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## **TITLE 327 WATER POLLUTION CONTROL BOARD**

### **Proposed Rule LSA Document #01-238**

#### **DIGEST**

Amends 327 IAC 6.1 concerning the rules for the application of a biosolid, industrial waste products, and pollutant-bearing water. The purpose of this rule change is to amend and clarify sections of the article that are creating unnecessary problems for the regulated community and IDEM staff. Indiana's rule regarding the land application of biosolid, industrial waste product, and pollutant-bearing water became effective June 14, 1998. Since that time both IDEM staff and the regulated community have concluded that some inconsequential and some substantive rule changes are required. Inconsequential changes are contextual in nature and provide more clarity. The substantive changes improve and enhance the program. The following are considered substantial changes: (1) A small-quantity generator notification program for nonresidential pollutant-bearing water land application programs. (2) Broadening the agricultural lime substitute notification program to include liquid waste products. (3) Delineation of the hybrid land application permit program. (4) Molybdenum concentrations of  $\geq$  forty (40) mg/kg are prohibited from application to pasture land. (5) Standard detection limits for seven heavy metals. (6) Clarification of nutrient monitoring requirements and recognition of presampling for nutrients in some cases. (7) Deletion of the suspended solids limits and monitoring requirement for certain stabilization pond systems when disinfection is not required. (8) Recognition of alternative methods of pollutant-bearing water land application to include subsurface methods. (9) Clarification of storage structure applicability and requirements. (10) Elimination of seasonal high water table restrictions during land application. (11) Reduces the monitoring frequencies to times set by 40 CFR 503. Effective 30 days after filing with the secretary of state.

#### **HISTORY**

First Notice of Comment Period: August 1, 2001, Indiana Register (24 IR 3827).

Continuation of First Notice: October 1, 2001, Indiana Register (25 IR 206).

Second Notice of Comment Period: May 1, 2002, Indiana Register (25 IR 2592).

Notice of First Public Hearing: May 1, 2002, Indiana Register (25 IR 2622).

Renotice of First Public Hearing: October 1, 2002, Indiana Register.

Date of First Hearing: October 9, 2002.

#### **PUBLIC COMMENTS UNDER IC 13-14-9-4.5**

IC 13-14-9-4.5 states that a board may not adopt a rule under IC 13-14-9 that is substantively different from the draft rule published under IC 13-14-9-4, until the board has conducted a third comment period that is at least twenty-one (21) days long.

#### **REQUEST FOR PUBLIC COMMENTS**

This proposed (preliminarily adopted) rule is substantively different from the draft rule published on May 1, 2002, at 25 IR 2592. The Indiana Department of Environmental Management (IDEM) is requesting comment on the entire proposed (preliminarily adopted) rule.

The proposed rule contains numerous changes from the draft rule that make the proposed rule so substantively different from the draft rule that public comment on the entire proposed rule is advisable. This notice requests the submission of comments on the entire proposed rule, including suggestions for specific amendments. These comments and the department's responses thereto will be presented to the board for its consideration at final adoption under IC 13-14-9-6. Mailed comments should be addressed to:

#01-238 [Land Application Change rule]

Marjorie Samuel

Rule, Outreach and Planning Section

Office of Land Quality

Indiana Department of Environmental Management

P.O. Box 6015

Indianapolis, Indiana 46206-6015.

Hand delivered comments will be accepted by the receptionist on duty on the eleventh floor. Comments may also be submitted by facsimile to (317) 232-3403, Monday through Friday, between 8:15 a.m. and 4:45 p.m. Please confirm the timely receipt of faxed comments by calling the Rules,

Outreach and Planning Section at (317) 232-7995.

#### COMMENT PERIOD DEADLINE

Comments must be postmarked, hand delivered, or faxed by January 22, 2003.

#### SUMMARY/RESPONSE TO COMMENTS FROM THE SECOND COMMENT PERIOD

IDEM requested public comment from May 1, 2002, through June 3, 2002, on IDEM's draft rule language. IDEM received comments from the following parties:

Terry Merrell, Merrell Bros., Inc. (MBROS)  
Colin E. Bullock, City of Huntington Water Pollution Control (HUN)  
Angela B. Andrews, City of Lafayette Water Pollution Control Department (LAF)  
Karl R. Kopec, Mishawaka Utilities (MIU)  
David McCollum, Marion Utilities (MU)  
Thomas J. Crawford, Milorganite Division, Milwaukee Metropolitan Sewerage District (MMSD)

Following is a summary of the comments received and IDEM's responses thereto:

*Comment:* The following are comments relating to the proposed development of Amendments to rules concerning the Land Application of Biosolid, Industrial Waste Product, And Pollutant-Bearing Water. First, I would like to commend the department on some positive proposed changes included in these amendments. I believe that the elimination of the seasonal high water table monitoring, broadening the agricultural lime substitute notification program to include liquid waste products, standard detection limits for seven heavy metals, clarification of nutrient monitoring requirements, recognition of pre-sampling for nutrients and clarification of storage structure requirements are all very good changes that serve to improve the safety and effectiveness for all land application programs in the state of Indiana. However, being in the business of Biosolids management, I have serious concerns regarding a few of the proposed changes in these amendments. While some of these concerns may be small in nature, I feel that they all will in some way potentially effect a large amount of permit holders financially as well as effecting their ability to run a land application program efficiently. I will attempt to address these concerns in detail and try to explain the effect each item will have to the end user. (MBROS)

*Response:* IDEM agrees that the rule changes improve the land application program in Indiana.

*Comment:* Concern #1 Location: Indiana Register, Volume 25, Number 8, May 1, 2002, page 2600: 327 IAC 6.1-3-8 Responsibility of person who prepares and blends: Sec. 8. (a)(2) and (3).

The current wording in this section states that both (2) and (3) must apply. This means that biosolids or Industrial waste products accepted for blending must not only meet Class B under 327 IAC 6.1-4-13(c) prior to receiving but they must also meet these same requirements at the time of land application. I believe this requirement is excessive because it levies an extra financial burden on the receiving facility to pay for testing prior to receiving these products as well as having to run another test on the materials prior to land application. This extra burden could be eliminated if the department simply added the word "or" between lines (2) and (3). If the department was concerned about additional re-growth of pathogens once the material was received at the facility then this could be corrected by eliminating item (2) altogether. It appears that the goal of this regulation is to insure that the pathogens meet 327 IAC 6.1-4-13(c) before land application occurs so it should not be a concern as to the condition of the pathogens until the material is ready for land application. This is evident in the wording that immediately follows this section where it allows for a facility to receive material without knowing the status of the pathogens as long as it treats the material prior to land application. Both sections are trying to achieve the same result, which is in compliance with 327 IAC 6.1-4-13(c) prior to land application. Therefore, we feel it is an unnecessary burden to have to meet 327 IAC 6.1-4-13(c) prior to receiving the material and then have to turn around and meet the same regulation again prior to land application. (MBROS)

*Response:* IDEM agrees that it is unnecessary for both (2) and (3) to apply to liquid biosolid and a change was made to 327 IAC 6.1-3-8 to reflect this. However, IDEM does not believe that dewatered biosolid can be blended as thoroughly into a homogeneous mixture. Therefore, the draft standards requiring both (2) and (3) still apply to dewatered biosolid.

*Comment:* Concern #2 Location: Indiana Register, Volume 25, Number 8, May 1, 2002, page 2609: 327 IAC 6.1-4-16 Monitoring and Analysis Sec. 16(g).

The proposed Table 6 changes are a very good idea in this section. This will help eliminate confusion for permit holders not having to adhere to two sets of monitoring requirements between the federal EPA 503 requirements and the state of Indiana requirements. The area of concern that I have is in section (g). This section allows for the permit holder to request for a reduction in frequency if certain criteria are met. While this requirement could have proven beneficial in the past, my concern is that any approved request would now put the permit holder in direct violation of the federal EPA 503 rules. This is due to the fact that since Table 6 would now reflect the Federal frequency of monitoring requirements any reduction from this would violate the federal law. I believe that some permit holders might possibly receive a reduced frequency exemption from the state and not consider that this reduced frequency exemption will put them in direct violation with the federal EPA 503 rules. I have tried to think this through and come up with a scenario where an exemption would not put the permit holder in direct violation of the federal rules and I have not been able to think of any situation. If the department knows of a situation I would be very interested in knowing about it so that I can better understand this section. (MBROS)

*Response:* The rule cannot be less stringent than the federal rules. However, the federal rules allow for metals and pathogen reduction but not vector attraction reduction. The Indiana rule will reflect this.

*Comment:* Concern #3 Location: Indiana Register, Volume 25, Number 8, May 1, 2002, page 2605: 327 IAC 6.1-4-9 Pollutant Limits Sec. 940.

This is in regards to Table 2 and Table 3 regarding more restrictive limits for molybdenum. Table 2 lists the Cumulative Loading Rate for molybdenum at 35 pounds per acre and Table 3 lists a ceiling concentration of 40 mg/kg on a dry weight basis. The proposed requirement for

a cumulative loading rate is understood. However, what molybdenum value does a facility use for sites that have been used in the past? Does a facility start at zero for a cumulative value for every site now used? My concern is that IDEM may possibly estimate this value for each application site and not have an exact number. If this is true, estimating a cumulative loading value may be inaccurate and could cause a site to be prematurely abandoned based on an estimated number. This is especially true if these numbers were derived from analysis that did not detect a molybdenum number low enough but yet it met Table one standards. This in turn could cause facilities additional expense by having to haul the biosolids further away to other land application sites. The proposed Table 3 limit for molybdenum at 40 mg/kg on a dry weight basis is the second concern. It appears IDEM is trying to enforce a regulatory metal concentration limit that is not enforced by the federal EPA. Currently, the IDEM limit for molybdenum is 75 mg/kg for Table 1 and Table 3. This is also true for the federal EPA. By requiring a more stringent ceiling concentration for molybdenum on Table 3, this will disqualify several facilities from utilizing non-specific sites as they have done for the past several years. We have compiled analytical data supporting the claim that a 40-mg/kg molybdenum number is too stringent and will affect many, many facilities. This documentation was attached. Molybdenum is a hard test to consistently get the same results from. In other words if you ran the same test twice on the same sample you probably won't get the same result. The differences that you would probably see would not be huge and maybe would only be a few mg/kg but when you are already dealing with low numbers to begin with a difference of 7-8 mg/kg could make a big difference. I have enclosed a copy of 25 analyses from 25 different facilities and then summarized these results as to the effects this proposed change would have. As you can see 56% of these facilities would currently be affected if the limit were left at 40 mg/kg. I realize that it is probably the intent of the department to try and reward or encourage facilities for producing a cleaner biosolid but it is my experience from talking to facilities that the reward for trying to get molybdenum within these limits will not be worth the effort and costs involved. Thus, I believe that this stringent limit will actually end up being more of a penalty to the facility instead of an incentive. If the proposed rule is adopted, any facility with a hybrid permit or nonsite specific permit that exceeds the molybdenum number of 40 mg/kg will be forced to use only site-specific sites and will have their permit revoked hopefully replacing it with a site-specific permit. By eliminating the availability of these non-site specific sites, this will cause a major financial burden for the many facilities by:

- Having to reapply for a site-specific permit
- Reducing the number of acres readily available to a facility for land application, in turn causing the need to permit additional land
- Eliminating the quick availability of biosolids to additional farmers and their ground without going through the 4-6 month permitting process required for site-specific permits.

IDEM's goal in the past has been to promote the beneficial reuse of biosolids through land application. However, by adopting a rule more stringent than the federal EPA will eliminate several facilities from utilizing their hybrid/non-site specific permit and does not promote the "easy-to-use" hybrid/nonsite specific permits. It is our recommendation to keep the molybdenum ceiling concentration value at least equivalent to the federal EPA regulatory limit of 75 mg/kg. By doing this, it will allow for further study into the molybdenum debate and will eliminate any confusion between the Federal EPA and IDEM ceiling limits. If the department was concerned that the federal EPA may impose limits in the future a clause could be added to include that. Another concern is that if the state of Indiana does impose a limit that does not match the future federal limits, then there would be two sets of rules to follow. With the effort the department is making in trying to match the state rules with the federal rules in the area of frequency of monitoring, it seems kind of reverse to make another rule that more than likely won't match the federal rules. Since we are all subject to following the federal rules anyway, it would appear less burdensome to preliminarily impose more restrictions on the facilities in Indiana only when the rest of the states may or may not have a limit imposed at all. We strongly urge the department to give this issue some very serious thought as to the possibility of removing this from the proposed amendments. (MBROS)

*Response:* The molybdenum requirements in Tables 2 and 4 have been deleted. The molybdenum requirement in Table 3 has been raised from 40 milligrams per kilogram to 75 milligrams per kilogram. It is also being added under the management practices that it is prohibited to apply biosolid or industrial waste product that contains more than 40 milligrams per kilogram of molybdenum to pasture. The proposed limits for molybdenum are based on a study, "A Modified Risk Assessment to Establish Molybdenum Standards for Land Application of Biosolids" by O'Connor, Brobst, Chaney, Kincaid, McDowell, Pierzynski, Rubin and Riper. However, rather than the more stringent limits first proposed in the rule, the limits now proposed are based on the concerns directly reflected in the study. The rule now restricts biosolid and industrial waste products containing higher levels of molybdenum on pasture and for marketing and distribution when applied to pasture.

*Comment:* Concern #4 Location: Indiana Register, Volume 25, Number 8, May 1, 2002, page 2613: 327 IAC 6.1-6-3 Agricultural Lime substitute application: Sec. 3.

This area of the rule explains a very detailed method of determining application rates based on several factors.

Table 9 of this formula however assumes that all material is being either injected or incorporated into the soil. What this area of the rule does not address is the surface application of liming material onto ground that will later be incorporated into the soil (pasture, etc.) or the surface application of material onto no-till ground. It would be helpful if a section were added that stated: If a agricultural lime substitute material is being applied to the surface of the ground and the material is going to be incorporated into the soil within 12 months then the depth at which the material is going to be incorporated into the soil can be used in the Table 9 formula when determining application rates. This statement would help clarify this area more clearly. The application of material onto no-till ground however creates a different set of issues. The main question raised under this situation is when a Liming material is added to the surface of the ground and is not incorporated into the soil how much of the soil does it affect and how quickly does it move down through the soil. To help answer this I researched a study that was performed by The University of Pennsylvania, which had to deal with the migration of lime through the soil. The attached chart displays the results of this study that I received from A & L Laboratories in Fort Wayne, Indiana. The outlines for this study were prefaced on the fact that 3 tons of lime were added every three years. Soil tests were then taken in 2 inch increments annually to determine the pH level effects in each section. The results showed that all three cross sections responded to the lime during the first twelve-month period. The pH levels then began to drop in all three areas the 2nd year until finally they responded again when the next application was applied the third year. It was interesting to note that while all three sections of the soil increased in soil pH the top layer still increased at a higher rate. However, it is also important to note that some of the lime did migrate down rather quickly and affect the soil as deep as 6 inches within the first year. Because of this, I feel that it would be beneficial to add a third column to Table

9 for surface application of material. The justification would be that even though the material is being surface applied it still affects the soil up to a depth of 6 inches. The Depth Factor (DF) for soil at 6 inches is currently .75. I believe a depth factor of .50 would be appropriate for material that was surface applied. This .50 factor is actually what is identified for 4 inches but I believe that since the soil from 2-6 inches did not respond as high as the soil on the surface that it might be more of a compromise to only allow a .50 Depth Factor (DF) to be used instead of .75. If the department felt like further safeguards were needed to implement this idea a clause could be added that stated that sites that received this type of material that had not been incorporated into the soil could not be used again until soil samples were taken in the top six inches of the soil which is where the Lime from previous applications should be. One of the main driving forces behind these requests for change is the fact that there are no-till farmers who are excluded from receiving this product because the application rate is so low when a depth factor of .25 is used that the product cannot be applied at that low of a rate. Besides, the landowner is actually getting penalized because although the attached study shows that the lime will migrate down into the soil 6 inches the landowner can only lime the top 2 inches.

Table 9 Depth Factor

Injected or Incorporated Surface Applied

Plowing Depth (inches) Depth Factor (DF) Depth Factor (DF)

2 .25

4 .50 .50

6 .75

8 1.00

10 1.25

12 1.50

(MBROS)

*Response:* IDEM agrees that surface application of agricultural lime substitute would likely impact the top four (4) inch layer of soil. As such, the two (2) inch plowing depth category as been eliminated from the table. The depth factor table used to calculate the adjusted lime rate has been modified to cover all plow depths clearly.

*Comment:* Concern #5 Location: Indiana Register, Volume 25, Number 8, May 1, 2002, page 2603: 327 IAC 6.1-4-6 Site Restrictions Sec. 6.(Q)(3)

I think this section is a good idea to add to these amendments. This question has been asked over the last few years with different responses so a clarification is definitely necessary. I do however feel that 20 acres is a little overkill. Due to the lack of a set acreage amount, 25 acres has been widely used in our community ever since the rules were first established, I believe that switching back to 20 acres would add confusion as well as add additional testing costs in more soil tests being required per site. I researched this issue with A&L laboratories Agronomy handbook (see attached) and found that they recommend a maximum area of no more than 40 acres per composite. Smaller areas are suggested if the soil is not uniform throughout the field. Since A & L Labs recommends a maximum amount of 40 acres, I would like to suggest that this part of the amendments be changed from 20 acres to 25 acres. This change would still be well under the A & L recommendations of 40 acres. (MBROS)

*Response:* IDEM agrees with your arguments and has changed the requirement from twenty (20) acres to twenty-five (25).

*Comment:* 327 IAC 6, 1-4-9 Pollutant Limits Sec. 9.0 This is in regards to Table 2 and Table 3 regarding more restrictive limits for Molybdenum. Table 2 lists the Cumulative Loading Rate for Molybdenum at 35 pounds per acre and Table 3 lists a ceiling concentration of 40 mg/kg on a dry weight basis. The proposed requirement for a cumulative loading rate is understood. However, what Molybdenum value does a facility use for sites that have been used in the past? Does a facility start at zero for a cumulative value for every site now used? My concern is that IDEM may possibly estimate this value for each application site and not have an exact number. If this is true, estimating a cumulative loading value may be inaccurate and could cause a site to be prematurely abandoned based on an estimated number. Especially if these numbers were derived at from analysis that did not detect a Molybdenum number low enough but yet it met Table one standards. This in turn could cause our facility additional expense by having to haul the biosolids further away to other land application sites.

The proposed Table 3 limit for Molybdenum at 40 mg/kg on a dry weight basis is the second concern. It appears IDEM is trying to enforce a regulatory metal concentration limit that is not enforced by the Federal EPA. Currently, the IDEM limit for Molybdenum is 75 mg/kg for Table 1 and Table 3. This is also true for the Federal EPA. By requiring a more stringent ceiling concentration for Molybdenum on Table 3, this will disqualify our facility from utilizing non-specific sites as we have done for the past several years.

Molybdenum is a hard test to consistently get the same results from. In other words, if you ran the same test twice on the same sample you probably would not get the same result. The differences that you would probably see would not be huge and maybe would only be a few mg/kg, but when you are already dealing with low numbers to begin with, a difference of 7-8 mg/kg could make a big difference.

I realize that it is probably the intent of the department to try and reward or encourage our facility for producing a cleaner Biosolid. It is my experience from talking to other facilities that the reward for trying to get Molybdenum within these limits will not be worth the effort and costs involved. Thus, I believe that this stringent limit will actually end up being more of a penalty to our facility instead of an incentive.

If the proposed rule is adopted, any facility with a hybrid permit or nonsite specific permit that exceeds the Molybdenum number of 40 mg/kg will be forced to use only site-specific sites and will have their permit revoked, hopefully, replacing it with a site-specific permit. By eliminating the availability of these nonsite specific sites, this will cause a major financial burden on our facility by:

Having to reapply for a site-specific permit.

Reducing the number of acres readily available to a facility for land application, in turn causing the need to permit additional land.

Eliminating the quick availability of biosolids to additional farmers and their ground without going through the 4-6 month permitting process required for site-specific permits.

IDEM's goal in the past has been to promote the beneficial reuse of biosolids through land application. However, by adopting a rule more stringent than the Federal EPA can eliminate our facility from utilizing their hybrid/nonsite specific permit and does not promote the "easy-to-use" hybrid/nonsite specific permits. It is our recommendation to keep the Molybdenum ceiling concentration value at least equivalent to the Federal

EPA regulatory limit of 75 mg/kg. By doing this, it will allow for further study into the Molybdenum debate and will eliminate any confusion between the Federal EPA and IDEM Ceiling Limits. If the department was concerned that the Federal EPA may impose limits in the future a clause could be added to include that. Another concern is that if the state of Indiana does impose a limit that does not match the future Federal limits, then there would be two sets of rules to follow. With the effort the department is making in trying to match the State rules with the federal rules, in the area of Frequency of Monitoring, it seems kind of reverse to make another rule that more than likely won't match the federal rules. Since we are all subject to following the federal rules anyway it would appear less burdensome to preliminarily impose more restrictions on our facility in Indiana, only when the rest of the states may or may not have a limit imposed at all. We strongly urge the department to give this issue some very serious thought as to the possibility of removing this from the proposed amendments. (HUN)

*Response:* The molybdenum requirements in Tables 2 and 4 have been deleted. The molybdenum requirement in Table 3 has been raised from 40 milligrams per kilogram to 75 milligrams per kilogram. It is also being added under the management practices that it is prohibited to apply biosolid or industrial waste product that contains more than 40 milligrams per kilogram of molybdenum to pasture. The proposed limits for molybdenum are based on a study, "A Modified Risk Assessment to Establish Molybdenum Standards for Land Application of Biosolids" by O'Connor, Brobst, Chaney, Kincaid, McDowell, Pierzynski, Rubin and Riper. However, rather than the more stringent limits first proposed in the rule, the limits now proposed are based on the concerns directly reflected in the study. The rule now restricts biosolid and industrial waste products containing higher levels of molybdenum on pasture and for marketing and distribution when applied to pasture.

*Comment:* 327 IAC 6.1-4-9 Pollutant Limits Sec. 9. (c) The Molybdenum limit proposed in Table 3 at 40 mg/kg is a concern. It is not uncommon for our facility to have numbers near 40 mg/kg. In the past, we had numbers around 60 mg/kg. To address this issue, we sent letters to potential users, asking that they discontinue their Molybdenum use, and educated them on the fact that there are alternative chemicals to use that contain no Molybdenum. This effort proved to be effective by dropping our Molybdenum levels, now ranging from 20 - 38 mg/kg.

Lafayette aggressively responded to rising Molybdenum levels achieving a significant reduction. The levels have remained in an acceptable range. If we are forced to meet the 40 mg/kg we cannot do so without modifications to our Local Sewer Use Ordinance, Industrial User Discharge permits, and increased collection system monitoring. These next steps would allow the City to enforce Molybdenum discharges, but would all be very cost and time intensive.

If Table 3 limit for Molybdenum is set at 40 mg/kg, it is very likely that we would violate, thus losing our hybrid permit. This scenario could be detrimental to the success of our biosolids program.

I believe the City has proactively taken steps to achieve a cleaner biosolid product. Lowering the limit of Molybdenum to the proposed level would only produce significant costs and effort put forth by municipalities with little benefit gain in biosolids quality. (LAF)

*Response:* The molybdenum requirements in Tables 2 and 4 have been deleted. The molybdenum requirement in Table 3 has been raised from 40 milligrams per kilogram to 75 milligrams per kilogram. It is also being added under the management practices that it is prohibited to apply biosolid or industrial waste product that contains more than 40 milligrams per kilogram of molybdenum to pasture. The proposed limits for molybdenum are based on a study, "A Modified Risk Assessment to Establish Molybdenum Standards for Land Application of Biosolids" by O'Connor, Brobst, Chaney, Kincaid, McDowell, Pierzynski, Rubin and Riper. However, rather than the more stringent limits first proposed in the rule, the limits now proposed are based on the concerns directly reflected in the study. The rule now restricts biosolid and industrial waste products containing higher levels of molybdenum on pasture and for marketing and distribution when applied to pasture.

