

May 21, 2020

Via Email ([DNRECHearingComments@delaware.gov](mailto:DNRECHearingComments@delaware.gov))

Lisa A. Vest  
DNREC Office of the Secretary  
89 Kings Highway  
Dover, DE 19901

**RE: DNREC Docket # 2020-P-W-0014  
(Mountaire's On-Site Wastewater Treatment and Disposal System)**

Dear Ms. Vest:

These initial comments are submitted for the record in the above-referenced matter on behalf of Gary Cuppels, Christina Caliguire and more than 800 other residents and property owners ("Objectors") in the vicinity of the Millsboro, Delaware property and facilities owned and operated by, among others, Mountaire Farms of Delaware, Inc. ("Mountaire"). Verified statements of Mr. Cuppels and Ms. Caliguire adopting these comments are attached. Also attached are exhibits prepared by experts in the fields of wastewater treatment, spray irrigation of wastewater, hydrogeology and geochemistry. Please post these comments and its exhibits on DNREC's website as soon as possible for further public review and comment by others.

For the reasons set forth below and in the attached expert reports, the Objectors strongly oppose both the draft construction permit and the draft spray irrigation permit as proposed by DNREC. On behalf of the Objectors, I requested additional relevant documents from DNREC on May 20, 2020 that are related to and necessary for an understanding of the bases for these permits. *See Ex. G.* Accordingly, I hereby reserve their rights to supplement these comments following receipt of and an adequate amount of time to review and comment on these documents.

### **Background**

In the 20 years since its acquisition of the Millsboro plant, Mountaire has regularly discharged approximately two (2) million gallons a day of nitrogen-laden wastewater from spray irrigation devices onto approximately 900 acres of nearby fields, adjacent to Objectors' residences, Swan Creek, and Indian River. The excessive nitrogen content of the wastewater becomes nitrate after application to soil as it percolates into and contaminates the groundwater. The nitrates cause or contribute to the contamination of Objectors' wells and the surface waters adjoining the plant.

In fact, dozens of Objectors' drinking water wells adjacent to and downgradient of the spray fields currently used by Mountaire -- and to be authorized for continued use under DNREC's

proposed Spray Irrigation Permit -- have been contaminated by nitrates migrating from Mountaire's wastewater disposal operations. *See* Ex A, SSPA April 28, 2020 Report (attached to May 21, 2020 letter) at Figs. 1-3. The Objectors are forced to drink bottled water and endure the odors and minimal buffers presented by Mountaire's ongoing spray irrigation practices. *See* Ex. B (Verification of Gary Cuppels) and Ex. C (Verification of Christina Caliguire). However, neither of the proposed permits addresses the ongoing public health crisis and nuisance conditions caused by Mountaire's wastewater practices. Instead, the proposed Spray Irrigation Permit essentially allows Mountaire to continue business as usual, polluting its neighbors wells and air with authorization by DNREC.

The Delaware Inland Bays, including Indian River and Swan Creek, which adjoin Mountaire's wastewater treatment plant and spray fields, are estuaries of national significance under the National Estuary Program. *See* Ex D, "Findings & Recommendations of the Mountaire Pollution Committee," Delaware Center for the Inland Bays ("CIB") at 5. The nitrogen concentration in the Indian River near its confluence with Swan Creek and the Mountaire facility is more than twice the healthy level. *Id.* Pollution in these sensitive waterways has been increasing, and the CIB has found that the excessive discharge of nitrogen from Mountaire's spray irrigation facilities is a significant contributor to the degradation of Indian River and Swan Creek. *Id.*<sup>1</sup> Objectors use these waterways for sustenance and recreation. *See* Ex. B, Gary Cuppels Verification, ¶5.

Samples collected in Swan Creek over many years demonstrate Mountaire's significant negative effect on the groundwater discharging into the Creek. Nitrate levels in this waterway immediately downstream of Mountaire's spray and sludge fields are two to three times higher than upstream locations not subject to Mountaire's pollution. *See* Ex A, SSPA Letter and attached Report at 6 and its Figs. 4-6. Mountaire's excessive "disposal" of nitrogen-laden waste to the groundwater is contributing more than 5,600 pounds of nitrate per year to the upper portion of this small stream. *Id.*

### **Mountaire's Wastewater Discharges Require a Clean Water Act Permit**

On April 23, 2020, the Supreme Court of the United States determined that Clean Water Act ("CWA") permit jurisdiction extends to point source discharges that are "functionally equivalent" to a direct discharge to navigable waters. *County of Maui, Hawaii v. Hawaii Wildlife Fund*, No. 18-260, 2020 WL 1941966 (U.S. April 23, 2020). Mountaire's spraying of nitrogen-laden wastewater from irrigation devices onto fields *adjoining* navigable waters is functionally equivalent to a discharge of pollutants directly to these waters without a permit, in violation of the CWA, 33 U.S.C. §1342.

