 1.45 million gpd capacity of the Facility (with a corresponding reduction in the number of equivalent dwelling units to be serviced to 4,833). The fact that the Secretary in his Order expressed DNREC's concerns regarding RIBs in Sussex County is not unexpected considering his oversight responsibility, particularly when viewed in the context of the fact, as one TESI witness testified, that RIBs can fail quite easily due to a close groundwater table or poor subsoil condition, two conditions that were directly addressed by the hydrogeological study. However, what is important is that even beyond the hydrogeological study the Secretary's concerns will not go unaddressed, as he expressly required further "rigorous" technical review during the construction permit process. The Secretary further addressed the RIB "concerns" by requiring a special condition in the Permit requiring the submission of a plan as part of the construction permit process that prioritizes spray irrigation over RIB disposal to the maximum extent possible. This

Permit condition was required in response to conclusions set forth in the July 22, 2010 Technical Response Memorandum regarding the potential for significantly lower nitrogen loading rate resulting from spray irrigation as opposed to the rate resulting from the use of RIBs (quantified as a 14:1 ratio).<sup>3</sup>

The Board also considered the Environmental Appellants' argument that the uncertainty involving the actual number of new or existing "equivalent dwelling units" ("EDUs") that will eventually connect to the Facility (including the absence of any timetable or legal requirement for doing so) makes the environmental benefits of the Facility so speculative so as to prevent the Secretary from adequately considering the environmental impacts under § 7004(b)(1). Citing the July 22, 2010 Technical Response Memorandum, the Environmental Appellants also contend that the Secretary failed to consider that, based on the initial number of connected EDUs, the Facility may actually release treated wastewater with nitrogen levels higher than onsite wastewater treatment and disposal systems in the area because it will not operate at full denitrification mode until it reaches 10 - 20% of design flow – thus adding to the speculative nature of the environmental benefits.

The Board rejects this argument. Based on the evidence received and the record below, the Board finds that, while there is no legal obligation for new or existing homes to connect to the Facility, there is a strong likelihood that many will do so once their onsite septic systems fail (all systems will fail eventually), particularly in light of the significant costs associated with replacing a failed on-site system. In any event, the Facility will treat wastewater to nitrogen and phosphorus levels that meet and exceed the Inland Bays PCS, and the prioritization of spray

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<sup>3</sup> The Secretary imposed an additional RIB-related Permit Condition (No. 9), which required the relocation of one of the RIBs to a "more appropriate location;" however, TESI has already complied with that condition by removing the RIB.

irrigation in the early stages of the Facility's operation will address any potential elevated nitrogen levels. Additionally, the Board relies upon the testimony of TESI witness Bruce Patrick, who testified that the Facility will not begin operation until the required number of EDUs are connected to achieve the necessary flow rate to start the biological process to remove the nutrients. Until that time, the wastewater arriving at the Facility will not be treated but rather pumped and hauled untreated to an approved off-site location for treatment by TESI. As a result, discharges at levels exceeding the PCS will not occur, thus addressing the concerns expressed in the Technical Response Memorandum.

As noted above, the Board finds that the proposed Facility will meet and exceed the Inland Bays PCS and relies, in part, on the revised May 17, 2010 "Offset Chart," the original of which was included in the Secretary's Assessment Report. The Board acknowledges that certain aspects and specifics of the environmental impacts of the Facility are not able to be precisely calculated or quantified at this stage of the permit process, but that this inability should not be fatal to the CZA permit approval process. Those "unquantifiable" items include the exact number of EDUs that will connect to the Facility or when those connections will occur, as well as the amount of pollution (primarily nitrogen) entering the Coastal Zone via the Facility, as opposed to the amount entering the Coastal Zone from residential developments overall, in order to determine an offset. To that end, the Board acknowledges DNREC's query in its July 22, 2010 Technical Response Memorandum regarding the difficulty in quantifying the amount of pollution brought into the Coastal Zone to the Facility and notes that neither the CZA nor the CZ Regulations provide any metrics to assist in such a measurement, and no standards against which to measure. In any event, the Board agrees with the Secretary that the Facility itself is the primary offset that will result in more protective water quality than the septic systems it is

designed to replace, and the fact that some environmental impacts may be unquantifiable does not translate into non-compliance with the CZA.

The Board also considered the Environmental Appellants' argument that the benefits of the Facility are overstated because the capacity of the Facility has been reduced from 3 million gpd to 1.45 million gpd. The Board rejects that argument. Regardless of the capacity, the Facility will treat to PCS levels. In addition, TESI's witness testified that the impact does not happen until a connection actually occurs, but once it does, the benefit exists due to higher level of treatment.

The Board also considered the Environmental Appellants' argument that the proposed treatment levels at the Facility are not locked in by the Permit and are therefore speculative. The Board rejects that argument and again relies on the testimony of Mr. Patrick. The Facility is located within the Inland Bays Watershed and the Facility's treatment levels must, at a minimum, comply with those established by the Inland Bays PCS. Therefore, those levels are known and not speculative.

The Environmental Appellants' second set of issues alleging violation of § 7004(b) consist of arguments that the negative environmental impacts of the Facility were not adequately disclosed or considered by the Secretary in accordance with § 7004(b). Those alleged potential negative impacts include the failure to calculate environmental impacts from system failure or human error; the failure to account for damage to wetlands; the failure to consider whether the Facility will comply with the Inland Bays TMDL; the failure to examine the impact on the Inland Bays resulting from the Facility's location, relative to the septic systems it may replace (or those that will not be built); and the failure to consider all impacts from wastestreams at the Facility.

The Board considered the Environmental Appellants' argument that the Secretary failed to calculate environmental impacts resulting from system failure or human error at the Facility. The Board rejects this argument based upon information in the Permit application and the testimony of TESI's witnesses regarding the Facility's design redundancies, specifically the ability to rotate RIB usage between the six RIBs in an area in the event maintenance or repair is required. The Board also relies on the testimony regarding additional redundancies in terms of the availability of spare parts and backup equipment in the event of a power failure at the Facility, as well as the ability to replenish bacteria needed for the membrane bioreactor.

The Board next considered the Environmental Appellants' argument that the Secretary failed to account for damage to wetlands. The Board rejects this argument. There is no evidence in the record that wetlands will be impacted. In fact, TESI's CZA permit application indicates no impact on wetlands and the Secretary's Assessment Report states "[t]here will no loss of, or impacts to, wetlands."

The Board next considered the Environmental Appellants' argument regarding the failure to consider whether the Facility will comply with the Inland Bays TMDL. The Board rejects this argument. The Board accepts the testimony provided by TESI witness Lee Beetschen. The Inland Bays TMDL itself states that it shall be implemented through the Inland Bays PCS. The record clearly reflects that the Facility's treatment will meet the PCS levels, and therefore comply with the TMDL.

The Board next considered the Environmental Appellants' argument that the Secretary failed to examine the impact on the Inland Bays resulting from the Facility's location, relative to the septic systems it may replace (or those that will not be built). The Board rejects this argument. The record reflects TESI used the Geographic Information System to identify the

number of existing septic systems (1600) in the proposed service area that would be replaced by connection to the Facility. As noted previously, however, the exact number of connections is unknown; therefore the impact cannot be quantified.

The Board next considered the Environmental Appellants' argument that the Secretary failed to consider all impacts from wastestreams at the Facility. The Board rejects this argument. TESI's CZA permit application provided sufficient detail to allow the Secretary to consider impacts from solid waste streams generated by the Facility. Initially, solid waste will be collected and stored in a vented tank, and then transported offsite outside the Coastal Zone to a permitted disposal facility. As solid waste generation increases with the Facility's build-out, the waste will be dewatered onsite and then transported offsite for disposal outside the Coastal Zone.

In sum, the Secretary's decision to issue the Permit stems ultimately from his determination under § 7004(b) that the Facility itself will result in a net positive impact on water quality and is therefore an improvement to the quality of the environment of the Coastal Zone and the Inland Bays. The Board agrees that the evidence submitted and the record below clearly support that determination and the issuance of the Permit. *See Kearney v. Coastal Zone Indus. Control Bd.*, 2005 WL 3844219, at \*6 (Del. Super. Mar. 18, 2005) (affirming the Secretary's issuance of a CZA permit based on a finding that the project at issue would result in a net decrease in air pollution and was therefore environmentally desirable.). Therefore, with respect to the Environmental Appellants' issues pertaining to compliance with § 7004(b), the Board concludes that the Secretary adequately and appropriately considered the environmental impacts of the proposed Facility in passing on the Permit request and, in doing so, complied with the CZA.



*The Secretary violated Coastal Zone Regulations  
in approving and issuing Coastal Zone Permit No. 386 to  
Tidewater Environmental Services, Inc, but such violation  
does not warrant denial of the permit.*

The Environmental Appellants contend that the Secretary failed to comply with CZ Regulations in passing on TESI's CZA permit application. Specifically, the Environmental Appellants argue that the Secretary violated CZ Regulation 9.3.1 by approving and issuing the CZA Permit without placing a contingency on TESI's carrying out the proposed offsets in accordance with an agreed upon schedule for completion of the offsets, or the Facility itself, and the failure to include such a schedule as an enforceable condition of the Permit. Further, the Environmental Appellants argue that the Secretary violated CZ Regulation 9.1.6 by failing to require the submission of an administratively complete construction permit for the Facility prior to the issuance of the Permit, as well as CZ Regulation 9.1.1 by failing to provide for an offset clearly and demonstrably more beneficial to the environment in the Coastal Zone than the harm resulting from the Facility's negative impacts.

Based upon the Board's review of the evidence received and the record below, the Board finds that the Secretary did not comply with CZ Regulation 9.3.1 or 9.1.6 in issuing the Permit but that those violations do not warrant the Board's denial of the Permit. However, the Board finds there was no violation of CZ Regulation 9.1.1, as the Board agrees with the Secretary's Assessment Report, supported by evidence in the record, that the Facility itself is an offset required under the CZA because it will treat wastewater to nitrogen and phosphorus levels that are, under any scenario, more protective and beneficial to water quality than that achieved by the septic systems it is designed to replace.

In concluding that the Permit should be issued despite those violations, the Board again relies generally on *Kearney*, 2005 WL 3844219 at \*6, n. 22, where the Court stated that the Secretary's inclusion of a special condition in a CZA permit making it contingent upon the permittee's creating a "catastrophic incident management plan" – where the permittee contends it is much too early in the process to submit such a plan with its permit request – while not proper grounds to issue the Permit given the statutory requirement, was not a sufficient basis on which to deny it.