*Comment:* 327 IAC 6.1-4-6 Sec. 6.(g)(3) Clarifying this section was needed; however, I think that setting the sampling area to every 20 acres is excessive. Currently Lafayette uses a 25-acre set point. I believe this has become a standard throughout the industry. The majority of our acreage has remained in our program, with established maps and set 25 acre grids. By switching to 20 acres, there will be a cost issue for little benefit gain. I am supportive of specifying an amount, but would propose leaving that amount at 25 acres. (LAF)

*Response:* IDEM agrees with your arguments and has changed the requirement from twenty (20) acres to twenty-five (25).

*Comment:* Sec. 22, 327 IAC 6.1-4-9 The pollutant limits have been revised to include limits for molybdenum in tables 2, 3 and 4. federal regulations do not currently contain these limits and we are unaware of any guidance suggesting that molybdenum limits be set at these concentrations. Recent monitoring of our biosolids indicates that it is likely that our municipal treatment facility will be unable to meet these concentrations. Adoption of the proposed limits for molybdenum will severely restrict land application of biosolids and will force us to landfill significant quantities of biosolids. We suggest that the State postpone the implementation of molybdenum limits until the federal 503 regulations adopt them. (MIU)

*Response:* The molybdenum requirements in Tables 2 and 4 have been deleted. The molybdenum requirement in Table 3 has been raised from 40 milligrams per kilogram to 75 milligrams per kilogram. It is also being added under the management practices that it is prohibited to apply biosolid or industrial waste product that contains more than 40 milligrams per kilogram of molybdenum to pasture. The proposed limits for molybdenum are based on a study, "A Modified Risk Assessment to Establish Molybdenum Standards for Land Application of Biosolids" by O'Connor, Brobst, Chaney, Kincaid, McDowell, Pierzynski, Rubin and Riper. However, rather than the more stringent limits first proposed in the rule, the limits now proposed are based on the concerns directly reflected in the study. The rule now restricts biosolid and industrial waste products containing higher levels of molybdenum on pasture and for marketing and distribution when applied to pasture.

*Comment:* Sec. 35, 327 IAC 6.1-4-16 section 16(1) allows for nutrient data from a representative sample, collected prior to land application, to be used for reporting purposes. This is a welcome modification to the rule, as it will allow for better management of applications at agronomic rates. However, the definition of "fixed volume" is very strict and allows little flexibility. In many municipal treatment facilities it is likely that biosolids generation would continue after this sampling. It is unlikely that the volume of this material would be significant or change in characteristics from the "fixed" stock piled volume. We suggest that some flexibility be given to allow for small additions to a fixed volume stock pile if the biosolids are being generated from a process that has shown to produce concentrations that are relatively consistent. (MIU)

*Response:* IDEM disagrees. The nutrients are typically the most limiting factor and must be measured as accurately as possible. IDEM does not believe that nutrients can always be accurately measured when additional material is added to a volume after the biosolid has been sampled.

*Comment:* Sec. 41, 327 IAC 6.1-5-4 sec. 4 (a)(5) Requires that the name and address of recipients of one (1) metric ton or more of

distributed or marketed biosolids be included in annual reports. This volume of material is insignificant, amounting to less than one cubic yard. It is questionable the value that is gained by tracking such information. We request that consideration be given to increasing the reportable limit to 10 metric tons. In addition, we request that consideration be given to exempting municipal biosolids that can show 2 years of consistent pollutant concentrations. (MIU).

*Response:* IDEM believes that it is valuable to know the name and address of anyone who has taken more than one (1) ton of biosolid in the event that an unmonitored contaminate of concern is found from a facility that markets and distributes. However, IDEM is eliminating the requirement to report the names and addresses to the department. Permittees will be required to retain this information for five (5) years.

*Comment:* 327 IAC 6.1-4-9: Pollutant Limits It seems premature to create molybdenum limits in Tables 2, 3, and 4 since EPA has not promulgated any rules on molybdenum. If this change were adopted and EPA does issue new rules, that might necessitate another round of rulemaking to conform to EPA's changes. At this point, there doesn't seem to be any compelling reason why Indiana needs to go beyond current EPA rules. (MU)

*Response:* The molybdenum requirements in Tables 2 and 4 have been deleted. The molybdenum requirement in Table 3 has been raised from 40 milligrams per kilogram to 75 milligrams per kilogram. It is also being added under the management practices that it is prohibited to apply biosolid or industrial waste product that contains more than 40 milligrams per kilogram of molybdenum to pasture. The proposed limits for molybdenum are based on a study, "A Modified Risk Assessment to Establish Molybdenum Standards for Land Application of Biosolids" by O'Connor, Brobst, Chaney, Kincaid, McDowell, Pierzynski, Rubin and Riper. However, rather than the more stringent limits first proposed in the rule, the limits now proposed are based on the concerns directly reflected in the study. The rule now restricts biosolid and industrial waste products containing higher levels of molybdenum on pasture and for marketing and distribution when applied to pasture.

*Comment:* 327 IAC 6.1-4-16: Monitoring and Analysis

We agree with the change in Table 6, Frequency of Monitoring. The monitoring required by the current rule seemed excessive. There are additional costs involved for lab analysis and few benefits. In 2001, we stopped applying biosolids in early November to avoid exceeding 1000 dry tons and placing us in the monthly monitoring level. The new levels suggested are reasonable and cost effective. (MU)

*Response:* IDEM concurs.

*Comment:* 327 IAC 6.1-6-2: Agricultural Lime

We would like IDEM to consider reducing the frequency of analysis based on historical data. We have a Water treatment plant using lime softening for ground water. Our lime contains exceedingly low levels of pollutants listed in Table 1 of 6.1-4-9. It seems excessive and not beneficial to the environment to be testing our lime as frequently as we test our biosolids. (MU)

*Response:* IDEM agrees and changed the requirement for frequency of testing to reflect the requirement for testing frequency in Table 6 under 327 IAC 6.1-4-16(f).

*Comment:* One improvement affecting Milorganite® marketing and distribution jumps out as precedent setting. Given past our tortured experience, decidedly enlightened. 327 IAC 6.1-4-9(c) establishes 40 mg/kg as the no adverse effect concentration of molybdenum (Mo) for safe unrestricted Milorganite® use. No more false warning about Milorganite® being "toxic to cows." The Milwaukee Metropolitan Sewerage District congratulates you for taking action on the best science about the Molybdenosis pathway. Newtonians (scholars not adrift with uncertainty about pretend risks) suggest that if EQ biosolids agricultural use is the exposure pathway of concern to open pasture grazing cows, then the risk of a copper deficiency is effectively eradicated with a monthly average of 40 mg/kg Mo, even if the neglected cows are deprived of mineral supplements. Thank you for being the first state to "cure" the problem. (Attached award) (MMSD)

*Response:* The molybdenum requirements in Tables 2 and 4 have been deleted. The molybdenum requirement in Table 3 has been raised from 40 milligrams per kilogram to 75 milligrams per kilogram. It is also being added under the management practices that it is prohibited to apply biosolid or industrial waste product that contains more than 40 milligrams per kilogram of molybdenum to pasture. The proposed limits for molybdenum are based on a study, "A Modified Risk Assessment to Establish Molybdenum Standards for Land Application of Biosolids" by O'Connor, Brobst, Chaney, Kincaid, McDowell, Pierzynski, Rubin and Riper. However, rather than the more stringent limits first proposed in the rule, the limits now proposed are based on the concerns directly reflected in the study. The rule now restricts biosolid and industrial waste products containing higher levels of molybdenum on pasture and for marketing and distribution when applied to pasture.

## **SUMMARY/RESPONSE TO COMMENTS RECEIVED AT THE FIRST PUBLIC HEARING**

On October 9, 2002, the Water Pollution Control Board (board) conducted the first public hearing/board meeting concerning the development of amendments to the rules for the application of a biosolid, industrial waste products, and pollutant-bearing water in 327 IAC 6.1. Comments were made by the following parties:

Mark Shere, Bethlehem Steel Corporation, (BSC)

Glenn Pratt, (GP)

Patrick Bennett, Indiana Manufacturing Association, (IMA)

Ryan Zeck, Merrell Brothers, Inc., (MBI)

Following is a summary of the comments received and IDEM's responses thereto:

*Comment:* I'd like to briefly call your attention to a narrow drafting issue that deserves attention before final adoption, and it may illustrate a slightly broader problem. The narrow issue concerns the wording of the private ponds exclusion in the Indiana statutes. On my handout at the top is the wording for this exclusion as it appears in the statute. The way its phrased there, a private pond is its own little subcategory. Then there's a separate subcategory for certain facilities built for reduction or control or pollution or cooling of water. The two subcategories are separated by different subsection numbers, by punctuation—a semicolon—and by the word "or" that comes between them.

The current regulatory section, 6.1, in this land application rule has every word the same as the statute. There's a difference in format, with no separate subsections and no semicolon, but it is only format, and you could fairly view the current section 6.1 as have been drafted with the desire to be fully faithful to the statute.

But the proposed language for preliminary adoption is a different story. The word “or”, which separated the private ponds from pollution control facilities, has been dropped, and the word “other, has been added to try to link the two subcategories together in a new way. The wording changes are not excessive by any means, but there’s no way to view them as neutral formatting either. This is an essential change in the statutory language to try to limit the scope of the private pond exclusion, to make it look like it’s just an example of a pollution control facility instead of a separate, independent exclusion. (BSC)

*Response:* “Private pond” is a key term in the state’s definition of “waters” and is currently an issue under discussions related to wetland protection in Indiana. The Water Pollution Control Board has a key role to play in wetland protection and has heard testimony in the past on the importance of the term “private pond” in that context. However, the term “private pond” has no such importance in context to its use in the land application rules. For the land application rule, “private pond” is used in the term “surface water”. This term is not utilized in the rule for the purposes of exerting any regulatory authority over such a body of water. The term is used for the purposes of establishing a setback from such bodies of water for applying and storing biosolid, industrial waste product, and pollutant-bearing water. The need to define a term such as “surface water” was first identified in the Confined Feeding Operation (CFO) rules that became effective in March 2002. A CFO approval had been successfully appealed because staff did not consider water running through a field tile qualified as “waters” of the state and were thus subject to a setback from “waters”. The Environmental Law Judge disagreed and upheld the appeal of the approval. To avoid such an interpretation, and its resultant impractical application to CFO activities, staff developed the definition of “surface water” for the purposes of applying setbacks for land application of manure. It was a similar thought process that prompted the inclusion of a definition for “surface water” in the proposed Land Application Rule. The department does not view the inclusion of a definition for the term “surface water” as a significant change to the rule. However, the definition of the term “surface water” will be modified to eliminate the exemptions for a private pond, off-stream pond, etc. from the definition to be more consistent with the CFO rules. For the purposes of providing protection of surface waters through setbacks, certainly private ponds and the other features listed should be afforded the same protection from potential run-off of biosolids and industrial waste products.

*Comment:* A similar manipulation of the words occurs in about half a dozen other places in the proposed rule. The current Rule 6.1 limits the scope to discharges to waters of the state. The proposed rule removes this phrase in what looks like an apparent attempt to extend regulatory controls to nonstate waters. There’s a narrow point here about following the statute, and I hope that my raising of the narrow point here will be enough to get IDEM to take another look at the proposed language and to make changes before final adoption. There’s also a good chance that the Indiana Supreme Court or the legislature will have more to say about this particular issue within the coming months. (BSC)

*Response:* Obviously, your suggestion that IDEM was in some manner looking to expand the department’s regulatory in the midst of other unrelated discussions on statutory terms as important as “waters” and not fully explaining such intent to the Water Pollution Control Board is very disturbing in it’s misinterpretation. The Indiana Department of Environmental Management takes our responsibility to work with the public and the Boards in an open, direct and honest way very seriously. Please see response to the comment above.

*Comment:* The broad point, which is really what prompts me to bend your ear for a few minutes here, is that a few times lately we’ve seen very lengthy, detailed rulemaking proposals, with the explanation on the cover of them that the agency is clarifying existing requirements. It’s only when you get into the details of the proposal that you see changes that really are not clarifications at all. It’s one thing for the agency to say, up front, that it’s changing the language for private ponds to reflect the litigating positions that it’s taken into court or to reflect policy choices. It’s another thing to bury that kind of change in the middle of a 60 page proposal about fertilizer and land conditioning, with nothing really to let you know that it’s there. I’d hate to see this kind of practice become more of a pattern, because it really undermines the process for public notice and public comment, and just makes more work for lawyers, like me. I hope that raising the issue today, the concern today, without opposing preliminary adoption, will help keep that pattern from developing further, and that my comment may go a ways towards encouraging more transparent rulemaking. (BSC)

*Response:* The department made the extent of the changes to this rule quite transparent in the second notice. The following is a quote from that second notice: “The purpose of this rule change is to **amend** and clarify.” “Since that time both IDEM staff and the regulated community have concluded that some inconsequential and some **substantive rule changes are required**. Inconsequential changes are contextual in nature and provide more clarity. **The substantial changes improve and enhance the program. The following are considered substantial changes:**

- (1) A small-quantity generator notification program for nondomestic pollutant-bearing water land application programs.
- (2) Broadening the agricultural lime substitute notification program to include liquid waste products.
- (3) Delineation of the hybrid land application permit program.
- (4) Molybdenum concentration and loading standards.
- (5) Standard detection limits for seven heavy metals.
- (6) Clarification of nutrient monitoring requirements and recognition of presampling for nutrients in some cases.
- (7) Deletion of the suspended solids limits and monitoring requirement for certain stabilization pond systems when disinfection is not required.
- (8) Recognition of alternative methods of pollutant-bearing water land application to include subsurface methods.
- (9) Clarification of storage structure applicability and requirements.
- (10) Elimination of seasonal high water table restrictions during land application.”

The Indiana Department of Environmental Management takes our responsibility to work with the public and the Boards in an open, direct and honest way very seriously and works hard to characterize changes appropriately. However, rather than argue about terms such as “clarification”, “substantial”, or “inconsequential”, the department was looking for substantive comments on the rule changes.

*Comment:* I’ve always believed that in fact particularly biosolids are a valuable resource if we can in fact assure that they’re safe for use. In fact, as Board Member Wagner is aware, back when we were both at EPA, that I opposed the construction of the Indianapolis incinerator for sludge, because I thought this was a misuse of federal resources for a potentially valuable product that should be cleaned up, as it now is, for land application rather than incineration, causing an air problem. So, I strongly support this, assuming we can assure the safety of people, and I think that this has gone a long ways in moving that way; that originally the whole federal pretreatment program was started because of the contamination

of municipal sludge. (GP)

*Response:* The department agrees.

*Comment:* We had cases, as you're aware, in Bloomington with very high levels of PCBs. We had in Chicago high levels of cadmium, where the City of Chicago was calling their, quote, "new earth", as they called it, to inner-city vegetable gardens when the sludge exceeded the maximum health levels by tenfold as far as bioconcentrate in leafy green vegetables, and that's exactly what people in their inner-city garden were raising. So, we've had some blatant examples in the past of significant misuse of the program, and unfortunately back at that time, the state of Indiana as several other states, had to be forced by the federal government to analyze the sewage sludge, and this is when the problems of PCBs and other things were found. (GP)

*Response:* As with most current environmental regulations, the regulations and the program are the result of improper disposal in the past. As new knowledge and the application of that knowledge come to light, so changes in the rules and program occur.

*Comment:* I think one of the things we have to look at in moving ahead, and particularly with the shortage of resources at IDEM, is that if we're going to have a program that adequately protects people, then we have to have adequate levels of staffing, and we also have to have adequate public information. I think one thing that needs to be modified here, as in the animal waste rules, is that data has to be available to the public on where materials are being applied, and what materials are being applied, as well as we have to assure, along with that modification of the proposed rule, that we have the parallel work in the pretreatment program to assure that we have the required analysis to look for other possible contaminants, so that we don't have the problem of Kepone that happened back east, where it's not on the list of normal things, but we had major contamination from something unique. So, I think the whole idea of eternal vigilance, of assuring, again, the safety of people, is critical if this program is working. And as far as this particular rule, we must have the ability of people to know what's going on. I'm not suggesting posting land or anything, but just that the information needs to be available to all parties on where material is being applied and what's being applied. (GP)

*Response:* All of the department's active land application sites are posted and updated monthly on the IDEM Web page. Public files that contain analysis results are available to the public. Pretreatment is the responsibility of the industry and the overseers of that program.

*Comment:* The one thing I would suggest, which is perhaps outside of this, is that I would suggest strongly to IDEM that they move this program back into that Office of Water, because I think it simply, as far as the potential impacts are concerned, is water quality, be it sludge, contamination of groundwater, or be it runoff into surface waters. (GP)

*Response:* You are correct this is not a rule issue and is outside the scope of this rulemaking.

*Comment:* One of the things that IDEM—that's been suggested to them for over ten years is that they need to start looking at the potential for breakthrough of phosphorus and other materials that would saturate the groundwater and would then start coming through field tiles back out into the surface water. And the issue was raised by several university research people that we may in fact have a major surface water contamination from some of these applications. (GP)

*Response:* The department is in the process of gathering data regarding phosphorus as it relates to the land application program. Data may show that additional rule changes and more stringent controls are necessary for phosphorus. However, gathering that data will take time and also time to evaluate the data and set a level or management standards that are fair and well thought out. It is the department opinion that this rulemaking should not be held up waiting on this information that may or may not cause additional changes to the rule at 327 IAC 6.1.

*Comment:* So, I think along with this work here, IDEM needs to find the resources to assure that these other problems do not occur, and so I think we need a much more proactive agency in addressing this, and again, I think that this is a program that is very good, but there must be the resources and the initiative there to assure that it's worked. (GP)

*Response:* You are correct this is not a rule issue and is outside the scope of this rulemaking.

*Comment:* I just wanted to provide a brief comment to you in support of the comments that Mr. Shere made. We've talked about this issue with him and share his concern for that technical consideration in this drafting, and we request your guidance in the development of this rule, to make sure that that's taken care of. (IMA)

*Response:* Please see the responses to Mr. Shere's comments above.

*Comment:* I just wanted to speak on behalf of the rule changes and the effort that the Department has made in implementing these changes. Obviously, in our opinion, a lot of them are beneficial and they go a long way in benefitting the land application of biosolids. Obviously the land application of biosolids throughout Indiana is very popular and benefits several facilities, including the farmers, and we're not only talking about just municipalities, but the farmers who are limited and could not get access to the biosolids, and they would definitely feel the effect as much as the municipalities. So, based on these rule changes, I would like to just complement the Board—complement IDEM, I guess—for the rule changes that they've made. (MBI)

*Response:* The department believes that the rule changes will make the rule easier to understand and comply with. The rule also makes the regulation less onerous on several groups and concentrates on placing the most stringent regulations on the wastes that can potentially cause the worst environmental concerns. Because resources are so limited at the department, every effort is being made to make the rules fair, logical and protective of the environment without being onerous or burdensome on either the regulated community or the department.

327 IAC 6.1-1-1	327 IAC 6.1-4-6
327 IAC 6.1-1-3	327 IAC 6.1-4-7
327 IAC 6.1-1-4	327 IAC 6.1-4-8
327 IAC 6.1-1-5	327 IAC 6.1-4-9
327 IAC 6.1-1-7	327 IAC 6.1-4-10
327 IAC 6.1-2-3	327 IAC 6.1-4-11
327 IAC 6.1-2-6	327 IAC 6.1-4-13
327 IAC 6.1-2-7	327 IAC 6.1-4-16
327 IAC 6.1-2-7.5	327 IAC 6.1-4-17
327 IAC 6.1-2-8	327 IAC 6.1-4-18
327 IAC 6.1-2-10	327 IAC 6.1-4-19
327 IAC 6.1-2-12	327 IAC 6.1-5-1
327 IAC 6.1-2-13	327 IAC 6.1-5-2
327 IAC 6.1-2-14	327 IAC 6.1-5-3
327 IAC 6.1-2-20.5	327 IAC 6.1-5-4
327 IAC 6.1-2-28	327 IAC 6.1-6-1
327 IAC 6.1-2-30	327 IAC 6.1-6-2
327 IAC 6.1-2-31.5	327 IAC 6.1-6-3
327 IAC 6.1-2-35	327 IAC 6.1-7-1
327 IAC 6.1-2-42	327 IAC 6.1-7-2
327 IAC 6.1-2-43	327 IAC 6.1-7-3
327 IAC 6.1-2-54	327 IAC 6.1-7-4
327 IAC 6.1-2-55	327 IAC 6.1-7-5
327 IAC 6.1-2-55.5	327 IAC 6.1-7-6
327 IAC 6.1-2-61	327 IAC 6.1-7-9
327 IAC 6.1-3-1	327 IAC 6.1-7-10
327 IAC 6.1-3-2	327 IAC 6.1-7-11
327 IAC 6.1-3-3	327 IAC 6.1-7-5
327 IAC 6.1-3-4	327 IAC 6.1-8-1
327 IAC 6.1-3-7	327 IAC 6.1-8-2
327 IAC 6.1-3-8	327 IAC 6.1-8-3
327 IAC 6.1-4-1	327 IAC 6.1-8-4
327 IAC 6.1-4-3	327 IAC 6.1-8-5
327 IAC 6.1-4-4	327 IAC 6.1-8-6
327 IAC 6.1-4-5	327 IAC 6.1-8-7
327 IAC 6.1-4-5.5	327 IAC 6.1-8-8

SECTION 1. 327 IAC 6.1-1-1 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-1-1 Purpose**

**Authority:** IC 13-14-8-1; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-11-2; IC 13-18-3

Sec. 1. (a) The purpose of this article is to establish procedures, requirements, and standards to implement IC 13-18-3 **regarding land application and related activities**. This article is being promulgated for the purpose of protecting and enhancing the quality of Indiana’s environment and protecting the public health, safety, and well-being of its citizens.

(b) This article regulates the disposal of any biosolid, contaminant that is an industrial waste product, or pollutant-bearing water by application upon or incorporation into the soil. This article establishes standards for the following:

- (1) General requirements.
- (2) Site requirements.
- (3) Pollutant limits.
- (4) Pathogen **treatment reduction** requirements.
- (5) Vector attraction reduction requirements.

- (6) Monitoring and analysis requirements.
- (7) Record keeping requirements.
- (8) Reporting requirements.
- (9) Storage.**

(c) **Unless specified in the incorporated by reference documents incorporated in this article, the version of documents referenced in the incorporated by reference documents is the latest version that is in effect on the date of the latest adoption of the incorporated by reference documents into this article.** (*Water Pollution Control Board; 327 IAC 6.1-1-1; filed May 15, 1998, 10:20 a.m.: 21 IR 3776; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 2. 327 IAC 6.1-1-3 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-1-3 Applicability**

**Authority:** IC 13-14-8-1; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2; IC 13-18; IC 13-22

Sec. 3. (a) This article applies to the following:

- (1) Any person who prepares biosolid, industrial waste product, or pollutant-bearing water for land application or marketing and distribution in Indiana.
- (2) Any person who applies biosolid, industrial waste product, or pollutant-bearing water to the land in Indiana.
- (3) Biosolid, industrial waste product, or pollutant-bearing water applied to the land in Indiana.
- (4) Biosolid or industrial waste product that is marketed or distributed for use as soil or soil amendment.
- (5) Land in Indiana where biosolid, industrial waste product, or pollutant-bearing water is **land** applied.
- (6) Storage structures for any ~~material~~; **biosolid, industrial waste product, or pollutant-bearing water** regulated under this article.

(b) A land application permit is required for the disposal in Indiana of any biosolid, industrial waste product, or pollutant-bearing water by application upon or incorporation into the soil except for the exclusions listed under subsection (c).

