

**VARIANCE REQUEST**  
**Iowa Department of Natural Resources**

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|--|-------------------------------|
| 1. Date: 09/03/2010 – Revised on 09/22/2010; 9/28/2010; 10/08/2010 | 14. Decision: <i>Approved</i> |
| 2. Reviewer/Engr.: Sara Smith                                      | Date: <i>10/12/2010</i>       |
| 3. Date Received: 08/03/2010                                       |                               |
| 4. Facility Name: Ajinomoto Heartland                              |                               |
| 5. Facility Number: 6-68-00-1-13                                   |                               |
| 6. County Number: 68 (Monroe)                                      | 15. Appealed:                 |
| 7. Program Area: CP (Wastewater construction)                      | Date:                         |
| 8. Facility Type: C05 (Biological treatment)                       |                               |
| 9. Subject Area: 308 (Separation distance)                         |                               |
| 10. Rule Reference: 567 IAC 64.2(3)"d" and 64.2(9)"c"              |                               |
| 11. Design Std. Ref.: 14.2.3                                       |                               |
| 12. Consulting Engr.: Mark Cramer, PE                              |                               |
| 13. Variance Rule: 567 IAC 64.2(9)"c"                              |                               |

**16. Description of Variance Request:**

Ajinomoto Heartland is proposing to upgrade their existing industrial wastewater pre-treatment facility to an industrial wastewater treatment plant that will include a membrane bio reactor (MBR) technology. Their existing pre-treatment facility discharges the effluent to the Cargill wastewater treatment plant. The new Ajinomoto industrial wastewater treatment plant upgrade will discharge part of the effluent via a new outfall No. 003 to the Des Moines River and continue to discharge the remainder of the effluent to Cargill.

The 567 Iowa Administrative Code (IAC) 64.2(3)"d" requires a separation distance of 400 feet between a wastewater treatment facility and a private well. Ajinomoto has an existing well No. W42080, that will not meet the required separation distance after the wastewater treatment plant upgrade is completed. According to application documents, well No. W42080 would be located at about 169 feet from the new wastewater treatment plant, which is within the 400 feet.

Therefore, pursuant to 567 IAC 64.2(9)"c", Ajinomoto is seeking a variance from the required separation distance to well No. W42080, in order to upgrade their industrial wastewater pre-treatment facility to an industrial wastewater treatment plant.

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

In their petition for variance, Ajinomoto Heartland contends that existing well W42080 was drilled on November 17, 1992; that it is about 2,010 feet deep and it would be very expensive to close it and drill a new well that meets the 400 feet separation distance requirement.

Ajinomoto's existing industrial wastewater pre-treatment plant was constructed in 2005, according to their petition for variance.

In addition, Ajinomoto Heartland asserts that this existing well No. W42080 has not shown signs of contamination and has submitted to the department a letter dated July 19, 2010

including lab testing results from this well, even though well No. 42080 is located at approximately 104 feet from the existing industrial wastewater pre-treatment facility. The separation distance requirement of 567 IAC 64.2(3) "d" to a private well does not apply to a wastewater pre-treatment facility.

18. Department's Justification:

The petitioner has complied with submitting the information requested in 561 IAC 10.9 and 10.11.

The department review concludes that the rule variance is warranted because of the uniqueness of this case, and that equal protection to the environment is being provided. Although this is a well to the Jordan Aquifer, the well head is protected inside a building that minimizes the possibility of contaminated surface runoff entering the well.

In addition, water from this well is used for industrial processing only, and it is not used as a private or public drinking water well. Well No. W42080 has been in existence since 1992 and according to the construction permit documents, it is located at 104 feet of the existing industrial wastewater pre-treatment facility. Furthermore, the proposed wastewater treatment plant upgrade is to treat industrial wastewater only. No domestic wastewater would be treated at this upgraded industrial wastewater treatment plant. Domestic wastewater is treated and disposed of separately.

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 561 IAC 10.5. Because the approved variance is for the separation distance to a well, a temporary variance is impracticable, therefore, the approved variance is of permanent nature in accordance with 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 (567 IAC 64.2(9)"e") as would be provided by technical compliance with the design standard on this issue.

As a condition of this variance for the upgrade to an industrial wastewater treatment facility, if a construction permit is issued, the department will require water quality monitoring be performed at this well, to protect the integrity of the aquifer. The following parameters at the minimum, must be tested:

- Ammonium-nitrogen ( $\text{NH}_4\text{-N}$ ) and Nitrate-nitrogen ( $\text{NO}_3\text{-N}$ ), quarterly during the first two years, after use of the new wastewater plant has begun. The department will evaluate the results, and determine if monitoring should continue, be modified or discontinued.
- The results of the water quality monitoring should be sent to the department in accordance with a protocol that will be provided to the applicant, if a construction permit is issued.