Specifically, regarding Regulation 9.3.1, it is difficult for the Board to envision what such a schedule could be at this point in time. In any event, the omission of the schedules from the Permit does not adversely affect the sufficiency or the specificity of the offset conditions themselves, or the Board's ability to assess them. As stated above, the Board concludes that the Permit was issued in compliance with the CZA, with these two regulatory violations. Those conditions nonetheless remain CZA Permit conditions enforceable by DNREC until completed to DNREC's satisfaction and TESI's noncompliance could warrant revocation of the Permit. Ultimately, the Facility's construction and operation itself is contingent on TESI's compliance with those conditions through its construction permit, regardless of the timing and schedule for completion.

Regarding Regulation 9.1.6, the Board considered testimony from TESI's witness regarding the required submission of the construction permit. DNREC representatives initially indicated that requirement was not necessary due to the major expense associated with the design of a complete wastewater treatment plant prior to issuance of a CZA permit. DNREC reversed its position as indicated by the Secretary's Environmental Assessment Report dated April 23, 2010. However, following further discussions with TESI concerning the review of the

construction design condition by DNREC's Groundwater Discharges Section, it was agreed the construction permit would not be required. This indicates to the Board that the Secretary's action with respect to the construction permit was not in ignorance of the Regulation, but rather a reasoned decision by DNREC personnel. Regardless of the reasoning, the construction permit will be evaluated by DNREC and subject to public hearing pursuant to 7 Del. C. Chapter 60 prior to decision by the Secretary and will address the science and appropriateness of the Facility's RIBs, the reforestation plan, spray irrigation and other environmental impacts of the Facility. Therefore, despite the Secretary's decision not to require the submission of an administratively complete construction permit application prior to issuing the Permit, those matters will be reviewed – and subject to public hearing – at a later date, and this timing issue did not impair the Board's ability to assess the statutory sufficiency of the Permit under the CZA, the primary purpose of which is to safeguard the Coastal Zone for primarily tourism and recreation uses. 7 Del. C. 7001. *See also Oceanport Industries, Inc. v. Wilmington Stevedores*, 636 A.2d 892, 906 (Del.Supr. 1994) (“Although both Chapter 60 and the CZA are administered by DNREC, they have different purposes and requirements. There is *no statutory requirement* that a permit applicant obtain a favorable CZA status decision before applying for Chapter 60 permits. Similarly, when determining an applicant's status under the CZA, *there is no requirement that the applicant have any status with regard to Chapter 60 permits*. Although Oceanport received a CZA status decision from the Secretary, Delaware law does not compel concurrent compliance with regard to Chapter 60 permits.”)(Emphasis added).<sup>4</sup>

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<sup>4</sup> The Board recognizes that this decision predates the promulgation of the CZ Regulations; however, because the violation is of CZ Regulation 9.1.6 and not the CZA itself, the Board finds the cited language supports its conclusion.

*The Permit Conditions are not so vague  
as to prohibit proper review and enforcement*

The Environmental Appellants contend that five Permit conditions are so vague as to violate the spirit and intent of the CZA (*i.e.* protection of the Coastal Zone) because those conditions fail to provide the Board sufficient information to adequately evaluate and assess those conditions--and ultimately the Permit itself--for compliance with the CZA.

Specifically, the Environmental Appellants argue that Permit Conditions Nos. 5, 6, 7, 8 and 9 (collectively the "Permit Conditions") are vague, primarily because they simply require TESI to submit plans, rather than provide specific criteria and/or take specific action to comply and the Board must therefore deny the Permit application as the evidence does not support compliance with the CZA.

The Board reviewed the five Permit Conditions at issue and rejects the Environmental Appellants' argument with respect to each. The Environmental Appellants have the burden of proving that the Permit Conditions, even if they are vague as alleged, warrant denial of the Permit and no evidence was presented by the Environmental Appellants to meet that burden. The Board finds that these Permit Conditions are just that: conditions under the Permit with which TESI must comply or risk revocation of the Permit by DNREC. The Board also finds that the Permit Conditions are adequate in specificity and do not adversely affect DNREC's ability to enforce them. It is not the Board's obligation or burden to show that the Permit Conditions are not vague and not grounds for denial of the Permit. Nonetheless, the Board notes that the Environmental Appellants have challenged the Permit Conditions as to their vagueness, but not on their merits.

Permit Condition No. 5 requires TESI to “*minimize their environmental footprint...as it relates to deforestation, and shall submit to [DNREC] as part of its construction permit a reforestation plan equal to 130% of the estimate loss of mature forest*”. The Board agrees with DNREC’s position that the Technical Response Memorandum addresses the reforestation requirement with sufficient specificity (replacement at 1.3:1 ratio and minimize the footprint of facilities that require deforestation). Additionally, TESI presented evidence that its reforestation plan will be addressed in its construction permit, and the Board agrees that is the appropriate context in which to assess the plan’s adequacy.

Permit Condition No. 6 requires TESI to “*submit to [DNREC] as part of its construction permit a plan to comply with the recommendation within the National Heritage Program’s report*.” The Board agrees with DNREC’s response that TESI’s failure to comply with all of the conditions in the 20-page National Heritage Program Survey Report (“Report”) may be grounds for revocation of the Permit. To that end, TESI presented evidence that certain Report requirements will be incorporated into its construction permit, *i.e.* with respect to when construction may occur, as well as into the Facility’s operating manual, and the Board agrees that is the appropriate context in which to assess compliance with this Permit Condition.

Permit Condition No. 7 requires TESI to “*submit to [DNREC] as part of its construction permit an operations plan that established under normal operations a priority use of spray irrigation to the maximum extent possible, particularly during the early phases of the project to maximize the environmental and agricultural benefit, and priority use of spray irrigation or agricultural areas over spray irrigation of wooded areas*.” The Board adopts DNREC’s response, as set forth in its pre-hearing submission, and finds this Permit Condition is not vague.

Permit Condition No. 8 requires TESI to “*relocate the rapid infiltration basin on the northern portion of the combined parcel to a more appropriate location in consultation with [DNREC].*” TESI presented evidence through its witness that the RIB on the northern portion of the combined parcel was removed from the Facility’s plans as of May 2010, prior to the issuance of the Permit in July 2010, and that Permit Condition No. 8 does not apply to the remaining RIBs at the Facility. Therefore, the Board finds that the vagueness issue raised by the Environmental Appellants regarding this Permit Condition is moot.

Permit Condition No. 9 requires TESI to “*prepare a surface water assessment report to demonstrate that the project meets Total Maximum Daily Load (TMDLs) established for the surrounding watersheds.*” TESI presented evidence through its witness that TESI and DNREC are continuing to work through this Permit Condition. While the Board finds this Permit Condition is sufficiently specific to allow for proper enforcement by DNREC once the surface assessment report is prepared and submitted by TESI, the Board notes that neither the CZA nor the CZ Regulations expressly require TMDL compliance as a condition of obtaining a CZA permit. Accordingly, this requirement is appropriately addressed through the non-CZA permitting process.

*DNREC did not commit procedural irregularities in  
conducting its May 19, 2010 Public Hearing on  
Tidewater Environmental Services, Inc.’s  
Application for a Coastal Zone Act Permit*

The Environmental Appellants contend the Permit should be denied due to “procedural irregularities” committed by DNREC in conducting its required public hearing on TESI’s CZA permit application for the Wandendale Facility. Specifically, they contend DNREC violated CZ Regulation 10.2 by accepting TESI’s changes to its “Application for a Coastal Zone Act Permit”

on May 6, 2010 after having publicly noticed the May 19, 2010 public hearing on April 23, 2010, but acknowledge that such a violation may not be a basis in and of itself to deny the Permit. In any event, the Environmental Appellants argue that under Regulation 10.2, once public notice of a public hearing is advertised, no revisions to any application are permitted and a new application must be submitted. Thus, they contend the May 19, 2010 public hearing should have been cancelled and re-noticed for a later date because the May 6, 2010 updates were received *after* the April 25, 2010 public notice – and DNREC’s failure to do so may constitute grounds for denial of the Permit.

Based on the evidence received and the record below, the Board finds that DNREC’s public notice for the May 19, 2010 public hearing was properly published in *The News Journal* on April 25, 2010. TESI’s original “Application for a Coastal Zone Act Permit” for the Facility was submitted to DNREC on or about September 25, 2009, followed by a revised Application submitted on or about March 19, 2010. On or about May 6, 2010, TESI submitted minor updates to the revised application as a result of TESI’s discussions with DNREC staff during the permitting process. These updates consisted of the elimination of a diesel-fueled generator (eliminating a potential source of air emissions), and a substitution of spray irrigation for one of the RIB areas (farther away from the inland waters) – both of which would appear to constitute an environmental benefit to the Coastal Zone.

The Board concludes that there was no violation of CZ Regulation 10.2 and rejects the Environmental Appellants’ argument that the failure to re-notice and reschedule the public hearing warrants denial of the Permit. The Board agrees with TESI that the minor updates to the March 19, 2010 revised application, deemed administratively complete by DNREC on April 23, 2010, did not so materially change the scope or nature of the Facility as to constitute a (further)

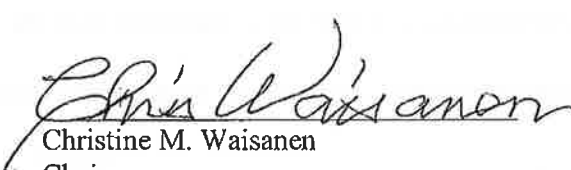
revised application. Once deemed administratively complete, the March 19, 2010 revised application was on a 90-day timeline for decision by the Secretary. Within that timeframe, the public had the opportunity at the May 19, 2010 public hearing, as well as at the September 16, 2010 hearing before this Board, to comment on the types of matters addressed by the May 6, 2010 updates. Therefore, neither the public generally, nor the Environmental Appellants specifically, were prejudiced by the fact that the public hearing was not re-noticed or rescheduled by DNREC, and no evidence was presented by the Environmental Appellants to suggest the public hearing process was prejudicial in any way. Rather, the Board agrees, as TESI contends, that rescheduling the public hearing may have confused and prejudiced the public unnecessarily and adversely impacted the Secretary's ability to issues his decision within the 90-day time required by the Regulations.