(c) This article does not apply to the following:

- (1) Materials that are:
  - (A) Animal manures.
  - (B) Not a solid waste as defined under 329 IAC 10-2-174.
  - (C) Disposed of under **327 IAC 7.1**, 329 IAC 10-3-1(1), **or** 329 IAC 10-3-1(3) through 329 IAC 10-3-1(15). ~~and 327 IAC 7.~~
  - (D) Determined to be hazardous waste in accordance with 329 IAC 3.1.
  - (E) Grit, including sand, gravel, cinders, or other materials with a high specific gravity.
  - (F) Screenings, including relatively large materials such as rags, generated during preliminary treatment of domestic sewage in a treatment works.
  - ~~(G) Industrial storm water that does not exceed the pollutant concentrations in Table 10 in 327 IAC 6.1-7-1(d).~~
- (2) Persons who apply biosolid or industrial waste product that is prepared or generated by another person in accordance with the terms of a marketing and distribution program permitted under 327 IAC 6.1-5.
- (3) Land that receives only biosolid or industrial waste product prepared or generated in accordance with the terms of a marketing and distribution program permitted under 327 IAC 6.1-5.
- (4) The selection of biosolid, industrial waste product, or pollutant-bearing water use or disposal practice. The determination of the manner in which biosolid, industrial waste product, or pollutant-bearing water is used or disposed is a local determination.
- (5) Industrial storm water that:
  - (A) does not ~~meet or~~ exceed the pollutant limits in Table 10 in 327 IAC 6.1-7-1(d); or
  - (B) is regulated by:
    - (i) a storm water pollution prevention plan under 327 IAC 15-6; or
    - (ii) an NPDES permit under 327 IAC 5-4-6.

- (6) Lawn irrigation at wastewater treatment facilities that:
- (A) have a valid NPDES permit under 327 IAC 5;
  - (B) are not in violation of any discharge limits;
  - (C) have restricted public access to the area to be irrigated; and
  - (D) disinfect the domestic wastewater prior to application to the facility grounds.

*(Water Pollution Control Board; 327 IAC 6.1-1-3; filed May 15, 1998, 10:20 a.m.: 21 IR 3776; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 3. 327 IAC 6.1-1-4 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-1-4 Enforcement**

**Authority:** IC 13-14-8-1; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-14-2-6; IC 13-18; IC 13-30-3

Sec. 4. No person shall conduct activities for which requirements are established in this rule except in accordance with such requirements. The ~~administration and~~ enforcement of this article shall be in accordance with ~~IC 4-21-5; IC 13-11; 13-14; IC 13-15-7; IC 13-24; and~~ IC 13-30-3 **or IC 13-14-2-6.** *(Water Pollution Control Board; 327 IAC 6.1-1-4; filed May 15, 1998, 10:20 a.m.: 21 IR 3777; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 4. 327 IAC 6.1-1-5 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-1-5 Penalties**

**Authority:** IC 13-14-8-1; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2; IC 13-14-12; IC 13-18; IC 13-30

Sec. 5. Penalties for violations of this article are ~~as outlined in IC 13-14-12 and IC 13-30~~ **provided for at:**

- (1) **IC 13-30-4;**
- (2) **IC 13-30-5; and**
- (3) **IC 13-30-6.**

*(Water Pollution Control Board; 327 IAC 6.1-1-5; filed May 15, 1998, 10:20 a.m.: 21 IR 3777; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 5. 327 IAC 6.1-1-7 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-1-7 Relationship to other rules**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2; IC 13-14; IC 13-15; IC 13-18; IC 13-30

Sec. 7. (a) Disposal of a biosolid or industrial waste product in a municipal solid waste landfill unit, as defined in 329 IAC 10-2-117, that complies with the requirements in 329 IAC 10 and the municipal solid waste landfill permit, constitutes compliance with Section 405(d) of the Clean Water Act. ~~Any person who prepares a biosolid or industrial waste product that is disposed in a municipal solid waste landfill unit shall ensure that the biosolid or industrial waste product meets the requirements in 329 IAC 10-7 and 329 IAC 10-8 concerning the quality of biosolid or industrial waste product disposed in a municipal solid waste landfill unit.~~

(b) Any person who prepares or applies a biosolid, industrial waste product, or pollutant-bearing water that is applied to land in a delineated wellhead protection area shall comply with any applicable requirements under 327 IAC 8-4.1. *(Water Pollution Control Board; 327 IAC 6.1-1-7; filed May 15, 1998, 10:20 a.m.: 21 IR 3777; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 6. 327 IAC 6.1-2-3 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-3 "Agricultural land" defined**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 3. "Agricultural land" means land used for: ~~the following purposes:~~

- (1) production of a food crop;
- (2) production of a feed crop;
- (3) production of a fiber crop;
- (4) production of trees for harvest; **or**
- (5) pasture for animals.

*(Water Pollution Control Board; 327 IAC 6.1-2-3; filed May 15, 1998, 10:20 a.m.: 21 IR 3778; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 7. 327 IAC 6.1-2-6 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-6 "Beneficial use" defined**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 6. "Beneficial use" means the use of a ~~material~~ **solid waste** for fertilizing or soil conditioning properties to:

- (1) provide nutrients for growing plants or crops;
- (2) increase organic matter;
- (3) provide pH adjustment capabilities; or
- (4) provide other benefits to the soil or crops as shown to the satisfaction of the commissioner through an approved research or demonstration project under 327 IAC 6.1-4-19.

*(Water Pollution Control Board; 327 IAC 6.1-2-6; filed May 15, 1998, 10:20 a.m.: 21 IR 3778; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 8. 327 IAC 6.1-2-7 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-7 "Biosolid" defined**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 7. (a) "Biosolid" means solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Examples of biosolid include, **but are not limited to**, the following:

- (1) Scum or solids removed in primary, secondary, or advanced wastewater treatment processes.
- (2) A material derived from biosolid.
- (3) An industrial waste product that contains domestic sewage or material under **subdivision** (1) or (2).

(b) Biosolid does not include ash generated during the firing of biosolid in a biosolid incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works. *(Water Pollution Control Board; 327 IAC 6.1-2-7; filed May 15, 1998, 10:20 a.m.: 21 IR 3778; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 9. 327 IAC 6.1-2-7.5 IS ADDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-7.5 "Biosolid containing an industrial waste product" defined**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 7.5. "Biosolid containing an industrial waste product" means a biosolid where one (1) of the following conditions apply:

- (1) The industrial waste product contains domestic sewage or material described under section 7(a)(1) or 7(a)(2) of this rule and is generated from one (1) source or generator.
- (2) The industrial waste product contains blends of industrial waste products and biosolids from different sources or generators.

(Water Pollution Control Board; 327 IAC 6.1-2-7.5)

SECTION 10. 327 IAC 6.1-2-8 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-8 “Cation exchange capacity” defined**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 8. “Cation exchange capacity” means the sum of exchangeable cations a soil can absorb expressed in milliequivalents per one hundred (100) grams of soil as determined by sampling the soil to the depth of cultivation, sludge waste product placement, or wastewater placement, whichever is greater, and analyzing by the summation method for distinctly acid soils\* or the sodium acetate method for neutral, calcareous, or saline soils\*.

\*The summation method for distinctly acid soils and the sodium acetate method for neutral, calcareous, or saline soils can be found in “Methods of Soil Analysis, Agronomy Monograph No. 9.”, C.A. Black, ed., pp. 149-157, 1982, available from American Society of Agronomy, Soil Science of America, Inc., 677 South Segoe Road, Madison, Wisconsin 53711. This method is also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management~~, **Land Quality**, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (Water Pollution Control Board; 327 IAC 6.1-2-8; filed May 15, 1998, 10:20 a.m.: 21 IR 3778; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)

SECTION 11. 327 IAC 6.1-2-13 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-13 “Dewatered” defined**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 13. “Dewatered” means the removal of free liquid from the biosolid or industrial waste product as determined by Method 9095\* (Paint Filter Liquids Test).

\*Method 9095 may be found in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, EPA Publication SW-846 [Third Edition, November 1986, as amended by Updates 1 (July 1992), 2 (September 1994), 2A (August 1993), and 2B (January 1995)], available from U.S. EPA. This method is also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management~~, **Land Quality**, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (Water Pollution Control Board; 327 IAC 6.1-2-13; filed May 15, 1998, 10:20 a.m.: 21 IR 3779; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)

SECTION 12. 327 IAC 6.1-2-14 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-14 “Discharge” defined**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 14. “Discharge” means any addition of any pollutant, or combination of pollutants, into any **surface waters of the state or ground water** from a point source such as any discernible, confined, and discrete conveyance, including the following:

- (1) Pipe.
- (2) Channel.
- (3) Tunnel.
- (4) Conduit.
- (5) Well.
- (6) Discrete fissure.
- (7) Container.
- (8) Rolling stock.

(9) Vessel.

(10) Other floating craft from which pollutants are or may be discharged.

The term does not include return flow from irrigated agriculture or agricultural storm water. (*Water Pollution Control Board; 327 IAC 6.1-2-14; filed May 15, 1998, 10:20 a.m.: 21 IR 3779; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 13. 327 IAC 6.1-2-20.5 IS ADDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-20.5 “Fixed volume” defined**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

**Sec. 20.5. “Fixed volume” means the amount of biosolid or industrial waste product prepared for land application where the volume does not change by either adding to or removing any of the biosolid or industrial waste product between sampling and land application. Examples of fixed volume include, but are not limited to, the following:**

**(1) Dewatered biosolid or industrial waste product stockpiled.**

**(2) Liquid biosolid or industrial waste product contained in a storage structure.**

(*Water Pollution Control Board; 327 IAC 6.1-2-20.5*)

SECTION 14. 327 IAC 6.1-2-28 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-28 “Industrial process wastewater” defined**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 28. “Industrial process wastewater” means liquid waste that is:

(1) generated by industrial or commercial facilities; ~~and~~

(2) does not contain domestic sewage; ~~and~~

**(3) contains less than one percent (1%) total solids.**

(*Water Pollution Control Board; 327 IAC 6.1-2-28; filed May 15, 1998, 10:20 a.m.: 21 IR 3781; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 15. 327 IAC 6.1-2-30 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-30 “Industrial waste product” defined**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 30. “Industrial waste product” means the following:

~~(1) Material that is not considered biosolid or pollutant-bearing water under this article.~~

~~(2) Material that is generated as waste in the production process and may be disposed of through:~~

~~(A) surface application;~~

~~(B) injection; or~~

~~(C) incorporation into the soil.~~

~~(3)~~ **(1) Material that meets the following criteria:**

**(A) Is a solid waste as defined under 329 IAC 10-2-174.**

**(B) Does not include material from any processes listed in 329 IAC 10-3-1.**

**(C) Is used for a beneficial use as defined under section 6 of this rule.**

**(D) Contains one percent (1%) or greater total solids.**

**(2) Solid waste that is not considered biosolid or pollutant-bearing water under this article.**

(*Water Pollution Control Board; 327 IAC 6.1-2-30; filed May 15, 1998, 10:20 a.m.: 21 IR 3781; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 16. 327 IAC 6.1-2-31.5 IS ADDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-31.5**      **“Lagoon” defined**  
Authority:      IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

**Sec. 31.5. “Lagoon” means a type of storage structure that is constructed wholly or partially below the original grade of the earth surface. A steel tank that is installed partially below ground is not a lagoon but a storage structure under 327 IAC 6.1-8. (Water Pollution Control Board; 327 IAC 6.1-2-31.5)**

SECTION 17. 327 IAC 6.1-2-35 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-35**      **“Land with a low potential for public exposure” defined**  
Authority:      IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 35. (a) “Land with a low potential for public exposure” means land that:  
(1) has restricted access;  
(2) is inaccessible to the public; or  
(3) is not used by the public during normal work or recreational activities.

(b) Examples include, but are not limited to, the following:

- (1) Agricultural land, except land in section ~~34(4)~~ **34(b)(4)** of this rule.
- (2) Forest not included in section ~~34(1)~~ **34(b)(1)** of this rule.
- (3) Solid waste land disposal facilities as defined in 329 IAC 10-2-176.
- (4) Strip mines not located in a populated area or accessible to the public.
- (5) Industrial sites not located in a populated area or accessible to the public.
- (6) Construction sites not located in a populated area or accessible to the public.
- (7) Other sites that the commissioner may consider to have a low potential for public exposure based on any of the following:
  - (A) Existing public roads.
  - (B) Population density.
  - (C) Recreational opportunity.
  - (D) Infrastructure development.
  - (E) Level of management of property.

*(Water Pollution Control Board; 327 IAC 6.1-2-35; filed May 15, 1998, 10:20 a.m.: 21 IR 3782; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 18. 327 IAC 6.1-2-42 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-42**      **“Person who applies” defined**  
Authority:      IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

**Sec. 42. “Person who applies” means any person who land applies a ~~material~~ biosolid, industrial waste product, or pollutant-bearing water under this article. (Water Pollution Control Board; 327 IAC 6.1-2-42; filed May 15, 1998, 10:20 a.m.: 21 IR 3783; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)**

SECTION 19. 327 IAC 6.1-2-43 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-43**      **“Person who prepares” defined**  
Authority:      IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 43. (a) “Person who prepares” means:

- (1) the person who generates any ~~material~~ biosolid, industrial waste product, or pollutant-bearing water for

application to the land **or for marketing and distribution** and **which** is regulated under this article; or  
(2) the person who derives a **new material biosolid, industrial waste product, or pollutant-bearing water** for application to the land **or for marketing and distribution** from other ~~materials~~ **biosolid, industrial waste product, or pollutant-bearing water** regulated under this article.

(b) The term includes any person that mixes two (2) or more biosolids, industrial waste products, or pollutant-bearing waters.

(c) The term does not include a hazardous waste generator as regulated by 329 IAC 3.1 or a solid waste generator as defined under 329 IAC 10-2-78. (*Water Pollution Control Board; 327 IAC 6.1-2-43; filed May 15, 1998, 10:20 a.m.: 21 IR 3783; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 20. 327 IAC 6.1-2-54 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-54            “Stockpiling” defined**  
Authority:            IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 54. “Stockpiling” means the temporary placement of a dewatered biosolid or industrial waste product in a pile for more than twenty-four (24) hours but less than ~~five (5) working days~~ **six (6) months** at the land application site in accordance with an approved management plan. (*Water Pollution Control Board; 327 IAC 6.1-2-54; filed May 15, 1998, 10:20 a.m.: 21 IR 3784; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 21. 327 IAC 6.1-2-55 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-55            “Storage” defined**  
Authority:            IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 55. “Storage” means containment of biosolid, industrial waste product, or pollutant-bearing water for a period of two (2) years or less at: ~~the following:~~

- (1) treatment plant;
- (2) generating facility; **or**
- (3) approved ~~off-site~~ storage structure. ~~or earthen lagoon.~~

(*Water Pollution Control Board; 327 IAC 6.1-2-55; filed May 15, 1998, 10:20 a.m.: 21 IR 3784; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 22. 327 IAC 6.1-2-55.5 IS ADDED TO READ AS FOLLOWS:

**327 IAC 6.1-2-55.5        “Surface waters” defined**  
Authority:            IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2; IC 13-12-3-1; IC 13-18; IC 13-30-2-1

Sec. 55.5. (a) “Surface waters” mean the accumulation of water on the earth’s surface, either natural or artificial, public or private, or parts thereof, which are wholly or partially within or flow through this state, including all surface waters, such as the following:

- (1) Lakes.
- (2) Rivers.
- (3) Streams, including intermittent streams.
- (4) Ditches.
- (5) Potholes.
- (6) Ponds.
- (7) Wetlands.

**(b) The term does not include any private pond, off-stream pond, reservoir, or other facility built for reduction or control of pollution or cooling of water prior to discharge unless the discharge therefrom causes or threatens to cause water pollution. (Water Pollution Control Board; 327 IAC 6.1-2-55.5)**

SECTION 23. 327 IAC 6.1-3-1 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-3-1 Permit applications**

**Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-15-7-1; IC 13-18-3-1; IC 13-18-12-4**

**Affected: IC 13-11-2-77; IC 13-15-7; IC 13-30-6; IC 36-9-30-35**

Sec. 1. (a) Permit applications under this article must be submitted on forms and in a format prescribed by the commissioner and include applicable accompanying documentation as described on the forms.

(b) ~~Except for permit applications submitted in accordance with section 4(c) or 4(d) of this rule,~~ A permit application must be submitted at least one hundred eighty (180) days prior to the proposed commencement of the operation.

(c) ~~Except for permit applications submitted in accordance with section 4(c) or 4(d) of this rule,~~ A permit application for renewal of an existing permit must be: ~~submitted~~

**(1) postmarked;**

**(2) hand delivered to the Office of Land Quality, Indiana Department of Environmental Management; or**

**(3) deposited with a private carrier as shown by the receipt issued by the carrier, if the application is sent by the private carrier to the address for the department on the application;**

at least one hundred eighty (180) days prior to the expiration of the existing permit **or the permit will be invalid upon expiration.**

**(d) A permit may be renewed with new or modified conditions based on the information provided in the renewal application.**

**(e) The commissioner may:**

**(1) deny a permit application or a renewal application; or**

**(2) place additional conditions on a permit or renewal permit;**

**if the commissioner determines that one (1) or more of the criteria in subsection (f) demonstrate the applicant's inability or unwillingness to manage biosolid, industrial waste product, or pollutant-bearing water under the requirements of this article.**

~~(f)~~ **(f) The commissioner may deny a permit application, including or place additional conditions on a permit or renewal permit or place conditions on a permit for based on one (1) or more of the following:**

**(1) The applicant has been convicted of a crime under IC 13-30-6 or IC 36-9-30-35.**

**(2) The commissioner, under IC 13-15-7, has revoked the applicant's previous permit to operate under:**

**(A) this article; or**

**(B) 327 IAC 6, which was repealed in 1998.**

**(3) The applicant is, at the time of the permit application or permit decision, not in compliance with the Environmental Protection Acts, or regulations has a history of one (1) or more violations of IC 13 or rules promulgated thereunder, or has a history of repeated violations of the Acts or regulations or material permit conditions that evidence an inability or unwillingness to comply with this article or a permit: by authority of IC 13.**

**(4) The applicant was the subject of one (1) or more administrative or judicial enforcement actions concerning land application under this article or 327 IAC 6, which was repealed in 1998.**

**(5) The applicant is the subject of one (1) or more pending administrative or judicial enforcement actions commended under authority of IC 13.**

**(g) The application for a permit or the issuance of a permit does not:**

**(1) convey any property rights of any sort or any exclusive privileges to the applicant or permittee;**

**(2) authorize:**

**(A) any injury to any person or private property;**

- (B) invasion of other property rights; or**
- (C) any infringement of federal, state, or local laws or regulations; or**
- (3) preempt any duty to comply with other federal, state, or local requirements.**

~~(e)~~ **(h)** Proposals for equivalent methods for meeting requirements may be submitted for approval to the commissioner with the permit application for the following:

- (1) Site restrictions in 327 IAC 6.1-4-6 and 327 IAC 6.1-7-5.
- (2) The storage requirement in 327 IAC 6.1-4-8(a) and ~~327 IAC 6.1-7-9~~; **327 IAC 6.1-7-9(a)**.
- (3) ~~Nutrient~~ Loading rates in 327 IAC 6.1-4-10, **and 327 IAC 6.1-7-10(a)(1) through 327 IAC 6.1-7-10(a)(3)**.
- (4) Vector attraction reduction requirements in 327 IAC 6.1-4-15.
- (5) Monitoring and analysis requirements in 327 IAC 6.1-4-16 **and 327 IAC 6.1-7-2 through 327 IAC 6.1-7-4**.

~~(f)~~ **(i)** A management plan must be submitted to the commissioner with the permit application if any of the following are applicable:

- (1) The management practice in 327 IAC 6.1-4-7(l) **and or** 327 IAC 6.1-7-6(j).
- (2) The stockpiling requirement in ~~327 IAC 6.1-4-8(f)~~; **327 IAC 6.1-4-8(e)**.
- (3) Marketing and distribution in 327 IAC 6.1-5.

*(Water Pollution Control Board; 327 IAC 6.1-3-1; filed May 15, 1998, 10:20 a.m.: 21 IR 3785; errata filed May 20, 1998, 1:15 p.m.: 21 IR 3939; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 24. 327 IAC 6.1-3-2 IS AMENDED TO READ AS FOLLOWS:

#### **327 IAC 6.1-3-2 Terms of land application permits**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77

Sec. 2. **(a)** A land application permit shall conform with the following:

- (1) The technical criteria and other requirements of the applicable sections of this article.
- (2) If applicable, approved equivalent methods for meeting requirements under section 1(e) of this rule that are developed by the applicant for the proposed operation.
- (3) If applicable under section 1(f) of this rule, an approved management plan specifically developed by the applicant for the proposed operation.

**(b) The commissioner may include conditions to ensure compliance with this article.** *(Water Pollution Control Board; 327 IAC 6.1-3-2; filed May 15, 1998, 10:20 a.m.: 21 IR 3786; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 25. 327 IAC 6.1-3-3 IS AMENDED TO READ AS FOLLOWS:

#### **327 IAC 6.1-3-3 Discharges from land application operations**

**Authority:** IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 3. There must be no discharge into ~~the surface~~ **the surface** waters ~~of the state or ground water~~ from a land application operation except under a valid National Pollutant Discharge Elimination System (NPDES) permit issued in accordance with 327 IAC 5. *(Water Pollution Control Board; 327 IAC 6.1-3-3; filed May 15, 1998, 10:20 a.m.: 21 IR 3786; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 26. 327 IAC 6.1-3-4 IS AMENDED TO READ AS FOLLOWS:

#### **327 IAC 6.1-3-4 Permit duration and transition requirements**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-15-3

Sec. 4. (a) Except as specifically provided for elsewhere in this article or Indiana statute, permits may be issued by the commissioner for any period of time not to exceed five (5) years as specified by IC 13-15-3.

(b) A permit application for the land application of biosolid, industrial waste product, or pollutant-bearing water submitted after the effective date of this article must comply with applicable sections of this article.

(c) For any person with a land application permit on the effective date of this article, a permit renewal application must be submitted within nine (9) months of the effective date of this article if the current permit:

(1) was issued before the effective date of this article; and

(2) has an expiration date that is less than or equal to two (2) years after the effective date of this article.

(d) For any person with a land application permit on the effective date of this article, a permit renewal application must be submitted within one (1) year of the effective date of this article if the current permit:

(1) was issued before the effective date of this article; and

(2) has an expiration date that is more than two (2) years and less than five (5) years after the effective date of this article.

(e) (c) If a person holding a valid permit under this article has made a timely and complete application for a renewal, or new permit in accordance with this rule, the existing permit does not expire until a final determination on the application is made by the commissioner. The commissioner may seek injunctive relief with regard to the continuing activity of the permit applicant while the permit application is pending if the continuing activity of the permit applicant constitutes a threat to the environment or the public health, safety, or welfare.

**(d) Any permits granted under this article will continue to be in effect under the rules effective at the time the permit was issued until the permit is renewed as required.** (*Water Pollution Control Board; 327 IAC 6.1-3-4; filed May 15, 1998, 10:20 a.m.: 21 IR 3786; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 27. 327 IAC 6.1-3-7 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-3-7 Responsibility of person who prepares**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2-77; IC 13-30-2

Sec. 7. (a) A person who prepares a biosolid, industrial waste product, or pollutant-bearing water is legally responsible under this article for:

(1) the handling, transporting, storage, **marketing and distribution**, and land application ~~A person who prepares a of the biosolid, industrial waste product, or pollutant-bearing water; is responsible for and~~

(2) compliance with the land application permit issued under this article and all applicable provisions of this article.

(b) In the event a person who prepares a biosolid, industrial waste product, or pollutant-bearing water provides a biosolid, industrial waste product, or pollutant-bearing water to another person for final land application **or for marketing and distribution**, and that **receiving** person alters the characteristics of the biosolid, industrial waste product, or pollutant-bearing water:

(1) the person who receives and alters the biosolid, industrial waste product, or pollutant-bearing water is considered the person who prepares the biosolid, industrial waste product, or pollutant-bearing water; and

(2) assumes **primary** responsibility for compliance with this article and ~~IC 13-30~~. **IC 13-30-2.**

(c) In the event a person who prepares a biosolid, industrial waste product, or pollutant-bearing water:

(1) provides a biosolid, industrial waste product, or pollutant-bearing water to another person for final land application **or for marketing and distribution**; and

(2) that **receiving** person alters the characteristics of the biosolid, industrial waste product, or pollutant-bearing water; the person who first prepares the biosolid, industrial waste product, or pollutant-bearing water shall submit ~~a letter the information as required by 327 IAC 6.1-4-18(a)~~ to the commissioner **stating the name of the facility that states who**

received the biosolid, industrial waste product, or pollutant-bearing water.

