

**Objection to Approval of NPDES Permit No. INA006559/Farm ID No. 6559,
Approval No. AW-5840, Concentrated Animal Feeding Operation,
Optima Dairy Leasing, LLC,
Camden, Carroll County, Indiana
2010 OEA 91, (07-W-J-4041)**

OFFICIAL SHORT CITATION NAME: When referring to 2010 OEA 91, cite this case as
Optima Dairy Leasing, LLC, 2010 OEA 91.

TOPICS:

| | | |
|--------------------------|-------------------------|------------------|
| waste collection | land appreciation | 327 IAC 15-15-14 |
| manure distribution | Summary Judgment | 327 IAC 16-2-9 |
| manure storage capacity | Ind. Evid. R. 401 | 327 IAC 16-2-25 |
| seepage | Ind. Evid. R. 404 | 327 IAC 16-2-44 |
| soil permeability | Kyle Hall, 2008 OEA 100 | 327 IAC 16-4-3 |
| clay liner | Lykins, 2007 OEA 114 | 327 IAC 16-7-10 |
| perimeter drain | DeGroot, 2006 OEA 1 | 327 IAC 16-7-11 |
| water retention basin | I.C. § 13-15-6-2 | 327 IAC 16-8-3 |
| nutrient management plan | I.C. § 13-18-3-2 | 327 IAC 16-8-4 |
| Notice | I.C. § 13-18-10-2, 2.3 | 327 IAC 16-8-7 |
| wells | I.C. § 13-14-1-4 | 327 IAC 16-8-12 |
| septic systems | 315 IAC 1-3-2 | 327 UIAC 16-10-2 |
| pathogens | 327 IAC 5-2-1.5 | 44 U.S.C 1342(b) |
| aquifer | 327 IAC 5-2-10 | 40 CFR 122..42 |
| impaired waterways | 327 IAC 5-4-3 | 40 CFR 123.22 |
| earthen floor | 327 IAC 15-4-3 | 40 CFR 123.23 |
| concrete floor | 327 IAC 15-15-4 | 40 CFR 123.62 |
| set-back | 327 IAC 15-15-12 | 40 CFR 412.4 |

PRESIDING JUDGE:

Mary L. Davidsen

PARTY REPRESENTATIVES:

IDEM: Denise A. Walker, Esq.
Petitioners: Courtney B. Justice, Esq., R. Davy Eaglesfield, Esq.;
Justice Law Office
Respondent/Permittee: Jack Van Kley, Esq.; Van Kley & Walker, LLC

ORDER ISSUED:

August 27, 2010

INDEX CATEGORY:

Water

FURTHER CASE ACTIVITY:

[none]

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| | | |
|------------------|---|------------------------------|
| STATE OF INDIANA |) | BEFORE THE INDIANA OFFICE OF |
| |) | ENVIRONMENTAL ADJUDICATION |
| COUNTY OF MARION |) | |

| | | |
|--|---|-----------------------|
| IN THE MATTER OF: |) | |
| |) | |
| OBJECTION TO THE APPROVAL OF NPDES |) | |
| PERMIT NO. INA006559 / FARM ID NO. 6559 |) | |
| APPROVAL NO. AW-5840 |) | |
| CONCENTRATED ANIMAL FEEDING OPERATION |) | |
| OPTIMA DAIRY LEASING, LLC, |) | |
| CAMDEN, CARROLL COUNTY, INDIANA |) | |
| <hr style="width: 50%; margin-left: 0;"/> |) | CAUSE NO. 07-W-J-4041 |
| Robert E. and Roberta Shaffer, Walter Keller, Jr., |) | |
| Eva Keller, Thomas Anderson, MD, |) | |
| Petitioners, |) | |
| Optima Dairy Leasing LLC, |) | |
| Permittee/Respondent, |) | |
| Indiana Department of Environmental Management, |) | |
| Respondent |) | |

FINDINGS OF FACT, CONCLUSIONS OF LAW and FINAL ORDER

This matter came before the Office of Environmental Adjudication (“OEA” or “Court”) on the Petition for Review filed by Petitioners Robert E. and Roberta Shaffer, Walter Keller, Jr., Eva Keller, and Thomas Anderson, M.D. Petitioners sought administrative review of the Indiana Department of Environmental Management’s (“IDEM’s”) issuance of an individual to Optima Dairy Leasing, LLC. Petitioners were represented by legal counsel Courtney B. Justice, Esq. and R. Davy Eaglesfield, III, Esq. of the Justice Law Office. IDEM was represented by legal counsel Deputy Attorney General Denise A. Walker, Esq. Respondent/Permittee Optima Dairy, LLC was represented by Jack Van Kley, Esq. of Van Kley & Walker, LLC. The parties filed pleadings, responses and replies. At final hearing on July 13, 2009 through July 23, 2009, witnesses were sworn, evidence heard, and testimony presented and later-filed proposed findings of fact, conclusions of law and orders were considered, all of which are a part of the Court’s record.

AND THE COURT, being duly advised and having considered the petitions, pleadings, motions, evidence and the briefs, responses and replies, finds that by substantial evidence judgment may be made upon the record and makes the following findings of fact and conclusions of law and enters the following Final Order:

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FINDINGS OF FACT

1. On July 13, 2007, Permittee/Respondent Optima Dairy Leasing LLC (“Optima Dairy” or “Dairy”) applied to IDEM to construct and operate a 2,201 cow dairy (the “Dairy”). *Jt. Ex. A at 1, 193, 266.* The Dairy’s proposed location is near the intersection of County Road 1000 North and County Road 225 East, Camden, Carroll County, Indiana. *Id.*
2. Koen Ally is the member of Optima Dairy, LLC. *Testimony of Koen Ally.* Mr. Ally and his family currently own the residence and surrounding land at the Dairy site. *Id.* Mr. Ally currently farms grains on the Site, and on other properties in the region. *Id.* Although another company currently owns the Dairy site, Optima Dairy Leasing LLC will assume ownership of the land, buildings, and other structures of the Dairy prior to construction. *Testimony of Cecilia Conway.* Optima Dairy, LLC will operate the Dairy. *Id.*
3. IDEM reviewed the Dairy’s submitted Application, as part of IDEM’s regular application review process. North Point Engineering designed the Dairy and prepared the application, including a set of ten engineering drawings displaying the construction details for the Dairy. *Jt. Ex. A; Optima Dairy Exhibit (“OD Ex.”) Z-2.* On August 23, 2007 Optima Dairy submitted revised engineering drawings for the Dairy (*Jt. Ex. A at 191*), responding to IDEM’s comments on the application. *Id. at 193.*
4. On October 3, 2007, IDEM issued the Dairy’s draft NPDES permit for public comment. *Id. at 197.*
5. On December 7, 2008, Respondent Indiana Department of Environmental Management (“IDEM”) issued National Pollutant Discharge Elimination System (“NPDES”) Permit No. INA 006559 and Confined Feeding Operation (“CFO”) Approval No. AW-5840 (“Permit”) to the Dairy. Because the Dairy will hold at least 700 dairy cows, it is classified as a concentrated animal feeding operation (CAFO) and is required to obtain a facility-specific individual permit under the NPDES program, instead of a general permit-by-rule. Per I.C. § 13-18-10-1, the Dairy’s issued NPDES permit also constitutes the approval of a Confined Feeding Operation (“CFO”) under I.C. § 13-18-10-1(a) and 327 IAC 16, *et seq.*
6. The Permit does not allow Optima Dairy to discharge.
7. In summary, the Permit allows the Dairy to construct and operate three free stall barns, a milking parlor, and a waste collection and storage system. *Jt. Ex. A at 253; OD Ex. Z-2, Engineering. Drawing (“Eng. Dr.”) 3/10.* When operating, all manure and wastewater from the barns, milking parlor, concrete silage pad, feed storage areas, and the outdoor grounds will collect in the waste collection and storage system prior to application on fields as fertilizer for agricultural crops. *Jt. Ex. A at 253; OD Ex. Z-2, Eng. Dr. 3/10; testimony of David Gerdeman, civil engineer and Dairy designer (“Gerdeman”).* Manure will be vacuumed from the barns and delivered to a concrete separator pit for storage until it is run

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through sand settling lanes. *Jt. Ex. A. at 253.* The sand settling lanes are designed to remove sand bedding and manure solids. *Id.* The filtered liquid manure flows through a series of three lagoons for settling and storage. *Id.* The sand bedding will be dewatered and recycled for bedding in the barns. *Testimony of Gerdeman.* The manure solids will be dewatered on a concrete pad prior to land application. *Id.* The Dairy's design provides for the collection of all manure and all storm water that has come into contact with manure, feed, leachate, or other pollutants.

8. On December 24, 2007, Petitioner Robert E. Shaffer filed a petition for review of the permit. On December 27, 2007, the remaining Petitioners filed a Petition for Review and Stay challenging the validity of the Permit. This administrative review ensued. The Court's June 19, 2009 order allowed Petitioner Lucinda Been Anderson to substitute as Petitioner for her deceased spouse, Thomas Anderson MD.
9. On August 12, 2008, OEA Environmental Law Judge Catherine Gibbs ruled on summary judgment that the Petitioners were not entitled to raise new issues late in the appeal and are limited to the assignments of error described in their Petition for Review. She further determined that some of the issues in the Petition are not relevant to CAFO NPDES permits and would not be heard. She identified the remaining relevant issues in the Petition as follows:

The evidence introduced at the hearing shall be limited to those issues raised by the Petitioners' Petition for Review and Stay, including the report prepared by Dr. Darrell Leap PHD, dated December 17, 2007. The Petitioners' Petition for Review and Stay specifically identifies the following issues: (a) the issues raised in Dr. Leap's report attached as Enclosure 2; (b) seepage from the three clay-lined manure lagoons; (c) contamination of the Keller drinking well; (d) the proximity of the CAFO to Sprinkle Ditch; (e) the presence of pathogens, including *e. coli* in manure. The issues raised in Dr. Leap's report including (1) the amount of waste (2) surface water contamination, (3) groundwater quality and monitoring (4) manure injection, (5) groundwater depletion, (6) perimeter drain around the manure storage pond (7) manure application methods, and (8) application of manure to saturated ground. Dr. Leap raises other issues involving private water wells and air emissions. Evidence and testimony in this matter shall be confined to listed above.

