1.0 OBJECTIVE

To describe the validation, monitoring and emergency procedures for the heating, ventilation and air conditioning systems for the animal housing facility at the Godley-Snell Research Center.

2.0 HEALTH AND SAFETY

N/A

3.0 PERSONNEL/TRAINING/RESPONSIBILITIES

Director of Operations: Training and familiarity with the Johnson Control building control systems, web based Metasys and M-Web software programs and Edstrom Watchdog Version 5 Environmental Monitoring System and software. Responsible for routine monitoring of systems and responding to all building system failures, follow through and documentation of building system failures. Responsible for scheduling system preventative maintenance and routine monitoring and updates of room parameters.

Facility Supervisors: Training and familiarity with the Johnson Control building control systems, web based Metasys and M-Web software programs and Edstrom Watchdog Version 5 Environmental Monitoring System and software. Responsible for routine monitoring of facility room temperatures, air flow, humidity and light cycles and maintenance of thermometers, chart recorders, light timers and other instruments. Back-up responsibility for responding to after-hours building system failures.

Animal Care Personnel: Training and familiarity with this SOP. Responsible for recording animal room temperatures and reporting any deviations in environmental parameters, including temperatures, air flow, humidity and light cycles to Supervisors or the Director of Operations.

4.0 MATERIALS AND EQUIPMENT

Johnson Control Building Systems and Metasys software
Edstrom Watchdog V5 Environmental Monitoring System (EMS)
EMS Central Processor (Room 102)
Dickson Temperature/Humidity Chart Recorder, serial #7311512
Thermo-Hygro Digital Temperature/Humidity Instrument
High/Low Mercury Thermometers

5.0 GUIDELINES
"Guide for the Care and Use of Laboratory Animals (Guide)", 1996

6.0 PROCEDURES

6.1 **General**: Environmental parameters (room temperatures, light cycles and air flow/pressure differentials, relative humidity) are controlled and monitored using the Johnson Control Building Systems according to species recommendations in the "Guide". Parameters are also monitored continuously by the EMS.

6.2 **Warning Systems**: Environmental parameters occurring outside the specified range trigger an alarm at the EMS central computer in Room 102. These alarms are sent by phone, email and/or pager to designated persons. When an alarm is received during business hours, facility maintenance personnel are contacted directly. After business hours, weekends and holidays a telephone dial-out alarm is initiated. Individuals receiving telephone alarms after hours are instructed to contact the Campus Security at 656-2222 which will contact facility maintenance personnel on duty. The Director of Operations and Facility Supervisor have access to the web-based environmental control systems and can monitor system failures from their home computers.

6.3 **Documentation of Heating, Ventilation and Air Conditioning (HVAC) Failure**: Documentation of environmental parameters during an HVAC Failure is maintained by the by the EMS. A description of the problem may be documented on the system by the Director of Operations or Facility Supervisor. Documentation of temperature ranges and building system failures is also recorded on the Daily Record Sheet for each animal room affected.

6.4 **Monitoring and Validation**: Recalibration and validation of the Watchdog EMS is performed at least once a year by Edstrom Industries. Reports are maintained in the EMS report book.

Environmental parameter reports are printed from the EMS at least once a month and reviewed by the Director of Operations. High/Low temperatures are recorded daily by animal care staff on duty from the animal room thermometers. Temperature and humidity readings may be validated by a chart recorder or digital temperature/humidity instrument when significant deviations occur. High/Low thermometers in the animal rooms may also be used to validate temperatures.

6.5 **Emergency Power Failure**: A fuel powered emergency generator will automatically engage within 30 seconds of an electrical power failure. The generator will maintain electrical power to building air handlers, emergency lighting and emergency electrical outlets. Emergency electrical outlets are identified with red cover plates.