(d) If the person who prepares a biosolid, industrial waste product, or pollutant-bearing water provides a biosolid, industrial waste product, or pollutant-bearing water to another person for final land application **or for marketing and distribution** and that **receiving** person does not alter the characteristics of the biosolid, industrial waste product, or pollutant-bearing water, then the person who applies **or markets and distributes** the biosolid, industrial waste product, or pollutant-bearing water is also responsible for complying with this article and ~~IC 13-30~~. **IC 13-30-2.**

(e) When a person who prepares a biosolid or industrial waste product provides the biosolid or industrial waste product to:

(1) another person who prepares the biosolid or industrial waste product; or

(2) to a person who applies the biosolid or industrial waste product to the land **or for marketing and distribution**; the person who provides the biosolid or industrial waste product shall provide the person who receives the biosolid or industrial waste product ~~notice and applicable~~ information to comply with this ~~rule article~~ and IC 13-30-2. (*Water Pollution Control Board; 327 IAC 6.1-3-7; filed May 15, 1998, 10:20 a.m.: 21 IR 3787; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 28. 327 IAC 6.1-3-8 IS ADDED TO READ AS FOLLOWS:

**327 IAC 6.1-3-8 Responsibility of person who prepares by receiving and blending**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2-77; IC 13-30

**Sec. 8. (a) If the person who prepares the biosolid or industrial waste product for land application blends either or both biosolid or industrial waste products, but does not treat the blend, the following apply:**

(1) **Biosolid or industrial waste product received for blending must not exceed the limits in Table 1 under 327 IAC 6.1-4-9(a).**

(2) **Dewatered biosolid received for blending must meet either:**

(A) **Class A under 327 IAC 6.1-4-13(a); or**

(B) **Class B under 327 IAC 6.1-4-13(c) standards.**

(3) **Blends that contain a dewatered biosolid and an industrial waste product must at the time of land application meet either:**

(A) **Class A under 327 IAC 6.1-4-13(a); or**

(B) **Class B under 327 IAC 6.1-4-13(c) standards.**

(4) **Liquid biosolid must meet one (1) of the following:**

(A) **When received for blending meet either:**

(i) **Class A under 327 IAC 6.1-4-13(a); or**

(ii) **Class B under 327 IAC 6.1-4-13(c) standards.**

(B) **At the time of land application meet either:**

(i) **Class A under 327 IAC 6.1-4-13(a); or**

(ii) **Class B under 327 IAC 6.1-4-13(c) standards.**

**(b) If the person who prepares the biosolid or industrial waste product for land application blends either or both biosolid or industrial waste products, but treats the blend, the following apply:**

(1) **Biosolid or industrial waste product received for blending must not exceed the limits in Table 1 under 327 IAC 6.1-4-9(a).**

(2) **Blends that contain a biosolid and industrial waste products must at the time of land application meet either:**

(A) **Class A under 327 IAC 6.1-4-13(a); or**

(B) **Class B under 327 IAC 6.1-4-13(c).**

(*Water Pollution Control Board; 327 IAC 6.1-3-8*)

SECTION 29. 327 IAC 6.1-4-1 IS AMENDED TO READ AS FOLLOWS:

### 327 IAC 6.1-4-1 Applicability

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2-77; IC 13-18-14-1; IC 13-30-2-1

Sec. 1. This rule applies to any person who prepares a biosolid or industrial waste product that:

- (1) is land applied; and
- (2) meets the criteria set forth in section 4, ~~or~~ 5, **or 5.5** of this rule.

*(Water Pollution Control Board; 327 IAC 6.1-4-1; filed May 15, 1998, 10:20 a.m.: 21 IR 3788; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 30. 327 IAC 6.1-4-3 IS AMENDED TO READ AS FOLLOWS:

### 327 IAC 6.1-4-3 General requirements

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2-77; IC 13-18-14-1; IC 13-30-2-1

Sec. 3. (a) Land application of biosolid or industrial waste product must be conducted under the supervision of:

- (1) a certified wastewater treatment plant operator licensed under 327 IAC 8; or
- (2) a person with at least one (1) year of experience in land application management practices and procedures as demonstrated ~~through~~ **by specific facts contained in** a signed affidavit.

Notice must be submitted to the commissioner of any change in the supervisor of the activity **within thirty (30) days**.

(b) Any person who prepares or applies a biosolid or industrial waste product shall ensure that the applicable requirements in this article and the permit are met when the biosolid or industrial waste product is prepared for application to the land or is applied to land.

(c) No person shall apply a biosolid or industrial waste product to any site if any of the cumulative pollutant loading rates in Table 2 in section 9(b) of this rule have been ~~reached or~~ exceeded.

(d) The person who prepares a biosolid or industrial waste product that is applied to any land application site shall:

- (1) provide the person who applies the biosolid or industrial waste product written notification of the ~~most recent nutrient concentrations as determined by testing under~~ **application rates necessary to comply with** section ~~4(6)(i)~~ **4(10)** of this rule; and
- (2) provide any person that farms the land with nutrient loadings as determined by information provided by the person who applies the biosolid or industrial waste product.

(e) The person who prepares a biosolid or industrial waste product **to be applied** to the land shall obtain information needed to comply with the following requirements:

- (1) Based on all available records, if a biosolid, ~~or~~ industrial waste product, **or pollutant-bearing water** has not been applied to the land application site, the cumulative amount for each pollutant listed in Table 2 in section 9(b) of this rule may be applied to the land application site in accordance with Table 2 in section 9(b) of this rule.
- (2) If a biosolid, ~~or~~ industrial waste product, **or pollutant-bearing water** has been applied to the land application site and the cumulative amount of each pollutant ~~applied to the land application site in the biosolid; or industrial waste product~~ is known, the cumulative amount ~~of each pollutant applied to the land application site~~ shall be used to determine the additional amount of each pollutant that can be applied to the land application site in accordance with Table 2 in section 9(b) of this rule.
- (3) If a biosolid, ~~or~~ industrial waste product, **or pollutant-bearing water** has been applied to the land application site and the cumulative amount of each pollutant ~~applied to the land application site in the biosolid; or industrial waste product~~ is not documented, application of any additional biosolid, ~~or~~ industrial waste product, **or pollutant-bearing water** is prohibited.

(f) Before a biosolid, ~~or~~ industrial waste product, **or pollutant-bearing water** is applied to the land, the person who proposes to apply the biosolid, ~~or~~ industrial waste product, **or pollutant-bearing water** shall contact the commissioner to

determine if a biosolid, ~~or~~ industrial waste product, **or pollutant-bearing water** has been applied to the land application site based on department records.

(g) The person who applies a biosolid or industrial waste product to the land shall provide the owner or lease holder of the land on which the biosolid or industrial waste product is applied ~~notice and applicable~~ information to comply with the management practices in section 7 of this rule.

(h) Any person who applies a biosolid or industrial waste product that was not generated in Indiana to land in Indiana must:

(1) be in compliance with IC 13-18-14-1; and

(2) obtain a permit under section 4, ~~or 5, or 5.5~~ of this rule from the commissioner.

*(Water Pollution Control Board; 327 IAC 6.1-4-3; filed May 15, 1998, 10:20 a.m.: 21 IR 3788; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 31. 327 IAC 6.1-4-4 IS AMENDED TO READ AS FOLLOWS:

### **327 IAC 6.1-4-4 Site-specific permits**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-11-2-77; IC 13-15; IC 13-30-2-1

Sec. 4. (a) For a biosolid to ~~be eligible for~~ **qualify under** a site-specific permit, the following criteria must be met:

(1) Either of the pathogen requirements:

(A) Class A in section 13(b) of this rule; or

(B) Class B in section 13(c) of this rule.

(2) Compliance with the vector attraction reduction requirements in section 15 of this rule.

(3) The pollutant limits in Table 1 in section 9(a) of this rule must not be exceeded.

(b) For an industrial waste product to ~~be eligible for~~ **qualify under** a site-specific permit, the pollutant limits in Table 1 in section 9(a) of this rule must not be ~~reached or~~ exceeded.

(c) A completed permit application must:

(1) be submitted to the commissioner on forms and in a format prescribed by the commissioner;

(2) include analytical data that demonstrates that pollutant concentrations do not exceed the limits in Table 1 in section 9(a) of this rule;

(3) for ~~biosolids~~, **a biosolid**, provide the documentation of methods of pathogen ~~treatment reduction~~ and vector attraction reduction as required by sections 13 and 15 of this rule; and

(4) **include** any other information as may be required by the commissioner **to ensure compliance with this article.**

~~(d) A person who prepares a biosolid or a person applying for a permit shall comply with all applicable procedural requirements of the following:~~

~~(1) IC 13-15-4 pertaining to schedules for determinations on permits;~~

~~(2) IC 13-15-5 pertaining to comments on permit issuance or denial;~~

~~(3) IC 13-15-6 pertaining to an appeal of an agency determination;~~

~~(4) IC 13-15-8 pertaining to public notice.~~

~~(e)~~ (d) A person who prepares a biosolid **or industrial waste product** that has a site-specific permit shall comply with:

(1) all permit conditions;

(2) unless specified otherwise, all requirements under this rule; ~~and~~

(3) other applicable parts of this article; ~~and~~

(4) **the submission of monthly reports in accordance with section 18 of this rule.**

(f) A person who prepares a biosolid that has a site-specific permit shall submit monthly reports in accordance with

~~section 18 of this rule: (Water Pollution Control Board; 327 IAC 6.1-4-4; filed May 15, 1998, 10:20 a.m.: 21 IR 3789; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)~~

SECTION 32. 327 IAC 6.1-4-5 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-5 Nonsite-specific permits**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 5. (a) For a biosolid to ~~be eligible for~~ **qualify under** a nonsite-specific permit, the following criteria must be met:

- (1) Either of the pathogen requirements:
  - (A) Class A in section 13(b) of this rule; or
  - (B) Class B in section 13(c) of this rule.
- (2) Compliance with the vector attraction reduction requirements in section 15 of this rule.
- (3) The pollutant concentrations ~~in Table 1 in section 9(a) of this rule and~~ in Table 3 in section 9(c) of this rule must not be exceeded.

(b) For an industrial waste product to ~~be eligible for~~ **qualify under** a nonsite-specific permit, the pollutant concentrations in ~~Table 1 in section 9(a) of this rule and~~ Table 3 in section 9(c) of this rule must not be ~~reached or~~ exceeded.

(c) A completed permit application must:

- (1) be submitted to the commissioner on forms and in a format prescribed by the commissioner;
- (2) include analytical data that demonstrates that pollutant concentrations do not exceed the limits in ~~Table 1 in section 9(a) of this rule and~~ Table 3 in section 9(c) of this rule;
- (3) include the names of all counties in which the biosolid or industrial waste product will be applied;
- (4) for biosolid, provide the documentation of methods of pathogen **treatment reduction** and vector attraction reduction as required by sections 13 and 15 of this rule; and
- (5) **include** any other information as may be required by the commissioner to ~~protect the environment or public health.~~ **ensure compliance with this article.**

(d) A person who prepares a biosolid or industrial waste product and that has a nonsite-specific permit shall:

- (1) comply with all permit conditions;
- (2) unless otherwise specified, comply with this rule;
- (3) only apply to agricultural land;
- (4) not apply a biosolid or industrial waste product within six hundred sixty (660) feet of any residence unless a signed waiver has been received from the owner and, if applicable, tenant of the residence; ~~and~~
- (5) not apply a biosolid or industrial waste product within six hundred sixty (660) feet of any public building or public or nonpublic school building; **and**
- (6) **submit monthly reports in accordance with section 18 of this rule.**

(e) Waivers must be obtained from the residence owner and, if applicable, tenant of the residence:

- (1) for each year in which biosolid or industrial waste product is proposed to be applied at distances less than the setback distance in subsection (d)(4); and
- (2) prior to the application of the biosolid or industrial waste product at distances less than the setback distance in subsection (d)(4).

~~(f) A person who prepares a biosolid or industrial waste product and that has a nonsite-specific permit shall submit monthly reports in accordance with section 18 of this rule: (Water Pollution Control Board; 327 IAC 6.1-4-5; filed May 15, 1998, 10:20 a.m.: 21 IR 3789; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)~~

SECTION 33. 327 IAC 6.1-4-5.5 IS ADDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-5.5 Hybrid permits**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-11-2-77; IC 13-30-2-1

**Sec. 5.5. (a) For a biosolid to qualify under a hybrid permit, the following criteria must be met:**

- (1) Either of the pathogen requirements:**
  - (A) Class A in section 13(b) of this rule; or**
  - (B) Class B in section 13(c) of this rule.**
- (2) Compliance with the vector attraction reduction requirements in section 15 of this rule.**
- (3) The pollutant concentrations in Table 3 in section 9(c) of this rule must not be exceeded.**

**(b) For an industrial waste product to qualify under a hybrid permit, the pollutant concentrations in Table 3 in section 9(c) of this rule must not be exceeded.**

**(c) A completed permit application must:**

- (1) be submitted to the commissioner on forms and in a format prescribed by the commissioner;**
- (2) include analytical data that demonstrates that pollutant concentrations do not exceed the limits in Table 3 in section 9(c) of this rule;**
- (3) include the names of all counties in which the biosolid or industrial waste product will be applied;**
- (4) for biosolid, provide the documentation of methods of pathogen reduction and vector attraction reduction as required by sections 13 and 15 of this rule;**
- (5) include site-specific information for those sites to be identified in the permit and presented in a format and on forms prescribed by the commissioner; and**
- (6) include any other information as may be required by the commissioner to ensure compliance with this article.**

**(d) A person who prepares a biosolid or industrial waste product and that has a hybrid permit shall comply with the following:**

- (1) The site restrictions in section 6 of this rule.**
- (2) For nonsite-specific sites:**
  - (A) comply with all permit conditions;**
  - (B) unless otherwise specified, comply with this rule;**
  - (C) only apply the biosolid or industrial waste product to agricultural land;**
  - (D) not apply a biosolid or industrial waste product within six hundred sixty (660) feet of any residence unless a signed waiver has been received from the owner and, if applicable, tenant of the residence; and**
  - (E) not apply a biosolid or industrial waste product within six hundred sixty (660) feet of any public building or public or nonpublic school building.**
- (3) For site-specific sites:**
  - (A) comply with all permit conditions; and**
  - (B) unless otherwise specified, comply with this rule.**
- (4) Submission of monthly reports in accordance with section 18 of this rule.**

**(e) Waivers must be obtained from the residence owner and, if applicable, tenant of the residence:**

- (1) for each year in which biosolid or industrial waste product is proposed to be applied at distances less than the setback distance in subsection (d)(2)(D); and**
- (2) prior to the application of the biosolid or industrial waste product at distances less than the setback distance in subsection (d)(2)(D).**

*(Water Pollution Control Board; 327 IAC 6.1-4-5.5)*

SECTION 34. 327 IAC 6.1-4-6 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-6 Site restrictions**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2-77; IC 13-30-2-1

Sec. 6. (a) **Land** application of a biosolid or industrial waste product must not be conducted:

(1) within thirty-three (33) feet of any **surface waters of the state; or the surface conduit to a subsurface feature when the method of land application is by subsurface injection or surface application followed by incorporation by the end of the day;**

(2) ~~except by subsurface injection or incorporation by the end of the day,~~ within three hundred (300) feet of any **surface waters of the state or the surface conduit to a subsurface feature for all land application except when the method of land application is by subsurface injection or surface application followed by incorporation by the end of the day;**

(3) ~~except by subsurface injection,~~ within three hundred (300) feet of any residence, **except when the method of land application is by subsurface injection;**

(4) within fifty (50) feet of any well;

(5) within two hundred (200) feet of a potable water well or drinking water spring; **or**

(6) within fifty (50) feet of the property line of any public building or public or nonpublic school.

(b) Waivers must be obtained from the residence owner and, if applicable, tenant of the residence:

(1) for each year in which biosolid or industrial waste product is proposed to be applied at distances less than the setback distance in subsection (a)(3); and

(2) prior to the application of the biosolid or industrial waste product at distances less than the setback distance in subsection (a)(3).

(c) ~~Using soil survey data established by USDA Natural Resource Conservation Service,~~ application of a biosolid or industrial waste product is prohibited if:

(1) the seasonal high water table is within eighteen (18) inches of the soil surface; and

(2) the seasonal high water table is:

(A) within thirty-six (36) inches of the soil surface; and

(B) any soil layer between eighteen (18) inches and thirty-six (36) inches below the surface has a permeability of greater than two (2) inches per hour.

(d) (c) Requirements for **land** application of a biosolid or industrial waste product onto a slope are as follows:

(1) Application of a biosolid or industrial waste product on slopes greater than eighteen percent (18%) is prohibited.

(2) Dewatered biosolid or industrial waste product may be applied by surface application on slopes that are no greater than twelve percent (12%).

(3) Dewatered biosolid or industrial waste product incorporated into the soil on the day of application may be applied to slopes that are no greater than eighteen percent (18%).

(4) Liquid biosolid or industrial waste product may be applied by surface application on slopes that are no greater than six percent (6%).

(5) Liquid biosolid or industrial waste product may be injected into the soil on slopes that are no greater than eighteen percent (18%).

(e) (d) Biosolid or industrial waste product must not be applied to land unless there is a minimum depth of twenty (20) inches of soil overlying bedrock.

(f) ~~Except for a biosolid containing an industrial waste product with a cadmium level of two (2) milligrams per kilogram or greater,~~ (e) The soil pH must be 5.5 or greater at the time a biosolid is applied unless the commissioner determines that the soil pH must be higher to protect the environment or public health: **of land application for the following:**

(1) **Biosolid.**

(2) **Biosolid containing an industrial waste product with a cadmium concentration less than two (2) milligrams per kilogram.**

(3) **Industrial waste product with a cadmium concentration less than two (2) milligrams per kilogram.**

(g) (f) The soil pH must be 6.5 or greater at the time an industrial waste product or a biosolid containing an industrial

waste product with a cadmium level of two (2) milligrams per kilogram or greater is applied unless the commissioner determines that the soil pH must be higher to protect the environment or public health. **of land application for the following:**

- (1) **Industrial waste product with a cadmium concentration greater than two (2) milligrams per kilogram.**
- (2) **Biosolid containing an industrial waste product with a cadmium concentration greater than two (2) milligrams per kilogram.**

(h) (g) The soil pH value shall be:

- (1) obtained by sampling the soil to the depth of cultivation or a **depth of placement of the biosolid** or industrial waste product, ~~placement~~; whichever is greater; ~~and analyzing~~
- (2) **analyzed** by the electrometric method\*;
- (3) **collected as one (1) representative composite sample per every twenty-five (25) acres or fraction thereof within the application site; and**
- (4) **be valid only if the analyses were performed within the last two (2) years of the date of application on the site.**

\*The electrometric method may be found in "Methods of Soil Analysis, Agronomy Monograph No. 9.", C.A. Black, ed., American Society of Agronomy, Madison, Wisconsin, pp. 199-209, 1982, available from the American Society of Agronomy, Soil Science of America, Inc., 677 South Segoe Road, Madison, Wisconsin 53711. This method is also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management, Land Quality~~, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-4-6; filed May 15, 1998, 10:20 a.m.: 21 IR 3790; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 35. 327 IAC 6.1-4-7 IS AMENDED TO READ AS FOLLOWS:

### **327 IAC 6.1-4-7 Management practices**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-30-2-1; IC 14-20-1; IC 14-22-34

Sec. 7. (a) Food crops shall not be harvested for fourteen (14) months after application of a biosolid if the harvested part:

- (1) touches the ground where biosolid has been applied; and
- (2) has no harvested parts below the soil surface.

(b) Food crops shall not be harvested for twenty (20) months after application of a biosolid if:

- (1) the biosolid remains on the land surface for four (4) months or longer prior to incorporation into the soil; and
- (2) harvested parts are below the soil surface.

(c) Food crops shall not be harvested for thirty-eight (38) months after application of biosolid if:

- (1) the biosolid remains on the land surface for less than four (4) months prior to incorporation into the soil; and
- (2) harvested parts are below the soil surface.

(d) Unless subsection (a), (b), or (c) applies, food crops, feed crops, and fiber crops shall not be harvested for thirty (30) days after application of biosolid.

(e) Grazing of animals on land that has received biosolid is prohibited for thirty (30) days after application of the biosolid.

(f) **Except for a Class A biosolid under section 13(b) of this rule**, turf grown on land where biosolid is applied shall not be harvested for one (1) year after application of the biosolid if the harvested turf is placed on ~~either~~ land with a high potential for public exposure. ~~or a lawn unless otherwise approved by the commissioner.~~

(g) Except for a Class A biosolid under section 13(b) of this rule, public access to land with a high potential for public exposure shall be restricted for one (1) year after application of biosolid to that land.

(h) Except for a Class A biosolid under section 13(b) of this rule, public access to land with a low potential for public exposure shall be restricted for thirty (30) days after application of biosolid.

(i) A biosolid or industrial waste product shall not be applied to the land:

(1) if the biosolid or industrial waste product is likely to adversely affect a threatened or endangered species or its designated critical habitat; or

(2) in violation of ~~endangered species regulations~~ at IC 14-22-34.

(j) A biosolid or industrial waste product shall not be applied to the land in violation of historic preservation requirements under IC 14-20-1. ~~or 310 IAC 15-3.~~

(k) Application of biosolid or industrial waste product is prohibited if the moisture holding capacity of the soil is exceeded. ~~as a result of previous land application practices, precipitation occurrences, or flooding.~~

(l) A biosolid or industrial waste product may only be applied to land that is frozen or snow-covered if:

(1) the biosolid or industrial waste product does not enter a ~~wetland or other surface~~ waters of the state; **or ground water**; and

(2) a management plan has been submitted and approved by the commissioner including the following:

(A) ~~Setbacks~~ **Setback distances from residences and public buildings, surface waters, wells, and other structures.**

(B) Application rates.

(C) Site characteristics, **including the following:**

**(i) Flood plains.**

**(ii) Water table.**

**(iii) Slope.**

(D) Supervision and operational oversight. ~~and~~

(E) Other ~~applicable~~ **relevant information to show that the land application will not violate this article.**

(m) A biosolid or industrial waste product may only be applied in a flood plain if the **biosolid or industrial waste product:**

(1) ~~the biosolid or industrial waste product~~ is injected or incorporated into the soil by the end of the day of placement in the flood plain; and

(2) ~~the biosolid or industrial waste product~~ does not enter a ~~wetland or other surface~~ waters of the state **or ground water.**

**(n) A biosolid or industrial waste product with a concentration of molybdenum greater than forty (40) milligrams per kilogram is prohibited from being applied to pasture.** (*Water Pollution Control Board; 327 IAC 6.1-4-7; filed May 15, 1998, 10:20 a.m.: 21 IR 3790; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 36. 327 IAC 6.1-4-8 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-8 Storage, stockpiling, and staging of biosolid or industrial waste product**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2-77; IC 13-30-2-1

Sec. 8. (a) A minimum of ninety (90) days effective storage capacity is required for **storing** a biosolid or industrial waste product unless an equivalent method of meeting the requirement is approved by the commissioner.

(b) Except for ~~earthen~~ lagoons under 327 IAC 6.1-8, any storage structures, such as pits or tanks, which are subject to volume fluctuations due to precipitation events, must have a minimum of one (1) foot of freeboard at all times.

(c) ~~A construction permit must be obtained from the commissioner under 327 IAC 3~~ prior to construction of storage structures located at the treatment works that generates the biosolid or industrial waste product.

~~(d)~~ ~~Off-site~~ (c) Storage structures for the storage of biosolid or industrial waste product must ~~be in accordance~~ **comply** with 327 IAC 6.1-8.