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10. A hearing on the merits was held in this case from July 13, 2009 through July 23, 2009. Petitioners' testimony and cross-examination addressed topics both within and beyond their Petition for Review. During the hearing, Petitioners challenged IDEM's Permit issuance on the basis of the financial (in) solvency of the Dairy site's current owner, an issue opposed by the Dairy. *See June 22, 2009 Petitioners' Motion for Evidentiary Hearing RE: Similarly-Situated Applicants' Insolvency Present a Clean and Present Danger that Trial of Optima Dairy will Unnecessarily Squander Scarce Judicial Resources; June 26, 2009 Optima Dairy's Objection.* The parties argued Petitioners' motion on the record during the final hearing.
11. In their August 13, 2009 Proposed Findings of Fact and Conclusions of Law, Petitioners address two issues. First, Petitioners contend that the Permit does not prevent the discharge of manure or process wastewater into Waters of the state, because spills, leaks, and seepage from the manure storage ponds can flow via the perimeter drain and the drainage channel around the ponds into a Rule 5 clean storm water retention pond south of the production area. Second, Petitioners claim that the Permit does not contain a Nutrient Management Plan ("NMP"), which is required by federal law.
12. In the Petition for Review, ¶ 6, Petitioners allege: "If a perimeter subsurface drain is installed around the manure lagoon liners, the resulting lowering of the water table due to hydraulic uplift and subsequent rupture of the lagoon liners, the resulting lowering of the water table will increase the vertical downward hydraulic gradient beneath the lagoons which in turn will exacerbate leakage from the lagoon."
13. In the Petition for Review, ¶ 7, Petitioners allege that manure will seep from the lagoons as allowed by IDEM's practice.
14. Attached to the Petition is a letter authored by Dr. Darrell Leap, who did not testify at the hearing. Page 2 of the letter opines that, if the lagoon leaks into the perimeter drain, the effluent will be eventually discharge to surface water.
15. In Petitioners' Proposed Findings of Fact and Conclusions of Law, the Petitioners contend that "manure wastewater" from the Dairy's manure storage lagoons will seep into shallow sand lenses under the lagoons and then spread laterally into the perimeter drain surrounding the lagoons. The Petitioners assert that the manure wastewater will flow through the perimeter drain into a storm water collection basin that will be constructed south of the Dairy's production area.
16. Petitioners' Proposed Findings of Fact and Conclusions of Law also assert that a drainage channel around the berms of the lagoons will collect manure wastewater from manure spills on the berms, leakage through the berms, and manure spills during manure removal from the lagoons, and convey the manure wastewater to the storm water collection basin.

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17. Petitioners' Proposed Findings of Fact and Conclusions of Law further assert that the Permit provides no waste containment plan or design to prevent wastewater from the perimeter drain and drainage channel from reaching the storm water collection basin. They claim that the storm water collection basin will discharge into Sprinkle Ditch. Sprinkle Ditch runs south of the Dairy's production area, then southwest into a culvert under County Road 225 North. *Testimony of Lucinda Been Anderson; Jt. Ex. 35.* Flow continues underground to the south southwest, surfacing near the village of Burrows, Carroll County, Indiana to form Little Rock Creek. *Id.* Little Rock Creek flows south southwest for approximately five miles, flowing into the Wabash River. *Id.* As a result, Petitioners contend that the Dairy's production area will discharge manure into waters of the state, contrary to federal and state law. Petitioners assert that the storm water retention basin must be, but is not, designed and permitted as a manure wastewater structure under the CAFO rules, because it will hold manure. Petitioners conclude that the Permit must be remanded to IDEM to incorporate a waste containment design to prevent wastewater from leaving the production area via the perimeter drain or drainage channel. Petitioners challenge whether the Permit adequately addresses impermissible discharge from the Dairy's perimeter drain, drainage channel and clean storm water pond. Petitioners presented expert testimony concerning civil engineering in a CAFO context from Kathy Martin, P.E. Among the Dairy's expert witnesses were Dr. Michael Brugger, civil engineer and Dairy designer David Gerdeman, and hydrogeologist Dr. Michael Sklash.

18. The Permit, including incorporated engineering drawings, contains a number of provisions to address the prevention of leaks, spills, and discharges from the Dairy into waters of the state. In summary, the Dairy's engineering design provides a three-tiered approach for preventing above-ground leaks and spills from being discharged to waters of the state. First, the Permit requires the Dairy's manure storage structures to be designed and constructed to prevent spills and leaks, including diversion of clean storm water away from the structures and installation of high-strength concrete on some structures. The Permit requires construction of wide walls on the earthen manure storage structures composed of engineered fill created with low permeable clay soils and state-of-the-art liner construction techniques, vegetation on the walls of the manure ponds, and a key trench. Second, the Permit requires regular inspections, preventative maintenance and housekeeping, and clean-up procedures to detect spills and leaks and to prevent them from going off-site. Third, while the foregoing is designed to prevent leaks and spills from reaching the clean storm water pond, the pond is designed to have a shutoff valve that can detain any leaked or spilled material that reaches the pond. The Permit provisions, and substantial evidence of their functions, are:
 - (a) The cows at the Dairy will produce manure and sand bedding mixed with the manure that will be vacuumed or scraped from the barns and delivered to manure storage processing and storage facilities. *Jt. Ex. A at 267.*

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- (b) Other Dairy wastes include silage leachate, parlor wash water, misting water used for cooling the cows, waste drinking water, and precipitation and storm water that comes into contact with manure or other Dairy wastes. *Id. at 31-32.* 327 IAC 5-4-3(a)(12) defines these wastes as “process wastewater.”
- (c) Paragraphs I. D. 1. and II. H. 1. of the Permit require the Dairy to be constructed and operated in accordance with the permit’s conditions and the plans and specifications listed in Paragraph II. H. 1. of the permit. *Jt. Ex. A at 268, 282.* Paragraph II. H. 1. of the Permit incorporates the details of the ten engineering drawings submitted with the Dairy’s permit application. *OD Ex. Z-2.* These engineering drawings contain designs for the Dairy’s production area and waste management structures that are designed to manage discharges of manure and process wastewater.
- (d) The Dairy must hold all manure and process wastewater in approved storage facilities until removed for land application or transferred off-site to a recipient user. *Jt. Ex. A at 271, ¶ II. D. 3.* All manure, contaminated storm water, and other process wastewater at the Dairy will be collected and stored in three manure storage ponds prior to land application. *Testimony of Gerdeman.* To determine the necessary size for these manure storage ponds, Optima Dairy calculated the volumes of manure and process wastewater that the Dairy is expected to produce by using design factors respected in the industry, IDEM’s guidance manual, or actual wastewater volumes produced by similar dairies constructed by the same developer. *Testimony of Gerdeman; testimony of Brugger; Jt. Ex. A at 31-32.* Based on these calculations, the manure storage ponds have more than the required capacity to hold all manure and process wastewater from the Dairy. *Testimony of Gerdeman.* Whereas IDEM’s rules require at least 180 days of storage capacity to minimize the risk that their contents will have to be emptied and land applied during unfavorable weather conditions, the Dairy’s manure storage facilities will hold at least a year’s production of manure and process wastewater. *Testimony of Gerdeman; Jt. Ex. A at 31-32.* This extra storage capacity will be provided by the design of the manure storage structures in the engineering drawings for the Dairy, which the Dairy must follow under Paragraphs I. D. 1. and II. H. 1. of the Permit. *Jt. Ex. A at 268, 282.* Optima Dairy’s permit application summarized the volumes for each category of waste that the Dairy will produce during a year, and provided numbers showing that the Dairy’s waste storage structures will provide 367 days of storage for these wastes. *Jt. Ex. A, pp. 31-32.* IDEM concurs that the Dairy’s design provides enough storage capacity for a year. *Testimony of Michael Sonnefeld* (IDEM civil engineer who reviewed Optima Dairy’s permit application). The extra capacity of the manure ponds will decrease the likelihood that the ponds will overflow onto the grounds of the Dairy and flow off-site. *Testimony of Gerdeman.*

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- (e) Paragraph II. A. 1. of the permit prohibits discharges of manure or process wastewater pollutants from the Dairy. *Jt. Ex. A at 269*. Further, paragraph II. B. 1. requires the facility to avoid practices that result in the discharge of manure, process wastewater, or contaminated storm water into state waters. *Id. at 270*.
- (f) As is customary with a “no-discharge” permit, authorized discharges are: (1) those resulting from catastrophic rainfall events that cause overflows of manure storage structures that are constructed and operated to contain all manure and process wastewater from a 25-year, 24-hour precipitation event; (2) non-contact cooling water that has cooled to ambient temperatures; and (3) storm water managed in compliance with the Permit’s Storm Water Pollution Prevention Plan and part 5 of the Permit. *Jt. Ex. A at 269, §§ II. A. 2-5*. Where practical, the Permit requires an overflow from a 25-year, 24-hour precipitation event to be discharged to land application fields or other vegetated areas to minimize its impact. *Id. at 280, § II. G. 5*.
- (g) Per Paragraph II. B. 3. of the Permit requires the Dairy to design, construct, and maintain its barns, waste management structures, and areas where manure or process wastewater is handled in a manner that minimizes leakage and seepage and prevents spills or the discharge of manure or process wastewater. *Id. at 270*.
- (h) Paragraph II. D. 2. of the Permit requires the Dairy to develop and implement an Emergency Spill Response Plan to address any spills that occur. *Id. at 271*. The plan must contain the elements required by 327 IAC 16-9-4. *Id.* 327 IAC 16-9-4 requires the plan to describe the actions to contain or manage any spill of manure and procedures for notifying authorities and the dairy operator in the event of a spill.
- (i) Paragraph II. G. 3. of the Permit calls for the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) incorporating the requirements of Attachment 1 of the Permit. *Id. at 279, 299-204*. Attachment 1, starting on page 34 of the Permit, requires the SWPPP to identify practices to minimize and control pollutants in storm water discharges from the shipping and receiving areas and other parts of the Dairy. *Id. at 299, Attachment I, § A. 1. b*. At least once per year, the storm water discharge must be sampled to detect any pollutants that might be leaving the production areas. *Id. at 301-302, § A. 2. a. iv*.

