MR ✓ 9-8-06

VARIANCE REQUEST

Iowa Department of Natural Resources

1.	Date: May 12, 1998	13.	**Decision:** Approved
2.	Review Engineer: Mike Hameed		Date: 5/13/98
3.	Date Received: April 22, 1998		
4.	County Number: 25	14.	**Appeal:**
5.	Facility Name: Waukee		Date:
6.	Program Area: CP (Wastewater)		
7.	Facility Type: CO5		
8.	Subject Area: 389		
9.	Rule Reference: 900-64.2(9)a		
10.	Design Stds Ref: ~~14.5.2.3(4)~~ 17.32.2(9)		
11.	Consulting Engr: Veenstra & Kimm.		
12.	Variance Rule: 900-64.2(9)c		

15. Description of Variance Request:

The Iowa Design Standard 17.3.2.2(a) requires that an aeration rate of 30 cfm per 1,000 cft of tank volume shall be provided with the largest blower out of service. The city is proposing to provide 20 cfm/1000 cft.

16. Consulting Engineer's Justifications

The sludge age in this extended aeration process will be maintained at 60+ days. The waste sludge coming out of the aeration basins will meet the requirements of 40 CFR Part 503 or the land application requirements set in chapter 67 of the Iowa Administrative code.

Results of tests conducted for pathogens and vector attraction, as per EPA direction, are also submitted for Departments review. The studies were done at Greenville WWTP Greenville, KY and Western Wayne WWTP, Western Wayne, IN.

17. Department's Justifications

Recommend approval of the variance based on following arguments.
Biolac system, the extended aeration process being used at this location, operates on the conservative side of the extended aeration process and usually maintains the sludge age above 35 days.
An extended aeration process with sludge age above 60 days will produce quite stable sludge as shown by the study done at the Greenville, KY WWTP.
A broad based study done by Wisconsin DNR on thirty of their extended aeration plants, found that the sludge coming out of the aeration basin was either stable or very close to being stable as defined by 40 CFR Part 503.
In addition to a minimum thirty day digestion in the aerobic digester, the sludge will then be further stabilized on reed beds. The reeds bed have capacity to store sludge over one year.

18. Precedents Used NONE
19. Staff Reviewer: Nike Hameed Date: May 12, 1998 20. Supervisor: [signature] Date: 5/12/98 21. Authorized by: [signature] Date: 5/13/98