~~(e)~~ (d) A **fixed volume of** biosolid or industrial waste product for land application may be stored **in any storage structure** for no more than two (2) years.

~~(f)~~ (e) Stockpiling of a biosolid or industrial waste product at a land application site must be handled in accordance with an approved management plan, including the following:

(1) ~~Setbacks~~ **Setback distances from residences and public buildings, surface waters, wells, and other structures.**

(2) Site characteristics, **including the following:**

(A) **Flood plains.**

(B) **Water table.**

(C) **Slope.**

(3) Handling practices, **including the following:**

(A) **Length of time the biosolid or industrial waste product will be stockpiled.**

(B) **Run-off control measures.**

(C) **Berm construction.**

(4) **Nuisance control measures.**

~~(4)~~ (5) Other applicable information.

~~(g)~~ (f) Staging of a biosolid or industrial waste product for less than twenty-four (24) hours must be handled in accordance with the following:

(1) The biosolid or industrial waste product must be dewatered.

(2) The permittee shall conduct the land application operation in such a manner that staging of dewatered biosolid or industrial waste product is minimized.

(3) The amount of biosolid or industrial waste product staged must not exceed the maximum amount that can be applied to that land application site within twenty-four (24) hours of placement at the land application site in accordance with this rule or the permit.

(4) Staging of dewatered biosolid or industrial waste product is prohibited:

(A) within three hundred (300) feet of any **surface** waters ~~of the state~~ or surface inlet to a subsurface drainage system;

(B) within six hundred sixty (660) feet of any residence unless a signed waiver has been received from the owner and, if applicable, tenant of the residence;

(C) within two hundred (200) feet of any potable water supply well or drinking water spring;

(D) on any area with a slope greater than two percent (2%); **and**

(E) on any area located in the flood plain unless applied by the end of same day it is staged. **and**

~~(F) on any area with a seasonal high water table within three (3) feet of the surface.~~

~~(h)~~ (g) Waivers must be obtained from the residence owner and, if applicable, tenant of the residence for each year in which biosolid or industrial waste product is proposed to be staged at distances less than the setback distance in subsection ~~(g)(4)(B)~~: **(f)(4)(B)**.

~~(i)~~ (h) In addition to the requirements in subsection ~~(g)~~: (f), the following requirements apply to staging of a biosolid or industrial waste product for more than twenty-four (24) hours due to unforeseen circumstances, such as an extreme weather event or equipment failure:

(1) Except under subdivision (2), the biosolid or industrial waste product must be completely covered by a tarp or plastic sheet.

(2) If not covered in accordance with subdivision (1), the biosolid or industrial waste product must be applied to the land application site or returned to an approved storage site within forty-eight (48) hours of placement at the staging location.

(3) The person who prepares a biosolid or industrial waste product shall submit written notification within one (1) week to the commissioner that includes the following information:

- (A) The date the biosolid or industrial waste product was placed at the land application site.
- (B) The reason the biosolid or industrial waste product could not be applied within twenty-four (24) hours of staging.
- (C) The date the biosolid or industrial waste product was applied to the land application site or returned to an approved storage site.

(Water Pollution Control Board; 327 IAC 6.1-4-8; filed May 15, 1998, 10:20 a.m.: 21 IR 3791; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)

SECTION 37. 327 IAC 6.1-4-9 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-9 Pollutant limits**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
 Affected: IC 13-11-2-77; IC 13-30-2-1

Sec. 9. (a) Table 1 in this subsection lists ceiling concentrations of metal pollutants \* for a biosolid or industrial waste product that is land applied. A biosolid or industrial waste product must not be applied to land if the concentration of pollutants in the biosolid or industrial waste product as determined by EPA-600/4-79-020\* reaches or exceeds any of the ceiling concentration limits established in the following:

Table 1  
 Ceiling Concentrations

Pollutant	Ceiling Concentration (milligrams per kilogram) <sup>1</sup>
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

<sup>1</sup>Dry weight basis

(b) Table 2 in this subsection lists the cumulative pollutant loading rates \* for sites on which a biosolid or industrial waste product is applied:

Table 2  
 Cumulative Pollutant Loading Rates \*

Pollutant	Cumulative Pollutant Loading Rates (pounds per acre)
Arsenic	<del>37</del> <b>36</b>
Cadmium	<del>35</del> <b>34</b> <sup>1</sup>
Copper	<del>1,339</del> <b>1,338</b>
Lead	<del>268</del> <b>267</b>
Mercury	15
<b>Molybdenum</b>	<b>not applicable</b>
Nickel	<del>375</del> <b>374</b>
Selenium	89
Zinc	2,499

<sup>1</sup>This number is for biosolid only. The cumulative pollutant loading rate for cadmium in from an industrial waste product or a biosolid that includes containing an industrial waste product is four and one-half (4.5) pounds per acre for a soil cation exchange capacity of less than 5; nine (9) pounds per acre if the soil cation exchange capacity is between 5 and 15; and eighteen (18) pounds per acre if the soil cation exchange capacity is greater than 15.

(c) Table 3 in this subsection lists the pollutant concentrations for biosolid or industrial waste product as determined

by EPA-600/4-79-020\*, to be applied to the land in accordance with a nonsite-specific permit under section 5 of this rule, a **hybrid permit under section 5.5 of this rule**, or a marketing and distribution program permit under 327 IAC 6.1-5:

Table 3  
Pollutant Concentrations

Pollutant	Pollutant Concentrations (milligrams per kilogram) <sup>1</sup>
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
<b>Molybdenum</b>	<b>75</b>
Nickel	420
Selenium	100
Zinc	2,800

<sup>1</sup>Dry weight basis

(d) Table 4 in this subsection lists the maximum annual pollutant loading rates for sites where biosolid or industrial waste product is land applied:

Table 4  
Maximum Annual Pollutant Loading Rates  
Annual Pollutant Loading Rate (pounds per acre per 365 day period)

Pollutant	Annual Pollutant Loading Rate (pounds per acre per 365 day period)
Arsenic	1.8
Cadmium	0.45
Copper	66.0
Lead	13.4
Mercury	0.7
<b>Molybdenum</b>	<b>not applicable</b>
Nickel	18.7
Selenium	4.4
Zinc	124.9

(e) Table 4.5 in this subsection lists the maximum detection limits to be achieved for all analysis of industrial waste products and biosolid that have total solids of one percent (1%) or greater:

Table 4.5  
Detection limits (milligrams per kilogram dry weight)

<b>Arsenic</b>	<b>2</b>
<b>Cadmium</b>	<b>10</b>
<b>Lead</b>	<b>10</b>
<b>Mercury</b>	<b>2</b>
<b>Molybdenum</b>	<b>10</b>
<b>Nickel</b>	<b>10</b>
<b>Selenium</b>	<b>2</b>

(f) A permitted biosolid or industrial waste product that exceeds any pollutant ceiling concentrations in Table 1 in subsection (a) must not be applied to the land unless the commissioner approves the results of the following analyses prior to initial application:

- (1) The person who prepares a biosolid or industrial waste product shall take at least four (4) representative samples of the biosolid or industrial waste product to be applied to analyze for any metal concentration in Table 1 in subsection (a) that has been exceeded.
- (2) For a biosolid or industrial waste product that is receiving additional biosolid or industrial waste product, the four (4) samples must be taken:

(A) within a thirty (30) day period; and

(B) at least two (2) days apart.

(3) For a fixed volume of a biosolid or industrial waste product that is not receiving additional biosolid or industrial waste product, the four (4) samples must be taken within a thirty (30) day period.

(4) The analysis for each pollutant in all four (4) samples must be less than the comparable pollutant ceiling concentration in Table 1 in subsection (a).

~~(f)~~ **(g)** Under a nonsite-specific **or hybrid** permit, the person who prepares a biosolid or industrial waste product that exceeds any concentration of a metal listed in Table 3 in subsection (c) shall do either of the following:

(1) Within ninety (90) days of first receiving knowledge of the exceeded limit, the person who prepares a biosolid or industrial waste product shall apply for a site-specific permit for land application of the biosolid or industrial waste product. The biosolid or industrial waste product must be applied under a site-specific permit.

(2) Provide the following analysis within forty-five (45) days of first receiving knowledge of the exceeded limit for approval by the commissioner:

(A) The person who prepares a biosolid or industrial waste product shall take at least four (4) representative samples of the biosolid or industrial waste product to be applied to analyze for any metal concentration in ~~Table 1~~ **Table 3** in subsection ~~(a)~~ **(c)** that has been exceeded.

(B) For biosolid or industrial waste product that is ~~receiving additional biosolid or industrial waste product,~~ **not a fixed volume**, the four (4) samples must be taken:

(i) within a thirty (30) day period; and

(ii) at least two (2) days apart.

(C) For a fixed volume of biosolid or industrial waste product, ~~that is not receiving additional biosolid or industrial waste product,~~ the four (4) samples must be taken within a thirty (30) day period.

(D) The ~~analysis of the~~ average of the four (4) samples for each pollutant must be less than the comparable pollutant concentrations in Table 3 in subsection (c).

(E) If ~~any of the analyses of~~ the average of the four (4) samples for each pollutant exceeds the comparable pollutant concentrations in Table 3 in subsection (c), the person who prepares a biosolid or industrial waste product shall apply for a site-specific permit within sixty (60) days of receiving the results of the analysis in this subdivision.

~~(g)~~ **(h)** A person who prepares a biosolid or industrial waste product and that intends to reapply for a nonsite-specific **or hybrid** permit shall complete the following for approval by the commissioner:

(1) The person who prepares a biosolid or industrial waste product shall take at least eight (8) representative samples of the biosolid or industrial waste product to be applied to analyze for any metal concentration in Table 3 in subsection (c) that has been exceeded.

(2) The samples must be taken:

(A) within a twelve (12) month period; and

(B) at least thirty (30) days apart.

(3) All pollutant concentrations in all eight (8) samples must have pollutant concentrations less than the comparable pollutant concentrations in Table 3 in subsection (c).

\*Methods referenced in this section may be obtained as follows:

(1) EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes*, March 1983, available from Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, Ohio 45202.

(2) For the purpose of determining annual pollutant loading rates and cumulative pollutant loading rates, methods for measuring inorganic pollutants may be found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, [Third Edition, November 1986, as amended by Updates 1 (July 1992), 2 (September 1994), 2A (August 1993), 2B (January 1995)]; available from U.S. EPA.

These methods are also available for copying at the Indiana Department of Environmental Management, Office of Solid and Hazardous Waste Management, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board*; 327 IAC 6.1-4-9; filed May 15, 1998, 10:20 a.m.: 21 IR 3792; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)

SECTION 38. 327 IAC 6.1-4-10 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-10 Loading rate limits**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 10. (a) Maximum crop and annual loading rates are determined for a biosolid or industrial waste products to be applied on the basis of the following parameters:

(1) Crop application rates, based on plant available nitrogen (PAN) loadings using the appropriate formulas in subsection (b), shall not exceed either of the following:

(A) PAN loading rates for crop production in Table 5 as follows:

Table 5  
 Plant Available Nitrogen Loading for Crop Production

Crop	Pounds of PAN Per Acre <sup>1</sup>
Corn	200
Soybeans	100
Hay	100
Cereal grain	100
Set aside/idle	50

<sup>1</sup>An equivalent method of meeting the nutrient management requirement may be submitted to the commissioner for approval for alternative nutrient loading rates that provide equivalent or greater protection to the environment and public health.

(B) The nitrogen removal rate for the proposed crop to be grown on the land application site adjusted to account for application of fertilizers, manure, and the presence of residual available nitrogen in the soil from previous applications of a biosolid, industrial waste product, or pollutant-bearing water.

(2) Annual loading rates of a biosolid or industrial waste product must not result in any of the annual pollutant loading rates in Table 4 in section 9(d) of this rule being exceeded. The following formula for annual loading rate calculation applies to this article and must be used to calculate the amount of biosolid or industrial waste product to be applied per acre per three hundred sixty-five (365) day period:

$$ALR = \frac{APLR}{C \times 0.002}$$

Where:

ALR = Annual loading rate in dry tons per acre per three hundred sixty-five (365) day period (**dry, short ton of biosolid or industrial waste product/acre/year**).

APLR = Annual pollutant loading rate in pounds per acre per three hundred sixty-five (365) day period (**pounds/acre/year**).

C = Pollutant concentration in milligrams per kilogram (~~mg/kg~~) of total solids as determined by Part 2540 G\*. (**mg of pollutant/kg of biosolid or industrial waste product dry weight**).

(3) Phosphorus loading requirements may be included as a permit condition if the commissioner determines it is necessary for protection of public health or the environment.

(b) The following formulas for PAN loading calculations apply to this article and must be used to calculate the amount of PAN in the biosolid or industrial waste product and the residual available nitrogen at the application site; all calculations are based on a percent dry weight basis:

- (1) % Total N = % Total Kjeldahl N + % Nitrate N
- (2) % Organic N = % Total N - (% ~~Ammonium~~ **Ammonia** N + % Nitrate N)
- (3) Pounds Organic N per dry ton of industrial waste product or biosolid, except anaerobically digested biosolid, available during year of application = % Organic N × 6
- (4) Pounds Organic N per dry ton of anaerobically digested biosolid available during year of application = % Organic N × 4
- (5) Pounds of ~~Ammonium~~ **Ammonia** N per dry ton = % ~~Ammonium~~ **Ammonia** N × 20
- (6) Pounds of Nitrate N per dry ton = % Nitrate N × 20
- (7) Pounds PAN per dry ton = Pounds of Organic N per dry ton + Pounds of ~~Ammonium~~ **Ammonia** N per dry ton + Pounds of Nitrate N per dry ton

(8) Residual nitrogen from past biosolid or industrial waste product applications:

(A) Pounds of residual N from industrial waste product or biosolid, except anaerobically digested biosolid, available one (1) year after application = %Organic N × 3 × dry tons applied per acre

(B) Pounds of residual N from anaerobically digested biosolid available one (1) year after application = %Organic N × 2 × dry tons applied per acre

(C) Pounds of residual N from industrial waste product or biosolid, except anaerobically digested biosolid, available two (2) years after application = %Organic N × 1.6 × dry tons applied per acre

(D) Pounds of residual N from anaerobically digested biosolid available two (2) years after application = %Organic N × dry tons applied per acre

(E) Pounds of residual N from industrial waste product or biosolid, except anaerobically digested biosolid, available three (3) years after application = %Organic N × 0.8 × dry tons applied per acre

(F) Pounds of residual N from anaerobically digested biosolid available three (3) years after application = %Organic N × 0.5 × dry tons applied per acre

Where: N = Nitrogen.

\*Part 2540 G may be found in "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, available from American Public Health Association, 1015 15th Street, N.W., Washington, D.C. 20005. This method is also available for copying at the Indiana Department of Environmental Management, Office of Solid and Hazardous Waste Management, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-4-10; filed May 15, 1998, 10:20 a.m.: 21 IR 3794; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 39. 327 IAC 6.1-4-11 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-11**

**Land application of paper waste**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 11. (a) Any person who is applying for a permit to land apply paper waste shall analyze the paper waste using EPA Method 1613 B\* to determine the total toxic equivalency factor (TEF) for tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) and tetrachlorodibenzo-p-furan (2,3,7,8-TCDF) where:

$$\text{Total TEF} = 2,3,7,8\text{-TCDD} + 0.1(2,3,7,8\text{-TCDF})$$

(b) Rather than conduct a new analysis under subsection (a), a person who prepares a biosolid or industrial waste product and that applies for a permit renewal to land apply paper waste may submit results of an analysis for 2,3,7,8-TCDD and 2,3,7,8-TCDF by EPA Method 1613 B\* that is up to one (1) year old if the applicant also provides a signed statement that:

- (1) the analysis is representative of the **material paper waste** currently being produced; and
- (2) no significant **manufacturing or waste treatment** process changes have been made.

(c) Land application of any paper waste with a total toxic equivalency factor for 2,3,7,8-TCDD and 2,3,7,8-TCDF that is greater than or equal to seventy-five (75) parts per trillion is prohibited.

(d) Land application of any paper waste with a total toxic equivalency factor for 2,3,7,8-TCDD and 2,3,7,8-TCDF that is less than seventy-five (75) parts per trillion must be in accordance with applicable permit conditions.

(e) For purposes of this section, paper waste means a **material solid waste** generated in the production or recycling of paper or paper-like products.

\*Method 1613 B may be found in EPA 821-B-94-005, October 1994, available from the Water Resource Center, Mail Code RC 4100, 401 M Street, S.W., Washington, D.C. 20460, (202) 260-7786. This method is also available for copying at the Indiana Department of Environmental Management, Office of Solid and Hazardous Waste Management, Land Quality, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-4-11; filed May 15, 1998, 10:20 a.m.: 21 IR 3795; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 40. 327 IAC 6.1-4-13 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-13**

**Pathogen requirements**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 13. (a) This section contains the requirements for a biosolid to be classified either Class A or Class B with respect to pathogens.

(b) To be categorized as Class A, a biosolid must meet or exceed the following requirements:

(1) The pathogen requirements in subdivision (2) must be met either prior to, or at the same time as, the vector attraction reduction requirements in section 15(b)(1) through 15(b)(5), 15(b)(9), and 15(b)(10) of this rule.

(2) The requirements in one (1) of the following alternatives:

(A) For Class A, Alternative 1, except for composting, the following:

(i) ~~Either~~ The density of fecal coliform in the biosolid, as determined by Part 9221 E\* or Part 9222 D\*, must be less than one thousand (1,000) most probable number (MPN) per gram of total solids. ~~or the density of Salmonella sp. bacteria in the biosolid, as determined using Part 9260 D\*;~~ must be less than three (3) MPN per four (4) grams of total solids.

(ii) The temperature of the biosolid that is used or disposed must be maintained at a specific value for a period of time as applicable in the following:

(AA) When the percent total solids of the biosolid is seven percent (7%) or higher, the temperature of the biosolid must be fifty (50) degrees Celsius (~~50°C~~) or higher; the time period must be twenty (20) minutes or longer; and the temperature and time period must be determined using Equation 1 as follows, except when small particles of biosolid are heated by either warmed gases or an immiscible liquid:

Equation 1:

$$D = \frac{131,700,000}{10^{0.14000t}}$$

Where:

D = Time in days.

t = Temperature in degrees Celsius.

(BB) When the percent total solids of the biosolid is seven percent (7%) or higher and small particles of biosolid are heated by either warmed gases or an immiscible liquid, the temperature of the biosolid must be fifty (50) degrees Celsius (~~50°C~~) or higher; the time period must be fifteen (15) seconds or longer; and the temperature and time period must be determined using Equation 1 in subitem (AA).

(CC) When the percent total solids of the biosolid is less than seven percent (7%) and the time period is at least fifteen (15) seconds, but less than thirty (30) minutes, the temperature and time period must be determined using Equation 1 in subitem (AA).

(DD) When the percent total solids of the biosolid is less than seven percent (7%), the temperature of the biosolid is fifty (50) degrees Celsius (~~50°C~~) or higher; and the time period is thirty (30) minutes or longer, the temperature and time period must be determined using Equation 2 as follows:

Equation 2:

$$D = \frac{50,070,000}{10^{0.14000t}}$$

Where:

D = Time in days.

t = Temperature in degrees Celsius.

(B) For Class A, Alternative 2, the following:

(i) ~~Either~~ The density of fecal coliform in the biosolid, as determined by Part 9221 E\* or Part 9222 D\*, must be less than one thousand (1,000) MPN per gram of total solids. ~~or the density of Salmonella sp. bacteria in the biosolid, as determined using Part 9260 D\*;~~ must be less than three (3) MPN per four (4) grams of total solids.

(ii) The pH of the biosolid must be raised to above 12 and shall remain above 12 for seventy-two (72) hours.

(iii) The temperature of the biosolid must be above fifty-two (**52**) degrees Celsius (~~52°C~~) for twelve (12) hours or longer during the period that the pH of the biosolid is above 12.

(iv) At the end of the seventy-two (72) hour period during which the pH of the biosolid is above 12, the biosolid must be air dried to achieve a percent total solids in the biosolid greater than fifty percent (50%).

(C) For Class A, Alternative 3, the following:

(i) ~~Either~~ The density of fecal coliform in the biosolid, as determined by Part 9221 E\* or Part 9222 D\*, must be less than one thousand (1,000) MPN per gram of total solids. ~~or the density of Salmonella sp. bacteria in the biosolid, as determined using Part 9260 D\*, must be less than three (3) MPN per four (4) grams of total solids.~~

(ii) Regarding enteric viruses, the following:

(AA) The biosolid must be analyzed prior to pathogen treatment to determine whether the biosolid contains enteric viruses using ASTM Designation: D 4994-89\*.

(BB) When the density of enteric viruses in the biosolid prior to pathogen treatment is less than one (1) plaque-forming unit (PFU) per four (4) grams of total solids the biosolid is Class A with respect to enteric viruses until the next monitoring required by section 16 of this rule for the biosolid.

(CC) When the density of enteric viruses in the biosolid prior to pathogen treatment is equal to or greater than one (1) PFU per four (4) grams of total solids the biosolid is Class A with respect to enteric viruses when the density of enteric viruses in the biosolid after pathogen treatment is less than one (1) PFU per four (4) grams of total solids and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the biosolid that meets the enteric virus density requirement are documented.

(DD) After the enteric virus reduction in subitem (CC) is demonstrated for the pathogen treatment process, the biosolid continues to be Class A with respect to enteric viruses when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented in subitem (CC).

(iii) Regarding viable helminth ova, the following:

(AA) Prior to pathogen treatment the biosolid must be analyzed to determine whether the biosolid contains viable helminth ova using methods in EPA 600/1-87-014\*.

(BB) When the density of viable helminth ova in the biosolid prior to pathogen treatment is less than one (1) per four (4) grams of total solids the biosolid is Class A with respect to viable helminth ova until the next monitoring required by section 16 of this rule for the biosolid.

(CC) When the density of viable helminth ova in the biosolid prior to pathogen treatment is equal to or greater than one (1) per four (4) grams of total solids the biosolid is Class A with respect to viable helminth ova when the density of viable helminth ova in the biosolid after pathogen treatment is less than one (1) per four (4) grams of total solids and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the biosolid that meets the viable helminth ova density requirement are documented.

(DD) After the viable helminth ova reduction in subitem (CC) is demonstrated for the pathogen treatment process, the biosolid continues to be Class A with respect to viable helminth ova when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented in subitem (CC).

(D) For Class A, Alternative 4, the following:

(i) ~~Either~~ The density of fecal coliform in the biosolid, as determined by Part 9221 E\* or Part 9222 D\*, must be less than one thousand (1,000) MPN per gram of total solids. ~~or the density of Salmonella sp. bacteria in the biosolid, as determined using Part 9260 D\*, must be less than three (3) MPN per four (4) grams of total solids.~~

(ii) The density of enteric viruses in the biosolid must be less than one (1) PFU per four (4) grams

of total solids.

(iii) The density of viable helminth ova in the biosolid must be less than one (1) per four (4) grams of total solids.

(E) For Class A, Alternative 5, the following:

(i) ~~Either~~ The density of fecal coliform in the biosolid, as determined by Part 9221 E\* or Part 9222 D\*, must be less than one thousand (1,000) MPN per gram of total solids. ~~or the density of Salmonella, sp. bacteria in the biosolid, as determined using Part 9260 D\*, must be less than three (3) MPN per four (4) grams of total solids.~~

(ii) Biosolid must be treated in one (1) of the processes to further reduce pathogens described in section 14(b) of this rule.

(F) For Class A, Alternative 6, the following:

(i) ~~Either~~ The density of fecal coliform in the biosolid, as determined by Part 9221 E\* or Part 9222 D\*, must be less than one thousand (1,000) MPN per gram of total solids. ~~or the density of Salmonella, sp. bacteria in the biosolid, as determined using Part 9260 D\*, must be less than three (3) MPN per four (4) grams of total solids.~~

(ii) A biosolid must be treated in a process that is equivalent to a process to further reduce pathogens as determined by the commissioner on the recommendation of EPA.