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- (j) The Dairy is required to operate and maintain the Dairy pursuant to the SWPPP to minimize the exposure of storm water to potential sources of significant pollutants. *Id. at 303, Attachment I, ¶ A. 2. a. vi.* Storm water management controls must be developed and implemented. *Id.* These controls must include good housekeeping of areas that may contribute pollutants to storm water, preventative maintenance of storm water management devices, inspections, tests, and maintenance on equipment and systems to detect conditions that could cause breakdowns or failures resulting in discharges. *Id. at vii, viii.* Inspections of storm water control devices and measures must be performed. *Id. at x.*
- (k) Paragraph II. G. 4. of the Permit requires the Dairy to take appropriate measures to prevent and clean up spills of any pollutants. *Id. at 279.* The Dairy must establish procedures for cleaning up spills and procure the equipment necessary to clean up spills. *Id.*
- (l) Paragraph II. G. 9. of the Permit requires the Dairy to train its employees for spill response and clean-up. *Id. at 280.*
- (m) Paragraph II. D. 7. of the Permit mandates inspections of all waste management systems to implement Paragraph III. A. of the Permit. *Id. at 272.* Paragraph III. A. 2. mandates routine visual inspections to detect leaks and spills or deterioration of structures that could lead to leaks and spills, including: (1) weekly inspections of all storm water diversion devices, runoff diversion structures, and devices channeling contaminated storm water, (2) daily inspection of water lines that could affect the manure or process wastewater storage areas, and (3) weekly inspections of the open surface liquid manure or process wastewater impoundments. *Id. at 284.* Deficiencies must be corrected as soon as possible. *Id. at ¶ III. A. 4.*
- (n) The engineering drawings incorporated by reference into the Permit require the Dairy's waste management structures and the soil surface of the Dairy's production area to be constructed to prevent spills and leaks that could be carried off-site and discharged into waters of the state. *OD Ex. Z-2.* The Permit requires Optima Dairy to construct the Dairy in compliance with these engineering drawings. *Jt. Ex. A at 282, II. H. 1.*
- (o) The parties disputed whether concrete specifications were sufficient to prohibit leaks caused by the corrosive effects of manure and silage leachate. According to Petitioners' expert witness Kathy Martin, P.E., summaries of studies indicated that concrete mixes may corrode. *Testimony of Kathy Martin.* The Dairy presented expert testimony on concrete construction for CAFOs from Dr. Michael Brugger. Dr. Brugger provided substantial evidence that the concrete specifications for Dairy structures constructed with concrete, such as one manure storage pond, a tank collecting manure and silage leachate, and the sand lanes, provide for a high-

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strength concrete that will withstand the corrosive effects of manure and silage leachate. *Testimony of Dr. Michael Brugger; OD Ex. Z-2, Eng. Dr. 7/10; Eng. Dr. 8/10.* This will prevent holes in the concrete manure storage structures through which waste could leak into the soils at the Dairy, as required by the Permit. *Id.* Further, the Permit requires structures which leak or fail to be repaired. *Id.*

- (p) Engineering drawing 4/10 incorporated into the Permit provides for construction techniques that will prevent the Dairy's barns and waste management structures from settling down into the soils and cracking. *Testimony of Gerdeman; OD Ex. Z-2.* Infirm soils such as the peat in the area planned for the sand lanes will be removed and replaced with stable soils. *Gerdeman; OD Ex. Z-2, Eng. Dr. 4/10.* Engineering drawings incorporated into the Permit require the installation of improvements to prevent flooding that could otherwise impair the firmness of the soils under the foundations of the Dairy's structures. *Id.* For example, sand lanes will have a gravel layer under them to drain water from the lanes' foundation, thus preventing cracks that could allow manure to seep through them. *Testimony of Gerdeman.* A drainage channel around the manure ponds will prevent flooding at the base of the ponds. *Id.* A drainage ditch around the Dairy's production area will intercept and remove storm water that otherwise would invade the production area. *Id.* By preventing settling and cracking, the engineering plans will prevent cracks in the structures that could release manure or process wastewater. The engineering properties of the site's soils do not pose a risk of spills, leaks, or seeps from the waste storage structures from flooding, ponding, frost action, slope, shrinking and swelling, or low strength materials. *Id.*
- (q) Engineering drawings incorporated into the Permit call for the installation of ditches and channels around and inside the production area to intercept and collect clean storm water before it can come into contact with manure, feed, or other contaminants. *Testimony of Gerdeman; OD Ex. Z-2, Eng. Dr. 3/10.* This design keeps the storm water free of manure and process wastewater, so that it does not become process wastewater and does not have to be stored in the Dairy's manure storage ponds. *Id.* This design also prevents this storm water from carrying pollutants off-site into waters of the state. The intercepted clean storm water will flow from the ditches and channels into a clean storm water basin located south of the production area. *Id.*

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- (r) As incorporated from the Dairy's engineering drawings, the Permit requires grading of the soil surface that will slow down the clean storm water runoff during rainfall and snow melt. *Testimony of Gerdeman*. Although contaminated storm water will be collected in the manure ponds, the clean storm water will collect in the storm water collection pond south of the Dairy's production area. *Id.* The clean storm water pond will hold at least the 24-hour, 50-year precipitation event, and likely the 24-hour, 100-year precipitation event. *Id.* Flow from the storm water pond into Sprinkle Ditch is thus minimized. *Id.*
- (s) A review of evidence offered by the parties provides substantial evidence that the potential for leaks through the berms of the manure storage ponds is minimal. The outside banks of the ponds are vegetated with grass, which protects the berms. *Testimony of Gerdeman*. Even when the removal of manure from the manure ponds exposes their inside banks to sunlight, deposits of manure fines keep the berms moist so as to prevent cracks. *Id.* Vegetation temporarily grows on the inside banks at the time of low manure levels, further protecting the banks. *Id.* Any cracks that occur would be minor and would be detected during inspections required by the Permit. *Id.* Inspections will also detect any animal holes or seepage, if it occurs. *Id.*
- (t) While spills on the manure storage ponds' berms theoretically can occur during manure removal from the manure storage ponds, the spills would be detected during inspections required by the Permit. *See Testimony of Gerdeman*. The regularly conducted inspection, maintenance, and clean up procedures in the SWPPP required by the Permit will detect spills of pollutants and provide Dairy personnel with the opportunity to clean them up so that they will not flow into the clean storm water pond. *Id.* Further, it is reasonable to conclude that the Dairy personnel who are removing manure from the manure ponds would see any spills at the time they occurred.
- (u) The above-ground berms of the manure storage ponds are required to be composed of engineered fill 112 feet thick at the bottom, 27 feet thick at the maximum operating level for the manure column allowed by the Permit, and at least 12 feet thick at the top. *Testimony of Gerdeman; OD Ex. Z-2, Eng. Dr. 4/10*. The engineered fill will be constructed in accordance with the detailed procedures detailed in the column labeled "Engineered Soil Fill Construction" on Engineering Drawing 4/10. *Id.* The walls will have a permeability at least 13 times lower than necessary to achieve IDEM's standard for a seepage rate of no more than 1/16th of an inch per day as prescribed by 325 IAC 16-8-7(b). *Id.* The walls of the manure storage ponds will also have a key trench to prevent the engineered soils in the walls from sliding sideways and collapsing the walls. *Testimony of Gerdeman; OD Ex. Z-2, Eng. Dr. 4/10, diagram B/4*.

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- (v) IDEM's standards for constructing manure storage structures are based on the standards, in Standard 313 of the Natural Resources Conservation Service (NRCS) of the U. S. Department of Agriculture. *Testimony of Gerdeman*. No walls of a manure storage structure in the United States engineered in accordance with NRCS standard 313 have been known to fail. *Testimony of Brugger*. The walls of the Dairy's manure storage structures are designed in accordance with NRCS standard 313.
 - (w) Even if any manure leaked through the berms, it is reasonable to conclude that such leakage would be detected during the Dairy's Permit-required inspections.
 - (x) Engineering drawing 4/10 provides for the installation of a shutoff valve on the outlet of the clean storm water pond. *OD Ex. Z-2; Pet. Ex. 50*. This shutoff valve enables the Dairy with the means to stop water from being released into Sprinkle Ditch if any spill or leakage of manure or process wastewater flows into the pond. *Testimony of Gerdeman*. Consequently, the pond provides backup containment to prevent spilled or leaked pollutants from being discharged into waters of the state should all other precautions required by the Permit to prevent and clean up spills and leaks fail to do so. *Id.* Any contaminated water reaching the storm water collection basin could be irrigated onto the fields to clean out the pond. *Id.*
19. By substantial evidence, the Permit adequately addresses impermissible discharge from the Dairy's perimeter drain, drainage channel and clean storm water pond.
20. As concern the Dairy's manure ponds, Petitioners challenge whether the Permit adequately addresses impermissible discharge which would pollute waters of the state and cause groundwater contamination from the Dairy's manure ponds seepage. The Permit's manure storage ponds requirements and engineering drawings incorporated into the Permit, and substantial evidence of their functions, are:
- a) The liner on the bottom of each manure storage pond will consist of a two-foot layer of recompacted clay liner and a one foot layer of engineered fill on the bottom of the ponds. *Testimony of Gerdeman*. The liners will be made out of low permeable clay taken from the pond excavations or borrow areas on site. *Id.* If the on-site clay is found during construction not to be suitable for constructing the liners, suitable clay for the liners will be obtained from off-site. *Id.*
 - b) Mr. Gerdeman presented substantial evidence that the clay on site is suitable for composing the clay liner for the manure storage ponds. *Id.* The clay is classified under ASTM procedures as low permeable, as shown by the Unified Soil Classification Service's soil classifications on the field and laboratory reports for the soil borings collected at the Dairy site. *Id.* Despite the presence of subsurface sand lenses at the Dairy site, the soils on the Dairy site are predominantly low

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permeable clay, which inhibits the movement of liquids such as the liquid manure and process wastewater produced by the Dairy. *Id.*

- c) Any pockets of sand discovered during the excavation of the holes for the manure ponds will be removed and refilled with low permeable recompacted fill. *Id.*
- d) The specifications for the recompacted clay and engineered fill in the liners are contained in engineering drawing 4/10. *OD Ex. Z-2; Testimony of Gerdeman.* The specifications for the engineered fill are the same as for the recompacted clay liner, except for additional testing on the recompacted clay liner. *Id.*
- e) Hydrogeologist Dr. Michael Sklash has educational qualifications and 32 years of experience in hydrogeology. *Testimony of Sklash.* Dr. Sklash stated substantial evidence that the clay beneath the manure ponds has a low permeability that impedes and minimizes the seepage of liquid through it. *Id.* Usual spring flooding in the vicinity of the Dairy site show that water moves slowly downward through the soil. *Testimony of Sklash.* Even where clay has gravel or rock in it, the fine sized grains of clay in the soil impede the movement of liquid, just as the cement surrounding gravel does in a concrete mixture. *Testimony of Sklash; OD Ex. Z-6.* For this reason, only a minimal amount of seepage can occur through the clay liner of Optima Dairy's manure ponds and the in-situ clay under the ponds. *Id.* However, the constituents of the manure in the seepage are filtered out of the liquid as it moves slowly through clay, thus cleaning the liquid. *Id.* Even through naturally present in-situ clay that has not been recompacted, liquids move downward at a rate of only two inches per year. *Id.* Therefore, even if water seeps from shallow sand lenses into the perimeter drain, by substantial evidence, the water will not contain pollutants from manure.
- f) A soil permeability of 1×10^{-7} will achieve the seepage rate of no more than $1/16^{\text{th}}$ cubic inches per square inch per day prescribed by 325 IAC 16-8-7(b). *Testimony of Gerdeman.* Contrary to Petitioners' contentions stated by witness Kathy Martin, *testimony of Martin,* the Permit contains a required permeability rate, found in engineering plans incorporated into the Permit. Dr. Sklash and Mr. Gerdeman provided substantial evidence that the liner for the manure ponds composed of recompacted clay and engineered fill, along with in-situ clay under the liner, will achieve a permeability of 1×10^{-8} , based on the laboratory tests performed on the clay at the Dairy site. *Testimonies of Sklash, Gerdeman.* This is an order of magnitude less permeable than the regulatory rate of 1×10^{-7} . Moreover, once the clay-lined manure ponds start to store manure, the manure will plug the pores in the clay, further reducing the permeability by another order of magnitude to 1×10^{-9} . *Testimony of Sklash.* Mr. Gerdeman testified that the entire liner system for the manure ponds, including the undisturbed low permeable clay that will remain

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under the ponds, will achieve a seepage rate of 19 times better than IDEM's seepage limitation in 325 IAC 16-8-7(b).

