

**VARIANCE REQUEST**  
Iowa Department of Natural Resources

*approved*  
*JCL*  
*1/20/16*

1. Date: January 19, 2016  
2. Reviewer/Engr.: (Emy) Wenxin Liu  
3. Date Received: August 24, 2015  
4. Facility Name: City of Atkins  
5. Facility Number: 6-06-03-0-01  
6. County Number: 06-Benton  
7. Program Area: CP (Wastewater Construction)  
8. Facility Type: C05 (Biological Treatment)  
9. Subject Area: 320  
10. Rule Reference: 567-64.2(9)a  
11. Design Std. Ref.: 17.3.5.3  
12. Consulting Engr.: Snyder Associates, Cedar Rapids  
13. Variance Rule: 567-64.2(9)c

14a. Decision:  
Date:  
Expiration Date  
(if any):

15. Appealed:  
Date:

**16. Description of Variance Request:**

The City of Atkins is proposing an activated sludge AeroMod plant that is comprised of aeration tanks, secondary clarifiers, and aerobic digesters. The variance request is to use the existing southeast lagoon pond for sludge storage holding pond prior to biosolids land application. No aeration and mixing will be provided for the digested sludge being transported from the aerobic digesters. The variance will extend from start up of the plant through the design life of the treatment plant.

**17. Applicant's/Consulting Engineer's Justification:**

The aerobic digesters in AeroMod will have the storage capacity to handle a total of 104 days of digested sludge. The current storage capacity of the southeast lagoon pond will store 406 days. In order to decrease the cost of having the sludge removed and to decrease how often the sludge needs to be removed, this additional sludge storage will be needed.

**18. Department's Justification:**

The variance is recommended to be approved.

The sludge will be fully stabilized prior to discharge to the sludge holding lagoon. There are no residential and commercial establishments in a close distance. A condition will be included in the construction permit, that is once odor becomes a nuisance in the future, proper mixing and aeration requirement as required by wastewater design standards IA 17.3.5.3 will be required for sludge holding pond.

**19. Precedents Used:**

Evansdale (4/12/02), Walford (6/25/03), Riverside (1/25/06), Garner (10/28/2013)

20. Staff Reviewer: *Emy Wenxin Liu*

Date: *January 19, 2016*

21. Supervisor: *Satya Chatterpath*

Date: *Jan 20, 2016*

22. Authorized by: *JCL*

Date: *1/20/16*

**Explanation of item numbers:**

- #1 – Date starting process
- #3 – Date stamped received by Iowa DNR
- #4 – Must always be filled in, even in variance for Iowa DNR
- #11 – If doesn't apply, note "n/a"
- #13 – Rule allowing for an exception
- #14a – "Approved" or "Denied "
- #14b – If variance is permanent, note "permanent" per legal.
- #15 – Date of Decision (#14)
- #16 – Summarize (4-5 short sentences) **with** attached documentation
- #17 – Summarize (4-5 short sentences) **with** attached documentation
- #18 – Summarize (4-5 short sentences) **with** attached documentation
- #19 – Summarize (4-5 short sentences) **with** attached documentation
- #21 – Supervisor
- #22 – Bureau Chief (sometimes same as supervisor)

**Note:**

#16, #17, #18, & #19: the Reviewer/Engineer summary is important as the technical and knowledgeable entity for the subject matter. Including the attachments is helpful but the Customer Service Team is uncomfortable attempting to summarize the attachments on your behalf.



# STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR  
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
CHUCK GIPP, DIRECTOR

January 19, 2016

Melissa Rammelsberg, City Clerk/Treasurer  
City of Atkins  
480 3<sup>rd</sup> Avenue  
Atkins, IA 52206-0171

RE: Wastewater Treatment Improvements  
City of Atkins  
DNR Project S2013-0314  
CWSRF 1920727 01

Subject: Variance Request from 567 IAC 64.2(9)c and Design Standards Section 17.3.5.3

Dear Ms. Rammelsberg:

After careful and thorough consideration, the Department has approved your August 24, 2015 request for a variance from Iowa Administrative Code Subrule 567-64.2(9)c and Chapter 17.3.5.3 of the Iowa Wastewater Facilities Design Standards, which requires mixing and aeration in sludge holding lagoon.

Based on the documentation presented by your Engineer, it is the determination of this Department that satisfactory justification has been presented to warrant the granting of a variance for omitting mixing and aeration operation in the sludge holding lagoon provided no odor nuisance becomes an issue in the future. The requested variance is deemed to be reasonable and necessary pursuant to the Iowa Code section 455B.181.

The facts presented for the project present unique circumstances and the variance is therefore justified to provide the narrowest exception possible to the provisions of the rule in accordance with Rule 561 IAC 10.5. Since the project planning and construction may last more than one year, the variance is considered to be of a permanent nature. The validity of this variance approval shall last for a period of one year from the date of the construction permit in accordance with Rule 561 IAC 10.5.