(c) To be categorized as Class B, a biosolid must meet one (1) of the following alternatives:

(1) For Class B, Alternative 1, the following:

(A) Seven (7) representative samples of the biosolid must be collected prior to land application.

(B) The geometric mean of the density of fecal coliform in the samples collected in ~~item (i)~~ **clause (A)** must be less than either two million (2,000,000) MPN per gram of total solids or two million (2,000,000) colony-forming units (CFU) per gram of total solids.

(2) For Class B, Alternative 2, the biosolid must be treated by one (1) of the processes to significantly reduce pathogens described in section 14(a) of this rule.

(3) For Class B, Alternative 3, the biosolid that is used or disposed must be treated in a process that is equivalent to a process to significantly reduce pathogens, as determined by the commissioner on the recommendation of EPA.

(d) For purposes of subsection (b)(2)(B), the pH of biosolid must be measured at twenty-five (**25**) degrees Celsius (~~25°C~~) or measured at another temperature and then converted to an equivalent value at twenty-five (**25**) degrees Celsius (~~25°C~~).

\*Methods referenced in this section may be obtained as follows:

(1) Part 9221 E and Part 9222 D may be found in "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, available from American Public Health Association, 1015 15th Street, N.W., Washington, D.C. 20005.

~~(2) Part 9260 D may be found in "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, available from the American Public Health Association, 1015 15th Street, N.W., Washington, D.C. 20005; or Kenner, B.A. and H.P. Clark, "Detection and Enumeration of Salmonella and Pseudomonas Aeruginosa", Journal of the Water Pollution Control Federation, Vol. 46, no. 9, September 1974, pp. 2163-2171, available from Water Environment Federation, 601 Wythe Street, Alexandria, Virginia 22314.~~

~~(3) (2) ASTM Designation: D 4994-89 may be found in "Standard Practice for Recovery of Viruses From Wastewater Sludges", 1996 Annual Book of ASTM Standards: Section 11.02, Water, Part 2, available from ASTM, 1916 Race Street, Philadelphia, Pennsylvania 19103-1187.~~

~~(4) (3) EPA 600/1-87/014, Yanko, W.A., "Occurrence of Pathogens in Distribution and Marketing Municipal Sludges", January 1988, is available from National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 (PB 88-154273/AS).~~

These methods are also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management~~, **Land Quality**, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-4-13; filed May 15, 1998, 10:20 a.m.: 21 IR 3795; errata, 21 IR 4537; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 41. 327 IAC 6.1-4-16 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-16 Monitoring and analysis**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-14-4-3

Sec. 16. (a) Characteristics of a biosolid or industrial waste product must be monitored as required in this section.

(b) The resulting analyses of such characteristics must be reported on both a wet weight and dry weight basis.

(c) Analyses of additional parameters may be required by the commissioner on a case-by-case basis to protect the environment or public health.

(d) Biosolid or industrial waste product that is to be applied to the land must be monitored each day of land application for percent total solids.

(e) Prior to land application, representative samples of biosolid or industrial waste product that is to be applied to the land shall be collected and analyzed at the frequency listed in Table 6 in subsection (f) for the following parameters:

(1) Percent total solids.

(2) The following total metals, **as determined by EPA/600/4-91/010 or SW 846\*, with detection limits not to exceed Table 4.5 of section 9(e) of this rule:**

(A) Arsenic.

(B) Cadmium.

(C) Copper.

(D) Lead.

(E) Mercury.

(F) Molybdenum.

(G) Nickel.

(H) Selenium.

(I) Zinc.

(3) Polychlorinated biphenyls (PCBs).

(4) The applicable pathogen density requirements in section 13 of this rule.

(5) The applicable vector attraction reduction requirements in section 15(b) of this rule or an equivalent vector attraction reduction requirement as determined by the commissioner.

(f) The results of the analysis in subsection (e) are valid for the applicable length of time listed in Table 6 as follows:

Table 6

Amount of Biosolid or Industrial Waste Product <sup>1</sup> (dry tons per 365 day period)	Frequency of Monitoring <sup>2</sup>
Greater than 0 but less than <del>100</del> <b>319</b>	12 months
Equal to or greater than <del>100</del> <b>319</b> but less than <del>300</del> <b>1,653</b>	3 months
Equal to or greater than <del>300</del> <b>1,653</b> but less than <del>1,000</del> <b>16,530</b>	2 months
Equal to or greater than <del>1,000</del> <b>16,530</b>	1 month

<sup>1</sup>For existing facilities, either the amount of biosolid or industrial waste product generated in the previous year or the amount of biosolid or industrial waste product received by a person who prepares biosolid or industrial waste product that is marketed or distributed for application to the land, dry weight basis. For new facilities, the amount determined by engineering estimates for generation of biosolid or industrial waste product for the specific new facility.

<sup>2</sup>For the purposes of this table, a month is a 30 day period.

(g) After the biosolid or industrial waste product has been monitored for two (2) years at the frequency in Table 6 in subsection (f), the person who prepares a biosolid or industrial waste product may request a reduced frequency of monitoring from the commissioner for pollutant concentrations in subsection ~~(e)~~: **(e)(2) and (e)(4)**.

(h) If the person who prepares a biosolid or industrial waste product can demonstrate to the satisfaction of the commissioner that the biosolid or industrial waste product has contained no detectable concentrations of PCBs for the previous two (2) years, the commissioner may reduce the required monitoring frequency for PCBs.

(i) For each biosolid or industrial waste product that is a fixed volume, the person who prepares must, as specified in the permit, do either subdivision (1) or (2) as follows:

(1) A representative sample of the biosolid or industrial waste product must be collected and analyzed for the parameters in subdivision (3) prior to land application. The results of this analysis are valid for reporting land application activities for a thirty (30) day period that biosolid or industrial waste product is applied; a composite sample of the biosolid or industrial waste product sufficient for analysis must be collected and analyzed for the following the sample report date.

(2) Collect a composite sample and analyze for the parameters in subdivision (3). The composite sample must consist of a representative sample collected during each day of application. The composite sample must be collected over no more than thirty (30) days.

(3) The following parameters must be analyzed\*\*:

(+) (A) Percent total solids.

(+) (B) Total nitrogen.

(+) (C) Ammonia nitrogen.

(+) (D) Nitrate nitrogen.

(+) (E) Phosphorus.

(+) (F) Potassium.

(j) For biosolid or industrial waste product that is not a fixed volume, the person who prepares must collect a composite sample and analyze for the parameters in subsection (i)(3). The composite sample must consist of a representative sample collected during each day of application. The composite sample must be collected over no more than thirty (30) days.

(k) Alternative equivalent methods meeting the requirements of 327 IAC 6.1-3-1(e)(5) this section may be used if by the person who prepares a biosolid or industrial waste product receives prior written approval from if approved by the commissioner.

\*Methods referenced in this section may be obtained as follows:

(1) EPA/600/4-91/010, "Methods for the Determination of Metals in Environmental Samples", June 1991, available from Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, Ohio 45202.

(2) "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, [Third Edition, November 1986, as amended by Updates 1 (July 1992), 2 (September 1994), 2A (August 1993), and 2B (January 1995) and 3 (December 1996)], available from U.S. EPA.

\*\*EPA-600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", March 1983, available from Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, Ohio 45202.

These methods are also available for copying at the Indiana Department of Environmental Management, Office of Solid and Hazardous Waste Management, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (Water Pollution Control Board; 327 IAC 6.1-4-16; filed May 15, 1998, 10:20 a.m.: 21 IR 3800; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)

SECTION 42. 327 IAC 6.1-4-17 IS AMENDED TO READ AS FOLLOWS:

327 IAC 6.1-4-17

Records and record keeping

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-14-4-3; IC 13-15-2

Sec. 17. (a) Information regarding application rates and site conditions must be recorded daily by the person who

prepares a biosolid or industrial waste product or as otherwise specified by the permit.

(b) The person who prepares a biosolid or industrial waste product shall record the monitoring results and information required by section 16 of this rule. Such records must be:

(1) retained by the person who prepares the biosolid or industrial waste product for:

(A) a minimum of five (5) years; or

(B) a longer time if required by the commissioner in the permit; and

(2) accessible to department representatives at the facility or other location clearly identified in writing to the commissioner.

(c) For biosolid or industrial waste product that is applied to any land application site under 327 IAC 6.1-4 the following applies:

(1) The person who prepares the biosolid or industrial waste product shall develop the following information and shall retain the information for five (5) years:

(A) The results of the analyses conducted under section 16 of this rule.

(B) A certification statement on forms and in a format prescribed by the commissioner.

(C) A description of how the Class A pathogen requirements in section 13(b) of this rule or Class B pathogen requirements in section 13(c) of this rule are met.

(D) When one (1) of the vector attraction reduction requirements in section 15(b)(1) through 15(b)(8) of this rule is met, a description of how the vector attraction reduction requirement is met.

(E) The information in subdivision (3)(E) through (3)(G) provided by the person who applies the biosolid or industrial waste product.

**(F) Documentation for the length of time for stockpiles under section 8(e)(3)(A) of this rule.**

(2) The person who prepares the biosolid or industrial waste product shall develop the following information and shall retain the information indefinitely:

(A) The cumulative amount of each pollutant in pounds per acre listed in Table 2 in section 9(b) of this rule in the biosolid or industrial waste product applied to each site, including the amount in section 3(e)(3) of this rule.

(B) A description of how the requirements to obtain information in section 3(e) of this rule are met.

(C) The information in subdivision (3)(A) through (3)(D) provided by the person who applies the biosolid or industrial waste product.

(3) For each day in which biosolid or industrial waste product is applied, the person who applies the biosolid or industrial waste product shall develop the following information and provide it to the person who prepares the biosolid or industrial waste product:

(A) The location, indicated on a site map, of each site that biosolid or industrial waste product is applied.

(B) The number of acres in each site to which biosolid or industrial waste product is applied.

(C) The date biosolid or industrial waste product is applied to each site.

(D) The amount of biosolid or industrial waste product in dry tons applied to each site.

(E) A description of how the site restrictions in ~~section~~ **sections 5(d), 5.5(d), and 6** of this rule and the management practices in section 7 of this rule are met for each site on which biosolid or industrial waste product is applied.

(F) When the vector attraction reduction requirement in either section 15(b)(9) or 15(b)(10) of this rule is met, a certification statement on forms prescribed by the commissioner.

(G) If the vector attraction reduction requirements in either section 15(b)(9) or 15(b)(10) of this rule are met, a description of how the requirements are met.

**(4) The person who prepares by receiving and blending shall document the following:**

**(A) The generating source of the received biosolid or industrial waste product.**

**(B) The amount of the biosolid or industrial waste product.**

**(C) The date the biosolid or industrial waste product was received.**

**(d) A copy of the permit must be kept at the treatment plant or generating facility.** (*Water Pollution Control Board; 327 IAC 6.1-4-17; filed May 15, 1998, 10:20 a.m.: 21 IR 3801; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 43. 327 IAC 6.1-4-18 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-18 Reports and reporting**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-14-4-3; IC 13-15

Sec. 18. (a) Activities and analyses related to ~~land application~~ **disposal** of a biosolid or industrial waste product must be reported:

- (1) to the commissioner ~~each~~ within thirty (30) days of the last day of each calendar month for the term of the permit; and
- (2) submitted on forms and in a format prescribed by the commissioner.

(b) The person who prepares a biosolid or industrial waste product shall notify the commissioner of the cumulative application on a land application site of any metal in Table 2 in section 9(b) of this rule for the applied biosolid or industrial waste product in a quantity equal to or greater than ninety percent (90%) of the quantity specified in Table 2 in section 9(b) of this rule within thirty (30) days after that level is reached.

(c) The quantity of all metals listed in Table 2 in section 9(b) of this rule that are applied to the land application site will be forwarded by the commissioner to the county recorder of the county where the land application site is located for inclusion in the permanent land records when ninety percent (90%) of the level of any metal is reached as per Table 2 in section 9(b) of this rule. (*Water Pollution Control Board; 327 IAC 6.1-4-18; filed May 15, 1998, 10:20 a.m.: 21 IR 3801; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 44. 327 IAC 6.1-4-19 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-4-19 Research and demonstration projects for biosolid or industrial waste product**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 19. Biosolid or industrial waste product may be used for research and demonstration projects in accordance with IC 13-30-2-1(7) if a plan with the following information is submitted and approved by the commissioner:

- (1) Name, address, phone number, and authorizing signatures of:
  - (A) the person conducting the research or demonstration project;
  - (B) the responsible person designated from the facility providing the biosolid or industrial waste product; and
  - (C) the owner of the property upon which the research or demonstration project will be conducted.
- (2) Narrative statement of goals and objectives of research or demonstration project.
- (3) Description of experimental design.
- (4) Description and quantity of ~~material:~~ **biosolid or industrial waste product.**
- (5) Analytical data.
- (6) Location of property upon which research or demonstration project will be conducted.
- (7) Duration of project.
- (8) Other applicable information.

(*Water Pollution Control Board; 327 IAC 6.1-4-19; filed May 15, 1998, 10:20 a.m.: 21 IR 3802; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 45. 327 IAC 6.1-5-1 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-5-1 Marketing and distribution permit eligibility criteria for biosolid**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-18-14-1; IC 13-30-2-1

Sec. 1. For a biosolid to be eligible for a marketing and distribution permit, the following criteria must be met:

- (1) The Class A pathogen requirements in 327 IAC 6.1-4-13(b).
- (2) Compliance with at least one (1) of the vector attraction reduction requirements in 327 IAC 6.1-4-15(b)(1) through

327 IAC 6.1-4-15(b)(8) or an equivalent vector attraction reduction requirement as determined by the commissioner.  
(3) The pollutant concentrations are less than the concentrations in ~~Table 1 in 327 IAC 6.1-4-9(a)~~ and Table 3 in 327 IAC 6.1-4-9(c).

(4) The biosolid must be dewatered.

(5) The biosolid must not contain a concentration of polychlorinated biphenyls (PCBs) of two (2) milligrams per kilogram or greater on a dry weight basis.

*(Water Pollution Control Board; 327 IAC 6.1-5-1; filed May 15, 1998, 10:20 a.m.: 21 IR 3802; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 46. 327 IAC 6.1-5-2 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-5-2 Marketing and distribution permit eligibility criteria industrial waste product**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-11-2-77; IC 13-18-14-1; IC 13-30-2-1

Sec. 2. For an industrial waste product to be eligible for a marketing and distribution permit, the following criteria must be met:

(1) The pollutant concentrations are less than the concentrations in ~~Table 1 in 327 IAC 6.1-4-9(a)~~ and Table 3 in 327 IAC 6.1-4-9(c).

(2) The industrial waste product must be dewatered.

**(3) The industrial waste product must not contain a concentration of polychlorinated biphenyls (PCBs) of two (2) milligrams per kilogram or greater on a dry weight basis.**

*(Water Pollution Control Board; 327 IAC 6.1-5-2; filed May 15, 1998, 10:20 a.m.: 21 IR 3802; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 47. 327 IAC 6.1-5-3 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-5-3 Marketing and distribution permit application**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-11-2-77; IC 13-18-14-1; IC 13-30-2-1

Sec. 3. (a) Approval for a biosolid or industrial waste product marketing and distribution permit must be requested in an application on forms and in a format prescribed by the commissioner and submitted to the commissioner in accordance with 327 IAC 6.1-3. The application must include a proposed management plan submitted and approved by the commissioner, including the following:

(1) How the ~~material~~ **biosolid or industrial waste product** will be marketed.

(2) Quality control measures.

(3) Treatment process description.

(4) How the ~~material~~ **biosolid or industrial waste product** will be stored, including the following:

(A) Setback distances from residences and public buildings, ~~surface~~ **surface** waters, ~~of the state~~, wells, and other structures.

(B) Location criteria including flood plains, ~~floodways~~, slopes, seasonal high water table, soil pH, and other location criteria.

(C) Design and construction of storage structures.

(D) Nuisance control measures.

(5) Procedures for addressing noncomplying practices by ~~end~~ users, including:

(A) a written notification of the proper use of the ~~material~~ **biosolid or industrial waste product** to the noncomplying ~~end~~ user; and

(B) other applicable procedures.

(6) Other applicable information.

(b) To market or distribute biosolid or industrial waste product that is not generated in Indiana and that is to be applied to land in Indiana under a marketing and distribution permit, persons who prepare the biosolid or industrial waste product that was not generated in Indiana or marketers of the biosolid or industrial waste product that was not generated in Indiana must:

- (1) be in compliance with IC 13-18-14-1; and
- (2) obtain an Indiana permit by:
  - (A) requesting reciprocity from the commissioner; or
  - (B) submitting an application in accordance with subsection (a).

(c) Persons who prepare a biosolid or industrial waste product that was not generated in Indiana and that are requesting reciprocity shall hold a valid permit from another state that is at least as stringent as this article.

(d) The commissioner shall issue a permit that is valid for no longer than the expiration date of the out-of-state permit **or up to five (5) years, whichever is shorter**, to the person who prepares a biosolid or industrial waste product that was not generated in Indiana and that is for marketing and distribution program if:

- (1) a submitted application or request for reciprocity is approved by the commissioner; and
- (2) the commissioner determines that the operation of the program under the proposed project description does not pose a risk to the environment or public health.

*(Water Pollution Control Board; 327 IAC 6.1-5-3; filed May 15, 1998, 10:20 a.m.: 21 IR 3802; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 48. 327 IAC 6.1-5-4 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-5-4 Marketing and distribution permits; general**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2-77; IC 13-30-2-1

Sec. 4. (a) Any person who prepares a biosolid or industrial waste product and that holds a marketing and distribution permit shall comply with the following:

- (1) All permit conditions.
- (2) The person who prepares a biosolid or industrial waste product shall develop and distribute an information sheet that includes the following:
  - (A) The name and address of the person who prepared the biosolid or industrial waste product that is marketed or distributed for application to the land.
  - (B) A statement that application of the biosolid or industrial waste product is prohibited, except in accordance with the instructions on the information sheet.
  - (C) Quality criteria based on current analytical data for the biosolid or industrial waste product.
  - (D) Recommended maximum application rates based upon nutrient content.
  - (E) For the information sheet for an industrial waste product or a biosolid containing an industrial waste product containing more than two (2) milligrams per kilogram cadmium, a statement that the soil pH must be at least 6.5 when applied to land for food crops.
  - (F) For the information sheet for a biosolid or an industrial waste product containing more than forty (40) milligrams per kilogram of molybdenum, a statement that the biosolid or the industrial waste product must not be applied to pasture.**
- (3) This information sheet must be:
  - (A) kept on file for the duration of the permit and for five (5) years following the expiration of the permit;
  - (B) updated quarterly or as specified in the permit; and
  - (C) be accessible to department representatives at the facility or other location approved by the commissioner.
- (4) Each person who prepares a biosolid or industrial waste product is responsible for informing users of a biosolid or industrial waste product of the biosolid or industrial waste product quality and proper amounts for specific needs.
- (5) Annual reports must be submitted on forms and in a format prescribed by the commissioner by January 31 of each **subsequent** year. ~~the material is generated, distributed, or marketed. In addition to an updated copy of the information sheet to be distributed with the material;~~ The report must include the following information:
  - (A) The biosolid or industrial waste product ~~quality and quantity generated;~~ **distributed or marketed.**
  - ~~(B) The name and address of recipients of more than one (1) metric ton per calendar quarter.~~
  - (B) An updated copy of the information sheet to be distributed with the biosolid or industrial waste**

**product.**

**(C) The analytical data required under subsection (b).**

(b) The person who prepares a biosolid or industrial waste product under a marketing and distribution permit shall collect and analyze representative samples for the parameters listed in 327 IAC 6.1-4-16(e) and 327 IAC 6.1-4-16(i) at the applicable frequency listed in Table 6 in 327 IAC 6.1-4-16(f), except for biosolid or industrial waste product in quantities of less than ~~one hundred (100)~~ **three hundred nineteen (319)** dry tons per three hundred sixty-five (365) day period that must be monitored at least twice per year.

(c) The person who prepares a biosolid or industrial waste product under a marketing and distribution permit in ~~327 IAC 6.1-5~~ **this rule** shall develop the following information and shall retain the information for five (5) years:

- (1) Analyses conducted in accordance with ~~327 IAC 6.1-5-4(b)~~ **subsection (b)**.
- (2) A certification statement on forms prescribed by the commissioner.
- (3) A description of how the Class A pathogen requirements in ~~section 13(b) of this rule~~ **327 IAC 6.1-4-13(b)** are met.
- (4) A description of how one (1) of the vector attraction reduction requirements in ~~section 15(b)(1) through 15(b)(8) of this rule~~ **is 327 IAC 6.1-4-15(b)(1) through 327 IAC 6.1-4-15(b)(8)** are met.
- (5) Copies of all written notifications for noncomplying use of the ~~material~~ **biosolid or industrial waste product** that have been sent to ~~end~~ users.

**(6) The name and address of recipients of more than one (1) metric ton per calendar quarter.**

*(Water Pollution Control Board; 327 IAC 6.1-5-4; filed May 15, 1998, 10:20 a.m.: 21 IR 3803; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 49. 327 IAC 6.1-6-1 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-6-1 Notification eligibility criteria**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 1. (a) For an agricultural lime substitute to be eligible for the notification program under this rule, the following criteria must be met:

- (1) Be an agricultural lime substitute that has greater than fifty percent (50%) calcium carbonate equivalency (**CCE**) or that has a calculated adjusted lime rate of two (2) tons per acre or less using a recommended agricultural lime rate of one (1) ton per acre and a depth factor of seventy-five hundredths (0.75).
- (2) Contain no biosolid.
- (3) Pollutant concentrations are less than the concentrations in ~~Table 1 in 327 IAC 6.1-4-9(a)~~ and Table 3 in 327 IAC 6.1-4-9(c).
- ~~(4) Be dewatered.~~
- ~~(5)~~ **(4)** Must not contain a concentration of polychlorinated biphenyls (PCBs) of two (2) milligrams per kilogram or greater on a dry weight basis.

(b) For purposes of this article, agricultural lime substitute does not include the following:

- (1) Unprocessed fly ash.
- (2) Cement kiln dust.
- (3) Alum sludges from water treatment facilities.

*(Water Pollution Control Board; 327 IAC 6.1-6-1; filed May 15, 1998, 10:20 a.m.: 21 IR 3804; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 50. 327 IAC 6.1-6-2 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-6-2 Agricultural lime substitute notifications; general**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 2. (a) The person who prepares an agricultural lime substitute under the notification program shall submit a written notification to the commissioner of the activity:

- (1) at least thirty (30) days before initial application of the agricultural lime substitute; and
- (2) by January 31 of each subsequent year in which the agricultural lime substitute will be applied.

(b) The written notification must contain the following information:

- (1) The name and address of the person who prepares the agricultural lime substitute.
- (2) The name and address of the person who applies the agricultural lime substitute.
- (3) An analysis of the agricultural lime substitute **including that was obtained and analyzed within the previous three hundred sixty-five (365) days that includes** the following:
  - (A) Calcium carbonate equivalency (CCE)\*.
  - (B) The pollutants listed in ~~Table 1 of 327 IAC 6.1-4-9(a)~~; **Table 3 in 327 IAC 6.1-4-9(c)**.

(c) Unless notified by the commissioner within thirty (30) days after submitting a written notification, the person who prepares an agricultural lime substitute and that submitted the written notification may begin applying the agricultural lime substitute in compliance with this rule.

(d) Analyses for the following must be conducted ~~quarterly~~; **at the frequency in 327 IAC 6.1-4-16(f)**:

- (1) The pollutants listed in ~~Table 1 of 327 IAC 6.1-4-9(a)~~; **Table 3 in 327 IAC 6.1-4-9(c)**.
- (2) The percent passing mesh size\*.
- (3) The calcium carbonate equivalency (CCE)\*.

(e) The person who prepares an agricultural lime substitute and that is operating under the notification program shall maintain records of the following information for five (5) years and report to the commissioner the following information by January 31 of each **subsequent** year in which agricultural lime substitute was applied:

- (1) The results of analyses in subsection (d).
- (2) The quantity of the ~~material~~ **agricultural lime substitute** applied during the previous year.