In *Maui*, the Supreme Court held that the CWA permit requirements extend to wastewater discharges from a point source that are the functional equivalent of direct discharges. *Id.*, 2020 WL

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<sup>1</sup> The CIB is a nonprofit organization created by the Delaware Legislature 25 years ago to preserve, protect and restore Delaware's Inland Bays. *See* 7 Del. C. 7601 *et seq.*

1941966, at \*3. The Court found CWA jurisdiction over a county's deep-well injection of partially treated wastewater that traveled through the groundwater to surface water a half mile away. *Id.* at \*4. In so holding, the Court rejected EPA's recent Interpretive Statement, 84 Fed. Reg. 16810 (2019), which would have precluded CWA permit requirements for discharges to groundwater even when they pollute surface water. *Id.* at \*8.

Mountaire's wastewater treatment and disposal operations *adjoin* Swan Creek, Indian River, and the L&T Tax Ditch. Mountaire collects and partially treats approximately two (2) million gallons of nitrogen-laden wastewater each day. It then sprays the wastewater from a series of large irrigation devices onto fields that border the surface waters. These devices are "point sources," which by definition include "any discernible, confined and discrete conveyance . . . from which pollutants may be discharged, including any "container," "pipe," "ditch" or "conduit." *See Concerned Area Residents for the Env't v. Southview Farm*, 34 F.3d 114 (2d Cir. 1994) (tank trucks applying sludge are point sources), *U.S. v. Oxford Royal Mushroom Products, Inc.*, 487 F. Supp. 852, 854 (E.D. PA 1980) (spray irrigation of wastewater is a point source).

Mountaire's wastewater contains elevated levels of nitrates even after the wastewater has been "treated" by crop uptake of nitrogen, as shown by lysimeter readings persistently three to five times above the drinking water standard. *See* Ex C, SSPA Report at 8. The discharge of wastewater with excess nitrogen constitutes the discharge of waste. *Cf.*, *CARE v. Cow Palace*, 80 F.Supp.3rd 1180 (E.D. WA 2015). As in *Maui*, Mountaire's wastewater percolates to and contaminates the groundwater, which then finds its way to the nearby surface waters. The *Maui* defendant was a half mile from a navigable water; Mountaire's spray fields adjoin a protected estuary and its tributaries and the groundwater travels rapidly through sandy soils for a distance of only 20 to 200 feet to reach these waterways. *See* Ex. A, SSPA April 28, 2020 Report at 5.

Mountaire's wastewater also runs off the spray fields into the adjoining waterways, a condition that also requires a CWA discharge permit. *See* Ex. E, Bauer Report at Figs. 6-17, 19, 21. Over the years, these surface waters have become grossly contaminated with nitrates immediately downgradient of Mountaire's spray and sludge fields. *See* Ex. A, SSPA April 28 Report at 5-6. Mountaire has and continues to violate the federal Clean Water Act, 7 Del. C. §6003(a)(2) and DNREC's Regulations Governing the Control of Water Pollution ("DNREC Regulation 7201") by discharging pollutants from point sources without a National Pollutant Discharge Elimination System permit into jurisdictional waters. *See generally Maui, supra.*

The draft spray irrigation permit does not address Mountaire's impacts to the adjoining L & T Tax Ditch, Swan Creek and Indian River in the same fashion as an NPDES-type permit which must demonstrate compliance with all receiving water quality standards. *See generally* DNREC Regulation 7201 at Part IV. For example, DNREC's Surface Water Quality Standard for dissolved inorganic nitrogen ("DIN"), which includes nitrate, in tidal waters of the Indian River basin, including Swan Creek, is 0.14 mg/l. *See* DNREC Regulation 7401 at Section 4.5.8.4. DNREC's proposed spray irrigation permit would allow up to 10 mg/l of nitrate in the percolate beneath Mountaire's wastewater spray fields which is 71.4 times the 0.14 standard in lower Swan Creek. Similarly, the proposed permit's percolate limit of 10 mg/l nitrate is more than three (3) times the

“upper threshold” of total nitrogen allowed by DNREC in non-tidal waters such as the L & T Tax Ditch, upper Swan Creek and Longwood Pond and these waterways are only 20-200 feet downgradient from Mountaire’s spray fields. *See* Ex. A at p. 2.

Nor does the draft spray irrigation permit indicate that DNREC has considered and applied its Criteria for Waters of Exceptional Recreational or Ecological Significance (“ERES”). This includes DNREC’s regulatory requirement that “discharges to ERES waters shall be avoided to the maximum extent practicable” and, “in order to be permitted, a discharge must be the least environmentally damaging practicable alternative.” *Id.* at Section 5.6.1.3. The Indian River and its tidal tributaries, including Swan Creek, have been designated by DNREC as ERES waters. *Id.* at Section 3.0. By allowing Mountaire to discharge up to 10 mg/l total nitrogen to its spray fields, and then in turn allowing up to 10 mg/l nitrate in the percolate which is within 20-200 feet from the adjoining waterways, DNREC is not requiring the “least environmentally damaging practicable alternative” when Enhanced Nutrient Removal treatment systems can reduce total nitrogen to 3-5 mg/l and such systems and permits have been required for Virginia poultry processing plants discharging into the Chesapeake Bay watershed for a number of years. *See* Ex. E, Bauer Report at p. 7.

