STANDARD OPERATING PROCEDURES

DIVISION OF COMPARATIVE MEDICINE
UNIVERSITY OF SOUTH FLORIDA

TITLE:	**Tecniplast Xenoplus™ Stand-Alone Housing System**
SCOPE:	Research and Animal Care Personnel
RESPONSIBILITY:	Facility Manager, Professional and Administrative Staff
PURPOSE:	To Outline the Proper Procedures for the Operation and Maintenance of an Tecniplast Xenoplus™ Stand-Alone System

I. PURPOSE

1. This procedure outlines the operation and maintenance of the Tecniplast Xenoplus™ Stand-Alone System.

II. RESPONSIBILITY

1. It is the responsibility of the Facility Manager to ensure that the system is properly maintained and in good working order.

2. It is the responsibility of the veterinary professional, administrative, and managerial staff to ensure that all research and technical staff using this equipment are adequately trained and experienced in the use of the Tecniplast Xenoplus™ Stand-Alone System.

3. It is the responsibility of the personnel using this equipment to be familiar with the user manual in order to fully to understand the operation and maintenance of the system.

III. SYSTEM APPLICATION

1. The Tecniplast Xenoplus™ Stand-Alone System is an automated closed re-circulating aquaria system designed to house Xenopus species and to control and monitor water conditions and water quality within the system.

2. The system is composed of a water treatment unit, buffering system, rack, tanks and touch-screen control.

IV. SYSTEM START UP AND USE

1. For system start-up and acclimation refer to the user manual.

V. MAINTENANCE

1. **Daily Maintenance**- The following are checked daily to verify the components of the system are functioning properly. If all components are operating normally the room technician will record their initials on the ***Room Status Sheet*** in the “System” column for the corresponding date. If any component is not functioning properly then place

the corresponding code listed in the in the “System” column and describe the corrective action taken in the “Environmental Concerns” column.

a. **Display**- check the display at least daily to verify the system is operational, free of alarm messages, and record the water quality information (e.g., temp, pH, conductivity) on the ***Room Status Sheet***.
b. **System Function**- correct operation of the main components of the system can be verified by observing touch screen displays.
c. **Buffering Tank Inspection**- visually inspect both buffering system tanks (i.e., pH and conductivity) to ensure adequate volume of buffering solutions. Refer to operations manual for buffer tank cleaning and refilling procedure. Each tank holds 11 liters of solution if filled up to the black mark inside each tank. pH solution should be mixed at 30 grams of sodium bicarbonate per liter or 330 grams/tank. Conductivity solution should be mixed at 20 grams of Instant Ocean per liter or 220 grams/tank.
d. **Pre-Filter Pad**- replace daily. Used filter may be washed in warm water, dried, and reused.
e. **Mechanical Filter**- visually inspect for discoloration and replace when pressure downstream of the filter drops below 0.3 bar. Refer to user manual for cartridge replacement instructions.
f. **Charcoal Filter**- visually inspect and replace every month.
g. **UV Light**- inspect light to verify it is on. The UV lamp can be inspected through the small hole in the black cap on the UV housing.
h. **Frog tanks**-
    a. **Water inlet pipes**- check for proper placement and flow.
    b. **Stand pipes**- check for clogging (e.g., debris and food).

2. **Weekly Maintenance**
    a. **Water Quality**- conduct manual water analysis to ensure the following are within acceptable limits and record results on the ***Xenoplus™ Weekly Manual Water Parameters*** log:
        1. **Temperature** - 64-68 ^{0}F
        2. **pH** - 6.5-8.5
        3. **Conductivity** - 1100 - 2000uS
        4. **Ammonia (NH_4)** - < 0.2mg/L
        5. **Nitrite (NO_2)** - <0.2mg/L
        6. **Chlorine (Cl)** - 0mg/L
        7. **Water hardness ($CaCO_3$)** - 80-200 ppm
    b. **Sump Filter**- cleaned

5. **Six-Month Maintenance**
    a. **Clean Bio-Filter-** Every 6 months remove bottom ½ the bio-filter bags and physically shake in a container of reverse osmosis water to remove any gross accumulation of bio-mass. **Cleaning the bio-filters will release a lot bio-debris and should be performed prior to changing the mechanical filter for that month**.
    b.