\*Methods for the percent passing mesh size and calcium carbonate equivalency may be found in ~~Agricultural~~ **Agricultural Liming Materials**, Frank Johnson, Associate Chapter Editor, National Fertilizer Development Center, Tennessee Valley Authority, Official Methods of Analysis, Association of Official Analytical Chemists, Agricultural Chemicals; Contaminants; Drugs, Volume One, 15th Edition, 1990. Edited by Kenneth Helrich, available from the Association of Official Analytical Chemists, Inc., Suite 400, 2200 Wilson Boulevard, Arlington, Virginia 22201. This method is also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management~~; **Land Quality**, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-6-2; filed May 15, 1998, 10:20 a.m.: 21 IR 3804; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 51. 327 IAC 6.1-6-3 IS AMENDED TO READ AS FOLLOWS:

### **327 IAC 6.1-6-3 Agricultural lime substitute application**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 3. Agricultural lime substitute ~~may not~~ **must** be **evenly** applied ~~in excess of~~ **at rates based on** the adjusted lime rate as determined by Equation 4 as follows:

Equation 4:

$$\text{Adjusted Lime Rate} = \text{RALR} \times \text{FF} \times \text{NF} \times \text{DF}$$

Where:

RALR	=	Recommended agricultural lime rate <b>derived</b> from the soil analysis <del>of report for</del> the application site.
FF	=	Fineness factor.
NF	=	Neutralizing factor.

DF = Depth factor.

Mesh Size	Percent	Passing	Mesh	Size	Fineness Factor (FF)
	8	20	60	100	
	100	100	100	100	.60
	100	100	95	80	.63
	100	95	70	60	.76
	95	70	50	40	1.00
	85	60	40	30	1.19
	80	50	30	20	1.45
	80	45	20	10	1.77
	80	40	15	5	2.03

CCE*	Neutralizing Factor (NF)
110-119	.83
100-109	.90
90-99	1.00
80-89	1.12
70-79	1.27
60-69	1.46
50-59	1.73
40-49	2.00

\*CCE = Calcium Carbonate Equivalency

Plowing Depth (Inches)	Depth Factor (DF)
2	.25
0-4	.50
>4-6	.75
>6-8	1.00
>8-10	1.25
>10-12	1.50

(Water Pollution Control Board; 327 IAC 6.1-6-3; filed May 15, 1998, 10:20 a.m.: 21 IR 3804; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)

SECTION 52. 327 IAC 6.1-7-1 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-7-1 Pollutant-bearing water land application**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
 Affected: IC 13-11-2-77; IC 13-30-2-1

Sec. 1. (a) Land application or injection of pollutant-bearing water must be conducted under the supervision of:

- (1) a certified wastewater treatment plant operator licensed under 327 IAC 8; or
- (2) a person with at least one (1) year of experience in land application management practices and procedures **as demonstrated by specific facts contained in a signed affidavit.**

Notice must be submitted to the commissioner of any change in supervisor of the activity **within thirty (30) days.**

(b) Any application of domestic wastewater or industrial process wastewater to the land is prohibited unless a valid site-specific land application permit in accordance with 327 IAC 6.1-1-3(b) has been obtained from the commissioner prior

to the application of the domestic wastewater or industrial process wastewater.

(c) Any person who prepares industrial storm water that exceeds any of the pollutant concentrations in Table 10 of subsection (d) shall obtain a permit under subsection (b).

(d) Industrial storm water that exceeds any of the pollutant concentration limits in Table 10 is subject to this rule:

Table 10  
Pollutant Concentrations  
for Industrial Storm Water

Pollutant	mg/l
Arsenic	0.07
Cadmium	0.06
Copper	2.57
Lead	0.51
Mercury	0.02
<b>Molybdenum</b>	<b>0.06</b>
Nickel	0.72
Selenium	0.17
Zinc	4.80

**(e) Land application of pollutant-bearing water is excluded from any other requirements of this rule as long as the following are applicable:**

- (1) Meets the requirements for notification under 327 IAC 6.1-7.5-1.**
- (2) Applies at a rate of less than two hundred fifty thousand (250,000) gallons per year.**
- (3) Applies at a rate of less than five thousand (5,000) gallons per acre per week.**
- (4) Applies at a rate of less than fifty thousand (50,000) gallons per acre per year.**
- (5) Applies a pollutant-bearing water that contains less than or equal to one thousand (1,000) pounds per million gallons of plant available nitrogen. Plant available nitrogen is calculated using the formula in subsection (f).**
- (6) Is not a domestic wastewater.**
- (7) Does not exceed pollutant concentration in Table 10 in subsection (d).**

**(f) The following formula for plant available nitrogen must be used to calculate the amount of plant available nitrogen required by subsection (e)(5):**

**Where:**

$$\text{Total N} = \text{Total Kjeldahl N} + \text{Nitrate N.}$$

$$\text{Organic N} = \text{Total N} - (\text{Ammonia N} + \text{Nitrate N}).$$

$$\text{Pounds Organic N} = \text{Organic N} \times 2.5.$$

$$\text{Pounds of Ammonia N} = \text{Ammonia N} \times 8.34.$$

$$\text{Pounds of Nitrate N} = \text{Nitrate N} \times 8.34.$$

$$\text{Plant available nitrogen} = \text{Pounds of Organic N} + \text{Pounds of Ammonia N} + \text{Pounds of Nitrate N.}$$

*(Water Pollution Control Board; 327 IAC 6.1-7-1; filed May 15, 1998, 10:20 a.m.: 21 IR 3805; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 53. 327 IAC 6.1-7-2 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-7-2 Pollutant-bearing water application on land with a high potential for public exposure**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 2. (a) Pollutant-bearing water applied to land with a high potential for public exposure must be treated by subdivisions (1) and (2) in the following order before being applied to the land:

(1) Secondary treatment and any additional treatment necessary to produce effluent in which both BOD is less than or equal to ten (10) milligrams per liter and suspended solids do not exceed five (5) milligrams per liter and that must include:

- (A) activated sludge processes;
- (B) trickling filters;
- (C) rotating biological contactors;
- (D) stabilization pond systems; or
- (E) other secondary treatment approved by the commissioner in the permit.

(2) For domestic wastewater, disinfection by:

- (A) chlorination;
- (B) ozonation;
- (C) chemical disinfectants;
- (D) UV radiation; **irradiation**;
- (E) membrane processes; or
- (F) other processes approved by the commissioner in the permit.

(b) Pollutant-bearing water to be applied to land with a high potential for public exposure must meet the following water quality criteria at the time of application:

- (1) The pH must be between 6 and 9 standard units.
- (2) The BOD must be less than or equal to ten (10) milligrams per liter as determined from the five (5) day BOD test.
- (3) For domestic wastewater, suspended solids must not exceed five (5) milligrams per liter averaged over a twenty-four (24) hour period prior to disinfection.
- (4) For domestic wastewater, analysis for fecal coliform using Part 9221 E\* or Part 9222 D\* must include the following:
  - (A) Using values determined from the bacteriological results of the last seven (7) days for which analyses have been completed:
    - (i) no detectable fecal coliform is found using the median value; and
    - (ii) the number of fecal coliform organisms must not exceed fourteen (14) per one hundred (100) milliliters in any sample.
  - (B) Analysis must be completed using one (1) of the following:
    - (i) Membrane filter technique.
    - (ii) Fermentation tube technique.
- (5) If chlorination is used as the means of disinfection, the total chlorine residual after a minimum contact time of thirty (30) minutes must be at least one (1) milligram per liter.
- (6) All applicable permit conditions.

(c) Monitoring for pollutant-bearing water to be applied to land with a high potential for public exposure must be completed no less frequently than the following:

- (1) pH must be monitored at least weekly.
- (2) BOD must be monitored at least weekly.
- (3) For domestic wastewater, suspended solids must be monitored daily.
- (4) For domestic wastewater, coliform must be monitored daily.
- (5) For domestic wastewater, residual chlorine must be monitored daily.
- (6) Pollutants listed in ~~Table 2 in 327 IAC 6.1-4-9(b)~~ **Table 10 in section 1(d) of this rule** must be monitored at least annually **prior to initiation of land application.**

(7) Monitoring at least monthly is required for the following:

- (A) Total nitrogen.
- (B) ~~Ammonium~~ **Ammonia** nitrogen.
- (C) Nitrate nitrogen.
- (D) Phosphorus.
- (E) Potassium.

**(8) PCBs must be monitored at least annually.**

\*Part 9221 E and Part 9222 D may be found in "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, available from American Public Health Association, 1015 15th Street, N.W., Washington, D.C. 20005. This method is also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management~~, **Land Quality**, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-7-2; filed May 15, 1998, 10:20 a.m.: 21 IR 3805; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 54. 327 IAC 6.1-7-3 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-7-3 Domestic wastewater application on land with a low potential for public exposure**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-11-2-77; IC 13-30-2-1

Sec. 3. (a) Domestic wastewater to be applied to land with a low potential for public exposure must be treated by subdivisions (1) and (2) in the following order before application:

(1) Secondary treatment to produce effluent that has both BOD and suspended solids that do not exceed thirty (30) milligrams per liter and which must include:

- (A) activated sludge processes;
- (B) trickling filters;
- (C) rotating biological contactors;
- (D) stabilization pond systems; or
- (E) other secondary treatment approved by the commissioner in the permit.

(2) Disinfection by:

- (A) chlorination;
- (B) ozonation;
- (C) chemical disinfectants;
- (D) ~~UV radiation~~; **irradiation**;
- (E) membrane processes; or
- (F) other processes approved by the commissioner in the permit.

(b) Domestic wastewater to be applied to land with a low potential for public exposure must meet the following water quality criteria at the time of application:

(1) The pH must be between 6 and 9 standard units.

(2) The BOD must be less than or equal to thirty (30) milligrams per liter as determined from the five (5) day BOD test.

(3) Less than or equal to thirty (30) milligrams per liter suspended solids.

(4) The analysis for fecal coliform using Part 9221 E\* and Part 9222 D\* must include the following using values determined from the bacteriological results of the last seven (7) days for which analyses have been completed:

- (A) The median fecal coliform level must be less than or equal to two hundred (200) fecal coliform per one hundred (100) milliliters.
- (B) The number of fecal coliform organisms must not exceed eight hundred (800) per one hundred (100) milliliters in any sample.

(5) If chlorination is used as the means of disinfection, the total chlorine residual after a minimum contact time of thirty (30) minutes must be at least one (1) milligram per liter.

**(c) Monitoring for suspended solids under subsection (e)(3), the suspended solids limits under subsection (b)(3),**

and the requirement to disinfect under subsection (a)(2) may be waived by the commissioner in the permit for multi-celled stabilization pond systems approved by the commissioner may be used to meet coliform limits without the use of disinfection with a minimum of one hundred twenty (120) days retention time. The waiver is conditional and only applies if the limits for fecal coliforms under subsection (b)(4)(A) are not exceeded. If the fecal coliform limit is exceeded under subsection (b)(4)(A), the permit waiver is invalidated, disinfection under subsection (a)(2) and monitoring of suspended solids under subsection (e)(3) must commence and the suspended solid limits under subsection (b)(3) apply immediately.

(d) **If specified in the permit**, no restrictions are placed on fecal coliform organisms in domestic wastewater for land application on land to which public access is strictly restricted and food crops are not grown.

(e) Monitoring for domestic wastewater to be applied to land with a low potential for public exposure must be completed no less frequently than the following:

- (1) pH must be monitored at least weekly.
- (2) BOD must be monitored at least weekly.
- (3) Suspended solids must be monitored daily.
- (4) Coliform must be monitored daily **unless subsection (d) applies**.
- (5) Residual chlorine must be monitored daily.
- (6) Pollutants listed in ~~Table 2 of 327 IAC 6.1-4-9(b)~~ **Table 10 in section 1(d) of this rule** must be monitored at least annually **prior to initiation of land application**.
- (7) Monitoring at least monthly is required for the following:
  - (A) Total nitrogen.
  - (B) ~~Ammonium~~ **Ammonia** nitrogen.
  - (C) Nitrate nitrogen.
  - (D) Phosphorus.
  - (E) Potassium.

**(8) PCBs must be monitored at least annually.**

\*Part 9221 E and Part 9222 D may be found in "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, available from American Public Health Association, 1015 15th Street, N.W., Washington, D.C. 20005. This method is also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management~~, **Land Quality**, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-7-3; filed May 15, 1998, 10:20 a.m.: 21 IR 3806; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 55. 327 IAC 6.1-7-4 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-7-4 Industrial process wastewater and storm water application on land with a low potential for public exposure**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-30-2-1

Sec. 4. (a) Industrial process wastewater and industrial storm water to be applied to land with a low potential for public exposure must have a pH between 6 and 9 standard units.

(b) Monitoring for industrial process wastewater and industrial storm water to be applied to land with a low potential for public exposure must be completed no less frequently than the following:

- (1) pH must be monitored at least weekly.
- (2) BOD must be monitored at least weekly.
- (3) Volatile solids must be monitored at least weekly using Part 2540 G\*.
- (4) Pollutants listed in ~~Table 3 of 327 IAC 6.1-4-9(c)~~ **Table 10 in section 1(d) of this rule** must be monitored at least annually **prior to initiation of land application**.
- (5) Monitoring at least monthly is required for the following:

- (A) Total nitrogen.
- (B) ~~Ammonium~~ **Ammonia** nitrogen.
- (C) Nitrate nitrogen.
- (D) Phosphorus.
- (E) Potassium.

**(6) PCBs must be monitored at least annually.**

\*Part 2540 G may be found in "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, available from American Public Health Association, 1015 15th Street, N.W., Washington, D.C. 20005. This method is also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management~~, **Land Quality**, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-7-4; filed May 15, 1998, 10:20 a.m.: 21 IR 3807; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 56. 327 IAC 6.1-7-5 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-7-5 Site restrictions**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
 Affected: IC 13-11-2-77; IC 13-30-2-1

Sec. 5. (a) Pollutant-bearing water to be **surface** applied to land must be applied at least:

- (1) two hundred (200) feet from potable water supply wells or drinking water springs;
- (2) three hundred (300) feet from any **surface waters of the state or the surface conduit to a subsurface feature;** and
- (3) three hundred (300) feet from any residence.

**(b) Pollutant-bearing water to be applied beneath the surface must be applied at least:**

- (1) two hundred (200) feet from potable water supply wells or drinking water springs; and**
- (2) thirty-three (33) feet from any surface waters or the surface conduit to a subsurface feature.**

~~(b)~~ (c) The soil pH must be 5.5 or greater at the time the pollutant-bearing water is applied unless the commissioner determines that the soil pH should be higher to protect the environment or public health. **The soil pH value shall be:**

- (1) obtained by sampling the soil to the depth of cultivation or depth of placement of the pollutant-bearing water, whichever is greater;**
- (2) analyzed by the electrometric method\*;**
- (3) collected as one (1) representative composite sample per every twenty-five (25) acres or fraction thereof within the application site; and**
- (4) valid only if the analyses were performed within the last two (2) years of the date of application on the site.**

~~(c)~~ (c) Using soil survey data established by USDA Natural Resource Conservation Service, application of pollutant-bearing water is prohibited if:

- ~~(1)~~ (1) the seasonal high water table is within eighteen (18) inches of the soil surface; or
- ~~(2)~~ (2) the seasonal high water table is:
  - ~~(A)~~ (A) within thirty-six (36) inches of the soil surface; and
  - ~~(B)~~ (B) any soil layer between eighteen (18) inches and thirty-six (36) inches below the surface has a permeability of greater than two (2) inches per hour.

(d) Pollutant-bearing water must not be applied to land unless there is a minimum depth of twenty (20) inches of soil overlying bedrock.

(e) **Surface** application of pollutant-bearing water on slopes greater than six percent (6%) is prohibited.

\*The electrometric method may be found in "Methods of Soil Analysis, Agronomy Monograph No. 9.", C.A. Black, ed., American Society of Agronomy, Madison, Wisconsin, pp. 199-209, 1982, available from the American

**Society of Agronomy, Soil Science of America, Inc., 677 South Segoe Road, Madison, Wisconsin 53711. This method is also available for copying at the Indiana Department of Environmental Management, Office of Land Quality, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204.** (*Water Pollution Control Board; 327 IAC 6.1-7-5; filed May 15, 1998, 10:20 a.m.: 21 IR 3807; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 57. 327 IAC 6.1-7-6 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-7-6 Management practices**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-11-2-77; IC 13-30-2-1; IC 14-20-1; IC 14-22-34

Sec. 6. (a) Food crops shall not be harvested for fourteen (14) months after land application of domestic wastewater if the harvested part:

- (1) touches the ground where domestic wastewater has been land applied; and
- (2) has no harvested parts below the soil surface.

(b) Food crops shall not be harvested for thirty-eight (38) months after land application of domestic wastewater if harvested parts are below the soil surface.

(c) Unless subsection (a) or (b) applies, food crops, feed crops, and fiber crops shall not be harvested for thirty (30) days after land application of domestic wastewater.

(d) **Except for domestic wastewater applied in accordance with section 2 of this rule**, turf grown on land where domestic wastewater is land applied shall not be harvested for one (1) year after application of the domestic wastewater if the harvested turf is placed on ~~either~~ land with a high potential for public exposure. ~~or a lawn unless otherwise approved by the commissioner.~~

(e) Public access to land with a low potential for public exposure shall be restricted for thirty (30) days after land application of domestic wastewater to that land.

(f) Grazing of animals on land that has received domestic wastewater is prohibited for thirty (30) days after application of the domestic wastewater.

(g) Pollutant-bearing water shall not be applied to the land:

- (1) if the pollutant-bearing water is likely to adversely affect a threatened or endangered species or its designated critical habitat; or
- (2) in violation of ~~endangered species regulations~~ at IC 14-22-34.

(h) Pollutant-bearing water shall not be applied to the land in violation of historic preservation requirements under IC 14-20-1. ~~or 310 IAC 15-3.~~

(i) Application of pollutant-bearing water is prohibited if the moisture holding capacity of the soil is exceeded. ~~as a result of previous land application practices; precipitation occurrences; or flooding.~~

(j) Pollutant-bearing water may only be applied to **the surface of** land that is frozen or snow-covered if:

- (1) the pollutant-bearing water does not enter a wetland, ~~or other surface waters, of the state or ground water;~~ and
- (2) a management plan has been submitted and approved by the commissioner, including the following:

(A) ~~Setbacks~~ **Setback distances from residences and public buildings, surface waters, wells, and other structures.**

(B) Application rates.

(C) Site characteristics, **including the following:**

(i) **Flood plains.**

(ii) **Slope.**

- (D) Supervision and operational oversight.
- (E) Other applicable information **to show that the land application will not violate this article.**

(k) Pollutant-bearing water may only be applied in a flood plain if the pollutant-bearing water does not enter a wetland, ~~or other surface waters, of the state or ground water.~~ (Water Pollution Control Board; 327 IAC 6.1-7-6; filed May 15, 1998, 10:20 a.m.: 21 IR 3808; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)

SECTION 58. 327 IAC 6.1-7-9 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-7-9 Storage of pollutant-bearing water for application**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
 Affected: IC 13-11-2-77; IC 13-30-2-1

Sec. 9. (a) A minimum of ninety (90) days effective storage capacity is required for a pollutant-bearing water unless an equivalent method of meeting the requirement is approved by the commissioner.

(b) Except for ~~earthen~~ lagoons under 327 IAC 6.1-8, any storage structures ~~such as pits or tanks, which that~~ are subject to volume fluctuations due to precipitation events, must have a minimum of one (1) foot of freeboard at all times.

(c) ~~A construction permit must be obtained from the commissioner under 327 IAC 3 prior to construction of Storage structures located at the treatment works that generates the for the storage of pollutant-bearing water must be approved, constructed, installed, maintained, and closed in accordance with 327 IAC 6.1-8.~~

(d) ~~Off-site storage structures for the storage of pollutant-bearing water must be constructed and maintained in accordance with 327 IAC 6.1-8. (Water Pollution Control Board; 327 IAC 6.1-7-9; filed May 15, 1998, 10:20 a.m.: 21 IR 3809; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)~~

SECTION 59. 327 IAC 6.1-7-10 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-7-10 Loading rates**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
 Affected: IC 13-11-2-77; IC 13-30-2-1

Sec. 10. (a) Maximum loading rates are determined for the pollutant-bearing water to be applied on the basis of the following parameters:

- (1) Hydraulic loads must not exceed the rates established in Table 11 as follows and a rate of two (2) inches per seven (7) day period:

Table 11  
 Maximum Application Rates  
 Application Rate in Inches per Hour

Textural Class	Grass Sod	Cultivated
Sand	1.5	0.8
Loamy sand	1.3	0.7
Sandy loam	0.9	0.5
Fine sandy loam	0.8	0.5
Loam	0.7	0.4
Silt loam	0.7	0.4
Clay loam	0.6	0.3
Clay	0.5	0.2
Organic soils (muck)	1.0	1.0

(2) Organic loading for industrial process wastewaters must not exceed the following:

- (A) One thousand four hundred (1,400) pounds per acre per week of **total** volatile solids as determined using Part

2540 G\*.

(B) Nine hundred thirty-three (933) pounds per acre per week of BOD as determined by a five (5) day BOD test.

(C) The commissioner may approve a higher loading rate if the commissioner determines that adequate documentation has been presented to show effective operation at higher loading rates.

(3) Available nitrogen loadings must not exceed either of the following:

(A) The limits in Table 5 in 327 IAC 6.1-4-10(a)(1)(A) for crop production as determined using the methodology for calculating available and residual nitrogen values in subsection (b).

(B) The nitrogen removal rate for the proposed crop to be grown on the land application site adjusted to account for application of fertilizers and manure and the presence of residual available nitrogen in the soil from previous applications of a biosolid, industrial waste product, or pollutant-bearing water.

(4) Phosphorus loading requirements may be included as a permit condition if the commissioner determines it is necessary for protection of public health or the environment.

(5) Annual heavy metal loadings must not exceed the limits in Table 4 in 327 IAC 6.1-4-9(d).

**(6) Cumulative heavy metal loading must not exceed the limits in Table 2 in 327 IAC 6.1-4-9(b).**

(b) The following formulas for PAN loading calculations apply to this article and must be used to calculate the amount of PAN in the pollutant-bearing water and the residual available nitrogen at the application site; all calculations are based on a wet weight basis in milligrams per liter:

(1) Total N = Total Kjeldahl N + Nitrate N

(2) Organic N = Total N - ~~(Ammonium~~ **Ammonia** N + Nitrate N)

(3) Pounds Organic N applied per acre =

$$\frac{(\text{Organic N}) \times (\text{gallons applied}) \times (8.34)}{(3.33) \times (1,000,000) \times (\text{acres applied to})}$$

(4) Pounds of ~~Ammonium~~ **Ammonia** N applied per acre =

$$\frac{(\text{Ammonium } (\text{Ammonia N}) \times (\text{gallons applied}) \times (8.34)}{(1,000,000) \times (\text{acres applied to})}$$

(5) Pounds of Nitrate N applied per acre =

$$\frac{(\text{Nitrate N}) \times (\text{gallons applied}) \times (8.34)}{(1,000,000) \times (\text{acres applied to})}$$

(6) Pounds PAN applied per acre = Pounds of Organic N applied per acre + Pounds of ~~Ammonium~~ **Ammonia** N applied per acre + Pounds of Nitrate N applied per acre

(7) Residual nitrogen from past biosolid or industrial waste products applications:

(A) Pounds of residual N available per acre after one (1) year =

$$\frac{(\text{Organic N}) \times (\text{gallons applied}) \times (8.34)}{(6.67) \times (1,000,000) \times (\text{acres applied to})}$$

(B) Pounds of residual N available per acre after two (2) years =

$$\frac{(\text{Organic N}) \times (\text{gallons applied}) \times (8.34)}{(12.5) \times (1,000,000) \times (\text{acres applied to})}$$

(C) Pounds of residual N available per acre after three (3) years =

$$\frac{(\text{Organic N}) \times (\text{gallons applied}) \times (8.34)}{(25) \times (1,000,000) \times (\text{acres applied to})}$$

Where: N = Nitrogen.