### CONCLUSION

The Board is authorized by statute to hear these appeals from the Secretary's decision to grant Coastal Zone Act Permit No. 386 to Tidewater Environmental Services, Inc., and to take final action on that Permit by affirming the Secretary's decision, modifying the Permit, or denying the Permit. 7 Del. C. § 7007(a). Based on the foregoing findings and conclusions, the Board affirms the Secretary's decision regarding the issuance of the Permit.

IT IS SO ORDERED.

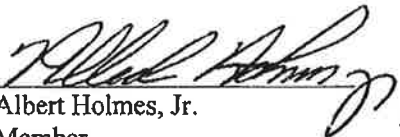
Date: 10/17/10

  
Christine M. Waisanen  
Chair



Coastal Zone Industrial Control Board  
Appeals 2010-01, 02 & 03

Date: 10/11/10

  
Albert Holmes, Jr.  
Member

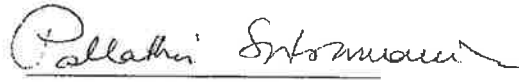
Coastal Zone Industrial Control Board  
Appeals 2010-01, 02 & 03

Date: \_\_\_\_\_

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Victor Singer  
Member

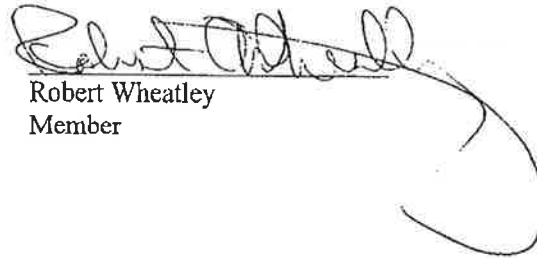
Coastal Zone Industrial Control Board  
Appeals 2010-01, 02 & 03

Date: Oct 11, 2010

  
Pallatheri Subramanian  
Member

Coastal Zone Industrial Control Board  
Appeal 2010-01, 02 & 03

Date: W/4/10

  
Robert Wheatley  
Member

IN THE SUPERIOR COURT OF THE STATE OF DELAWARE  
IN AND FOR SUSSEX COUNTY

2011 OCT 27 PM 12: 50

SIERRA CLUB, CITIZENS COALITION,  
INC., CITIZENS ACTION FOUNDATION,  
INC., SOUTHERN NEW CASTLE COUNTY  
ALLIANCE, INC.,

C.A. No. S10A-10-005

Appellants Below,  
Appellants and Cross-Appellees,

v.

TIDEWATER ENVIRONMENTAL  
SERVICES, INC.,

Appellant Below,  
Appellee and Cross-Appellant,

v.

DELAWARE DEPARTMENT OF  
NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL,

Appellee Below,  
Appellee.

Submitted: August 19, 2011  
Decided: October 27, 2011

On Appeal from the Decision and Final Order of the Delaware Coastal Zone Industrial  
Control Board: MODIFIED IN PART, AFFIRMED

**MEMORANDUM OPINION**

Kenneth T. Kristl, Esquire, Widener Environmental and Natural Resources Clinic, Wilmington, Delaware, Attorney for Sierra Club, Citizens Coalition, Inc., Citizens Action Foundation, Inc., and Southern New Castle County Alliance, Inc.

Jeremy W. Homer, Esquire, Dover, Delaware, Attorney for Tidewater Environmental Services, Inc.

Robert F. Phillips, Esquire, Wilmington, Delaware, Attorney for Delaware Department of Natural Resources and Environmental Control.

Graves, J.

## **Procedural Posture and Factual Background**

Pending before the Court are cross-appeals from a decision made by the Coastal Zone Industrial Control Board (“the Board”). By way of the Board’s Decision and Final Order issued on October 11, 2010 (“the Decision”), the Board affirmed the issuance of Coastal Zone Permit Number 386 (“the Permit”) to Tidewater Environmental Services, Inc. (“TESI”) for a proposed private wastewater treatment facility to be located in Sussex County, Delaware, known as the Wandendale Regional Wastewater Treatment and Disposal Facility (“the Facility”). The Permit was issued pursuant to the Delaware Coastal Zone Act (“the CZA”).<sup>1</sup> Appellants Sierra Club Citizens Coalition, Inc., Citizens Action Foundation, Inc., and Southern New Castle County Alliance, Inc. (collectively, “the Environmental Appellants”) seek to have the Court hold the Decision invalid because of the Board’s alleged failure to comply with the CZA’s requirements for a final decision. They ask the Court to reverse the underlying decision by the Secretary of the Delaware Department of Natural Resources and Environmental Control (“Secretary”) to issue the permit. Applicant TESI also appeals the Decision and contends the Board correctly concluded the Facility is neither a “heavy industry use” nor a “manufacturing” use but that the Board’s approval of the permit pursuant to Regulation 6.2 of DNREC’s Regulations Governing Delaware’s Coastal Zone (“the Regulations”) was illegal because Regulation 6.2 has no statutory basis. In other words, TESI argues no permit process is required at all because DNREC exceeded its authority in creating a new regulatory hurdle.

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<sup>1</sup> 7 Del. C. § 7001, *et seq.*

## Statement of Facts

On September 24, 2009, TESI submitted its application to the Delaware Department of Natural Resources and Environmental Control (“DNREC”) for a CZA permit for the Facility. On or about March 19, 2010, TESI submitted a revised application. As contemplated by the application, the Facility will serve as a privately-owned sewage treatment plant designed to treat domestic sewage up to 3.0 million gallons per day (“MGD”). The Facility will accommodate existing and new housing subdivisions as an alternative to individual septic tanks. TESI anticipates that, eventually, users of 1600 existing septic tanks and 8400 future septic tanks, or a total of 10,000 Equivalent Dwelling Units, will use the Facility.

The Facility will be built in phases and TESI estimates it could take between twenty and thirty years before the Facility will be able to treat domestic sewage at a rate of 1.45 MGD.<sup>2</sup> Eventually, the Facility will include: (1) a building containing a headworks facility, a few smaller buildings and several underground treatment tanks, having a collective footprint of approximately 2.5 acres; (2) 16 acres of underground rapid infiltration basins (“RIBs”) into which some of the treated water will be discharged; (3) two storage ponds; and (4) 150 acres of agricultural fields onto which treated wastewater will be sprayed. The underlying aquifer feeds into the Inland Bays.

On April 23, 2010, the Secretary issued his Environmental Assessment Report (“EAR”) on the CZA application as required by the Regulations. As part of its assessment, the Secretary is required to evaluate an applicant’s “offset project”, if an offset project is required by the

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<sup>2</sup> Although TESI sought authorization for up to 3.0 MGD, the permit, as issued, allows for treatment up to 1.45 MGD.



Regulations.<sup>3</sup> TESI's application proposed that the Facility itself be considered the offset as the offset would occur coincident with treatment of the waste and prior to its discharge onto the land. In his EAR, the Secretary concluded:

[The Facility] will treat effluent from residential development to Total Nitrogen and Phosphorus standards that are, under any build-out scenario, more protective of water quality than discharge rates from systems it is designed to replace, thereby satisfying the offset requirements under the regulations.

The issuance of the EAR formally commenced DNREC's CZA review process. In accordance with the CZA, DNREC held a public hearing on May 19, 2010, before a Hearing Officer on the permit application. On July 22, 2010, the Hearing Officer issued his report recommending the issuance of the permit. In his report, the Hearing Officer concluded the Facility was not a heavy industry use under the Act but the Facility was a manufacturing use subject to CZA permit requirements. The Hearing Officer recommended adoption of six special permit conditions.

On July 23, 2010, the Secretary adopted the Hearing Officer's Report and incorporated it into the Secretary's Order granting the CZA permit for the Facility. The Secretary ordered that the permit be issued with the same six special conditions recommended by the Hearing Officer. The permit for the "construction and operation of a regional wastewater treatment and disposal facility" was signed by the Secretary on July 30, 2010. The permit is subject to the following special conditions: (1) TESI must submit to DNREC a construction permit

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<sup>3</sup> The Regulations provide, "Any application for a Coastal Zone permit for an activity or facility that will result in any negative environmental impact shall contain an offset proposal. Offset proposals must more than offset the negative environmental impacts associated with the proposed project or activity requiring a permit." Regulation 9.1.1.

application based upon a design limit of 1.45 MGD; (2) TESI must attempt to minimize its environmental footprint, particularly as it relates to deforestation and shall submit to DNRFC as part of its construction permit a reforestation plan equal to 130% of the estimated loss of mature forest; (3) TESI must submit to DNRFC as part of its construction permit a plan to comply with the recommendations made by the Natural Heritage Program; (4) TESI must submit to DNRFC as part of its construction permit an operations plan that uses spray irrigation to the maximum extent practicable to maximize the environmental and agricultural benefit; (5) TESI shall relocate the RIB on the northern portion of the combined parcel to a more appropriate location in consultation with DNRFC; and (6) TESI must prepare a surface water assessment report to demonstrate that the project meets Total Maximum Daily Loads established for the surrounding watersheds.

Both the Environmental Appellants and TESI filed appeals of the Secretary's Order. The Board consolidated the appeals and held a mandatory public hearing on the appeals on September 16, 2010. On September 24, 2010, the five members present all voted for the permit to issue. On October 11, 2010, the required written decision was filed. The Board found the Facility was not a heavy industry use prohibited by the CZA and also determined that the Facility was not a manufacturing use under the CZA, contrary to the Secretary's order. Nevertheless, the Board concluded the Facility was still required to obtain a CZA permit pursuant to the Regulations. The Board agreed with the Secretary that the Facility would produce environmental benefits. The Board found the Secretary had violated two of the Regulations, one requiring an offset schedule be in place prior to the issuance of a CZA permit and one requiring an

administratively complete construction permit be filed prior to the issuance of a permit, but the Board concluded the violations did not warrant denial of the permit.

The Environmental Appellants filed an appeal of the Decision on October 29, 2010. TESI filed a cross-appeal. Briefing has been completed and supplemented by oral argument. The matter is now ripe for decision.

### **Validity of the Board's Final Order**

Environmental Appellants first argue that the Decision is not valid because it was signed by only four members of the Board. If the Decision is not valid, the Court must address the Environmental Appellants' assertion the matter should be decided by the Court on the record below. Because the Court concludes the Board's Decision was executed properly, it need not consider whether the Court is the proper entity to engage in fact-finding of such a hyper-technical nature.

