

✓ 9-11-06

13.10.4

VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date: September 30, 2003
 2. Review Engineer: Larry Bryant
 3. Date Received: April 17, 2003
 4. Facility Name: Martinsburg WWTF (RUSS)
 5. County Number: 54 (Keokuk)
 6. Program Area: CP (Wastewater Construction)
 7. Facility Type: C02 (Pumping)
 8. Subject Area: 327 (Valve Pit)
 9. Rule Reference: 567-64.2(9)a
 10. Design Stds Ref: 13.10.4 (Valves)
 11. Consulting Engr: French-Reneker Associates, Inc./Fairfield
 12. Variance Rule: 567-64.2(9)c

13. **Decision:** *Denied*
 Date: *10/6/2003*

14. **Appeal:**
 Date:

15. Description of Variance Request:

Regional Utility Service Systems (RUSS) and its consulting engineer are requesting a variance from Section 13.10.4 of the Iowa Wastewater Facilities Design Standards, which requires a separate valve chamber for submersible pump lift stations. Buried shut-off valves for a submersible pump station in lieu of the separate valve chamber required by the Standards are proposed.

16. Consulting Engineer's Justifications

Cost savings.

17. Department's Justifications

Recommend variance denial:

Previous variances granted for the pilot program using this alternative arrangement have not been entirely successful, possibly due to lack of a separate valve chamber in conjunction with other items. In particular, the City of Floris has had problems with air intrusion and leaking check valves. A March 10, 1999 inspection report by Field Office 6 noted that the lift station pumps were not pumping design capacity because of air being trapped in the pumps as well as running more hours than intended due to plugging problems and a poor design. The cities of Tingley and Arispe (no valve chambers) have also had problems with higher than expected flows supposedly due to check valves sticking open. Although the problems noted may be due to factors other than the lack of a separate valve chamber, it is certain that access to the check valves or isolation valves for maintenance or replacement when such problems occur is facilitated by placement of those valves in a separate chamber. Also, the pump isolation valves are unlikely to be exercised frequently unless the operator does this as part of a regular maintenance schedule. This increases the chance that they may fail when called upon and need to be replaced. Access to these valves in a chamber reduces the down time of the lift station in the event that they do fail and require maintenance or replacement.

18. Precedents Used

Floris (Wapello RWA) - Approved 8/1/95
 Arispe (Southern Iowa RWA) - Approved 7/15/96

Tingley (Southern Iowa RWA) - Approved 7/11/96
 Kinross (RUSS) - Denied 6/8/01

19. Staff Reviewer: *[Signature]*

Date: *10/2/03*

20. Supervisor: *[Signature]*

Date: *10/3/03*

21. Authorized by: *Charles C. Groll*

Date: *10/6/2003*