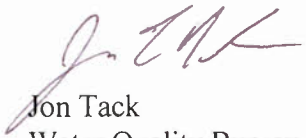
This decision is based on our review of justification presented to support the request. Our concurrence with the request is based on the Department's finding that the resulting project will provide substantially equivalent effectiveness as would be provided by technical compliance with the design standard on this issue.

This variance approval is subject to the following **conditions and requirements**:

1. The variance approval is granted provided no odor nuisance becomes an issue in future plant operation. Otherwise, mixing and aeration in the sludge holding lagoon will be required per wastewater design standards IA 17.3.5.3.

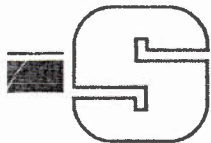
Please feel free to contact (Emy) Wenxin Liu at 515-725-8421 or email [emy.liu@dnr.iowa.gov](mailto:emy.liu@dnr.iowa.gov) if you have any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Jon Tack', is positioned above the printed name.

Jon Tack  
Water Quality Bureau Chief

cc: Snyder Associates, Cedar Rapids  
DNR FO #1  
DNR Sewage File 6-06-03-0-01  
SRF File CS1920727 01



## Memorandum

**To:** Emy Liu, P.E., Iowa Department of Natural Resources      **Date:** August 24, 2015  
**From:** Lindsay Beaman, P.E., Snyder & Associates  
**CC:** City of Atkins  
**RE:** Sludge Storage Variance

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Per 561 Iowa Administrative Code (IAC) Chapter 10, the City of Atkins is requesting a variance to the Iowa Department of Natural Resources (IDNR) Wastewater Facilities Design Standards for the above reference project and issuance of the related Construction Permit.

The following information has been provided per the IDNR's Variance Request Guidance document:

1. Name, address and telephone of entity requesting the variance:
  - a. City of Atkins  
480 Third St.  
PO Box 171  
Atkins, IA 52206-0171  
319-446-7870
2. Description and citation of specific rule from which a variance is requested:
  - a. A variance is requested for the methods and details of construction as cited in Chapter 17, Section 17.3 of the IDNR Wastewater Facilities Design Standards.
3. Specific variance requested, scope, and operative period which the variance will extend:
  - a. The variance requested is use of one of the existing southern lagoon cells for storage of digested sludge with no additional aeration or mixing instead of providing addition mixing and aeration.
  - b. Scope of the variance relates to all of the digested sludge coming from the aerobic digesters.
  - c. The variance will extend from start up of the plant through the design life of the treatment plant
4. Relevant facts justifying the variance
  - a. Storage Volume

- i. When the system is fully loaded the new aerobic digesters will have the storage capacity to handle a total of 104 days of digested sludge. In order to store more sludge to minimize the cost of hauling the sludge offsite additional store will be needed.
  - ii. The current storage capacity of either lagoon cell #3 or #4 is 406 days when the system is fully loaded. Using the only one of the lagoons will give the City four times the sludge storage capacity. Both of these lagoons cells would otherwise be unused as they are not needed for flow equalization.
- b. Cost Savings
  - i. Currently the City does not have the equipment to remove and haul sludge offsite in order to land apply it so they will need to contract out these services. In order to decrease the cost of having the sludge removed and to decrease how often the sludge needs to be removed additional sludge storage will be needed.
  - ii. The city does not have any existing sludge storage facilities and would need to purchase new ones or build some kind of holding structure to store the sludge until it could be land applied. Using existing lined lagoon cell #3 will save the City the additional capital expenses of building a new facility.

5. Contact history with the Department

- a. There has been correspondence with the IDNR regarding this variance. This variance was originally discussed during the preparation of the facility plan with Emy Liu of the IDNR. The IDNR advised that lagoons for storing fully digested sludge is discouraged but if justification is properly made a variance can be approved to allow fully digested sludge to be stored in lagoons with no mixing or aeration.

6. Known Department's treatment of similar cases:

- a. Per some of the discussions with the IDNR during the facility plan preparation this type of variance has been approved for other treatment facilities as long as proper justification was made.

7. Name, address, and telephone number of any public agency or political subdivision(s) that might be affected by granting the variance:

- a. None

8. Name, address, and telephone number of any person or entity that might be affected by granting the variance:

- a. None

9. Identity of those having knowledge of relevant facts concerning the variance:
  - a. Lindsay Beaman, P.E., Snyder & Associates, Inc
  - b. Kelli Scott, P.E., Snyder & Associates, Inc
  - c. Nick Eisenbacher, E.I., Snyder & Associates, Inc
  - d. (Emy) Wenxin Liu, PhD, PE, Iowa Department of Natural Resources