As contemplated by the CZA, the Board consists of nine voting members, five of whom are "regular members" and are appointed by the Governor and confirmed by the Senate.<sup>4</sup> The other four members are the Director of the Delaware Economic Development Office and the chairpersons of the planning commissions of each county.<sup>5</sup> In September of 2010, the regular members on the Board were Christine M. Waisanen, Robert D. Welsh, Pallatheri Subramanian, John S. Burton, Sr., and Robert D. Bewick, Jr. Also serving on the Board were Alan Levin, Director of the Delaware Economic Development Office; Victor Singer, Chairman of the New

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<sup>4</sup> 7 *Del. C.* § 7006.

<sup>5</sup> *Id.*

Castle County Planning Board; Albert W. Holmes, Jr., Chairman of the Kent County Regional Planning Commission; and Robert Wheatley, Chairman of the Sussex County Planning and Zoning Commission.

With regard to TESI's CZA permit application, two Board members, Mr. Burton and Mr. Bewick, disqualified themselves. In addition, two Board members, Mr. Levin and Mr. Welsh, were absent from the public hearing on TESI's application. The remaining five members attended the Board's day-long evidentiary hearing on September 16, 2010, and voted in favor of affirming the Secretary's issuance of the permit in public deliberations held on September 24, 2010. Four of the five attending and voting members signed the Board's decision dated October 11, 2010.

The CZA provides, "A majority of the total membership of the Board less those disqualifying themselves shall constitute a quorum. A majority of the total membership of the Board shall be necessary to make a final decision on a permit request."<sup>6</sup> The CZA directs that all appeals of permits issued under the CZA be directed to the Board.<sup>7</sup>

The Board addressed this issue in its decision. Citing § 7006 of the CZA as well as the Superior Court's decision in *Shields v. Keystone Cogeneration Systems, Inc.*,<sup>8</sup> the Board concluded a majority of the total membership less those disqualified was necessary both to establish a quorum and to render a final decision on a CZA permit request. I disagree with the Board's

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<sup>6</sup> *Id.*

<sup>7</sup> 7 Del. C. § 7007.

<sup>8</sup> 611 A.2d 502 (Del. Super. 1991).

interpretation of the statute and case law and hold five votes are necessary for a permit to issue.

The parties agree that, under the circumstances present at the hearing on TESI's permit application, the Board needed at least four members present to have a quorum.<sup>9</sup> The Court concurs. However, the Court finds the Board and TESI improperly rely upon the *Shields* holding in concluding it needed only four members to vote in favor of the permit. Pursuant to the plain language of the CZA, the Board needed to have five votes in favor of the permit to render a final decision.<sup>10</sup> In the *Shields* decision, Judge Taylor reviewed the validity of a Board vote and wrote with regard to the language of § 7006 that concerns the voting requirements:

With respect to the two sentences at issue, I do not find an irreconcilable inconsistency. The first sentence states a customary method for determining a quorum which would apply in ordinary situations. *The latter sentence provides a special requirement governing a final decision on a permit request.* The Board is empowered "to hear appeals from decisions of the Secretary ... made under § 7005." Those decisions include certain regulations and a comprehensive plan and guidelines. 7 Del. C. § 7005(b) and (c). *It is understandable that the legislators might provide a stricter standard for dealing with permits involving the application of the Act to a particular use of specific land than would be required for regulations and a comprehensive plan and guidelines.* I conclude that the words "total membership" should be given the same meaning in both sentences, namely, meaning all non-disqualified members of the Board. *Agreement of five Board members is needed to constitute the action of the Board on a permit request.*<sup>11</sup>

TESI argues the statement that "the words 'total membership' should be give the same meaning in both sentences" supports the Board's conclusion that only four votes were needed

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<sup>9</sup> "[A] majority of the total membership of the Board", in this case 9, minus "those disqualifying themselves", in this case 2, equals a majority of 7, or 4 members.

<sup>10</sup> "[A] majority of the total membership of the Board", in this case 9, equals 5 members.

<sup>11</sup> *Shields*, 611 A.2d at 504-05 (emphasis added).

to approve the CZA permit. However, I find the cited sentence so at odds with the remainder of the paragraph, which clearly acknowledges that the legislators intended to create a higher standard for the granting of a permit than that used to conduct other business, that I conclude that sentence must have been intended to be limited to the facts of that case (where there were, in fact, no non-disqualified members) or perhaps mistakenly inserted into the opinion. Nevertheless, the Court embraces Judge Taylor's sound conclusion that the General Assembly intended for a stricter standard to apply to the review of permits.

DNREC, itself, has backed away from the Board's position and has helpfully supplied the Court with copies of drafts of the CZA legislation. Although it is unknown whether Judge Taylor had the benefit of viewing the legislative history of the CZA, it is clear from studying the proposed amendments to the legislation that the General Assembly ultimately decided a majority of the Board's total membership should be required to make a final decision on a permit regardless of whether any members were disqualified from a particular matter.<sup>12</sup>

Having concluded that five votes are needed for a final decision on a permit, the Court turns to the question raised by the Environmental Appellants in its Reply Brief and at oral argument: whether the final order must be authenticated by five signatures. The parties do not dispute, and it is clear from the record, that all five of the attending Board members voted in favor of affirming the issuance of the permit at the Board's public deliberations hearing on September 24, 2010.

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<sup>12</sup> There were many drafts of the legislation entertained before the final passage of the CZA. These drafts contained various voting requirements. Notably, the House rejected language that would have required a majority, less those disqualifying themselves, vote in favor of a permit request.

The Board is subject to the Delaware Administrative Procedures Act ("APA").<sup>13</sup> The APA sets out the manner in which a decision is incorporated into a final order as such:

- (a) The agency shall make its decision based upon the entire record of the case and upon the summaries and recommendations of its subordinates.
- (b) Every case decision of any agency shall be incorporated in a final order which shall include, where appropriate:
  - (1) A brief summary of the evidence;
  - (2) Findings of fact based upon the evidence;
  - (3) Conclusions of law;
  - (4) Any other conclusions required by law of the agency; and
  - (5) A concise statement of the agency's determination or action on the case.
- (c) Every final order shall be authenticated by the signatures of at least a quorum of all agency members, unless otherwise provided by law.<sup>14</sup>

The Environmental Appellants argue that an oral vote is not a final rendering of the Board's decision and that the final order must be authenticated by five signatures because § 7006 of the CZA provides an exception to the APA's requirement of four authenticating signatures. I disagree.

The CZA does not distinguish between written and oral final decisions on permit requests. The absence of any distinction must be viewed as intentional. The CZA speaks only to the vote on a permit; it makes no mention of the authenticating requirement of the APA. The requirement of an authenticated written rationale pursuant to the APA does not undo the legal action taken by the vote of the Board at its September 24, 2010, meeting. The Board's ruling on that date constitutes a "case decision" as contemplated by § 10128 of the APA and a "final decision" as contemplated by § 7006 of the CZA. This final decision or case decision is then

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<sup>13</sup> 29 Del. C. § 10101, *et seq.*

<sup>14</sup> 29 Del. C. § 10128.

memorialized as a final order pursuant to § 10128 of the APA and authenticated by four signatures.

The Board did not act as if its actions were anything less than final at its public deliberations. Chairwoman Waisanen began the public deliberations meeting with the statement, “We’ll not be taking public comments at this time. But we will discuss the issues and vote on them, whenever there is a motion. But once we do our final vote, that will be it.”

The Court also agrees with TESI’s observation that to construe the statute otherwise would frustrate the purpose of the Delaware Freedom of Information Act.<sup>15</sup> To hold as the Environmental Appellants urge, a Board member could vote against a project in public deliberations and then change his vote in private. This result is entirely at odds with the legislature’s interest in transparency of government action.

The Court rejects the Environmental Appellants’ argument that the CZA’s requirement a majority of the Board must vote in favor of a permit request for the permit to issue requires that the final order adopting the public vote be authenticated by the majority of the Board under § 10128 of the APA. The Court is satisfied the vote at the September 24, 2010, was a final case

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<sup>15</sup> 29 Del. C. § 10001, *et seq.* Section 10001 provides the purpose of the Freedom of Information Act as follows:

It is vital in a democratic society that public business be performed in an open and public manner so that our citizens shall have the opportunity to observe the performance of public officials and to monitor the decisions that are made by such officials in formulating and executing public policy; and further, it is vital that citizens have easy access to public records in order that the society remain free and democratic. Toward these ends, and to further the accountability of government to the citizens of this State, [the Freedom of Information Act] is adopted, and shall be construed.



decision that was then formally and validly incorporated into a final order in accordance with the APA.

### Standard of Review

The only issue on review is “whether the Board abused its discretion in applying standards set forth by [the CZA] and regulations issued pursuant thereto to the facts of the particular case.”<sup>16</sup> This Court has the power to affirm, modify or reverse the order of the Board.<sup>17</sup>

The Supreme Court and this Court have repeatedly emphasized the limited appellate review of the factual findings of an administrative agency. The function of the reviewing Court is to determine whether the agency’s decision is supported by substantial evidence.<sup>18</sup> Substantial evidence means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.<sup>19</sup> The appellate court does not weigh the evidence, determine questions of credibility, or make its own factual findings.<sup>20</sup> The Court “shall take due account of the experience and specialized competence of the agency” and determine if the evidence is legally adequate to support the agency’s factual findings.<sup>21</sup>

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<sup>16</sup> 7 Del. C. § 7008.

<sup>17</sup> *Id.*

<sup>18</sup> *General Motors Corp. v. Freeman*, 164 A.2d 686, 688 (Del. 1960); *Johnson v. Chrysler Corp.*, 213 A.2d 64, 66-67 (Del. 1965).

<sup>19</sup> *Oceanport Indus., Inc. v. Wilmington Stevedores*, 636 A.2d 892, 899 (Del. 1994).

<sup>20</sup> *Johnson v. Chrysler*, 213 A.2d at 66.

<sup>21</sup> 29 Del. C. § 10142(d).

## **Summary of the Evidence Presented Below**

The Board reviewed documentary and demonstrative evidence, in addition to the sworn testimony of live witnesses. The testimony presented below is summarized here.

