DAIRY FACILITY CHECKLIST

Dairy Facility Construction

Stanchion or Tie Stall Barn if Use as a Milking Facility

See Administrative Procedure:

1. Gutter or drop provided. 4r-4
2. Platforms sloped to gutter or drop. 2r-2
3. Barn properly ventilated with exhaust fans, windows or doors to minimize odors and humidity. 2r
4. Ample stalls for all cattle. 2r
5. Separate stalls and pens for bulls, and calves. 2r
6. Walls and ceiling a light color finishes (white or near white), smooth, dust tight. 2r
7. Proper lighting available in the barn. (App. B - 100watts/10ft)
8. Feed storage separated and proper to minimize rodents and insects. 19r

Recommendations: Cattle trainers used.

Barnyards and Housing

1. Solid approaches to feed, water and barn doors; barnyard in good condition 4r-2

Recommendations:

a. Ample stalls for all cattle.
b. Clean, dry bedding used.
c. Stalls and bedding easy to maintain.
d. Barn properly ventilated to reduce odors and humidity.

Waste Management

Recommendations:

1. Waste storage separated from cattle.
2. Waste storage capacity sufficient for extended storage.
3. Waste facility constructed according to the Natural Resources Conservation guidelines.
4. Farm has a manure management plan
5. Waste management plan on file with the local Natural Resources Conservation Service office.
6. Farm follows the manure management practices' outline by the Right to Farm (RTF) Program.

Milking Facility Construction

Parlor Areas

1. Floors, steps, gutters, feed troughs made of impervious material and floors graded to drain. 2r-1
2. Walls and ceiling a light color finishes (white or near white),

smooth, dust tight. 2r-2

3. Tight fitting doors or separation provided between parlor and cattle housing if equipment is stored in parlor? 12r-1
4. Lighting proper at 10 f/c. 2r-4, App. B
5. Ventilation proper. 2r-5
6. Feed storage proper to minimize rodents and insects. 19r-9,10
7. Separate stalls or pens for bulls and calves. 2r-6

Recommendation:

a. Separate facility maintained to milk fresh cows and treated cows.
b. Heating for facility available.

Utility Area

1. Room maintained and reasonable clean 19r-1
2. Room free of rodents and insects. 19r-3

Recommendation:

a. Drug storage facility available.
b. Room partitioned from milk house, barn, or parlor.
c. Room of ample size.
d. Ventilation proper so doors to adjacent rooms are not propped open.
e. Exhaust fans provided to ventilate heat from compressors or pumps

Milk house/Milk room

1. A separate milk house of ample size provided 5r-1
2. All milk house doors to cattle housing, milking, and toilet areas solid, tight fitting, and self closing. (recommend that all milk house doors be self closing) 5r-7,11
3. Proper clearance around all equipment. (recommend 30 inches.) App. B
4. Floors of concrete, sloped to drains; drains trapped if connected to a sanitary sewer . 5r-2,3,4
5. Drains located properly so not under a bulk tank or under an outlet valve. 5r-4, App. B
6. Walls and ceiling a light colored (recommend white or near white), easily cleanable material. 5r-5
7. Proper lighting over wash vats (20 f/c). 5r-6
8. Spotlight fixture or an approved alternative installed for each opening of a bulk tank 5r-6
9. Hose port for hauler installed 5r-13
10. Easily cleanable surface of adequate size (4'X4') under hose port? (Recommend 6' or more of concrete) 5r-13
11. Two unemcumbered compartments in wash vats provided (not vertical wash vats, or wash vats with permanent racks or permanent lids) 5r-16

12. Convenient hand wash sink provided with water, soap, and sanitary towels. 16r-1,2
13. Hot and cold water to wash vats. (recommend for hand sink) 5r-14,15,16 16r-2
14. Milk filter storage proper. 12r-4
15. Milk house doors opening to the outside tight fitting and self closing. 5r-11
16. Screen doors open outward and self closing. 19r-4,5
17. Windows screened. 19r-4
18. Milk house properly ventilated 5r-8
19. No vents or unprotected lighting fixtures over clean utensil storage area or bulk tank opening. 5r-9

Recommendations:

a. Provide milk house with a heating system. (Note: Cold air returns cannot come from toilet room, milking or cattle housing areas.)
b. Heating system approved. (Note: Fuel fired heaters or furnaces must be vented to the outside if so designed, and fuel must be stored outside.)
c. Cabinet or refrigerator available for drug storage.
d. Provide an area to post permit, inspection sheets, and weigh slips.
e. Install one way check valve to eliminate hot/cold water mixing in lines.
f. Avoid installing a bulk tank outlet valve over a floor drain.
g. All adjacent rooms should have self closing doors.
h. Milky water from first rinse not added to grey water if used for parlor rinse down.