- g) IDEM reviewing civil engineer Michael Sonnefeld presented substantial evidence that the liner and two feet of in-situ clay under the manure ponds are expected to achieve a seepage rate that is 8.5 times less than the 1/16th cubic inches per square inch per day that 325 IAC 16-8-7(b) allows. *Testimony of Sonnefeld; IDEM Ex. EE.*
- h) While CAFOs are not ordinarily required to install perimeter drains around their manure storage structures, Optima Dairy designed its manure storage ponds with a perimeter drain around them as an extra protective measure due to the periodically high water table at the Dairy site. *Testimonies of Gerdeman, Sonnefeld.*
- i) The perimeter drain will be a six inch pipe that has ample capacity to carry away all water that would flow into it. *Testimony of Gerdeman.* The purposes of the perimeter drain around the manure storage ponds are (1) to dewater the area of the manure ponds by clearing out any pockets of water uncovered during excavation and construction of the manure ponds; and (2) after manure pond construction, to intercept and carry away groundwater migrating toward the manure ponds from areas outside of the manure ponds to make sure it cannot lift up and damage the ponds' liners. *Id.* However, even without the perimeter drain, by substantial evidence, groundwater will not be able to lift up the liners, because the liners are close to the ground surface and no water-bearing sand layer is shallow enough to place upward pressure on it. *See Testimony of Gerdeman.*
- j) Whether the perimeter drain will intercept any sand lens under the manure ponds depends on the depth of the perimeter drain and the continuity of the sand lenses. *Testimony of Sklash.* If the perimeter drain intercepts a sand lens, the amount of any water seeping from the sand lens into the perimeter drain would be minimal. *See Testimonies of Gerdeman, Sklash.*
- k) An engineering plan approved as part of Optima Dairy's permit provides for access to the perimeter drain at the point where it flows by gravity to an opening from which samples can be collected. *See Testimony of Gerdeman.* Therefore, water in the perimeter drain can be sampled to determine whether any manure has seeped into it, and measures can be taken to prevent the contaminated water from draining into the clean storm water basin.

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- l) As another extra protective measure not ordinarily required for CAFOs, Optima Dairy proposed and IDEM approved the installation of a groundwater monitoring system around the ponds to detect any pollutants leaving the manure storage ponds through sand lenses. *See Testimonies of Gerdeman; Sklash; Sonnefeld; Deposition of Masood.*
 - m) Engineering drawing 2/10, which the Dairy must implement pursuant to Paragraphs I. D. 1. and II. H. 1. of the Permit, provides for the installation of a ground water monitoring system to detect any leaks or seepage from the manure storage structures. *OD Ex. Z-2.* The details for installing the monitoring wells, sampling and analyzing the groundwater, and reporting the results to IDEM are provided in Optima Dairy Exhibit T, which has been approved by IDEM and incorporated as an enforceable part of the Permit. *OD Ex. U.* Paragraph II. H. 7. of the Permit requires the Dairy to comply with and maintain a ground water monitoring program approved by IDEM for the Dairy's production area. *Jt. Ex. A at 283.* Monitoring wells must be sampled semiannually and the sample analyses reported to IDEM. *Id.*
 - n) Kathy Martin, the Petitioners' expert witness in civil engineering, testified that the ground water monitoring wells are the best method for detecting leaks from the Dairy's lagoons. *Testimony of Martin.* She further stated that, as soon as manure constituents are found in the monitor wells, the Dairy would know that the ponds are leaking. *Id.* She stated that the Dairy's ground water monitoring plan has identified the appropriate sampling parameters for pollutants, including cations, anions, and sulfates to detect the presence of manure constituents. *Id.* She acknowledged that the monitoring plan provided for the sampling of ground water from the uppermost sand layer. *Id.*
 - o) Dr. Michael Sklash, Optima Dairy's hydrogeology expert, agreed that the groundwater monitoring program required by the Permit, as amended by Optima Dairy Exhibit T, will be effective for detecting any leakage from the manure ponds into the groundwater. *Testimony of Sklash.* If leakage occurred, the monitoring wells would detect it. *Id.*
21. By substantial evidence, the Permit adequately addresses impermissible discharge which would pollute waters of the state and cause groundwater contamination from the Dairy's manure ponds seepage.

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22. As concerns the Dairy's nutrient management plans, Petitioners claim that the Optima Dairy's permit application was required to include a detailed nutrient management plan ("NMP") that provides field-by-field application rates for manure application, a field-specific assessment of the potential for nitrogen and phosphorus transport from the field to surface water, manure and soil sampling, and setback requirements. Petitioners contend that Optima Dairy's permit application did not include an NMP with these elements. The Permit's NMP requirements, and substantial evidence of their functions, are:
- a) Because Optima Dairy's NPDES permit was issued prior to U.S. EPA's 2008 rulemaking affecting CAFO NPDES rules (discussed below in Conclusions of Law), IDEM followed the manure application requirements in effect under Indiana's statutes and rules as of December 7, 2007, the date the Permit was issued. *Testimony of Lasiter.*
 - b) Optima Dairy submitted a manure management plan as part of its permit application. *Jt. Ex. A at 19.* This plan follows a standard form for manure management plans that IDEM has used for at least ten years. *Testimony of IDEM Brian Daggy ("Daggy").* The information provided by Optima Dairy on that form supplies information listed for manure management plans in 327 IAC 16-7-11, including:
 - i) procedures for soil testing under (a)(1), (c), and (e): the sample collection method will be the management unit/field level method, and all other sampling protocols in the CFO and CAFO rules will be followed; sampling will be conducted at least once every three years, on a rotating basis;
 - ii) procedures for manure testing under (a)(2), (d), and (e): representative samples will be collected from the lagoons and settling basins and sent to a private laboratory for analysis, and all other sampling protocols in the CFO and CAFO rules will be followed; sampling will be conducted at least once per year; and
 - iii) legible maps of the manure application areas under (a)(3).
 - c) *Permit Application, Jt. Ex. A at 47-70; Testimonies of Daggy; Lasiter Hrg. Tr. at 17-21.* By substantial evidence, IDEM determined that Optima Dairy's manure management plan meets the requirements of 327 IAC 16-7-11. *Id.*
 - d) Per land use agreements, the Dairy has fields totaling 2041 acres that can be used for spreading its manure pursuant to land use agreements. *Testimony of Daggy; Jt. Ex. A at 73-83.* Manure can be spread on 1856 acres of these fields once setbacks are subtracted from the total acreage of the fields. *Id.* For the Dairy's 2201 cows, 1100 acres are required by IDEM under its guidance document for CAFO permitting. *OD Ex. D at 28; testimony of Daggy.* Therefore, by substantial evidence, Optima Dairy's total available acreage exceeds IDEM's requirement to have at least one acre available for every two dairy cows.

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- e) By substantial evidence, the soil types in the fields to be used for the Dairy's manure application are suited for that purpose. *See Testimony of Daggy*. Although they may flood in wet spring weather, manure is not spread under those conditions. *Daggy; testimony of area farmer and landowner Myron Sink ("Sink")*. The fact that these fields, especially those farmed by the Dairy, have high crop yields shows that the soils are dry enough in late spring, summer, and fall to grow good crops and thus are also dry enough for manure application at those times without risking the runoff of manure into adjoining streams. *Testimonies of Daggy, Ally, Sink*. Under these conditions, the manure stays in the crops' root zone, where they will be utilized by the crops. *Testimony of Daggy*. These fields are also flat, which discourages the runoff of manure. *Testimony of Daggy*. Precautions are taken to make sure that any manure spread on any fields with a rolling terrain will not run into streams, such as terracing the field. *Testimony of Sink*. For these reasons, area farmers Myron Sink and Walter Keller testified that manure has not run off the fields on which they have spread manure in the past. By substantial evidence, the fields in Optima Dairy's permit application are suitable for spreading manure without contaminating nearby streams.

- f) Dr. Sklash presented substantial evidence that, if septic systems had difficulty functioning due to soil characteristics in the vicinity of the Dairy, this would have no bearing on whether the soil is suitable for manure application. *Testimony of Sklash*. The amount of liquid applied to the soil during manure application is slight, since the manure is spread over numerous acres. *Testimonies of Sklash, Sink*. In comparison, a typical household septic system releases 300 times as much liquid per square foot, because its application is limited to a much smaller area. *Testimony of Sklash*. By substantial evidence, the soils to be used for the Dairy's manure application are suitable for that purpose.

- g) Dr. Sklash also presented substantial evidence that, contrary to assertions in Petitioners' Petition, manure incorporated into the soil will not rise to the surface during rainfall, even if the soil is saturated. Rainfall cannot penetrate the saturated soil to flush out the manure. *Id.* Petitioners did not rebut this testimony.

- h) Pathogens in manure quickly die during storage in manure storage ponds and once spread on fields. *Testimonies of Daggy; Lasiter, Hrg. Tr. at 34-37*. The use of the best management practices required by IDEM's rules, as incorporated into the Dairy's Permit, controls and minimizes the runoff of pathogens from manure spread on fields. *See testimony of Daggy*. Per IDEM witnesses Lasiter and Daggy, U.S. EPA has found these practices to be adequately protective of public health against the threats of pathogens, and has decided not to require additional pathogen reduction measures in NPDES permits.