Bruce Patrick, Vice President of Engineering for TESI testified on behalf of TESI. He is responsible for the planning, permitting and oversight of TESI's capital improvement program. TESI is overseen by the Public Service Commission with respect to rates and areas of operation, by DNREC with regard to permits, and by local agencies with regard to zoning issues.

Mr. Patrick testified that the Facility is located approximately four and a half miles from the Atlantic Ocean. The site is located near the Marsh Island Golf Course and Love Creek, a popular location for boating and fishing. The Facility would not have a negative impact on these activities. The Facility would treat wastewater to public access standards.

Mr. Patrick stated that the Facility would be constructed in an agricultural style. The main building will resemble a barn. The treatment tanks located nearby would be underground and the fields would remain agricultural. The Facility would also have sixteen acres dedicated to RIBs, and two water storage ponds.

TESI will use a membrane bioreactor to obtain the high end treatment. The treated water will meet the Pollution Control Strategy ("PCS") standards by producing water with 5 mg/liter of nitrogen and .5/liter of phosphorus. Pursuant to the PCS standards, the phosphorus level must be at most 4 mg/liter and the nitrogen level must be at most 10 mg/liter. The Facility will exceed these minimum standards and the treated water will meet drinking water standards.

The membrane bioreactor technology has been used in other areas with very good results. The treated water will also meet the applicable provisions of the Inland Bays Pollution Control Strategy. The treated water will then be submitted to ultraviolet disinfection. All of the water will be treated to drinking water standards before going into the RIBs. There are approximately 150 acres available for spray irrigation on the site.

Mr. Patrick also testified that testing has been done to ensure the site soil can handle the proposed water load. Upon request from DNREC, TESI performed a RIB loading test where they constructed several RIBs and loaded them to see if they would perform as anticipated. They did and the Detailed Soils Investigation Report was deemed satisfactory by DNREC, although DNREC limited TESI to a maximum of 1.45 MGD. Mr. Patrick testified, to his mind, the approval of the report rebuts the contention that the environmental benefits of the RIBs are speculative.

Although TESI cannot require homeowners to hook up to the Facility, homeowners have a financial incentive to do so in part because if and when a septic system fails, the homeowner is required, at his cost, to upgrade his system or seek a connection to a regional or central facility to meet higher water quality standards. The cost associated with such an upgrade is high. Moreover, the quality of water delivered to the homeowner by the Facility will be much better than otherwise available. Mr. Patrick also testified that the Facility would not be placed into operation until it has enough hookups to ensure there is sufficient flow to remove the nutrients. Therefore, the discharges will not be worse than new on-site wastewater treatment and disposal systems. The environmental benefits have not been overstated due to DNREC's limiting the

permit to 1.45 MGD. The treatment levels at the Facility are not locked in by the CZA permit but they are locked in by the PCS's regulation of the Inland Bays.

Mr. Patrick admitted on cross-examination that the Secretary's Order noted continued concerns about the appropriateness of RIBs in Sussex County. DNREC will require a rigorous technical review as part of the wastewater construction permit process. A fair number of the homes served by the Facility will fall outside the Coastal Zone.

Under questioning by the Board, Mr. Patrick opined that, in his experience, wastewater treatment systems do not fail overnight. Mr. Patrick also testified that the proposed system contained redundancies in its design to prevent a massive failure. The Facility would be made up of several small buildings. One building would be the headworks, or the screening facility, with a mechanical bar screen, removing items. Another building would be a small laboratory office and, in the future, there would be another solids processing building. The treatment tanks would be placed underground. Mr. Patrick does not foresee any leakage issues because the tanks will be constructed out of concrete.

On re-direct, Mr. Patrick testified that the houses that lay outside of the Coastal Zone nevertheless currently also drain into the Inland Bays Watershed, as they would if they were connected to the Facility.

Finally, Mr. Patrick stated that the biological treatment of the water would bring the total phosphorous to 3.2 mg/liter. The precipitating phosphorous will be brought down to .5 mg/liter.

Tom Dwyer also testified on behalf of TESI. Mr. Dwyer is a geologist for Eastern Geosciences, a hydrogeologic consulting firm that specializes in hydrogeologic evaluations for wastewater disposal and water supply. Mr. Dwyer has had experience with both large and small wastewater facilities and has assisted both New Jersey and Delaware in developing guidelines for wastewater disposal. Mr. Dwyer's organization became involved in March of 2007. Essentially, his organization was responsible for conducting a soil study of the site over a three year period. This study involved the installation of more than 50 test wells to measure water levels and the conduction of hydraulic testing. Eastern Geosciences also monitored two RIB tests. The information collected was used to create a ground water flow model for the site, which was then used to evaluate hydraulic capacity of the site. Mr. Dwyer found the site to exhibit favorable characteristics in that sandy soils are located at the surface and there is a large depth to groundwater. In particular, in the area to the south and west (the proposed location of the RIBs) depth to groundwater is in the range of nineteen to twenty feet. The study revealed that the underlying aquifer has the ability to move a lot of water and this fact serves to limit the amount of groundwater collection that can occur when a wastewater discharge is imposed on the flow system. The site's distance from nearby water boundaries provides for long travel times and the sandy sediments permit a high rate of recharge. These two factors allow for the additional benefit of dilution of the water as it travels. The dilution allows for the additional absorption of phosphorous. Mr. Dwyer testified that, at the time the treated water reaches surface water, the treated water will be indistinguishable from native groundwater. In fact, where agricultural activities have served to raise nitrogen concentrations in groundwater, the treated water would

actually dilute existing nitrogen in groundwater. Mr. Dwyer calculated the maximum loading would be 1.6 MGD.

Lee Beetschen testified for TESI. Mr. Beetschen is the president of CABLE Associates Consulting Engineers ("CABLE"). In the past, he was instrumental in working with DNREC in response to the passage of the Clean Water Act in 1972, among other accomplishments. CABLE was retained to assist TESI in obtaining a conditional use land use permit from Sussex County. Subsequently, CABLE helped develop the final site plan as well as the CZA permit and construction permit applications. Mr. Beetschen relayed the history of wastewater treatment, and the advances in dealing with the toxins contained therein, in Delaware over the years. The Facility is based on an advanced wastewater prototype. The reduction in nitrogen and phosphorous content in the treated water is important because the loading of them on the Inland Bays' surface waters is essentially killing the Inland Bays Watershed.

Mr. Beetschen testified that the Wilmington public sewage treatment plant in the early 1970s consisted of huge, above-ground tanks. The plant had a general odor associated with it and it processed 120 MGD. Comparing that facility to the proposed Facility, Mr. Beetschen stated that one could not see the Facility unless he was looking for it and, even if one could see it, the Facility is not identifiable as anything other than part of an agricultural operation. Moreover, there will not be an odor associated with the Facility due to the high quality of the treated water. By design, the membrane bioreactor alleviates a lot of the problems with system failure. Mr. Beetschen is confident there will not be any environmental damage to the wetlands. There will be no facilities located in the wetlands.

Mr. Beetschen told the Board that, during the project's initial phase, biosolids collected from the wastewater will be stored in a tank on-site and hauled off by a hauler licensed by DNREC to a legally disposable site outside the Coastal Zone. As the site grows, a dewatering system will be installed so that a portion of the water will cycle back through the treatment plant and a lower poundage of solids will have to be transported outside the Coastal Zone for disposal.

Mr. Beetschen also testified that any new or replacement community systems would be held to the lower standards established by the PCS for smaller sized facilities. With regard to the Secretary's expressed concern about the benefit of RIBs in Sussex County, Mr. Beetschen noted that the disposal method is not the benefit here, it is the treatment method. Mr. Beetschen also responded to the Environmental Appellants' argument that the offset does not compensate for other impacts at the site (*i.e.*, dust construction, run-off, exhaust fumes from vehicles, etc.) by opining that, in this case, these minimal impacts are offset by the benefits of the Facility. Mr. Beetschen also explained to the Board that an appendix to the PCS details the benefits of riparian buffers removing nitrogen from wastewater runoff.

Mr. Beetschen responded to the Environmental Appellants' argument that the permit was improperly issued because the construction permit application had not been completed. Mr. Beetschen testified that when he first met with the Coastal Zone staff, TESI staff were told that DNREC does not enforce the Regulation requiring the completion of a construction permit because they recognize that to do so involves a major expense for the permit applicant. In this case, the cost would be that associated with the design of a complete wastewater treatment plant,

or approximately \$200,000. After the meeting, Mr. Beetschen received a message from the same staff member informing Mr. Beetschen that the agency was going to require the filing of the construction permit prior to a public hearing on the CZA permit application. Mr. Beetschen and the Coastal Zone staff met and finally agreed that, if the design application was reviewed by groundwater treatment staff and if they confirmed the design would "do what TESI claimed it would do," the staff would allow the permit application to proceed to a public hearing.

Mr. Beetschen testified that it was not unusual to have special conditions placed on the permit. The conditions were going to be incorporated into the construction permit where applicable. Discussions with DNR/C were ongoing.

On cross-examination, Mr. Beetschen testified that the Facility would use bacteria in the treatment of the wastewater. He is aware of one situation where a sufficient amount of bacteria died off at the same time rendering the system incapable of operating properly. It is possible this situation could occur at the Facility if the operator allowed the system to become unbalanced. If the treatment efficiency suffered as a result, the system could be stabilized within a matter of hours, depending upon the availability of biomass within driving distance. The chemical to be used at the Facility as a precipitation agent may or may not be stored on-site.

Upon questioning from the Board, Mr. Beetschen testified the spare area in the permit application is designed to be used for spray irrigation. However, it could be used to replace a RIB, if need be. Mr. Beetschen observed that RIBs are not new technology and many have been in place for over a century.



The Environmental Appellants did not present any additional evidence at the Board hearing, choosing to rely on the evidence already in the record.

Ronald Graeber testified on behalf of DNREC. Mr. Graeber is the program manager of the large systems branch for DNREC, responsible for permitting large community on-site programs in Delaware. Mr. Graeber told the Board that, although DNREC is concerned about the use of RIBs in some locations, it is not concerned about the location of the RIBs at the Facility after looking at the technical reports that have been submitted in relation to the project.