Cooling Systems See Administrative Procedure 18r, 14r and Comments

1. Cooling system properly sized for the flow rate of the milk. 18r1
   a. Milk is cooled to 45°F or less within two hours of the completion of milking and never exceeds 50°F during subsequent milkings.
   b**. It is now required that the milk be cooled to 45°F within four hours of the start of milking when milking runs for an exte**nded period of time.
2. Washing and sanitizing system constructed properly to provide proper cleaning.
3. Proper CIP/water supply separation while milk is in the bulk tank.
4. Pre-cooling system properly constructed and operated.
   a. Valve or other means available for semiannual sampling of recirculated coolant (sweet water). 18r2
   b. Cooling water from a safe supply. 18r2
   c. A drip shield or moisture divert apron is provided for the swing line entry into the bulk tank.
   d. The plate cooler is installed so that it is accessible

and inspectable without cutting water lines.

5. Dairy farm bypasses the bulk tank and direct fills a bulk milk tanker.
   a. Means to properly agitate and sample the tanker provided. PMO Sec. 6
   b. Properly designed and operated CIP system for the bulk tanker load lines and load pump. 10r
   c. A means provided to connect and disconnect transfer hoses and provide protection from contamination.
6. The farm bulk milk **and flexible hose ends** comply with 3A Standards.
7. Bulk tank agitator shields are provided for agitator shafts bulkheaded outside of the milk house

Recommendations:

1. Adequate ventilation or other means for waste heat disposal from the cooling system so that cooling is maximized.
2. Bulk tank has an operating indicating or recording thermometer.
3. A recording or indicating thermometer is provided for the bulk tanker or for the bulk tanker load line.
4. The plate cooler is sized properly so as not to restrict CIP flow.
5. A bird-free overhead shelter provided for hose connections when bulk tankers are direct filled.

Toilet room

1. Toilet room provided convenient to the milking operation. 7r-1,2
2. Floor concrete or easily cleanable material.
3. Walls and ceiling easily cleanable.
4. Toilet hooked to a sanitary sewer system. 7r-1
5. Toilet properly vented to the outside. 7r-1
6. Windows to the outside screened. 7r-5
7. Solid walls and tight fitting, self closing doors provided. 7r-5
8. Toilet room maintained neat and clean. 7r-4

Recommendations:

a. Provide a hand wash sink convenient to toilet room.
b. Provide a separate heating system for toilet room.

Wells

1. The geology and topography of the area around the well adequate to not require a sanitary survey. App. D
2. The area around the well slopes away so that water does not pool within 10 ft of the well head. 8r-4
3. A minimum of 50 ft (State law 75 ft.) isolation from sources of contamination such as sewage system, drain fields, septic tanks, non-concrete barnyards or manure lagoons? App. D
4. The well properly constructed. App. D

5. The well casing rises at least 2 ft above the highest known flood level. App. D
6. Wells with a pitless adaptor constructed properly. App. D
7. Wells with a submersible pump constructed properly. App. D
8. Well cap tight. App. D
9. The wire entrance to the well cap tight. App. D
10. Any well pit/pressure tank pit within 10 ft of the well is constructed properly. App. D
11. For flowing artesian wells, the overflow drain extends more than 10 feet from a well. App. D
12. Any well house constructed over the well has an adequate drain. App. D
13. The well has been sampled within 3 years, and is there a safe water sample on file. 8r-7

Components of Water System

1. All high pressure pumps properly protected with a low pressure cutoff switch or vacuum breaker (recommend 18" above inlet). 8r-3,4
2. Any back flush systems or teat dip and udderwash mixing pumps drawing on containers more than 1 Gal. have backflow protection. 8r-2
3. Stock tank water fill lines have air gaps, backflow preventers or an approved style float. 8r-3
4. Frost free waterers designed with a proper air gap and water overflow to eliminate any submerged inlets. 8r-2,3
5. Any hoses used to fill tanks or vats provided with a backflow preventer or proper air gap. 8r-2,3
6. Cattle drinking cups of proper design or provided with a backflow preventer. 8r-2,3
7. Any frost free hydrants located within10 ft of the well head are provided with a hose bib backflow preventer or hose threads damaged or removed to prevent attachment of a hose. 8r-2
8. Any frost free hydrants removed from the well heads. 8r-2
9. Any water seal pumps, such as vacuum pumps, provided with proper back flow prevention or air gap. 8r-2
10. Any foamer used is it provided with backflow prevention for the water supply, if necessary. 8r-2
11. Well water supply lines run to any grey water tank provided with backflow preventers, or proper air gaps. 8r-2
12. Any recirculated cold water/chill water system present used to cool the milk, or a recirculated hot water system used to maintain CIP wash temperatures for the milking system free of any cross connections with the well water system. A means is provided to

allow semiannual sampling of recirculated water. 8r-1,2

13. Any farms with a reclaimed water system such as a plate cooler discharge, have properly separated it from the well water system. 8r-2
14. Wash vat are free of submerged water inlets, or water-CIP chemical cross connections. 8r-2
15. Any reclaimed water storage tanks for a redistribution system to cattle waterers or high pressure pumps are free of well water submerged inlets. 8r-3
16. Any boiler system with a well water makeup line is free of a cross connection. 8r-3

MILKING SYSTEMS See Administrative Procedure 9r and 14r

Note: Specific recommendations in this section are based on *3-A Accepted Practices for the Design, Fabrication, and Installation of Milking and Milk Handling Equipment - Number 606-04.* This 3-A Practice references the *American Society of Agriculture Engineers Standard (ASAE) S518.2, Milking Machine Installation--Construction and Performance*. When equipment and installations comply with these standards, they meet the requirements of the PMO.