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23. By substantial evidence, the Permit adequately addresses the Dairy's nutrient management plan.
24. Although not addressed in Petitioners' proposed findings of fact and conclusions of law, the Petition contended that the Dairy's use of water from its production well would adversely affect off-site wells. Dr. Sklash presented substantial evidence that the Dairy's use of water from its production well will not adversely affect on any off-site wells. A pump test performed on the Dairy's well showed that it has excess capacity to supply the Dairy's needs without drawing down the aquifer. *See testimony of Sklash.*
25. Although not addressed in Petitioners' proposed findings of fact and conclusions of law, the Petition contended that contaminants from the Dairy's manure storage structures will not contaminate the aquifers that supply water to wells around the Dairy. Dr. Sklash presented substantial evidence to the contrary. The low permeable clay soils in the liner, engineered fill, and in-situ clay under the manure storage ponds will protect the aquifer from seepage. *Testimony of Sklash.* There are 70 vertical feet of low permeable clay between the manure storage ponds and the bedrock aquifer at the Dairy site. *Id.* By the time any seepage from the manure storage ponds could reach the bedrock aquifer at the Dairy site in approximately 450 years, the contaminants in the seepage will have dissipated through natural processes such as decay and adherence to clay particles. *Id.*
26. Although not addressed in Petitioners' proposed findings of fact and conclusions of law, the Petition contended that manure applied to fields in accordance with the best management practices ("BMPs") required by the Permit posed a risk of contaminating the groundwater. By substantial evidence, the nutrients from properly applied manure will stay in the root zone of the crops in the field and will be absorbed by the plants, rather than migrating down to the groundwater. *Testimonies of Daggy, Sklash.*
27. Although not addressed in Petitioners' proposed findings of fact and conclusions of law, the Petition contended that manure applied on fields will contaminate the Wabash River or other area streams. As discussed above, the Dairy's employment of BMPs required by the Permit present substantial evidence that manure applied on fields will not contaminate the Wabash River or other area streams.
28. Petitioners produced no testimony or other evidence in support of their contention that manure should be injected in furrows.
29. IDEM duly reviewed Optima Dairy's permit application and found that it met or exceeded all of the necessary rules required by statute for the issuance of an NPDES permit.

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CONCLUSIONS OF LAW

1. The Indiana Department of Environmental Management (“IDEM”) is charged with implementation and enforcement of Indiana’s environmental laws and rules. I.C. § 13-13-1-1, *et seq.* The Office of Environmental Adjudication (“OEA”) has jurisdiction for administrative review of the decisions of the Commissioner of IDEM and the parties to this controversy pursuant to I.C. § 4-21.5-7-3.
2. This is a Final Order issued pursuant to I.C. § 4-21.5-3-27. Findings of Fact that may be construed as Conclusions of Law and Conclusions of Law that may be construed as Findings of Fact are so deemed.
3. This Court must apply a *de novo* standard of review to this proceeding when determining the facts at issue. *Indiana Dept. of Natural Resources v. United Refuse Co., Inc.*, 615 N.E.2d 100 (Ind. 1993), *Indiana-Kentucky Electric v. Commissioner, Indiana Department of Environmental Management*, 820 N.E.2d 771 (Ind. Ct. App. 2005). Findings of fact must be based exclusively on the evidence presented to the Environmental Law Judge (“ELJ”), and deference to the agency’s initial factual determination is not allowed. *Id.*; I.C. § 4-21.5-3-27(d). “The ELJ . . . serves as the trier of fact in an administrative hearing and a *de novo* review at that level is necessary. *Indiana Department of Natural Resources v. United Refuse Co., Inc.*, 615 N.E.2d 100, 103 (Ind. 1993). The ELJ does not give deference to the initial determination of the agency.” *Indiana-Kentucky Elec. Corp v. Comm’r, Ind. Dep’t of Envntl. Mgmt.*, 820 N.E.2d 771 (Ind. Ct. App. 2005). “*De novo* review” means that “all are to be determined anew, based solely upon the evidence adduced at that hearing and independent of any previous findings.” *Grisell v. Consol. City of Indianapolis*, 425 N.E.2d 247 (Ind.Ct.App. 1981).
4. OEA is required to base its factual findings on substantial evidence. *Huffman v. Office of Envntl. Adjud.*, 811 N.E.2d 806, 809 (Ind., June 30, 2004)(appeal of OEA review of NPDES permit); *see also*, I.C. § 4-21.5-3-27(d). OEA is authorized “to make a determination from the affidavits . . . pleadings or evidence.” I.C. § 4-21.5-3-23(b). The applicable standard of proof generally has been described as a continuum with levels ranging from a “preponderance of the evidence test” to a “beyond a reasonable doubt” test. The “clear and convincing evidence” test is the intermediate standard, although many varying descriptions may be associated with the definition of this intermediate test. *Matter of Moore*, 453 N.E.2d 971, 972, n. 2. (Ind. 1983). The “substantial evidence” standard requires a lower burden of proof than the preponderance test, yet more than the scintilla of the evidence test. *Burke v. City of Anderson*, 612 N.E.2d 559, 565, n.1 (Ind.Ct.App. 1993). *GasAmerica #47*, 2004 OEA 123, 129. *See also*, *Blue River Valley*, 2005 OEA 1, 11-12, *Marathon Point Service and Winamac Service*, 2005 OEA 26, 41.

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5. By substantial evidence, Petitioners properly invoked OEA's jurisdiction. Petitioners' Petition for Administrative Review was timely filed. Petitioners have established that they are aggrieved or adversely affected by IDEM's issuance of the Dairy's Permit.

Conclusions Of Law Related To The Perimeter Drain, Drainage Channel, And Clean Storm Water Basin

6. 327 IAC 16-8-4 requires new manure storage structures to possess a capacity of at least 180 days for all manure, bedding, net average rainfall, and the expected rainfall and runoff from a twenty-five year, twenty-four hour precipitation event that falls on the drainage area around a liquid manure storage structure, but not to include the expected rainfall and runoff from such an event that falls directly on the structure. The design for Optima Dairy, incorporated into the Permit by reference, provides for twice the amount of storage capacity than is required by this rule. Therefore, the Dairy's design complies with 327 IAC 16-8-4.
7. Optima Dairy's design of its earthen storage structures complies with the performance standard in 325 IAC 16-8-7(b) limiting seepage to no more than 1/16th of an inch per square inch per day. Meeting this design standard demonstrates that the liner of the manure storage pond is adequately protective of water quality. This rule does not require calculations of the volumes of pollutants that may seep through the liner in the form of loadings or mass balances. Although the Dairy's seepage rate provides greater protection than the regulatory rate, neither IDEM nor OEA could have required the applicant to meet a stricter standard than 1/16th of an inch per square inch per day. *In re Kyle Hall*, 2008 OEA 100, Concl. 21 (Aug. 5, 2008) ("*Kyle Hall*"). However, the Dairy applied for and received a permit containing a more protective seepage rate.
8. Pursuant to 327 IAC 16-4-3(c) and 327 IAC 16-8-7(c), IDEM may require applicants to incorporate additional design standards into waste management structures, including any of the additional design standards listed in this rule. IDEM has required Optima Dairy to incorporate two of these additional design standards into the Dairy's design, which are liners and monitoring systems. The Dairy applied for a Permit with liners designed to achieve a significantly lower seepage rate from the manure storage ponds than required by 327 IAC 16-8-7(b). The groundwater monitoring system and program are sufficient to detect any contamination from the manure storage ponds. These extra protective measures are adequate to ensure protection of the groundwater from seepage into the sand lenses from the manure storage ponds at the Dairy site.
9. 327 IAC 16-8-3(c) authorizes IDEM to require additional design standards in areas with a high seasonal water table, such as monitoring systems and liners. IDEM has required Optima Dairy to incorporate liners, a perimeter drain, and monitoring systems into the design for its manure storage ponds. The groundwater monitoring system and monitoring procedures are consistent with scientific principles commonly accepted by hydrogeologists.

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These additional measures are adequate to address the seasonal high water table at the Dairy site.

10. 327 IAC 15-15-4(a) and 327 IAC 16-8-12(a) require all waste management systems to be designed and constructed to minimize leaks and seepage and to prevent spills. Optima Dairy's engineering drawings comply with this requirement by providing for (1) twice the 180 days of required storage capacity in the manure storage structures so that they will not overflow; (2) liners in the earthen manure storage ponds with a designed seepage rate far better than that required by rule; (3) wide, vegetated walls of manure storage ponds constructed of low permeable clay materials to impede seepage and leaks and a key trench to prevent collapse; (4) high strength concrete in leachate storage structures and pads to avoid corrosion that could create holes in the floors and walls; (5) removal of infirm soils before installing the foundations of waste management structures; (6) improvements such as gravel layers to drain water away from the foundations of waste management structures that could impair their stability; (7) channels and ditches to divert clean storm water away from manure and process wastewater structures, thus preventing the storm water from conveying pollutants off-site to waters of the state; (8) a perimeter drain to prevent damage to the integrity of the liners for the manure storage ponds, thus preventing leakage; and (9) a groundwater monitoring system to detect leakage from the manure storage structures and enable early remediation in the event leakage occurs.
11. The Permit further complies with 327 IAC 15-15-4(a) by requiring the Dairy to prepare and comply with a SWPPP and an Emergency Spill Response Plan and to take other measures to minimize and control pollutants in storm water, sample and analyze storm water annually to identify any pollutants in it, perform housekeeping and preventative maintenance, perform inspections to detect leaks, spills, and structural deterioration, contain or manage any spills of manure, and train employees for spill response and clean-up.
12. The Dairy's manure and process wastewater storage structures are designed to prevent spills, leaks, and seepage of manure or process wastewater into the drainage channel around the manure storage ponds or the perimeter drain. The liners under the manure storage ponds are designed to prevent manure from entering the groundwater or the perimeter drains, and a groundwater monitoring system will be installed to confirm that this is not occurring. In addition, the Permit contains other procedures for preventing manure and process wastewater from reaching the drainage channel or the perimeter drain, including inspections to detect spills, leaks, and seepage and clean-up procedures for removing any spilled, seeped, or leaked waste. Consequently, the drainage channel and perimeter drain are not designed to transfer manure or process wastewater and are not manure transfer systems as defined by 327 IAC 16-2-25 or waste management systems as defined by 327 IAC 16-2-44(2). Accordingly, the design requirements for waste management systems and manure storage structures in 327 IAC 15-4-3, 327 IAC 15-15-4, 327 IAC 16-7-10, 327 IAC 16-8-1 *et seq.*, and other CAFO rules do not apply to the drainage channel or perimeter drain.