Mr. Graeber acknowledged that an application for a wastewater permit had not been received by DNREC but the CZA permit was issued, nonetheless. The process is a long and thorough multi-step process. The first step is to determine the actual on-site characteristics of the Facility. This requires conducting physical tests at the site. TESI has completed this step. Now that DNREC knows the disposal site can manage 1.45 MGD, the next step is for an engineer to submit detailed plans and specifications. There will be numerous safeguards in place to monitor the success of the RIBs; for example, on-site monitoring and observation wells. Background samples will be collected prior to construction in order to assess the quality of the original ground water and to be used for comparison purposes in the future. The normal levels of nitrogen in the groundwater in the area of the Facility range from non-detectable levels to 10 mg/liter of nitrogen.

## The Arguments

### **A. Is the Facility a banned “heavy industry use”, a “manufacturing use” subject to the permitting process, or neither but still subject to the permitting process pursuant to Regulation 6.2?**

The first substantive argument raised by the Environmental Appellants relates to TESI's argument on appeal. That is, can the Facility be characterized as either a “heavy industry use”, a “manufacturing use”, or neither? If it cannot be characterized as either, as the Board concluded, TESI argues the Facility is not required to go through the permitting process. Specifically, TESI contends the CZA does not provide for the permitting of any use other than a manufacturing use. Because the Court rules the Facility is a manufacturing use subject to the permitting requirements set out in the CZA and the Regulations issued pursuant thereto, the Court need not delve into the merits of TESI's appeal.

The CZA was passed in 1971. The purpose of the CZA is set forth in 7 *Del. C.* § 7001:

It is hereby determined that the coastal areas of Delaware are the most critical areas for the future of the State in terms of the quality of life in the State. It is, therefore, the declared public policy of the State to control the location, extent and type of industrial development in Delaware's coastal areas. In so doing, the State can better protect the natural environment of its bay and coastal areas and safeguard their use primarily for recreation and tourism. Specifically, this chapter seeks to prohibit entirely the construction of new heavy industry in its coastal areas, which industry is determined to be incompatible with the protection of that natural environment in those areas. While it is the declared public policy of the State to encourage the introduction of new industry into Delaware, the protection of the environment, natural beauty and recreation potential of the State is also of great concern. In order to strike the correct balance between these 2 policies, careful planning based on a thorough understanding of Delaware's potential and her needs is required. Therefore, control of industrial development other than that of heavy industry in the coastal zone of Delaware through a permit system at the state level is called for....

The purpose of the CZA "is to control the location, extent and type of industrial development that is most likely to pollute Delaware's bays and coastal areas."<sup>22</sup> A heavy industry use not in operation on June 28, 1971, is prohibited in the Coastal Zone.<sup>23</sup> A heavy industry use is statutorily defined as:

[A] use characteristically involving more than 20 acres, and characteristically employing some but not necessarily all of such equipment such as, but not limited to, smokestacks, tanks, distillation or reaction columns, chemical processing equipment, scrubbing towers, pickling equipment and waste-treatment lagoons; which industry, although conceivably operable without polluting the environment, has the potential to pollute when equipment malfunctions or human error occurs. Examples of heavy industry are oil refineries, basic steel manufacturing plants, basic cellulosic pulp-paper mills, and chemical plants such as petrochemical complexes. An incinerator structure or facility which, including the incinerator, contains 5,000 square feet or more, whether public or private, is "heavy industry" for purpose of this chapter. Generic examples of uses not included in the definition of "heavy industry" are such uses as garment factories, automobile assembly plants and jewelry and leather goods manufacturing establishments, and on-shore facilities, less than 20 acres in size, consisting of warehouses, equipment repair and maintenance structures, open storage areas, office and communications buildings, helipads, parking space and other service or supply structures required for the transfer of materials and workers in support of off-shore research, exploration and development operations; provided, however, that on-shore facilities shall not include tank farms or storage tanks.<sup>24</sup>

The Secretary incorporated the Hearing Officer's report into his Order but did not specifically address whether the site should be characterized as a "manufacturing use" or a "heavy industry use". However, the Hearing Officer did consider the parties' positions on the Facility's characterization. The Hearing Officer concluded the Facility was not a prohibited

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<sup>22</sup> *Kreshtool v. Delmarva Power & Light Co.*, 310 A.2d 649, 651 (Del. Super. 1973).

<sup>23</sup> 7 Del. C. § 7003.

<sup>24</sup> 7 Del. C. § 7002(c).

heavy industry use under the CZA. In so doing, he noted that the Facility had some physical characteristics of a heavy industry use, as defined by statute, because the Facility arguably (1) consists of more than 20 acres; (2) uses tanks, chemical processing equipment and waste-treatment lagoons; and (3) is in an industry that has a “potential to pollute the environment when equipment malfunctions or human error occurs”.<sup>25</sup> The Hearing Officer observed that the total proposed land use in the Coastal Zone would be approximately 272 acres but the actual footprint of the buildings would be less than twenty acres. The Hearing Officer extrapolated, “the Facility’s industrial use will not approach the size or have most of the physical characteristics equivalent of a ‘heavy industry use’.” The Hearing Officer concluded,

The type of “heavy industry use” prohibited by the CZA was the subject of public comments, including comments that described the CZA’s purpose and history as to stem the threat of additional oil refineries and other heavy industrials [sic] using the entire Delaware coastal area. I agree that oil refineries is exactly the type of heavy industry that the CZA prohibits. I find no support for any intent to prohibit generically new sewage treatment plants in the CZ. Moreover, I find that the Facility’s small treatment building and the fact that is [sic] will not use any treatment lagoons as compelling support for a finding that the Facility’s proposed use is not a prohibited use under the CZA. Instead, the Facility is like the manufacturing uses that the CZA specifically identifies as allowable.<sup>26</sup>

The Board similarly rejected the characterization of the Facility as a heavy industry use:

The Facility will not negatively impact tourism or recreational uses, which are the primary uses that the CZA intends to preserve and protect through the prohibition on new heavy industry. In fact, the Facility will preserve existing open space and allow current agricultural and farming uses to continue for decades. No evidence was presented by the Environmental Appellants that the Facility will have above-ground tank farms, smokestacks, scrubbing towers, odors or unfavorable aesthetics that are common attributes of oil refineries and other

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<sup>25</sup> See *id.*

<sup>26</sup> Hearing Officer’s Report at p. 19.

industries set forth, by example, in § 7002(e) that are incompatible with recreation and tourism. The Board finds that “tanks” and “chemical processing equipment” will be utilized at the Facility but does not find that the RIBs are the equivalent of “waste-treatment lagoons” as that term is used under § 7002(e). In fact, the Facility’s wastewater treatment does not occur within the RIBs themselves, but rather in separate underground tanks.

The Board agrees with the Secretary’s determination that the CZMA ban on new heavy industry use was intended to apply to oil refineries and similar heavy industry endeavors. However, the Wandendale Facility, by its size, scope and design, does not have the characteristics of an oil refinery and does not warrant a classification as a heavy industry under § 7003(d). The Board also agrees with the Secretary’s determination that the actual “footprint” of the Facility is well below 20 acres, which is less than the 20 acre characteristic threshold in § 7002(e). The Board does not view this “footprint” size as determinative to the “heavy industry use” issue, but finds that the vast majority of the Facility’s site will remain open space consisting of farmland, forest, and RIBs, as opposed to the relatively small area on which the chemical treatment tanks and basins will be located.<sup>27</sup>

On appeal, the Environmental Appellants argue the focus of the inquiry should be on the potential for the Facility to pollute. The Environmental Appellants point to the fact that one purpose of the Facility is to treat waste that is generated in homes outside the Coastal Zone and then dispose of the pollution in the Coastal Zone.

Second, the Environmental Appellants argue that the exclusion of public sewage treatment plants from the definition of heavy industry use prohibited in the Coastal Zone is “strong evidence that the legislature knew sewage treatment plants were heavy industry.”

Third, Environmental Appellants assert the Facility possesses many of the characteristics specified in the statutory definition of heavy use.

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<sup>27</sup> Board Decision at p. 41.

The Court finds all three of the arguments raised by the Environmental Appellants to lack merit. The Court first notes that these arguments have been raised by the Environmental Appellants at both public hearings on TESI's application. The Court is well aware of the technical skill and aptitude of the participating DNREC officers and Board members with regard to the science of wastewater treatment. The Court is mindful of the public policy behind the CZA. It is not the purview of this Court to give its own weight to the evidence presented below but rather to ensure that there is substantial evidence on the record to support the findings made by the Board and that the Board has not abused its discretion.

The Environmental Appellants argue that the Board failed to give due consideration to the Facility's potential to pollute when determining whether the Facility is a heavy industry use. However, the Environmental Appellants lose the forest for the trees. The Environmental Appellants cite to DNREC's estimate that the Facility will discharge more than 22,000 pounds of nitrogen each year into the Coastal Zone through its disposal practices and the corresponding amount for phosphorus is over 2,200 pounds per year. TESI challenges the Environmental Appellants' figures. In any event, much of the record below consists of testimony and demonstrative evidence concerning the amount of nitrogen and phosphorous that will be released into the Coastal Zone. The expert testimony revealed that the wastewater would be treated to a higher standard than the law requires. The water would then be released into the Coastal Zone through spray irrigation and RIBs. Eventually, the water will end up in the Inland Bays. The Environmental Appellants essentially ask the Court to adopt some sort of bright line as to how much pollution is "too much" for the Facility to be characterized as anything but a

heavy industry use. But while TESI has presented much evidence with regard to the improvement in the nitrogen and phosphorous levels in the Coastal Zone, the Environmental Appellants have not presented any evidence as to an increase in pollution in the Inland Bays. The Environmental Appellants' argument minimizes the fact that the wastewater is currently being discharged in the Inland Bays – even if it originates outside of the Coastal Zone – but with higher concentration of pollutants. The Court finds the Board was deliberately given the flexibility to determine a facility's potential to pollute by the General Assembly. The record is rife with support for the Board's conclusion that the Facility lacks the characteristics of a heavy industry use even though it will release water containing low levels of pollutants into the Coastal Zone. The Facility consists of tested, high-end technology. The water will be treated to drinking water standards before it is either sprayed or released to the RIBs. There will be no impact on the wetlands. There will be no effect on local recreational activities or tourism. The Facility is designed to replace septic systems treating wastewater to a lesser standard and currently draining into the Inland Bays. In the unlikely event a RIB fails, the site contains room for a replacement RIB to be constructed. There are numerous safeguards in place to prevent system failure. In the event the system did fail, it could be up and running again within a matter of hours. In addition, the Facility does not interrupt the use of the Coastal Zone for recreation or tourism. Nor does it interfere with the protection of the Inland Bays. The record supports the conclusion that the Facility will, in fact, improve the quality of the wastewater draining into the Inland Bays. This finding weighs heavily against the potential to pollute contemplated by the CZA. The Environmental Appellants argue the Facility's illusory environmental benefit does not save the

Facility from heavy use status. However, it is uncontested that the Facility will treat wastewater headed for the Inland Bays under any scenario to a higher level of cleanliness than to which it is currently being treated. The membrane bioreactor technology has been tested and performs well at other sites. Given the unchallenged expert testimony presented by TESI and its engineers, the record supports the Board's conclusion that the Facility "will result in more protective water quality than the septic systems it is designed to replace, and the fact that some environmental impacts may be unquantifiable does not translate into non-compliance with the CZA."<sup>28</sup> The Board did not abuse its discretion in concluding the Facility is not a heavy industry use despite its admitted contribution to polluting, to some degree, the Inland Bays.

