

**STANDARD OPERATING PROCEDURE – Building Shutdown and Monitoring Procedure****INTRODUCTION**

Prior to any prolonged shutdown the processing plant and its equipment need to be inspected to assure that it is left in a safe condition. And throughout a shutdown the processing plant should be inspected periodically to make certain that the dairy products and ingredients stored in the freezers and coolers are being maintained at proper temperatures.

Building security is another concern. Exterior and interior doors in the processing plant, Creamery Store, Creamery office and the Food Science department should be checked to ensure they are locked before a shutdown and that they remain locked throughout the shutdown.

**PROCEDURE**

1. Fill out a Building Checklist (a copy is attached) immediately prior to a prolonged shutdown and during every inspection. Note the conditions found, including any equipment failures or unusual temperatures that would affect the safety and quality of stored products or ingredients. If anything is out of order contact Thomas Palchak at 777-7892 and Penn State's Office of Physical Plant at 865-4731.
2. Walk through and observe the condition of each room in the dairy processing area and retail store.
  - a. The agitators on all of the tanks should be turned off.
  - b. Most equipment should be turned off. However some pieces of equipment must be kept on at all times.
  - c. There should be no unusual noises
  - d. There should be no unusual odors, including the distinct odor of ammonia.
  - e. There should be no unusual air or fluid leaks. A small amount of water on the floor in the CIP room (106) is normal.
  - f. All chemicals should be stored safely.
  - g. There should not be any alarms (ammonia, carbon monoxide, etc.)
3. Access the dairy equipment monitoring software.
  - a. Turn on the computer located on the west wall desk in the Creamery manager's office.
  - b. Double click on the "Q-talk" icon
  - c. When the "Com Set-up" window appears on the screen, press OK.
  - d. When the "Available Devices" window appears, scroll down the list to "7 – Evaporator". Record the current temperature at all monitoring locations on the Building Checklist.
  - e. Look at the remaining devices (compressor / condenser) and note any alarm conditions on the Building Checklist.
  - f. Turn off the computer.

4. Observe and record the temperature of all refrigerators and freezers.
  - a. In the dairy processing plant compare the thermometer readings to the recommended temperature ranges listed below. At locations not monitored by the Q-talk software program, record the thermometer readings on the Building Checklist.

Room 102B	cheddar cheese cooler	43 to 48°F
Room 103	sample refrigerator	0 to 4°C
Room 103	shelf-life refrigerator	3 to 6°C
Room 103	culture freezer	-83 to -77°C
Room 103	sample freezer	-20 to -15°C
Room 108	raw milk refrigerator	0 to 4°C
Room 111	ingredient freezer	-25 to -15°F
Room 112	ingredient cooler	34 to 40°F
Room 114	blast freezer	-30 to -22°F
Room 116	cold dock	34 to 40°F
Room 117	storage freezer	-25 to -15°F
Room 117A	tempering freezer	3 to 10°F
Room 118	milk and cheese cooler	34 to 40°F

- b. At other critical locations throughout the building, record the temperatures in the freezers and refrigerators on the Building Checklist. The recommended temperatures are listed below.
 

Room 127	retail sales cooler	38°F
Room 127A	retail sales freezer	-15°F
Room 134A	dry pilot plant cooler	38°F
Room 135A	wet pilot plant cooler	38°F
Room 135B	wet pilot plant freezer	0°F
Room 415	pathogen pilot plant cooler	38°F
Room 415	pathogen pilot plant freezer	0°F
- 5. Check that the building is secure.
  - a. Notify campus police (863-1111) if you find any unauthorized people in the building.
  - b. All exterior and interior doors should be locked. The two roll-down doors in the processing area should be lowered. Note on the Building Checklist the condition of the following doors.
    - Room 101 processing plant door leading to the front lobby
    - Room 106 door between receiving bay and tank hall
    - Room 108 receiving bay truck doors and walk-thru doors
    - Room 109 Creamery corridor doors
    - Room 119 doors from Creamery office to salesroom and retail sales preparation area
    - Room 120 vault
    - Room 122 salesroom supervisor's office
    - Room 129 all salesroom exterior and interior doors
    - Room 134 dry pilot plant
    - Room 135 wet pilot plant
    - Room 136 room between wet and dry pilot plants
    - Room 202 main door to the Food Science Department administrative suite
    - Room M233 ammonia compressor room door
    - Room 236 front and rear doors to the bottle preparation room
  - c. Also verify that the small safe located in the retail sales preparation area (room 124) is locked.

**RECORDKEEPING**

- 1. Building Checklists should be filled out, signed and dated each time an inspection of the building is performed.
- 2. All completed Building Checklists shall be retained for at least three months.

**REFERENCES**

- 1. Penn State College of Agricultural Sciences building floor plans can be accessed at <http://www.cas.psu.edu/construction/FoodSci/2.html>
- 2. Attachment: Building Checklist

The following individual is responsible for implementation of this SOP and has the overall authority on-site:

Name: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_