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13. For purposes of the rules in 327 IAC 16, 327 IAC 16-2-9 defines a “discharge” as the addition of any pollutant into waters of the state from any point source. A CAFO is a point source. 327 IAC 5-1.5-40(a)(10). Waters of the state are defined at I.C. § 13-11-2-265, which definition specifically excludes the storm water detention pond as a “facility built for reduction or control of pollution or cooling of water before discharge.”
14. The Permit prohibits all discharges of process wastewater pollutants except for those resulting from catastrophic rainfall events that cause overflows of manure storage structures that are constructed and operated to contain all manure and process wastewater from a 25-year, 24-hour precipitation event (hereinafter referred to as the “25-year, 24-hour storm event”). Although the Permit also allows discharges of non-contact cooling water that has cooled to ambient temperatures, this is not process wastewater as defined by 327 IAC 5-4-3(a)(12). Non-contact cooling water is groundwater used for chilling milk in a device that does not come into contact with the milk. *Permit, Jt. Ex. A at 267, ¶ I. A.* Process wastewater includes only water that has come into contact with manure and other wastes from a CAFO, not from non-contact water. For the same reason, 327 IAC 15-15-4(d) does not prohibit the discharge of clean storm water from the clean storm water basin as authorized by the Permit. *Jt. Ex. A at 269, ¶¶ II. A. 2-5.*
15. 327 IAC 15-15-4(d) and (g) prohibit the discharge of process wastewater pollutants to waters of the state, except in a 25-year, 24-hour storm event. Because non-contact cooling water and clean storm water are not process wastewater, the only process wastewater that the Permit allows to discharge is from a 25-year, 24-hour precipitation event. Accordingly, the Permit complies with 327 IAC 15-15-4(d) and (g) and any analogous federal regulations.
16. The OEA may not overturn an IDEM approval upon speculation that the regulated entity will not operate in accordance with the law. The speculation that the permittee will not comply does not constitute a valid objection to the terms of the permit and is not reviewable. *Swine Pro, I, LLC CFO Objection, 2007 OEA 155, at Concl. 11.* Because the Permit prohibits the Dairy from discharging process wastewater except in a 25-year, 24-hour storm event and contains numerous inspection and cleanup requirements to achieve compliance with that prohibition, discharges will not occur unless the Dairy violates the terms of the Permit. Petitioners’ speculation that manure or process wastewater will be spilled and not cleaned up, does not provide substantial evidence that IDEM erred in issuing the Dairy Permit.
17. If Optima Dairy complies with the Permit by preventing and cleaning up spills, leaks, and seeps, no manure or process wastewater will reach the clean storm water pond south of the Dairy’s production area. Because this pond is not intended for the storage of manure or process wastewater, it is not a waste management system as defined by 327 IAC 16-2-44 or a manure storage structure as defined by 327 IAC 16-2-24. For that reason, IDEM correctly does not regard the clean storm water pond to be a waste storage structure. *See Testimony of*

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Bruggen. Clean storm water ponds such as this one are regulated by 327 IAC 15-5-1 *et seq.*, not by 327 IAC 15-4-3, 327 IAC 15-15, and 327 IAC Article 16. Consequently, the CAFO permitting and design requirements for waste management systems and manure storage structures in 327 IAC 15-4-3, 327 IAC 15-15-4, 327 IAC 16-7-10, 327 IAC 16-8-1 *et seq.*, and other CAFO rules do not apply to this pond.

18. The Permit requires all manure and process wastewater to be stored in storage facilities approved for storing manure and process wastewater prior to land application or transfer to other persons. *Jt. Ex. A at 271, ¶ II. D. 3.* The Permit authorizes only storm water without manure or process wastewater to leave the Dairy's production area and flow to the clean storm water pond. The Permit does not authorize the storage of manure or process wastewater in the clean storm water pond, since there are no engineering drawings incorporated into the Permit calling for such storage in the pond. The only engineering drawing for the clean storm water pond is in Engineering Drawing 3/10, which identifies the pond as only a Rule 5 storm water basin. *OD Ex. Z-2.* Consequently, as manure and process wastewater may not be stored in this pond, discharges of water from this pond will be free of manure or process wastewater.
19. The Dairy neither applied to discharge manure or process wastewater from the clean storm water pond, nor does the Dairy's Permit so allow. Instead, the containment, inspection, and clean-up requirements of the Permit are designed to prevent discharges. Accordingly, the Dairy is not required to obtain coverage for this pond under any NPDES permit for CAFOs.
20. Because of Dairy's design and the precautions against discharges required by the Permit, the Permit does not allow manure or process wastewater to be discharged into Sprinkle Ditch. Therefore, the ditch's proximity to the Dairy does not invalidate the Permit.
21. Paragraph II. A. 5. of the Permit authorizes the discharge of storm water only from sites used for handling material other than manure and process wastewater, access roads and rail lines, refuse sites, sites used for storage and maintenance of material handling equipment, and shipping and receiving areas. *Jt. Ex. A at 270.* Storm water from these areas may be stored in the clean storm water pond. These areas do not include the manure storage ponds in the production area. Therefore, the Permit does not authorize the discharge of manure or process wastewater that has leaked, seeped, or spilled from the manure storage ponds. Consequently, the discharge of water from the clean storm water pond into waters of the state does not violate any prohibitions in IDEM's rules or any analogous federal regulations against discharging manure or process wastewater into waters of the state.
22. The Permit complies with all applicable requirements related to the storage of manure and process wastewater. The Permit complies with all restrictions related to the discharge of manure and process wastewater.

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Conclusions Of Law Related To Nutrient Management Plans

23. I.C. § 13-15-6-2 requires a Petition for Review to “[s]tate with particularity the reasons for the request,” “[s]tate with particularity the issues proposed for consideration at the hearing,” and “[i]dentify the permit terms and conditions that, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing permits of the type granted or denied by the commissioner's action.” 315 IAC 1-3-2((b)(4) provides that a Petition for Review must state, “with particularity,” the legal issues proposed for consideration and the permit terms and conditions the petitioner contends would be appropriate to comply with the law applicable to the permit.
24. Petitioners’ Petition for Review contains no allegations that Optima Dairy was required, but failed, to submit an NMP with field-by-field application rates and other field-specific information in its permit application, or that IDEM was required to incorporate such an NMP in the draft NPDES Permit for public comment. Petitioners’ Petition for Review also did not identify the submission of a field-by-field NMP for public comment as the remedy they sought. ELJ Gibbs’ August 12, 2008 order noted that the Petition for Review and attached report by Dr. Leap limited issues and presentation of evidence to address application to “(7) manure application methods, and (8) application of manure to saturated ground.” Because Petitioners provided Optima Dairy with no prior warning about additional contentions or the relief sought, the issues cannot be raised for the first time at hearing. *In re Twin Lakes Regional Sewer District*, 2007 OEA 53, Concl. 10-11 (Apr. 11, 2007).
25. Even if Petitioners are allowed to raise nutrient management issues beyond those addressed in ELJ Gibbs’ August 12, 2008 order for the first time at the hearing on the merits, their claim is without merit.
26. I.C. § 13-18-3-2 authorizes the Water Pollution Control Board to adopt rules that govern IDEM’s implementation of the NPDES program. This statute provides that the “board may adopt rules under I.C. § 4-22-2 that are necessary to the implementation of . . . the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*)” (“FWPCA” or “Clean Water Act”). Similarly, I.C. § 13-15-1-2 requires the board to adopt rules for issuing permits to control water pollution.
27. IDEM is responsible for implementing the rules promulgated by the Water Pollution Control Board. I.C. § 13-14-1-4. Before IDEM has the authority to implement a requirement of the FWPCA, the Water Pollution Control Board must first adopt the federal requirement in rules that are administered by IDEM.

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28. Although the Petitioners contend that 327 IAC 5-2-1.5 incorporates the FWPCA, all Federal Registers, and the Code of Federal Regulations for NPDES permits into the Indiana Administrative Code, 327 IAC 5-2-1.5 does not make such an incorporation by reference into the Administrative Code. 327 IAC 5-2-1.5 only describes the authorities that are elsewhere incorporated into various specific sections of 327 IAC Article 5, in compliance with the mandate in I.C. § 4-22-2-21(b) that all matters incorporated by reference be “fully and exactly described.” 327 IAC 5-2-1.5 was not meant to require IDEM to implement all provisions of the FWPCA, Federal Registers, and Code of Federal Regulations in the issuance of NPDES permit.

29. Consistent with this principle, 327 IAC 5-2-10(a) provides in pertinent part:

Each NPDES permit shall provide for and ensure compliance with all applicable requirements of the Clean Water Act (CWA), regulations promulgated under the CWA, and state law. For the purposes of this section, an applicable requirement is a statutory or regulatory requirement that takes effect under state law before final administrative disposition of a permit.

(Emphasis added.) Therefore, a requirement of the FWPCA or U.S. EPA’s regulations does not apply to Indiana’s NPDES permits until the State incorporates the requirement into state law. Only a requirement that “takes effect under state law” before issuance of the permit may be imposed on the permittee in the permit. Therefore, the Indiana rules in effect on December 7, 2007, the day IDEM issued Optima Dairy’s Permit, contain the NPDES requirements that applied to the Permit.

30. Section 402 of the FWPCA establishes a process by which the states may obtain U.S. EPA’s authorization to issue NPDES permits in lieu of U.S. EPA’s performance of this function. The FWPCA provides that each state desiring to implement the NPDES program may submit to U.S. EPA “a full and complete description of the program it proposes to establish and administer under State law.” (Emphasis added.) 33 U.S.C. 1342(b). U.S. EPA has promulgated regulations implementing this program in 40 CFR Part 123, which identifies the elements for a Section 402 program that must be included in the authorized states’ NPDES programs. Consistent with 33 U.S.C. 1342(b), these regulations require states seeking to administer the NPDES program to submit a “description of the program it proposes to administer in lieu of the Federal program under State law.” (Emphasis added.) 40 CFR 123.22. Accordingly, NPDES permits are issued by authorized states pursuant to state law, not federal law. *California v. U.S. Dept. of Navy*, 845 F.2d 222, 225 (9th Cir. 1988); *Mianus River Preservation Committee v. Administrator*, 541 F.2d 899, 905 (2d Cir. 1976); *Ringbolt Farms Homeowners Assoc. v. Town of Hull*, 714 F. Supp. 1246, 1252-53 (D. Mass. 1989). As a result, IDEM has issued Optima Dairy’s NPDES Permit under state law, not federal law.

