

**UNIVERSITY OF ROCHESTER
ENVIRONMENTAL HEALTH & SAFETY**

Policy No.: FS036	Approved by: Mark Cavanaugh
Title: Fire Extinguisher Trainer Operations and Recharge	Date: 6/21/2022
Revision No.: 3 – no changes	Page 1 of 6
Prepared by: Brian Prinzing	
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I. PURPOSE

This policy/procedure establishes the proper steps for set up, and operation of the BullEx I.T.S Xtreme training system.

II. PERSONNEL AFFECTED

Fire Safety staff

III. DEFINITIONS

I.T.S- Intelligent Training System

LP- Liquid Propane

IV. RESPONSIBILITIES

The Fire Safety personnel conducting this training are responsible for following the proper procedures for set up, and operation of the fire extinguisher trainer. No person shall recharge a fire extinguisher without going through the “Train-the-Trainer” instructions.

V. PROCEDURES

A. Set Up

- a. Place the I.T.S. Xtreme base unit in an open area away (at least 35 feet) from all combustible materials. The I.T.S. Xtreme should be placed downwind; the wind should be at the trainee’s back and blowing into the front of the training system.
- b. The base unit must be level prior to use. Using the adjustable feet, ensure the I.T.S. Xtreme is stable and level. The feet may be adjusted from the bottom of I.T.S. Xtreme by screwing them in or out. Use the overflow cut-outs to see if the I.T.S. Xtreme unit is level. This can be done by checking the water level on either side of the I.T.S. Xtreme unit. The water should be the same height on both sides relative to the overflow cut-outs.
- c. Remove the sensor guard by pulling the center of the guard above the “II” in BullEx.
- d. Inspect the trainer for any signs of physical damage. If there is any sign of physical damage, STOP and call BullEx customer support at 1-888-428-5539.
- e. Plug the male end of the controller cable into the connector on the handheld controller.
- f. Plug the female end of the controller cable into the connector on the handheld controller

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- g. Attach the yellow power cable to the rear of the trainer’s base unit by lining up the guide marks on the inside of the plug and screwing the connectors together.
- h. Place the propane cylinder 8-10 feet behind the trainer base unit.
- i. Place the gas hose in a safe position; place the hose out of pathways where people may trip over it or in areas where the hose may subject to accidental damage.
- j. Ensure the valve on the propane cylinder is closed completely.
- k. Thread the propane fitting into the regulator side of the hose, and then tighten the connection until it is snug.
- l. Connect the quick disconnect end of the propane hose to the quick disconnect propane inlet on the rear of the trainer’s base unit. To do this pull the front of the coupling back and insert the coupling into the plug. Push it forward until you hear a click.
- m. Slowly open the valve on the propane cylinder.
- n. Fill the ITS burn pan with water. The I.T.S. Xtreme must be filled with water to the “overflow” marks on the sidewalls of the burn pan before use. This will prevent overheating. It’s ok if water spills over while filling the pan; do not pour directly into the burners!
- o. Plug the male end into a 12-volt receptacle. Control may have an “error code” for 12V receptacle after start up. Unplug from the power source and wait 10 seconds before continuing to Step B (“Unlocking the controller” on p.3).
- p. Be sure to inspect the appliance before each use.
- q. The hose assembly shall be visually inspected prior to each use. If it is evident there is excessive abrasion or wear, or the hose is cut, it must be replaced prior to operation. The replacement hose assembly shall be that specified by the manufacturer.
- r. Measure 8ft. from the front of the I.T.S. Xtreme unit and mark the ground. This is where the trainee will stand when using the Smart Extinguisher to extinguish the flame. Trainees should remain behind these marks at all times during training.
- s. The Smart Extinguisher must be charged prior to each training evolution.
 - a. Remove the extinguisher’s headstock.
 - b. Fill the extinguisher with 4 liters of water.
 - c. Place the extinguisher in the cage, and that the cage is securely closed. This is to ensure your safety in the event that the extinguisher has a catastrophic failure while pressurizing.
 - d. Pressurize to 100 PSI using the air compressor and proper attachment.
 - e. After each evolution recharge the Smart Extinguisher with air to 100 PSI.

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- f. The Smart Extinguisher can be discharged five times before requiring a water refill.
 - g. If the Smart Extinguisher is not available, Class-A water fire extinguishers are acceptable to use in its place.
- B. Unlocking the controller:
- a. Make sure that none of the push buttons on the Handheld Controller are depressed.
 - b. Make sure the gas supply valve located on top of your LP tank is open. When I.T.S. Xtreme is powered up, the Handheld Controller will display, “Enter start-up code.
 - c. Enter the following sequence:
 1. Move selector knob to “FULL”
 2. Press and release the FLARE UP switch
 3. Move the selector knob to “A”
 4. Press and release the FLARE UP switch
 - d. This will activate the system and the Handheld Controller will display “Level 2 EStop”. The I.T.S. Xtreme is now ready for use.
- C. Selecting the difficulty level:
- a. To select a difficulty level, ensure that the IGNITION button is NOT depressed, then press and hold the FLARE UP button.
 - b. After holding the down only, the FLARE UP button for two seconds the Handheld Controller will display “Difficulty set: Level X” (where X is the difficulty level).
 - c. While continuing to hold the FLARE UP button down, use the selector knob to select a difficulty level. The levels are displayed in red next to the class. (1 [easiest] – 4 [hardest]).
- D. Changing the class of fire simulation:
- a. The I.T.S. Xtreme can simulate the way class A, B and C fires respond to a live fire extinguisher. For example, Class A fires respond by gradually extinguishing with proper application of a dry-chemical extinguisher, while Class B fires are easily “knocked down” by a single sweep, but are quick to “flare up” if enough extinguishing agent is not discharged. I.T.S. Xtreme, has the ability to simulate these different responses.
 - b. Use the selector switch to select the class of fire to simulate. The selector switch may only be switched between training evolutions. The selector switch may NOT be switched during a simulation. In order to change the mode, the controller must say “Level 1 (or 2, 3, 4) EStop.”
 - c. Switch to “A” for Class A “Common Combustibles” fires.
 - d. Switch to “B” for Class B “Flammable Liquids” fires.