Therefore, this request for variance should be approved.

19. Precedents Used:

The department has granted variances to the separation distance requirement from existing wells to the following wastewater treatment facilities:

- Wapsie Valley High School – Bremer County, Iowa
- Meadows Golf Course – Dubuque County, Iowa
- Cocklins' RV Campsite – Louisa County, Iowa

20. Staff Reviewer: S.S. *Sara Smith*

Date: 10/08/2010

21. Supervisor:

*Satyaj Chaturvedi*

Date: 10/12/10

22. Authorized by:

*Charles C. Conley*

Date: 10/12/2010

ESTER J. CULVER, GOVERNOR  
TY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
PATRICIA L. BODDY, INTERIM DIRECTOR

October 13, 2010

Ajinomoto Heartland, Inc  
Attn: Maury Smith  
1 Heartland Drive  
Eddyville, IA 52553

Subject: Variance Request from 567 IAC 64.2(3)"d" and 14.2.3"d"  
Project No. S2009-0070

Dear Mr. Smith:

The department has considered and approved your August 3, 2010 petition for a variance from rule 567 Iowa Administrative Code (IAC) 64.2(3)"d" and Iowa Wastewater Design Standards Chapter 14.2.3"d", which requires a separation distance of 400 feet between a wastewater treatment facility and a private well. Based on the documentation submitted by the engineer, it is the determination of this department that satisfactory justification has been presented to warrant the granting of a variance for separation distance. 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 561 IAC 10.5. Because the approved variance is for the separation distance to a well, a temporary variance is impracticable, therefore, the approved variance is of permanent nature in accordance with 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 (567 IAC 64.2(9)"e") as would be provided by technical compliance with the design standard on this issue.

Please note that as a condition to this variance being granted, Ajinomoto Heartland Inc would be required to do ground water monitoring at this well. This requirement includes the testing of Nitrate-Nitrogen ( $\text{NO}_3\text{-N}$ ) and Ammonium-Nitrogen ( $\text{NH}_4\text{-N}$ ), quarterly for the first two years after commencing the operation of the upgraded wastewater treatment plant, if a construction permit is issued. After two years, the department will evaluate the submitted testing results and will determine if monitoring should continue, be modified or discontinued.

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

If you have any questions, please contact Sara Smith at (515) 242-5521.

Sincerely,

A handwritten signature in cursive script that reads "Satya Chennupati".

Satya Chennupati, P.E.

Wastewater Engineering Section Supervisor

Cc: Mark Cramer, PE.  
DNR – Field Office 5  
DNR Sewage File 6-68-00-1-13

ESTER J. CULVER, GOVERNOR  
TY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
PATRICIA L. BODDY, INTERIM DIRECTOR

October 13, 2010

Ajinomoto USA Inc. – Heartland Site  
Attn: Maurice Smith  
1 Ajinomoto Drive  
Eddyville, IA 52553

**SITE SURVEY**  
Project No. S2009-0070

**Subject: Preliminary Site Survey Report**  
**RE: Ajinomoto Heartland Site**

Dear Maurice Smith:

Based upon our conclusions of the preliminary site investigation, the site is preliminarily approvable. The preliminary approval is based on your petition for variance filed on August 3, 2010, due to an existing well No. W42080 located within the 400 feet required in 567 Iowa Administrative Code (IAC) 64.2(3)"d", and the Department's approval of your variance request on October 12, 2010.

All other separation distances required in 567 IAC 64.2(3) shall be maintained. The applicant should ensure that these separation distances are met and reflected in the final plans by clearly identifying the property lines, rights-of-way and the distances to scale. These final plans must be signed by a professional engineer licensed in the state of Iowa.

Please note that this decision is preliminary and that further detailed engineering investigations may warrant additional considerations in the future. This decision in no way relieves the owner(s) from the responsibilities of ensuring that water quality limitations are met, the improvements are designed and constructed in accordance with good engineering judgment, and all applicable agency approvals and/or permits are obtained.

If you have any questions please contact me at (515) 242-5521 or Kate Bason at Field Office 5 in Des Moines, Iowa at (515) 725-0333.

FOR THE DEPARTMENT OF NATURAL RESOURCES  
PATRICIA L. BODDY, INTERIM DIRECTOR

for By Sara Smith  
ENVIRONMENTAL SERVICES DIVISION

Cc Mark Cramer, PE - Cramer Engineering Services  
DNR Field Office # 5 - Kate Bason  
IDNR Industrial WW File – 6-68-00-1-13