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31. To obtain authorization for the NPDES program, a state must certify, through its Attorney General, that “the laws of the State” provide adequate authority to carry out the NPDES permitting program. 40 CFR 123.23(a). Consequently, the terms of a state’s NPDES permits are based on existing state law, not federal law.
32. An U.S. EPA’s regulations governing state NPDES programs, 40 CFR 123.62(e), provides that “[a]ny approved State section 402 permit program which requires revision to conform to this Part shall be so revised within one year of the date of promulgation of these regulations, unless a State must amend or enact a statute in order to make the required revision in which case such revisions shall take place within 2 years . . .” Therefore, if U.S. EPA adds new requirements to its NPDES regulations, an authorized state has at least one year to make conforming modifications to the state’s NPDES program.
33. Indiana’s current CAFO rules were promulgated to incorporate the CAFO requirements in U.S. EPA’s 2003 regulations. U.S. EPA approved Indiana’s CAFO rules as compliant with U.S. EPA’s 2003 CAFO regulations, including the NMP requirements. The U.S. EPA 2003 regulations listing the contents for NMPs, 40 CFR 122.42(e)(1) and 40 CFR 412.4(c), did not require IDEM and other permitting authorities to review field-specific NMPs, incorporate such NMPs into CAFOs’ NPDES permits, or provide the public with the opportunity to comment on them. 40 CFR 122.23(e), cited by Petitioners, requires site-specific nutrient management practices, but does not require them to be reviewed as part of an NPDES permit application by the permitting agency and the public before an NPDES permit is issued. The decision in *Waterkeeper*, at 399 F.3d at 498-505, confirms that U.S. EPA’s 2003 regulations did not require the NMP procedures demanded by Petitioners, since the decision remanded U.S. EPA’s 2003 CAFO regulations for failing to include these provisions. U.S. EPA amended its CAFO regulations to incorporate these requirements as of December 22, 2008. 73 Fed. Reg. 70417 (Nov. 20, 2008).
34. The Second Circuit’s decision in *Waterkeeper* remands U.S. EPA’s CAFO regulations to U.S. EPA for additional rulemaking to incorporate the changes that the court found to be required. Nothing in the decision suggests that NPDES permits issued before the conclusion of this rulemaking must incorporate additional NMP review procedures before they were even promulgated. 399 F.3d at 498-505.
35. Subsequent to *Waterkeeper*, a split intermediate Michigan court held that Michigan’s general NPDES permit for CAFOs did not comply with the federal requirements for submitting NMPs to the state agency for review and public comment. *Sierra Club v. Dept. of Environmental Quality*, 277 Mich.App. 531, 747 N.W.2d 321 (Mich. Ct. App. 2007). In that case, the Sierra Club had requested a declaratory ruling from the DEQ that DEQ’s general permit was inconsistent with the FWPCA. This ruling had been sought under a unique Michigan declaratory judgment statute that allows “an interested person” to ask an agency for “a declaratory ruling as to the applicability to an actual state of facts of a statute administered by the agency or of a rule or order of the agency.” 277 Mich.App. at 544-45;

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MCL 24.263. Notably, the Sierra Club contended that the general permit was not only inconsistent with federal law, but also with Michigan state law. 277 Mich.App. at 549. The dissent provides additional context to the dispute, revealing that the Sierra Club had made “sweeping assertions that [Michigan’s general CAFO] permit is contrary to state law.” *Id.* at 557. Therefore, this case is not inconsistent with the principle that a state agency must issue an NPDES permit pursuant to the requirements of state law in effect at the time the permit is issued, rather than under federal law.

36. Consistent with 40 CFR 123.62(e), U.S. EPA’s 2008 rulemaking provided that the states have at least one year to revise their rules to implement the 2008 CAFO regulatory amendments:

Following issuance of this rule, authorized States have up to one year to revise, as necessary, their NPDES regulations to adopt the requirements of this rule, or two years if statutory changes are needed, as provided in 40 CFR 123.62.

73 Fed. Reg. at 70457, col. 1. U.S. EPA further observed:

As mentioned above, 40 CFR 123.62(e) provides that States will have one year from the promulgation date of this final rule, or two years if statutory changes are needed, to adopt the requirements of this final rule. During this interim period, EPA expects States to issue permits that comply with all technical requirements of the 2003 rule that were unaffected by the *Waterkeeper* decision and, absent regulatory or statutory barriers, to provided for NMP submission, public review of NMPs, and incorporation of the NMP terms into the permit.

Id. at col. 3. Consequently, if a state’s NPDES statutes or rules already provide its authorized state agency with sufficient authority to implement the actions required by U.S. EPA’s 2008 rulemaking, the state must start implementing them on the regulations’ effective date of December 22, 2008. Otherwise, the state has at least one year before it is required to incorporate the 2008 changes into CAFOs’ NPDES permits.

37. Indiana’s CAFO NPDES rules have to be amended before IDEM has the authority to implement the changes from U.S. EPA’s 2008 rulemaking. Accordingly, IDEM will not be able to incorporate the changes required by U.S. EPA’s 2008 rulemaking into its NPDES permits until Indiana completes its conforming rulemaking for that purpose.

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38. IDEM staff described that their practice concurs. U.S. EPA has authorized IDEM to implement the NPDES program in Indiana. *Testimony of Dennis J. Lasiter, IDEM Office of Land Quality Permit Section technical specialist.* Indiana's current CAFO rules, which are part of Indiana's U.S. EPA-approved NPDES program, were promulgated to incorporate the CAFO requirements imposed by U.S. EPA's 2003 regulations. *Lasiter, Hrg. Tr. 12, 22.* Mr. Lasiter stated that in 2005, the U.S. Court of Appeals for the Second Circuit issued a decision requiring U.S. EPA to amend some of its CAFO regulations to, inter alia, require the inclusion of field-by-field NMPs in draft NPDES permits and allow public comment on these NMPs. (referring to *Waterkeeper* and U.S. EPA's final rulemaking at 73 *Fed. Reg. 70417* (Nov. 20, 2008)). Mr. Lasiter stated that until Indiana's CAFO NPDES rules must be amended before IDEM will have the authority to implement the changes from U.S. EPA's 2008 rulemaking. *Lasiter, Hrg. Tr. 21-22.* Accordingly, IDEM will not be able to incorporate the changes required by U.S. EPA's 2008 rulemaking into its NPDES permits until Indiana completes its conforming rulemaking for that purpose. *Id.* U.S. EPA had approved the statutes and rules as of December 7, 2007 (the Permit issuance date) as being consistent and compliant with U.S. EPA's 2003 regulations. *Lasiter, Hrg. Tr. at 23.* Prior to 2008, U.S. EPA allowed NPDES-authorized states some flexibility on how to implement the federal regulations on NMPs. *Lasiter, Hrg. Tr. at 21.* IDEM incorporates U.S. EPA's requirements for the NMP directly into its NPDES permits. *Lasiter, Hrg. Tr. at 21.* U.S. EPA has approved this approach. *Lasiter, Hrg. Tr. at 21.*
39. Administrative agencies may make reasonable rules and regulations to apply and enforce legislative enactments. *Indiana Dept. of Environmental Management v. AMAX, Inc.*, 529 N.E.2d 1209, 1212 (Ind.App. 1 Dist., 1988). However, in establishing such rules, the agency must comply with the rulemaking procedures of I.C. § 4-22-2-1 *et seq.*, including provisions for public hearings and review. *Id.* Because Indiana has not yet conducted this rulemaking process to incorporate the NPDES changes required by U.S. EPA's 2008 rulemaking, the changes were not effective under Indiana law at the time Optima Dairy received the Permit. In fact, U.S. EPA's 2008 rulemaking had not yet even occurred at time of permit issuance.
40. In order to satisfy due process, an administrative decision must be in accord with previously stated, ascertainable standards. *Podgor v. Indiana University*, 381 N.E.2d 1274, 1283 (Ind.App., 1978). This requirement ensures that administrative decisions are fair, orderly, and consistent rather than irrational and arbitrary. *Id.* The standards should be written with sufficient precision to give fair warning as to what the agency will consider in making its decision. *Id.* Because Indiana did not have standards implementing U.S. EPA's 2008 rulemaking or the *Waterkeeper* decision at the time Optima Dairy's Permit was issued, any IDEM attempt to impose these new requirements on Optima Dairy without prior rulemaking would have violated Optima Dairy's due process rights.

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41. Because Optima Dairy's NPDES permit was issued on December 7, 2007, it must comply with the requirements contained in IDEM's rules as of that date. These requirements follow.
42. 327 IAC 5-4-3(f) authorizes IDEM to incorporate into an individual NPDES permit the substantive standards for "nutrient management and water quality standards under 327 IAC 15-15 and 327 IAC 16." Thus, applicants for NPDES permits must comply with the same nutrient management standards as CFOs.
43. Consequently, IDEM's individual NPDES permits may require permittees to comply with such requirements as the performance standards and effluent limitations in 327 IAC 15-15-4, the "nutrient management requirements" (as the title of the rule refers to them) of 327 IAC 15-15-12, the spray irrigation conditions of 327 IAC 15-15-13, the manure management plan of 327 IAC 16-7-11, manure application rates in 327 IAC 16-10-2, manure application activities in 327 IAC 16-10-3, and manure application setbacks in 327 IAC 16-10-4.
44. I.C. § 13-18-10-2(a) requires permit applications to contain a manure management plan that outlines procedures for soil testing, manure testing, maps of manure application areas, and any supplemental information required by IDEM.
45. I.C. § 13-18-10-2.3 and 327 IAC 16-7-11 also list the contents that must be included in manure management plans. *Kyle Hall*, at Concl. 14. 327 IAC 16-7-11 implements I.C. § 13-18-10-2.3, which provides that a "confined feeding operation must submit a manure management plan that outlines procedures for soil testing, manure testing, and maps of manure application areas to the department at least one (1) time every five (5) years to maintain valid approval for the confined feeding operation under this chapter."
46. For its manure management plan, Optima Dairy used the template plan provided by IDEM. Using this template is an acceptable means for complying with 327 IAC 16-7-11. *Kyle Hall* at Concl. 14. The manure and soil sampling procedures and maps of manure application areas complied with I.C. § 13-18-10-2(a), I.C. §13-18-10-2.3 and 327 IAC 16-7-11.
47. Optima Dairy's manure management plan, submitted with its application, contained all of the plan components required by 327 IAC 16-7-11, I.C. § 13-18-10-2(a), and I.C. § 13-18-10-2.3. Because the permit (Jt. Ex. A at 273, ¶ II. F. 1.) provides that compliance with the terms of the permit satisfies the requirement to maintain a manure management plan in I.C. § 13-18-10-2.3, the land application provisions of the permit are also part of the manure management plan.