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- e. Switch to “C” for Class C “Electrical” fires.
 - f. The class will be displayed on the top line of the Handheld Controller.
 When the selector switch is set to “FULL,” and a training evolution is conducted, the sensors are disabled. I.T.S. Xtreme will not respond to the Smart Extinguisher’s signal and the flames will remain at full until the evolution is stopped. “Sensors Disabled” will be displayed on the top line of the Handheld controller screen.
- E. Lighting the pilot:
- a. When the level and class of fire have been selected, the system is ready to be lit.
 - b. To light the system, **press and hold** the IGNITION button on the Handheld Controller.
 - c. The system will beep while I.T.S. Xtreme begins to light the pilot. You will also hear a clicking, which is the electric ignition attempting to light the pilot.
 - d. If the pilot does not light in 10 seconds, release the IGNITION button and wait 1-2 minutes before trying again. When first lighting the pilot, the propane hose is filled with air which has to be “purged” by the propane, it can take up to one minute to light the pilot the first time during a training session. If the pilot does not successfully light, call 1-888-428-5539 for assistance.
 - e. Once the pilot has been successfully lit the system will beep again and light the burners.
 - f. Continue to hold the IGNITION button. The system will beep three times in quick succession and start the timer on the Handheld Controller. Discharge the Smart Extinguisher any time after the three beeps.
 - g. The ignition button is an Emergency Stop Button (“Deadman Switch”) and must be held down the entire time the system is running. Letting go of that button trips the emergency stop and prevents propane from entering the system. Releasing this button will disengage the pilot and stop all gas flow. If using a Class A water extinguisher instead of the Smart Extinguisher use this switch to end the training scenario once the trainee has demonstrated proper use of the extinguisher.
 - h. If I.T.S. Xtreme burners run at full for more than 30 seconds, it will automatically shut off the burner flames, ending the training evolution. Once I.T.S. Xtreme has automatically shut down, the system may be restarted by pressing the IGNITION button. Timing of the training can be seen on the remote control display.

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F. Using the flare up button:

- a. At any point during the training evolution the FLARE UP button can be pressed to immediately relight the burners. When FLARE UP is pressed this will introduce more LP into the simulator creating a larger fire than the standard test mode.
- b. The FLARE UP button can also be pressed three seconds after the flames have been extinguished and it will relight the burners and continue the timer. The timer will continue uninterrupted as if the flames were never extinguished, the screen will display Flare Up! as well.

G. Shut-down operation:

- a. To shut down the I.T.S. Xtreme release the IGNITION button.
- b. Turn off the LP cylinder gas supply valve located on top of the 20 lb. LP gas tank by turning the knob clockwise until snug.
- c. Loosen the drain cock underneath the burn pan and drain the water from I.T.S. Xtreme
- d. Unplug the yellow power cable from the 12V power supply.
- e. Unscrew the power cable from the rear of the I.T.S. Xtreme base unit.
- f. Unplug the Handheld Controller cable from the controller.
- g. Unplug the Handheld Controller from the rear of the I.T.S. Xtreme base unit.
- h. Release the propane hose quick disconnect from the rear of the I.T.S. Xtreme base unit.
- i. Unscrew the propane hose/regulator assembly from the LP cylinder. After steps “d” through “f” have been completed, be sure that all cables/hoses have been dried if wet to avoid damage to the I.T.S. controller. These parts all go together in the storage case and any water can damage the display on the controller.
- j. When operating, surfaces of the I.T.S. Xtreme reach extremely high temperatures wait until I.T.S. Xtreme is completely cooled before touching any surfaces. **The operator should wait a minimum of 15 minutes before handling.** When the water has drained out of the burn pan the system will be cool.
- k. After I.T.S. Xtreme has cooled wipe down any soot-covered areas with a cloth and water. Be sure to clean the burners and remove any deposits, especially around the burner holes; after draining the water and cleaning the I.T.S. pan, wipe the I.T.S. down with a dry cloth, absorbing most of the moisture/water left in the pan.
- l. Replace the sensor guard by holding it in position and pressing the top of the guard above the “II” in BullEx, the guard will snap into place.

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- m. Place I.T.S. Xtreme in a secure and safe place for transportation.
- n. Before storage, place the I.T.S in the storage box with the top opened and let air dry overnight, the I.T.S. Xtreme should be completely dry to prevent damage.

H. Important Information

- a. In the event that the I.T.S needs to be repaired or is not working properly, call BullEx at 1-888-428-5539. The following information will be requested by a customer service representative when inquiring for help. The information provided below is also located on the I.T.S. pan itself located on the rear of the pan on a metal plaque.
P/N: I.T.S. 202
S/N0703-1377
Manufacture Date: 12/2009

VI. REFERENCES

I.T.S. Xtreme Training System user manual
http://www.bullexsafety.com/its_xtreme.aspx

VII. APPENDICES/FORMS – N/A

VIII. REVISION HISTORY

Date	Revision No.	Description
3/7/2012	New	Initial development of policy
1/14/2016	1	Triennial review of policy
6/4/2019	2	Triennial review of policy
6/21/2022	3	Triennial review of policy – no changes