NATURAL RESOURCES CONSERVATION SERVICE

OPERATION AND MAINTENANCE PLAN FOR

ANAEROBIC DIGESTER

CODE 366

Name _____ Ident. No. _____

Legal Desc. _____ County _____

A properly operated and maintained anaerobic digester is an asset to your farm. This structure was designed and installed to biologically treat manure and other byproducts of animal agricultural operations to produce and capture biogas for energy, to improve air quality by managing odors, to reduce greenhouse gas emissions, or to reduce pathogens.

The estimated life span of this installation is at least 25 years. The life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance for satisfactory performance. Here are some recommendations to help you develop a good operation and maintenance program.

General Recommendations

- Develop a proper loading rate of the digester and estimate the total solids content of the influent.
- Account for the nutrient impact of all feedstock in the farm's nutrient management plan.
- Estimate the biogas production, methane content, and potential energy recovered.
- Develop a procedure for the startup and normal operation of the digester.
- Develop a list of safety issues and normal maintenance items for the digester.
- Develop alternative operation procedures in the event of equipment failure.
- Provide instructions for the safe use and flaring of biogas.
- Obtain a troubleshooting guide from the digester designer.
- Develop a monitoring plan with frequency of measuring and recording digester inflow, operating temperatures, biogas yield, and/or other information as appropriate.
- Maintain internal temperatures of controlled temperature digesters. For example, mesophilic digesters shall be maintained between 35ºC to 40ºC (95ºF to 104ºF) with an optimum of 37.5 ºC (100ºF). Daily fluctuation of digester temperature shall be limited to less than 0.55ºC (1ºF).
- Operate the digester to prevent accidental spillage of effluent or discharge into the gas collection system.

Specific Recommendations for This Project

If you need additional technical assistance to implement the operation and maintenance plan for this structure, contact the Natural Resources Conservation Service (NRCS) at your local USDA Service Center (listed in the telephone book under United States Government).

NRCS, KS
February 2011