

✓ 9-8-06

VARIANCE REQUEST

Iowa Department of Natural Resources

Entered - 11/22/95 - OK [Signature]

1.	Date: October 26, 1995	13.	Decision: <i>Approved</i>
2.	Review Engineer: Mike Hameed		Date: <i>10/27/95</i>
3.	Date Received: October 25, 1995		<i>11/01/95</i>
4.	County Number: 49	14.	Appeal:
5.	Facility Name: Maquoketa		Date:
6.	Program Area: CP (Wastewater)		
7.	Facility Type: CO5		
8.	Subject Area: 320		
9.	Rule Reference: 900-64.2(9)a		
10.	Design Stds Ref: 17.3.5.3		
11.	Consulting Engr: Shive Hattery		
12.	Variance Rule: 900-64.2(9)c		

15. Description of Variance Request:

The city of Maquoketa has recently replaced their rotating biological contactors with sequencing batch reactors (SBR). To accommodate the larger sludge volume and to meet the new 503 regulations, the city has proposed several improvements in the sludge handling section of their wastewater treatment plant. The proposal is to convert one of the existing primary clarifier into a sludge gravity thickener. The sludge, after thickening, will go through a autotherm treatment process and then will be further stabilized in an anaerobic digester. The city is hoping to produce Class I sludge through this process. The digested sludge will be stored in sludge storage lagoons until it can be hauled for land application. Paragraph 17.3.5.3 of the Iowa Wastewater Facility Design Standards requires a certain minimum aeration in all such lagoons. **The city of Maquoketa has requested a variance from IA 17.3.5.3, requiring mixing and aeration in sludge storage lagoons.**

16. Consulting Engineer's Justifications

Consulting engineer believes that the sludge being stored will be a Class 1 sludge, and as such, not regulated as to the mode of final disposal, except with respect to agronomic application rate and metals content, neither of which are applicable here. The reduction of volatiles in the sludge will be such that no odor problem will be present, nor will the sludge have significant potential to transmit disease organisms.

17. Department's Justifications

- a) The specific standard, design under discussion, was adopted before 503 regulations came out and does not consider sludges treated to a Class 1 standard.
- b) The lagoons meet the minimum separation distance criteria. Any slight odor, which may occur, will dissipate before reaching the habitable residential units.

- c) A provision will be included in the construction permit to install aeration if any undesirable odors are observed in future operation.

18. Precedents Used

City of Ames, Iowa Approved 3/9/87

City of Carroll, Iowa Approved 5/8/84

19. Staff Reviewer: *Tim Harned* Date: October 26, 1995

20. Supervisor: *Don J. Jansen* Date: *10/26/95*

21. Authorized by: *David J. Alb* Date: *10/27/95*

17.3.5.3
DICK



TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

LARRY J. WILSON, DIRECTOR

October 30, 1995

Mr. Francis
City Manager
201 E. Pleasant St.
Maquoketa, IA 52060

REF: Variance from providing aeration in
Sludge Storage Lagoons
Maquoketa, Iowa

Dear Mr. Glaser:

The Iowa Department of Natural Resources in accordance with Subrule 567 -- 64.2(9)c of the Iowa Administrative Code has approved your request for a variance from the Departmental Rule 567 -- 64.2(9)b, I.A.C. and Chapter 17.3.5.3 of the Iowa Wastewater Facilities Design Standards, which requires a certain minimum aeration for mixing in all sludge storage lagoons. Based on the documentation presented by the designing engineer, it is the determination of this Department that satisfactory justification has been presented to warrant the granting of a variance to the City of Maquoketa for the construction of sludge storage lagoons without aeration. In future, however, if the Department determines that the proposed facility is not producing Class I sludge and the absence of aeration is causing odor or other operational problems, the Department may require installation of aeration equipment as required by paragraph 17.3.5.3 of the Iowa Design Standards. In the absence of mixing, the city will also be required to sample each sludge load, before it is hauled for final land application.

This approval does not relieve the city from any responsibility to insure that the proposed sludge storage lagoons are properly designed, constructed, operated and maintained to meet Iowa Wastewater Facilities Design Standards and to minimize any adverse environmental impacts.

Sincerely,

DARRELL McALLISTER
BUREAU CHIEF
WATER QUALITY BUREAU

cc: Shive-Hattery
Field Office #1