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48. While 327 IAC 15-15-12 requires CAFOs to utilize the procedures of NRCS Standard 590 for manure application, the rule provides that these procedures are applicable once manure application occurs rather than at the permitting stage. *Cf. Swine Pro*, at Concl. 9-10 (holding that the tile inspections and monitoring required by 327 IAC 15-15-12(k) did not have to be included in the NPDES application, but instead are required during the manure application process). Therefore, each application is required to satisfy then-existing, actual conditions.
49. The applicant’s submission of an NMP is not required under Indiana law prior to the issuance of a permit. *Kyle Hall* at Concl. 17. Neither IDEM nor OEA may require an applicant to include an NMP in its permit application, since this would require the submission of information in excess of that required by Indiana law. *Id.*
50. Indiana’s rules contain numerous BMP standards that must be incorporated into CAFO NPDES permits. These BMPs mirror and amplify the mandatory BMPs required by EPA in 40 CFR 412.4 and supply the elements of the NMP required by that U.S. EPA regulation. *Jt. Ex. A at 279, ¶ II. G. 1. f.* U.S. EPA has approved these rules as part of Indiana’s NPDES program, informing the State that its land application procedures comply with the FWPCA. The first of these BMPs is the manure management plan. I.C. § 13-18-10-2.3 requires a manure management plan to outline the procedures for “soil testing, manure testing, and maps of manure application areas.” Optima Dairy submitted this manure management plan to IDEM pursuant to 327 IAC 16-7-11 as part of its application. Optima Dairy’s manure management plan complies with I.C. § 13-18-10-2(a), I.C. § 13-18-10-2.3, and 327 IAC 16-7-11.
51. However, the manure management plan is not the only BMP imposed by IDEM on CAFOs. The permit provides extensive requirements on the methodology for applying wastewater from Optima Dairy. In fact, the permit incorporates all of the land application standards found in 327 IAC 15-15 and 327 IAC 16, as illustrated by a comparison of rule requirements and permit provisions:

| <u>Description and Rule Citation</u> | <u>Permit Paragraph</u> |
|---|---|
| No run-off, use of saturated ground, or spills Must minimize nutrient leaching beyond root zone 327 IAC 15-15-4(b); 327 16-3-1(e) | p. 6, ¶ II. B. 4. |
| Staging of manure: 327 IAC 15-15-10(i) 327 IAC 16-10-3(a)-(b) | p. 9, ¶ II. F. 3. a., b. |
| Soil conservation practice plan 327 IAC 15-15-11; 327 IAC 16-10-3(h) | p. 10, ¶ II. F. 3. f. p. 14, ¶ II. G. 2. |

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|---|------------------------------|
| Manure testing, soil testing, application rates 327 IAC 15-15-12(a)-(e); 327 IAC 16-10-2; 327 IAC 16-7-11 | p. 8, ¶ II. F. 2. |
| Setbacks from surface waters and other features 327 IAC 15-15-12(f), (l), (m); 327 IAC 16-10-4 | pp. 12-13, ¶ II. F. 4. |
| No use of public road during application 327 IAC 15-15-12(g); 327 IAC 16-10-3(g) | p. 10, ¶ II. F. 3. g. |
| Avoid precipitation during application 327 IAC 15-15-12(i) | p. 11, ¶ II. F. 3. i. |
| No application on saturated soil 327 IAC 15-15-12(h); 327 IAC 16-10-3(i) | p. 11, ¶ II. F. 3. j. |
| No application on highly erodible land w/o Soil Conservation Practices Plan 327 IAC 15-15-12(j); 327 IAC 16-10-3(h) | pp. 10-11, ¶ II. F. 3. h. |
| Monitoring field outlets and preventing manure flow through them: 327 IAC 15-15-12(k) | p. 11, ¶ II. F. 3. k. |
| Spray irrigation restrictions: 327 IAC 15-15-13 327 IAC 16-10-3(c)-(e) | pp. 9-10, ¶ II. F. 3. c., d. |
| Application on frozen or snow-covered soil 327 IAC 15-15-14; 327 IAC 16-10-3(f) | p. 10, ¶ II. F. 3. f. |
| Record available land application acreage in operating record 327 IAC 16-10-1 | p. 23, ¶ III. C. 2. d. |

52. These permit provisions, along with the template manure management plan in the permit application, comply with the mandate in I.C. § 13-18-10-2.3 for a manure management plan, as well as providing a nutrient management plan as stated by the permit. They also comply with Indiana's rules on land application, as required for individual NPDES permits. Finally, because these rules are established to comply with the water quality standards, the permit provides BMPs that are protective of water quality.

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53. The Permit contains prohibitions against the application of manure on saturated soil in paragraphs II. B. 4. on page 6 and II. F. 3. j. on page 11. The testimony of Dr. Michael Sklash, Brian Daggy, Myron Sink, and Walter Keller established that the Dairy will have ample opportunities to spread its manure during seasons in which the soils are unsaturated. These permit provisions satisfy the requirements of Indiana's CAFO rules that are designed to prevent manure application on saturated ground.
54. Optima Dairy's NPDES permit properly regulates discharges from land application by allowing only agricultural storm water runoff. Consequently, unless manure application is performed in compliance with the permit's BMPs, no runoff containing nutrients may occur. On the other hand, runoff from fields on which the BMPs were employed is exempt from further regulation.
55. Optima Dairy's description of the 1856 total acres of land available for land application satisfied the requirement of 327 IAC 5-4-3(e) that an applicant identify the total acres under its control for land application. This total acreage exceeds IDEM's requirement to have at least one acre for every two dairy cows, as provided in IDEM's guidance document for CAFO permitting. OD Ex. D at 28.
56. Pathogen management requirements are not provided by applicable law and thus cannot be imposed in Optima Dairy's Permit. *Kyle Hall* at Concl. 20. However, U.S. EPA has determined that the best management practices required by its 2003 CAFO regulations, which are incorporated into the Permit's requirements, are adequately protective of public health against risks posed by pathogens. 73 Fed. Reg. 70417, 70463-64(Nov. 20, 2008).
57. Optima Dairy's Permit complies with all requirements in Indiana's statutes and rules for manure application, as contained in Indiana's rules at the time the Permit was issued. Neither IDEM nor OEA can impose additional requirements on Optima Dairy that are not authorized under Indiana law. *Kyle Hall* at Concl. 17.

Conclusions Of Law Related To Other Issues

58. Petitioners request that OEA grant its relief based upon the financial condition of any entity involved in Optima Dairy's performance of the Permit. Neither IDEM nor OEA is authorized to determine whether a NPDES Permit should issue, based upon an entity's financial condition or upon its ability to execute the terms of a NPDES Permit. IDEM's issuance of the Dairy Permit complied with applicable law as regards the Permittee's financial ability to perform.
59. While the testimony demonstrates that off-site water supply wells, such as Walter Keller's, will not be affected by the Dairy's use of groundwater from its own well, this issue falls outside of IDEM's authority to regulate. IDEM's issuance of the Dairy NPDES Permit complied with applicable law as regards allegations of water depletion.

**Objection to Approval of NPDES Permit No. INA006559/Farm ID No. 6559,
Approval No. AW-5840, Concentrated Animal Feeding Operation,
Optima Dairy Leasing, LLC,
Camden, Carroll County, Indiana
2010 OEA 91, (07-W-J-4041)**

60. Petitioners' contention that contaminants from the Dairy's manure storage ponds may seep into the area's water wells is unfounded. Moreover, the Dairy has complied with the requirements designed to prevent such an occurrence, by designing a liner system with a seepage rate of no more than 1/16th of an inch per day as prescribed by 325 IAC 16-8-7(b).
61. Because Petitioners have produced no testimony or other evidence to support their contention that manure should be injected in furrows, they have failed to sustain their burden of proving that this practice should be followed. Moreover, injection is not required by any of Indiana's rules.

CONCLUSION

Pursuant to the Petitioners bear the burden of presenting substantial evidence that the Permit as issued is invalid. Petitioners have not sustained their burden of persuasion to demonstrate that IDEM had no factual or legal basis for the contested provisions of Optima Dairy's Permit.

FINAL ORDER

AND THE COURT, being duly advised, hereby **FINDS AND ORDERS** that Petitioners' Robert E. and Roberta Shaffer, Walter Keller, Jr., Eva Keller, Lucinda Been Anderson, substituting for Thomas Anderson, MD's Petitions for Review and Stay as to whether IDEM properly issued National Pollution Discharge Elimination System Permit No. INA 006559 and Confined Feeding Operation Approval No. AW-5840 to Optima Dairy, LLC was not supported by substantial evidence, per I.C. §§ 4-21.5-3 and 4-21.5-5, nor did Petitioners meet their burden of persuasion. Petitioners' Petition for Review and Stay is **DENIED**. By substantial evidence, Permittee/Respondent Optima Dairy, LLC and Respondent, Indiana Department of Environmental Management, are entitled to judgment that National Pollution Discharge Elimination System Permit No. INA 006559 and Confined Feeding Operation Approval No. AW-5840, for Farm ID No. 6559 complied with applicable law.

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED that Petitioners' Petitions for Review and Stay on the issue as to whether IDEM properly issued National Pollution Discharge Elimination System Permit No. INA 006559 and Confined Feeding Operation Approval No. AW-5840 for Farm ID No. 6559 to Optima Dairy, LLC, is **DENIED**. Judgment is entered in favor of Permittee/Respondent Optima Dairy, LLC and Respondent Indiana Department of Environmental Management against Petitioners Robert E. and Roberta Shaffer, Walter Keller, Jr., Eva Keller, Lucinda Been Anderson, substituting for Thomas Anderson, MD. Petitioners' Petition for Review and Stay is therefore **DISMISSED**. All further proceedings before the Office of Environmental Adjudication are hereby **VACATED**.

**Objection to Approval of NPDES Permit No. INA006559/Farm ID No. 6559,
Approval No. AW-5840, Concentrated Animal Feeding Operation,
Optima Dairy Leasing, LLC,
Camden, Carroll County, Indiana
2010 OEA 91, (07-W-J-4041)**

You are further notified that pursuant to provisions of I.C. § 4-21.5-7-5, the Office of Environmental Adjudication serves as the ultimate authority in administrative review of decisions of the Commissioner of the Indiana Department of Environmental Management. This is a Final Order subject to Judicial Review consistent with applicable provisions of I.C. § 4-21.5, *et seq.* Pursuant to I.C. § 4-21.5-5-5, a Petition for Judicial Review of this Final Order is timely only if it is filed with a civil court of competent jurisdiction within thirty (30) days after the date this notice is served.

IT IS ORDERED, ADJUDGED AND DECREED that the Petition for Review is hereby **DENIED**.

You are further notified that pursuant to the provisions of I.C. § 4-21.5-7-5, the Office of Environmental Adjudication serves as the ultimate authority in administrative decisions of the Commissioner of the Indiana Department of Environmental Management. Pursuant to I.C. § 4-21.5-5-5, a Petition for Judicial Review of this Final Order is timely only if it is filed with a civil court of competent jurisdiction within thirty (30) days after the date this notice is served.

IT IS SO ORDERED this 27th day of August, 2010 in Indianapolis, IN.

Hon. Mary L. Davidsen
Chief Environmental Law Judge