With regard to the second argument raised, the Environmental Appellants cite to § 7003 of the CZA, which provides, in relevant part: "Heavy industry uses of any kind not in operation on June 28, 1971, are prohibited in the coastal zone and no permits may be issued therefor.... Provided, that this section shall not apply to public sewage treatment or recycling plants...."<sup>29</sup> The Environmental Appellants assert the specific exclusion of public sewage treatment plants from prohibited heavy industry proves the General Assembly considered all sewage treatment plants as heavy industry use. I find this position untenable. Following the Environmental Appellants' logic, it is difficult to understand why the General Assembly did not then *include* private sewage treatment plants in its list of examples of heavy industry use. When the CZA was

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<sup>28</sup> Board Decision at pp. 53-54.

<sup>29</sup> 7 Del. C. § 7003.



enacted, public sewage plants resembled the Wilmington sewage treatment plant.<sup>30</sup> The General Assembly can be presumed to know, as TFSI points out, that wastewater treatment plants must, out of necessity, be located near the water. With knowledge of what large sewage treatment plants looked like, in addition to the general knowledge that wastewater treatment plants must be located near water, the General Assembly's failure to address specifically smaller private plants speaks to its intention to have them evaluated on their individual merits, as was done here. Moreover, the Environmental Appellants' argument defies logic: in their proposed scenario *only* large-scale public sewage treatment plants would be allowed to operate in the Coastal Zone. I conclude the CZA was not intended to lead to that result.

Third, the Environmental Appellants argue the Facility possesses many of the attributes listed in the statutory definition of heavy industry use. This argument was raised below as well and rejected on the basis of expert testimony concerning the Facility's design and its impact on the Coastal Zone. In support of their position, the Environmental Appellants again cite to the size of the Facility, and assert that the Facility will utilize tanks, chemical processing equipment and waste lagoons. The Board agreed with the Secretary that the footprint of the Facility is well below that of the total acreage but did not find the footprint size to be determinative. The Board did note that the small footprint allows the vast majority of the Facility's site to remain open space. The Board found the Facility to be remarkably different from the type of heavy industry use absolutely banned in the Coastal Zone and observed that the Facility will not negatively impact tourism or recreational uses. The Board concluded the "size, scope and

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<sup>30</sup> Testimony below revealed that plant treated 120 MGD of wastewater.

design” of the Facility did not warrant a characterization of the Facility as a heavy industry use. That finding is supported by the facts in the record. TESI sought, in its initial application, to have a relatively small amount of wastewater processed at the Facility.<sup>31</sup> DNREC required that amount to be halved. To the extent the definition of heavy industry use has a “you know it when you see it” component to it, the Facility here will not be noticeable to the uninformed eye. The Facility will not look like a plant but will resemble a barn. The Facility will initially consist of two buildings, with plans to expand to one more building. The treatment tanks are, in fact, not wastewater lagoons, and will be located underground. There will be no odor associated with the Facility. The Board’s conclusion that the Facility is not a heavy industry use based on its physical characteristics is supported by the record.

The Decision is affirmed to the extent it held the Facility does not constitute a heavy industry use as defined by the CZA.

The question remains whether the Facility may be characterized as a manufacturing use under the CZA and therefore subject to the permitting process as set forth in 7 *Del. C.* § 7004.<sup>32</sup>

The CZA elaborates on the concept of manufacturing:

“Manufacturing” means the mechanical or chemical transformation of organic or inorganic substances into new products, characteristically using power-driven machines and materials handling equipment, and including establishments

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<sup>31</sup> It is instructive to compare the 3 MGD sought by TESI to the 120 MGD processed at the Wilmington wastewater treatment plant.

<sup>32</sup> 7 *Del. C.* § 7004 provides, in pertinent part:

Except for heavy industry uses, as defined in § 7002 of this title, manufacturing uses not in existence and in active use on June 28, 1971, are allowed in the coastal zone by permit only, as provided for under this section.

engaged in assembling component parts of manufactured products, provided the new product is not a structure or other fixed improvement.<sup>33</sup>

The Board concluded the Facility was not engaged in manufacturing. It reasoned as follows:

Regarding manufacturing use, the Board finds that even though some biosolid by-products will be produced by the Facility, manufacturing will not be the primary purpose of the Facility. The Board is guided by § 7002(d), which states that:

“[m]anufacturing means the mechanical or chemical transformation of organic or inorganic substance into new products, characteristically using power-driven machines and materials handling equipment, and including establishments engaged in assembling component parts of manufactured products, provided the new product is not a structure or other fixed improvement.

The Board attributes plain meaning to the term “product” because it is not defined by the CZA or the CZ Regulations. In doing so, the Board finds that the term means an item produced for sale commercially. Accordingly, there will [be] no new products manufactured at the Facility; there is no equipment “engaged in assembling component parts of manufactured products” at the Facility. In essence, the process involves transporting wastewater into the Facility where it is chemically treated and transformed into cleaner water; *i.e.*, dirty water in, clean water out, with resulting biosolid by-products, so that the process is more characteristic of a “recycling” use than “manufacturing” one. To that end, the Board disagrees with the Secretary’s determination that the Facility’s use constitutes a “manufacturing” use because of the generation of “new products” from its reliance on “power-driven machines” and “material handling equipment” and use of chemical and mechanical processes. Furthermore, the Board rejects the Environmental Appellants’ argument that the by-products of the treatment process, namely spray irrigation and sludge, are “products,” and that the sale of the wastewater treatment process itself to customers is a “product,” both of which would warrant a classification of “manufacturing” under § 7002(d).

The Board heard evidence that some form of biosolids from one of TESI’s other sewage treatment facilities, located in Milton, Delaware, may be used as fertilizer for golf courses, but the witness testified that TESI must pay for

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<sup>33</sup> 7 Del. C. § 7002(d).

the removal of those solids from that facility and, in any event, does not sell them commercially. However, there was no evidence presented by the Environmental Appellants that a commercially saleable product would be produced at the Facility and sold by TESI. No additional evidence was presented by the Environmental Appellants as to why the Facility's use is a "manufacturing" use under § 7002(d).<sup>34</sup>

In this regard, the Decision overturned the Secretary's Order, which adopted the Hearing Officer's rationale for concluding the Facility is a manufacturing use:

...I will address the argument that relies on the CZA definition of "manufacturing" as "the mechanical or chemical transformation of organic or inorganic substances into new products." 7 Del. C. § 7002(d). I find that the Facility will use in its treatment process "power-driven machines and material handling equipment" and that the treatment process will result in the mechanical and chemical transformation of untreated wastewater into treated wastewater. Thus, the proposed use meets some of the CZA definition of manufacturing.

The real issue is whether wastewater treatment is the manufacturing of "new products." Merriam-Webster defines product as "something produced; *especially* : commodity 1 (2) : something (as a service) that is marketed or sold as a commodity." Under this common usage treated wastewater would not be considered "new products" because treated wastewater is not something sold as a commodity. Nevertheless, [DNREC] should liberally interpret the CZA to protect the CZ from uses such as wastewater treatment and require wastewater treatment uses to obtain a CZA permit in order to safeguard the CZ for recreation and tourism uses. Clearly a wastewater treatment plant is not a recreation or tourism use, but the Facility may provide wastewater treatment and sewer utility service that could promote recreation and tourism uses. Consequently, on balance, I find that the fact that the Facility's reliance on "power-driven machines" and "material handling equipment," albeit small in size, and its use of mechanical and chemical processes tip the balance in favor of CZA regulation over the Facility. The General [Assembly] properly left the determination of the types of uses to be regulated as "manufacturing" to [DNREC], and the Facility's proposed use is one of the areas where [DNREC] has determined to regulate. Thus, there is support for requiring the Facility's wastewater treatment use to obtain a CZA permit because "new products" from any such an industrial type manufacturing process should be regulated even if

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<sup>34</sup> Board Decision at pp. 42-43.

they have no commercial value.<sup>35</sup>

The Court agrees with the Hearing Officer's analysis of the definition of manufacturing. The Delaware Supreme Court has concluded that the CZA "should be liberally construed in order to fully achieve the legislative goal of environmental protection."<sup>36</sup> In this case, TESI is taking something that no one wants – wastewater – and converting it to something that can be used – drinking water. In the process, it is producing biosolids that may be used as fertilizer under certain circumstances. The fact that the unusable wastewater results in two types of output, both of which are usable, is enough to constitute "manufacturing" under the CZA. To require that a saleable output result would result in a "pinched construction of the scope of the term 'manufacturing' [in such a way that it] would clearly defeat the legislative purpose of the Act 'to control the location, extent and type of development in Delaware's coastal areas.'"<sup>37</sup>

The Court finds the Board erred as a matter of law in concluding a product must be able to be sold on the open market and modifies the Decision to reflect the characterization of the Facility's use as manufacturing in accordance with the Secretary's Order.

**B. Do the Secretary's technical violations of the permitting process require denial of the permit?**

Even though the Court modifies the reason for which the Facility is subject to the permitting process, the permitting process is the same whether the applicant seeks a permit for

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<sup>35</sup> Hearing Officer's Report at pp. 20-21.

<sup>36</sup> *Wilmington v. Parcel of Land Known as Tax Parcel No. 26.067.00.004*, 607 A.2d 1163, 1166 (Del. 1992).