1. The vacuum system is properly designed and constructed.
    a. The vacuum system slopes properly to drain points (1/2 inch per 10 feet).
    b. The vacuum system is constructed with appropriate materials.
    c. The vacuum line is of adequate size without restrictions.
    d. The sanitary trap is properly positioned so that moisture drains to the trap and not the receiver jar.
    e. The rise in the line from the receiver jar to the moisture trap 12" or less.

Recommendation:

    a. A clean air supply is provided for the pulsators.
    b. The vacuum controller is properly filtered and located in a low dust area per ASAE S518.2. Vacuum controller must not be located in a bathroom or areas that produce odors. (14r-8)
    c. The vacuum pump discharges have an exhaust flap to prevent reversing of the pump.
    d. The vacuum system has a safety relief valve.
    e. Milk lines, when installed imbedded in concrete should be sleeved with oversized PVC piping to allow for line expansion, inspection of line slope, and resloping when required.
    f. The installation of the receiver group in a pit is not recommended unless an adequate means to is provided to preclude cross-contamination of the milking system with the floor drains located within the pit.

2. The CIP/wash system is properly constructed and operated.
    a. The pipeline has a wash divert plugs or valves if the design requires (double slope line). Butterfly valves must be of

acceptable design to be easily disassembled and cleanable and inspectable.

b. There is adequate hot water volume provided for all hot water needs - pipeline, bulk tank, calf feeding, cleanups, etc. (See appendix)
c. The CIP/wash system is free of submerged inlets.
d. There is proper CIP/water supply separation, and separation of both from the milking system during milking.
e. The air injectors are properly located in the milk house or filtered if located in the parlor.
f. The CIP/wash system is designed to clean the moisture trap and all areas that are milk contact surfaces.

3. The pipeline is properly constructed and operated.
   a. The pipeline is constructed from approved 3A materials (see 3A Accepted Practice 606-04, section C).
   b. All welds are proper.
   c. Any plastic components are separated by stainless or glass sections.
   d. Any risers in the milkline, such as over a walkway, are designed to drain and wash properly. **Note:** Milk in a milk line shall not encounter an upward slope unless it is a milk transfer line that is not affected by vacuum flow, such as the line from the milk pump to the bulk tank. Milklines shall be rigidly mounted.(See 3A Accepted Practice 606-04, section S1)
   e. The pipeline is properly sloped (at least 1in/10ft) and mounted so that the slope is continuous with no sags or humps. Supports must not be from the ceiling , pipe clamps must be insulated, supports must be every 10 feet and within 2 feet of a direction change. (See 3A Accepted Practice 606-04, section S1)
   f. When the moisture trap and the receiver jar drain are connected for CIP, there must not be a connection between a sanitary trap drain and receiver drain during milking.
   g. The pipeline inlets are tipped upward as required.
   h. The pipeline inlets and inlet covers are of a proper design so that they CIP or are washed after each milking as required.
   i. The pipeline is properly sized to handle the expected volume of milk without flooding.
   j. The pipeline is designed so there are no dead end lines over 2X the pipe diameter.
   k. There are shields around the lines where they pass through walls.
   l. There is an air blow/chase down system to empty the milk line of milk.
      i. It is of an approved 3A design. **See PMO Appendix H, II**
      ii. The air is filtered with a disposable filter.
   m. The pipeline and milking equipment have proper drainage.
   n. The pipeline is accessible for inspection, with sanitary couplers on each straight run.
   o. There is a proper source of vacuum (trapped) for weigh jars.
   p. There is a drip shield or apron on the swing line from plate cooler.

q. The jetter washers are provided with proper storage during milking.
r. Milk meters for takeoff systems and weigh jars are easily accessible for inspection.
s. The vertical vat is provided with proper CIP/water separation and with dust/insect protection if it is used as a milk transfer point.
t. There is a means to sanitize bulk tank and milking system.
u. There is a separate source of vacuum and separate equipment for the abnormal milk system.
v. There is proper separation/protection for chemical/water supply/milk in the back flush system if present.
w. Milk hoses do not rise more than 7 ft. to the milkline.
x. The plate cooler or receiver pump/receiver jar drain do not terminate in the floor drain
z. The system has been performance tested following completion per ASAE EP 445.1.
aa. Dual filter systems with divert valves designed so milk does not set in unused filter.

Note: An alternative to a mercury manometer, such as an electronic manometer, is recommended.