**Mountaire’s Proposed Spray Irrigation  
Operations Permit is Deficient in Numerous Respects**

Mr. Dane Bauer, who served as the Deputy Director of Maryland’s Water Management Administration and has broad experience operating, regulating and permitting wastewater spray irrigation systems, has reviewed Mountaire’s Spray Irrigation Operations Permit proposed by DNREC. His report, which is attached as Ex. E, concludes the draft permit is deficient in a number of key respects, including:

- Effluent and percolate limits for total nitrogen of 10 mg/l are too high to protect surface waters that adjoin the spray fields and should be set at Enhanced Nutrient Removal (“ENR”) levels of 3 mg/l average monthly and 5 mg/l maximum daily;
- The proposed permit does not require any effluent storage to ensure that spraying is not conducted in the winter when crop uptake is minimal or non-existent while other spray irrigation permits and industry standards require 75-90 days storage;
- Spray fields near Swan Creek designated in the existing permit as not suitable for wet weather spray irrigation (as recommended by the U.S. Environmental Protection Agency) have not been limited as such in the proposed permit;
- Unlike the current spray irrigation permit, the proposed permit omits the requirement of an alternative water supply for nearby private drinking water wells contaminated by Mountaire’s spray irrigation;

- The proposed permit does not include a requirement to establish any reserve spray fields whereas the industry standard is to have approximately 25% reserve area to accommodate excessive rainfall, frozen ground conditions, treatment plant upsets and crop disease conditions;
- The proposed permit does not specify adequate buffers between the spray fields and residents and adjacent waterways;
- The proposed permit and its referenced supporting documents do not include an assessment of surface water, a groundwater mounding analysis and a fate and transport model for nitrogen, as required by DNREC's regulations;
- Unlike the current spray irrigation permit, the proposed permit does not incorporate by reference the requirements of DNREC's applicable Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems or other prior correspondence, documentation and/or reports received and approved by DNREC or sent by DNREC; and
- Monitoring of lysimeters is specified as quarterly while DNREC's applicable regulations require monthly sampling of lysimeters.

**Mountaire's Proposed Construction Permit  
Documentation is Confusing and Missing Key Elements**

Kenneth L. Norcross, a wastewater treatment engineer with 17 patents and 40 years of experience designing and troubleshooting hundreds of industrial wastewater treatment plants, including dozens of poultry and other food processing facilities, has reviewed the draft construction permit. In his letter report appended as Exhibit F, he finds that the documents posted on DNREC's website are internally inconsistent and missing calculations and other information that do not allow for Mountaire's proposed design to be evaluated for compliance with the proposed effluent limits. Among other shortcomings in the permit documents, Mr. Norcross points out the following:

- The Reid Final Design Summary (Feb. 5, 2020) posted on DNREC's website includes the use of two existing 18 million gallon (MG) anaerobic lagoons that provide preliminary treatment while the proposed construction permit replaces these lagoons with seven MG of flow equalization tanks that provide no treatment;
- The lost treatment capability afforded by the eliminated anaerobic lagoons is not shown to be offset by additional treatment unit capacity proposed in the new design;
- The wastewater treatment design is not shown to be effective in achieving permit limits in cold weather conditions when biological treatment typically suffers in efficiency;

- The sludge handling equipment is not shown to be of sufficient capacity to treat the increased amount of sludge resulting from the elimination of the anaerobic lagoons;
- The existing effluent storage lagoon is indicated as holding 22 MG while prior engineering documents rate it as holding only 14.2 MG. Although a future 22 MG storage lagoon is mentioned, it does not appear to be included in the current permit design, leaving only six (6) days of effluent storage provided by the existing 14.2 MG lagoon. Even if and when the future 22 MG storage lagoon is constructed, Mountaire will have only 14 days of effluent storage compared to a needed 60-90 days of storage in the mid-Atlantic climate;
- Enhanced Nutrient Removal (ENR) of nitrogen resulting in 3-5 mg/l of total nitrogen in the effluent has been available as a technology since the 1980s and the proposed Spray Irrigation Operations Permit should require this level of treatment instead of allowing a total nitrogen discharge of 10 mg/l.

On behalf of the Objectors, I look forward to receiving copies of the documents requested in my May 20, 2020 letter. As set forth in that letter, DNREC is requested to keep the record open for at least 10 business days following my receipt of all of the requested documents so our experts can review them and offer additional comments.

Very truly yours,



Chase T. Brockstedt

CTB/def

Attachments: Exhibits: A through G

Cc: DNREC Secretary Shawn M. Garvin ([Shawn.Garvin@delaware.gov](mailto:Shawn.Garvin@delaware.gov))

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