<sup>37</sup> *Id.* at 1166-67 (quoting 7 Del. C. § 7001).

a new sewage treatment plant or whether the applicant seeks a permit for a new manufacturing facility.<sup>38</sup> Therefore, the Court may consider the Environmental Appellants' challenge to the permitting process. When contemplating the issuance of a permit, the Secretary and the Board are statutorily required to consider the environmental impact, the economic effect, and the aesthetic effect of the proposal.<sup>39</sup> The Secretary and the Board must also consider the number and type of supporting facilities required and the impact of such facilities on the environmental, economic and aesthetic factors; any effect on neighboring land uses; and county and municipal comprehensive plans for the site.<sup>40</sup> The Regulations drafted by the Secretary and adopted by the Board elaborate upon the process and set forth various requirements that must be met for a permit to issue. One of those requirements is that a permit application for a facility that will result in "any negative environmental impact" must contain an offset proposal.<sup>41</sup> The offset proposal "must more than offset the negative environmental impacts associated with the proposed project or activity requiring a permit."<sup>42</sup> In this case, the Facility itself is the proposed offset. The CZA permit was issued despite TFSI's failure to file a construction permit

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<sup>38</sup> Again, because the Court finds the Facility is a manufacturing use, it will not address TFSI's contention that the Regulation requiring a permit for a new sewage treatment plant is invalid if the sewage treatment plant is found not to be a manufacturing use.

<sup>39</sup> 7 *Del. C.* § 7004(b).

<sup>40</sup> *Id.*

<sup>41</sup> Regulation 9.1.1.

<sup>42</sup> *Id.*

application and its failure to file an offset schedule as required by the Regulations.<sup>43</sup>

TESI argues that the regulations requiring an offset are improper since DNREC is required to conduct a balancing test. The requirement that DNREC conduct a balancing test does not suggest that the balancing must result in a net environmental benefit and, TESI contends, the opposite is suggested. Moreover TESI alleges DNREC has waived its ability to enforce the Regulations because it has not previously required a CZA permit for other wastewater facilities located in the Coastal Zone.

The Regulations are binding and have the force of law; they are presumed valid.<sup>44</sup> The proper method for challenging the validity of a law is by way of declaratory judgment. TESI has not done so here. Indeed, TESI did not raise this issue in its opening brief on appeal. Critically, as DNREC points out, the Board is not a party to this litigation. As such, I will not entertain TESI's challenge to the Regulations, as a whole, at this time.

The Board concluded the Secretary's failure to abide by the Regulations did not warrant reversal of the permit. The Board found:

Specifically, regarding Regulation 9.3.1, it is difficult for the Board to envision what such a schedule could be at this point in time. In any event, the omission

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<sup>43</sup> See Regulation § 9.1.6 ("Where an offset project in itself requires one or more permits from a program or programs within DNREC, the Secretary shall issue the Coastal Zone Permit only after all applicable permit applications for offsetting projects have been received and deemed administratively complete by DNREC.") and Regulation § 9.3.1 ("Coastal Zone permits shall be approved upon the applicant carrying out the proposed offset in accordance with an agreed upon schedule for completion of the offset project. Said schedule will be included in the Coastal Zone permit as an enforceable condition of the permit.").

<sup>44</sup> *Sammons v. Ridgeway*, 293 A.2d 547, 549-50 (Del. 1972).

of the schedules from the Permit does not adversely affect the sufficiency or the specificity of the offset conditions themselves, or the Board's ability to assess them. ... [T]he Board concludes that the Permit was issued in compliance with the CZA, with these two regulatory violations. Those conditions nonetheless remain CZA Permit conditions enforceable by DNREC until completed to DNREC's satisfaction and TESI's noncompliance could warrant revocation of the Permit. Ultimately, the Facility's construction and operation itself is contingent on TESI's compliance with those conditions through its construction permit, regardless of the timing and schedule for completion.

Regarding Regulation 9.1.6, the Board considered testimony from TESI's witness regarding the required submission of the construction permit. DNREC representatives initially indicated that the requirement was not necessary due to the major expense associated with the design of a complete wastewater treatment plant prior to issuance of a CZA permit. DNREC reversed its position as indicated by the Secretary's Environmental Assessment Report dated April 23, 2010. However, following further discussions with TESI concerning the review of the construction design condition by DNREC's Groundwater Discharges Section, it was agreed the construction permit would not be required. This indicates to the Board that the Secretary's action with respect to the construction permit was not in ignorance of the Regulation, but rather a reasoned decision by DNREC personnel. Regardless of the reasoning, the construction permit will be evaluated by DNREC and subject to public hearing pursuant to 7 *Del. C.* Chapter 60 prior to decision by the Secretary and will address the science and appropriateness of the Facility's RIBs, the reforestation plan, spray irrigation and other environmental impacts of the Facility. Therefore, despite the Secretary's decision not to require the submission of an administratively complete construction permit application prior to issuing the Permit, those matters will be reviewed - and subject to public hearing - at a later date, and this timing issue did not impair the Board's ability to assess the statutory sufficiency of the Permit under the CZA, the primary purpose of which is to safeguard the Coastal Zone for primarily tourism and recreation uses.<sup>45</sup>

The Environmental Appellants contend the Decision finding the Secretary violated the permitting process but upholding the issuance of the permit is contrary to law and should be reversed. TESI counters that the Regulations were not violated because the requirements are incorporated into the CZA permit. That is, the conditions were merely deferred.

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<sup>45</sup> Board Decision at pp. 58-59.



The Facility is, by all accounts, a unique project in that the Facility serves as its own offset. As a practical matter, the Court agrees with the Board's conclusion that it is difficult to conceive of how TESI could be expected to produce a realistic schedule of development for the Facility prior to its approval. I agree with TESI that the intent of Regulation 9.3.1 is to provide some assurance to DNREC that the offset project will be actually implemented. While the failure to require the offset schedule is a technical violation of the Regulation, I find the deferral of the requirement does not insult the spirit of the Regulation. Accordingly, the Board's decision that the violation does not warrant reversal of the Secretary's issuance of the permit is not an abuse of discretion.

Likewise, TESI's failure to file the construction permit application does not offend the notions of fair play and agency oversight. In the first instance, a representative from DNREC made the initial mistake upon which TESI was entitled to rely. In addition, the parties have worked out a plan and are obviously involved in continuing negotiations. The CZA permit is conditional upon the submission of the construction permit application. A public hearing will be held on the construction permit application. The purpose of the CZA permit is to establish the use is proper for the Coastal Zone. Many more factors will need to be considered during the development of this project.

The Environmental Appellants argue it is improper to use permit conditions because the concept that the Facility is an environmental benefit hinges on the Facility's ability to treat wastewater to the levels claimed. The Environmental Appellants rely upon dicta in *Kearney v.*

*Coastal Zone Industrial Control Board*,<sup>46</sup> in which the Superior Court noted in a footnote that the applicant may have “put the cart before the horse” in not preparing a catastrophic incident management plan.<sup>47</sup> The Secretary had placed a special condition on the CZA permit that the applicant do so. As TESI points out, this dicta seems squarely at odds with the Supreme Court’s decision in *City of Wilmington*: “the permit may be encumbered with various conditions and environmental restrictions requiring financial expenditures to satisfy.”<sup>48</sup> I agree with the Supreme Court and the Board that this permit may be encumbered by conditions, including, under the circumstances presented, one requiring the submission of a construction permit application. The Court observes that DNREC has a number of enforcement tools at its disposal should TESI fail to comply with the permit conditions.<sup>49</sup> The Board did not abuse its discretion in excusing the failure to comply with the Regulation and upholding the issuance of the permit to TESI.

**C. Was the Board’s approval of the permit pursuant to Regulation 6.2 in violation of the CZA?**

The Board found that the Facility was neither a heavy industry use nor a manufacturing use but nevertheless concluded a permit was required pursuant to Regulation 6.2. TESI argues that, if the project was neither heavy industry nor manufacturing, the discussion regarding the

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<sup>46</sup> 2005 WL 3844219 (Del. Super.).

<sup>47</sup> *Id.* at \*6 n. 22.

<sup>48</sup> *City of Wilmington*, 607 A.2d at 1167.

<sup>49</sup> *See* 7 Del. C. §§ 7010, 7011, 7012.

need for a permit ends; *i.e.*, no permit is required at all. TESI's position is that Regulation 6.2 is illegal and not based on the CZA. Simply put, TESI contends that DNREC illegally seeks to extend the permitting process to areas not encompassed by the CZA. Since TESI prevailed in the issuance of a permit in this case, its argument seems geared to address future projects. My decision that the Facility is a manufacturing use and therefore subject to the permitting process pursuant to the CZA moots this argument.

### **Conclusion**

For the reasons set forth above, the Board's Decision upholding the issuance of a CZA permit to TESI for the Facility is AFFIRMED. For the reasons stated above, the Board's Decision to the extent it determined the Facility is neither a heavy industry use nor a manufacturing use but is otherwise subject to the permitting process is MODIFIED to reinstate the Secretary's determination that the Facility constitutes a manufacturing use, as contemplated by the CZA.

**IT IS SO ORDERED.**



IN THE SUPERIOR COURT OF THE STATE OF DELAWARE  
IN AND FOR SUSSEX COUNTY

SIERRA CLUB, CITIZENS COALITION,  
INC., CITIZENS ACTION FOUNDATION,  
INC., SOUTHERN NEW CASTLE COUNTY  
ALLIANCE, INC.,

Appellants Below,  
Appellants and Cross-Appellees,

v.

TIDEWATER ENVIRONMENTAL  
SERVICES, INC.,

Appellant Below,  
Appellee and Cross-Appellant,

v.

DELAWARE DEPARTMENT OF  
NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL,

Appellee Below,  
Appellee.


C.A. No. S10A-10-005

FILED PROTHONOTARY  
SUSSEX COUNTY  
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**ORDER FOR REMAND**

NOW THIS 10<sup>TH</sup> DAY OF SEPTEMBER, 2012, pursuant to the Supreme Court decision dated August 17, 2012, this case is hereby remanded to the Coastal Zone Industrial Control Board for action consistent with that decision.

IT IS SO ORDERED.

  
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T. Henley Graves

cc: Prothonotary  
cc: Kenneth Kristl, Esquire  
Jeremy Homer, Esquire  
Robert F. Phillips, Esquire