\*Part 2540 G may be found in "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, available from American Public Health Association, 1015 15th Street, N.W., Washington, D.C. 20005. This method is also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management~~, **Land Quality**, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-7-10; filed May 15, 1998, 10:20 a.m.: 21 IR 3809; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 60. 327 IAC 6.1-7-11 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-7-11****Records and record keeping**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-14-4-3; IC 13-15-2

Sec. 11. (a) Information regarding application rates and site conditions must be recorded daily or as otherwise specified in the permit by the person who prepares a pollutant-bearing water.

(b) The person who prepares a pollutant-bearing water shall record the applicable monitoring results and information required by sections 2(c), 3(e), and 4(b) of this rule. Such records must be:

- (1) retained by the person who prepares the pollutant-bearing water for:
  - (A) a minimum of five (5) years; or
  - (B) a longer time if required by the commissioner; and
- (2) accessible to department representatives at the facility or other location approved by the commissioner.

(c) For pollutant-bearing water that is applied to any land application site under ~~327 IAC 6.1-7~~, **this rule**, the following applies:

- (1) The person who prepares the pollutant-bearing water shall retain the information in subdivision (3)(E), provided by the person who applies the pollutant-bearing water, for five (5) years.
- (2) The person who prepares the pollutant-bearing water shall develop the following information and shall retain the information indefinitely:
  - (A) The cumulative amount of each pollutant in pounds per acre listed in Table 2 in 327 IAC 6.1-4-9(b) in the pollutant-bearing water applied to each site.
  - (B) The information in subdivision (3)(A) through (3)(D) provided by the person who applies the pollutant-bearing water.
- (3) For each day of land application of the pollutant-bearing water, the person who applies the pollutant-bearing water shall develop the following information and provide it to the person who prepares the pollutant-bearing water:
  - (A) The location, indicated on a site map, of each site that the pollutant-bearing water is applied.
  - (B) The number of acres to which pollutant-bearing water is applied.
  - (C) The date the pollutant-bearing water is applied to each site.
  - (D) The amount of pollutant-bearing water in gallons applied to each site.
  - (E) A description of how the site restrictions in section 5 of this rule and the management practices in section 6 of this rule are met for each site on which pollutant-bearing water is applied.

*(Water Pollution Control Board; 327 IAC 6.1-7-11; filed May 15, 1998, 10:20 a.m.: 21 IR 3810; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 61. 327 IAC 6.1-7.5 IS ADDED TO READ AS FOLLOWS:

**Rule 7.5. Small Quantity Generators–Pollutant-Bearing Water**

**327 IAC 6.1-7.5-1****Requirements for small quantity generator notification**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
**Affected:** IC 13-11-2-77; IC 13-30-2-1

**Sec. 1. Land application of pollutant-bearing water that is excluded under 327 IAC 6.1-7-1(e) must comply with the following requirements:**

- (1) **The person who prepares shall submit a written notification to the commissioner of the activity as follows:**
  - (A) **At least thirty (30) days before initial application of the pollutant-bearing water.**
  - (B) **Annually by January 31 of each subsequent year in which the pollutant-bearing water will be applied.**
  - (C) **The written notification on forms provided by the commissioner must contain the following information:**
    - (i) **The name and address of the person who prepares.**
    - (ii) **The name and address of the person who applies.**

- (iii) An analysis of the pollutant-bearing water that was completed within the past three hundred sixty-five (365) days, including the following:
    - (AA) Total nitrogen.
    - (BB) Ammonia nitrogen.
    - (CC) Nitrate nitrogen.
    - (DD) Phosphorus.
    - (EE) Potassium.
    - (FF) BOD.
    - (GG) Volatile solids.
    - (HH) pH.
    - (II) The pollutants listed in Table 10 of 327 IAC 6.1-7-1(d).
  - (iv) Location and specification of land application sites.
- (D) Unless notified by the commissioner within thirty (30) days after submitting a written notification, the person who prepares the pollutant-bearing water and that submitted the written notification may begin applying the pollutant-bearing water in compliance with this rule.
- (2) The person who prepares a pollutant-bearing water operating under this exclusion shall do the following:
  - (A) Retain all records regarding the pollutant-bearing water for:
    - (i) a minimum of five (5) years; or
    - (ii) a longer time if required by the commissioner.
  - (B) Provide for the records to be accessible to department representatives at the facility or other location approved by the commissioner.
  - (C) Record the applicable monitoring results and information for the pollutant-bearing water.
  - (D) For each day of land application of the pollutant-bearing water, the person who applies the pollutant-bearing water shall develop the following information and provide it to the person who prepares the pollutant-bearing water:
    - (i) The location, indicated on a site map, of each site that the pollutant-bearing water is applied.
    - (ii) The number of acres to which pollutant-bearing water is applied.
    - (iii) The date the pollutant-bearing water is applied to each site.
    - (iv) The amount of pollutant-bearing water in gallons applied to each site.
- (3) The person who prepares a pollutant-bearing water operating under this notification shall report activities and analyses related to land application of pollutant-bearing water to the commissioner within thirty (30) days of the last day of each month on forms provided by the commissioner.
- (4) Pollutant-bearing water to be applied to land must be applied at least:
  - (A) two hundred (200) feet from potable water supply wells or drinking water springs;
  - (B) three hundred (300) feet from any surface waters or the surface conduit to a subsurface feature; and
  - (C) six hundred sixty (660) feet from any residence.
- (5) The soil pH must be 5.5 or greater at the time the pollutant-bearing water is applied unless the commissioner determines that the soil pH should be higher to protect the environment or public health. The soil pH value shall be:
  - (A) obtained by sampling the soil to the depth of cultivation or depth of placement of the pollutant-bearing water, whichever is greater;
  - (B) analyzed by the electrometric method\*;
  - (C) collected as one (1) representative composite sample per every twenty-five (25) acres or fraction thereof within the application site; and
  - (D) valid only if the analyses were performed within the last two (2) years of the date of application on the site.
- (6) Pollutant-bearing water must not be applied to land unless there is a minimum depth of twenty (20) inches of soil overlying bedrock.
- (7) Application of pollutant-bearing water on slopes greater than six percent (6%) is prohibited.
- (8) For pollutant-bearing water, the following:
  - (A) A minimum of ninety (90) days effective storage capacity is required for a pollutant-bearing water

unless an equivalent method of meeting the requirement is approved by the commissioner.

(B) Except for lagoons under 327 IAC 6.1-8, any storage structures, which are subject to volume fluctuations due to precipitation events, must have a minimum of one (1) foot of freeboard at all times.

(C) Storage structures for the storage of pollutant-bearing water must be constructed, installed, maintained, and closed in accordance with 327 IAC 6.1-8.

\*The electrometric method may be found in "Methods of Soil Analysis, Agronomy Monograph No. 9.", C.A. Black, ed., American Society of Agronomy, Madison, Wisconsin, pp. 199-209, 1982, available from the American Society of Agronomy, Soil Science of America, Inc., 677 South Segoe Road, Madison, Wisconsin 53711. This method is also available for copying at the Indiana Department of Environmental Management, Office of Land Quality, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. (*Water Pollution Control Board; 327 IAC 6.1-7.5-1*)

SECTION 62. 327 IAC 6.1-8-1 IS AMENDED TO READ AS FOLLOWS:

### Rule 8. Storage Structures

#### 327 IAC 6.1-8-1 General requirements

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

Affected: IC 13-18-12

Sec. 1. (a) This rule applies to all ~~off-site~~ storage structures for the storage of biosolid, industrial waste product, or pollutant-bearing water unless permitted, **registered, or notified** under **any of the following programs**:

(1) The marketing and distribution program in 327 IAC 6.1-5. ~~or~~

~~(2) the notification program in 327 IAC 6.1-6.~~

**(2) A wastewater treatment plant permitted under 327 IAC 3.**

**(3) A solid waste processing facility permitted under 329 IAC 11.**

**(4) A composting facility registered under 329 IAC 14.**

**(5) A permitted land disposal facility under 329 IAC 10.**

(b) ~~Except for in subsection (e);~~ off-site Storage structures for the storage of biosolid, industrial waste product, or pollutant-bearing water must be constructed, installed, maintained, and closed in accordance with this rule.

~~(c) Construction, installation, and operation of underground storage tanks for the storage of biosolid, industrial waste product, or pollutant-bearing water must be done in accordance with 329 IAC 9.~~

~~(d) Earthen~~ (c) Lagoons must not be constructed for the ~~off-site~~ storage of biosolid, industrial waste product, or pollutant-bearing water except in accordance with sections 2 and 6 of this rule.

~~(e)~~ (d) Except for ~~earthen lagoons and off-site storage structures approved under~~ **designated by** subsection (f); ~~off-site~~ (e), storage structures for the storage of biosolid, industrial waste product, or pollutant-bearing water must be constructed or installed in compliance with this rule and with written notification to the commissioner **at least thirty (30) days** prior to construction or installation of the ~~off-site~~ storage structure, to include the following:

(1) The location, indicated on a site map, of each ~~off-site~~ storage structure.

(2) The name, address, and phone number of the property owner of all locations in subdivision (1).

(3) The name, address, and phone number of the person who prepares the biosolid, industrial waste product, or pollutant-bearing water to be stored at the locations.

(4) The design of the ~~off-site~~ storage structure.

(5) The capacity of the ~~off-site~~ storage structure.

(6) A description of the biosolid, industrial waste product, or pollutant-bearing water to be stored.

(f) (e) The notification requirement in subsection (e) (d) does not apply to ~~off-site~~ **any lagoons or to** storage structures that use alternatives to:

(1) the site restrictions listed in section 3 of this rule; or

(2) the construction performance standards listed in section 4 or 5 of this rule.

~~Off-site~~ Storage structures that use alternatives to the requirements listed in section 3, 4, or 5 of this rule must be **approved permitted** by the commissioner. **Lagoons must be permitted under section 2 of this rule.**

~~(g)~~ (f) **Unless permitted by the commissioner or notification was submitted prior to the effective date of this rule**, information about ~~off-site~~ storage structures, ~~except earthen lagoons; constructed on or before the effective date of this rule~~ must be submitted to the commissioner in a written notification that includes information in subsection ~~(e)(1)~~ (d)(1) through ~~(e)(5)~~ (d)(5) prior to use, or continued use, of the structure for the ~~off-site~~ storage of biosolid, industrial waste product, or pollutant-bearing water.

~~(h)~~ (g) Unless approved by the commissioner prior to the effective date of this rule, as-built plans for ~~earthen~~ lagoons ~~constructed on or before the effective date of this rule~~ must be submitted to the commissioner for ~~approval~~ **a permit**.

~~(i)~~ (h) A notification of ~~off-site storage structures~~ or a request for ~~approval for an earthen lagoon~~ **a permit for any storage structure under this rule** must be accompanied by a signed statement from either the person who prepares the biosolid, industrial waste product, or pollutant-bearing water or the property owner accepting responsibility for closure ~~and abandonment~~ in compliance with section 8 of this rule. (*Water Pollution Control Board; 327 IAC 6.1-8-1; filed May 15, 1998, 10:20 a.m.: 21 IR 3811; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 63. 327 IAC 6.1-8-2 IS AMENDED TO READ AS FOLLOWS:

### **327 IAC 6.1-8-2 Application procedures for permitting lagoons**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-18-12

Sec. 2. (a) Requests for ~~approval of an earthen~~ **a permit for a lagoon** must be submitted at least ~~ninety (90)~~ **one hundred eighty (180)** days prior to the intended date of construction.

(b) The ~~request for approval~~ **permit application** must be accompanied by plans, specifications, and sufficient information to indicate compliance with the requirements of this article. The applicant shall submit such additional information as may be required by the commissioner to make a determination.

(c) Plans and specifications for ~~earthen~~ lagoons must be certified by a ~~registered~~ professional engineer ~~licensed to practice~~ **registered** in Indiana. (*Water Pollution Control Board; 327 IAC 6.1-8-2; filed May 15, 1998, 10:20 a.m.: 21 IR 3811; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

SECTION 64. 327 IAC 6.1-8-3 IS AMENDED TO READ AS FOLLOWS:

### **327 IAC 6.1-8-3 Site restrictions for storage structures**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-18-12

Sec. 3. (a) ~~Off-site~~ Storage structures, except for ~~earthen~~ lagoons, must not be constructed or maintained:

- (1) within one thousand (1,000) feet of any residence or public building;
- (2) within three hundred (300) feet of any **surface waters of the state; or the surface conduit to a subsurface feature;**
- (3) within two hundred (200) feet of any well;
- (4) in a flood plain; and
- (5) in a manner that allows the biosolid, industrial waste product, or pollutant-bearing water to enter surface waters **or ground water.**

(b) ~~Earthen~~ Lagoons must not be constructed or maintained:

- (1) within one thousand (1,000) feet of any:

- (A) residence;
- (B) public building; ~~or~~ **and**
- (C) property line;
- (2) within six hundred (600) feet of any **surface** waters ~~of the state~~; **or the surface conduit to a subsurface feature**;
- (3) within two hundred (200) feet of any well;
- (4) in a flood plain; and
- (5) in a manner that allows the biosolid, industrial waste product, or pollutant-bearing water to enter surface waters **or ground water**.

(c) **The distance established in subsections (a)(1) and (b)(1) applies unless the written consent to shorten the distance is obtained from the property owner or the property owner and the dwelling occupant if the property owner and dwelling occupant are different persons. This written consent must be recorded as a notation on the deed to the property on which the storage structure is located or on some other instrument that is normally examined during title search.** (Water Pollution Control Board; 327 IAC 6.1-8-3; filed May 15, 1998, 10:20 a.m.: 21 IR 3811; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)

SECTION 65. 327 IAC 6.1-8-4 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-8-4 Performance standards and construction standards for storage structures for liquid biosolid or industrial waste product, and pollutant-bearing water**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
 Affected: IC 13-18-12; IC 25-31.5-4

Sec. 4. Except for ~~earthen~~ lagoons, ~~off-site~~ storage structures for liquid biosolid or industrial waste product and for pollutant-bearing water must be constructed and maintained in accordance with the following:

- (1) The structure material and wall thickness must be adequate to contain the contents.
- (2) Steel tanks must be coated to prevent corrosion.
- (3) Structures constructed of ~~other~~ materials **other than steel** must have prior approval of the commissioner and must be coated if necessary to prevent corrosion or afford further protection from leakage.
- (4) The ~~off-site~~ storage structures must be adequately anchored, supported, and bedded to provide structural safety and prevent its movement.
- (5) The structure must be supported by a concrete base.
- (6) The bottom of any ~~off-site~~ storage structure ~~constructed below the ground surface~~ must be at least two (2) feet above the ~~seasonal high water table and~~ bedrock.
- (7) The bottom of the storage structure must be at least two (2) feet above the water table. The depth to the water table must be determined using:
  - (A) soil survey data established by the USDA Natural Resource Conservation Service; or
  - (B) information obtained from a professional soil scientist registered under IC 25-31.5-4;
 unless it can be demonstrated that the water table has been or will be artificially lowered to two (2) feet or more from the bottom of the storage structure prior to use of the storage structure.
- ~~(7) (8)~~ Any discharge pipe from the ~~off-site~~ storage structure must be equipped with a water-tight valve and a sanitary cap or plug.
- ~~(8) (9)~~ The ~~off-site~~ storage structure must be of such construction or design as to allow inspection and sampling of the contents in the structure.
- ~~(9) (10)~~ The receiving or inlet facility or opening must be constructed or designed to prevent nuisance conditions, safety hazards, or the harborage and breeding of vectors.
- (11) The structure must be constructed to prevent leaks and seepage and prevent spills that could enter surface water or ground water.**

(Water Pollution Control Board; 327 IAC 6.1-8-4; filed May 15, 1998, 10:20 a.m.: 21 IR 3812; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)

SECTION 66. 327 IAC 6.1-8-5 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-8-5 Performance standards and construction standards for storage structures for dewatered biosolid and industrial waste product**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-18-12

Sec. 5. ~~The off-site~~ **Except for lagoons, a storage structure for dewatered biosolid or industrial waste product must:**  
(1) have an impermeable base designed to support the stored dewatered biosolid or industrial waste product and the equipment utilized in handling the ~~material~~; **stored dewatered biosolid or industrial waste product;**  
(2) have leak-proof side walls at least three (3) feet in height or as otherwise approved by the commissioner;  
(3) be designed and constructed to prevent contact with precipitation or to contain any contaminated storm water;  
(4) be of such construction or design as to allow inspection and sampling of the contents; ~~and~~  
(5) be constructed or designed to prevent nuisance conditions, safety hazards, or the harborage and breeding of vectors; **and**  
**(6) be constructed to prevent leaks and seepage and prevent spills that could enter surface waters or ground water.**

*(Water Pollution Control Board; 327 IAC 6.1-8-5; filed May 15, 1998, 10:20 a.m.: 21 IR 3812; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 67. 327 IAC 6.1-8-6 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-8-6 Construction for lagoons**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-18-12; IC 25-31.5-4

Sec. 6. ~~Earthen~~ Lagoons must be constructed and maintained in accordance with the following:  
(1) The ~~earthen~~ lagoon bottom must be a minimum distance of **ten (10) feet above the bedrock and** four (4) feet above the seasonal high water table. ~~and ten (10) feet above bedrock.~~ **The depth to the water table must be determined using:**  
**(A) soil survey data established by the USDA Natural Resource Conservation Service; or**  
**(B) information obtained from a professional soil scientist registered under IC 25-31.5-4;**  
**unless it can be demonstrated that the water table has been artificially lowered to four (4) feet or more from the bottom of the lagoon.**  
(2) The ~~earthen~~ lagoon bottom and walls must meet the design standards in "Recommended Standards for Wastewater Facilities"\*.  
(3) The ~~earthen~~ lagoon bottom must be **flat level.**  
(4) Slopes of **earthen** dikes must not be steeper than 1 vertical to 3 horizontal (1:3).  
(5) Minimum **earthen** dike top width must be at least eight (8) feet.  
(6) An all-weather off-loading area with drainage to the ~~earthen~~ lagoon must be provided at any point where the truck contents are off-loaded into the ~~earthen~~ lagoon or receiving facilities.  
(7) ~~Earthen~~ Lagoons must be constructed in a manner to prevent entry of storm water from surrounding areas.  
**(8) Lagoons must be constructed to prevent leaks and seepage and prevent spills that could enter surface waters or ground water.**

\*The ~~earthen~~ lagoon bottom and walls design standards may be found in "Recommended Standards for Wastewater Facilities", 1990 Edition, available from Health Education Services, P.O. Box 7126, Albany, New York 12224, Chapter 90, Pond Bottom, pages 90-19 to 90-20. This method is also available for copying at the Indiana Department of Environmental Management, Office of ~~Solid and Hazardous Waste Management~~; **Land Quality**, 100 North Senate Avenue, Room 1154, Indianapolis, Indiana 46204. *(Water Pollution Control Board; 327 IAC 6.1-8-6; filed May 15, 1998, 10:20 a.m.: 21 IR 3812; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 68. 327 IAC 6.1-8-7 IS AMENDED TO READ AS FOLLOWS:

**327 IAC 6.1-8-7 Operational requirements for storage structures**

Authority: IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4  
Affected: IC 13-18-12

Sec. 7. (a) The ~~off-site~~ storage structure must be maintained and operated to prevent any nuisance or health hazards as follows:

- (1) Unauthorized access to the ~~off-site~~ storage structure must be prevented by locks or the facility must be adequately fenced and posted.
- (2) ~~Off-site~~ Storage structures must be maintained such that there is no discharge or seepage of biosolid, industrial waste product, or pollutant-bearing water from the ~~off-site~~ storage structure other than controlled removal for final disposal or land application of the biosolid, industrial waste product, or pollutant-bearing water.
- (3) ~~Off-site~~ Storage structures must be maintained to prevent nuisance conditions, safety hazards, or the harborage and breeding of vectors.
- (4) ~~Off-site~~ Storage structures must be maintained such that there is no discharge of pollutants into the **surface waters of the state: or ground water.**

(b) The ~~earthen~~ lagoon must be maintained and operated in accordance with the following:

- (1) ~~The~~ Earthen lagoon dikes must be maintained free of weeds, burrowing animals, and other conditions that may undermine the integrity of the dikes.
- (2) ~~The~~ Earthen lagoon dikes and banks must be seeded with grass to provide cover to prevent erosion.
- (3) The ~~earthen~~ lagoon location must be posted, fenced, or otherwise secured to prevent access by unauthorized persons and livestock.
- (4) The minimum freeboard must be eighteen (18) inches at all times.

*(Water Pollution Control Board; 327 IAC 6.1-8-7; filed May 15, 1998, 10:20 a.m.: 21 IR 3813; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 69. 327 IAC 6.1-8-8 IS AMENDED TO READ AS FOLLOWS:

### **327 IAC 6.1-8-8 Closure of storage structures**

**Authority:** IC 13-14-8-7; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-12-4

**Affected:** IC 13-18-12

Sec. 8. In the event ~~an off-site~~ a storage structure ceases to be operated or used for more than two (2) years, it is the responsibility of the person who signed the statement submitted in accordance with section ~~1(e)~~ **1(h)** of this rule to ~~abandon~~ **close** the ~~off-site~~ storage structure properly. The following steps are required:

- (1) The commissioner shall be notified at least thirty (30) days in advance that the ~~off-site~~ storage site is to be ~~abandoned:~~ **closed.**
- (2) The contents of ~~an off-site~~ a storage structure must be disposed of in a manner consistent with this article and as required by the commissioner.
- (3) ~~An earthen~~ **A** lagoon must be either:
  - (A) leveled or filled with earth and its appurtenances removed; or
  - (B) cleaned and closed in an alternative manner that has been approved by the commissioner.
- (4) ~~An off-site~~ **Except for lagoons,** a storage structure must be dismantled and removed or its interior filled with earth.
- (5) The site shall be returned approximately to its natural contours and be mounded to allow for settling and to divert surface waters.
- (6) Documentation indicating that the requirements of this section have been met must be sent to the commissioner **within thirty (30) days of the completion of closure.**

*(Water Pollution Control Board; 327 IAC 6.1-8-8; filed May 15, 1998, 10:20 a.m.: 21 IR 3813; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518)*

SECTION 70. THE FOLLOWING ARE REPEALED: 327 IAC 6.1-2-10; 327 IAC 6.1-2-12; 327 IAC 6.1-2-61.

### **Notice of Public Hearing**

*Under IC 4-22-2-24, IC 13-14-8-6, and IC 13-14-9, notice is hereby given that on March 12, 2003 at 1:30 p.m., at the Indiana Government Center-South, 402 West Washington Street, Conference Center Room A, Indianapolis, Indiana the Water Pollution Control Board will hold a public hearing on proposed amendments to 327 IAC 6.1.*

*The purpose of this hearing is to receive comments from the public prior to final adoption of these rules by the board. All interested persons are invited and will be given reasonable opportunity to express their views concerning the proposed amendments. Oral statements will be heard, but for the accuracy of the record, all comments should be submitted in writing.*

*Additional information regarding this action may be obtained from Lynn West, Rules, Outreach and Planning Section, Office of Land Quality, (317) 232-3593 or (800) 451-6027 (in Indiana).*

*Individuals requiring reasonable accommodations for participation in this event should contact the Indiana Department of Environmental Management, Americans with Disabilities Act coordinator at:*

*Attn: ADA Coordinator*

*Indiana Department of Environmental Management*

*100 North Senate Avenue*

*P.O. Box 6015*

*Indianapolis, Indiana 46206-6015*

*or call (317) 233-0855. (TDD): (317) 232-6565. Speech and hearing impaired callers may contact IDEM via the Indiana Relay Service at 1-800-743-3333. Please provide a minimum of 72 hours' notification.*

*Copies of these rules are now on file at the Indiana Government Center-North, 100 North Senate Avenue, IDEM File Room, Twelfth Floor and Legislative Services Agency, One North Capitol, Suite 325, Indianapolis, Indiana and are open for public inspection.*

Bruce H. Palin  
Deputy Assistant Commissioner  
Office of Land Quality