

## 5.10 SURPLUS PROPERTY HAZARD MANAGEMENT PROGRAM

This program contains requirements for practices designed and implemented to protect faculty, staff, students, visitors, the general public and the environment from the risks of exposure to hazardous surplus property items used in University-related activities and to ensure compliance with federal, state and local safety, health and environmental regulations.

### A. SCOPE

This program is applicable to all faculty, staff, students, visitors, and UNM contractors who process for reuse, salvage, or disposal, surplus property items that have been involved in University-related activities regardless of whether they are owned by the University or not.

### B. INTRODUCTION

Many property items contain or are contaminated with materials of a chemical, biological, or radioactive nature. Other property items present a physical or electrical hazard. It is critical that these items are surveyed by SRS staff prior to processing them in any way, including through the Surplus Property Department, due to their potentially hazardous nature and/or due to the regulations that impose restrictions on their use and disposal. SRS's Radiation Safety Division coordinates the processing and release of items with the possibility of radioactive materials contamination, items containing radioactive materials or sources, or radiation producing equipment. SRS coordinates the identification, processing, and release of all other hazardous property items.

### C. DEFINITIONS

**Hazardous Property Item** - A hazardous property item is any item or material that contains, has previously contained, or has been exposed to any of the following substances or that presents the following hazards:

<b>Asbestos;</b> anything containing friable (easily crumbled) asbestos;	<b>Biological Agents;</b> potentially infectious materials
<b>Batteries;</b> lead-acid, silver-zinc, nickel-cadmium; (exception: carbon-zinc and alkaline)	<b>Chemicals;</b> gaseous, semisolid, liquid or solid; such as flammables and combustibles with less than 141 <sup>0</sup> F flashpoint, corrosives, reactives, or toxics
<b>Compressed Gases;</b> greater than 25 psig	<b>Cryogenics;</b> Liquid Nitrogen
<b>Electrical Hazards;</b> batteries, resistor banks, power supplies; an item with greater than 10 Joules of stored energy	<b>Energetic Materials;</b> explosives, pyrotechnics, or pyrophorics
<b>Modified or broken items that may be unsafe;</b> lasers, power supplies	<b>Petroleum products;</b> or other oils, greases, or fuels

**Polychlorinated Biphenyls (PCBs);** greater than or equal to a concentration of 50 parts per million

**Radioactive Materials, Radiation Producing Machines, Internal Radiation Sources**

**D. PROCEDURE**

**1. Identify the Hazards -** Identify all surplus items that are hazardous or contain hazardous or radioactive material by:

- a. Relying on your own knowledge or the user’s knowledge of the process that the surplus item was involved in.
- b. Contacting the previous owner, if known, for the item’s history.
- c. Referring to Material Safety Data Sheets (MSDSs) and/or manufacturer’s literature.
- d. Calling SRS for assistance.

Some examples of items that were manufactured with hazardous or radioactive materials present in them or that produce radiation are:

Asbestos-containing ovens, furnaces	Calibration equipment containing radioactive sources or hazardous elemental or chemical sources	Large special application lenses such as those used in cameras and lasers
Liquid Scintillation Counters	Mercury thermometers, manometers, barometers	PCB-containing capacitors, light ballasts
Smoke detectors	Tritium-containing emergency exit signs	X-ray units or electron microscopes

**2. Assume Item is Contaminated if the Potential Exists -** If any surplus item potentially meets the definition of a hazardous property item as defined above and it is intended to be processed through the Surplus Property Department, assume that it meets the definition and proceed with the following steps:

- a. Find another qualified user at UNM.
- b. If feasible, decontaminate it (see Section D4).
- c. Dispose of it through SRS.

**3. Attempt to Find Another Qualified User** - Make a reasonable effort to determine whether another UNM organization can use the item by:

- a. Checking with other personnel who do similar work.
- b. Attempting to locate other personnel using similar items.
- c. Advertising the item to UNM organizations through newsletters, bulletin boards, or the Internet.

**Note:** Personnel should always consider surplus property as the first source of supply before purchasing new items.

**4. Mitigate or Remove the Hazards** - In many cases, hazardous items can be processed directly to Surplus Property or be transferred to other UNM users after being rendered non-hazardous by one or more of the following procedures:

- Removing contamination (first contact SRS, as appropriate)
- Securing moving parts for transport according to manufacturer's instructions
- Draining oil, grease, fuel, or other hazardous liquids unless:
  - The equipment is sealed and will not leak
  - You cannot drain the liquid safely
  - Draining the fluid will ruin the equipment.
  - The fluid is freon or contains freon.

**Note:** If any hazardous liquids were drained, they must be disposed of as hazardous chemical waste according to SRS's Hazardous Chemical Waste Program.

- Reversing any endangering equipment modifications by:
  - Reconnecting safety features
  - Disconnecting "add on" devices
  - Replacing the original housing unit
  - Removing devices designed to inhibit normal operation

**Chemical Decontamination:** Do not attempt to perform chemical decontamination without consulting SRS for assistance.

**5. Rejected Items** - If Surplus Property determines that certain surplus items cannot be processed through Surplus Property as is, SRS suggests that you take certain steps necessary to make items acceptable and pursue available disposal options.

You may wish to consider disposing of the item as waste (especially if it is hazardous) or removing the hazardous or radioactive component.

## D. Specific Property Items

Because UNM uses a variety of property items containing hazardous or radioactive materials or components, there are accepted practices for handling these items.

**1. Fluorescent Lamp Ballasts** - Some Fluorescent lamp ballasts have PCB-containing oil-filled capacitors and potting compound. Unless the ballast is labeled "No PCBs," it must be assumed to contain PCBs.

**2. Hydraulic Systems** - Some hydraulic systems contain PCBs in the hydraulic fluid. All hydraulic systems submitted for reapplication must be tested for PCBs unless they are clearly labeled as being free of PCBs or the generator has written documentation to that effect.

**3. Inductors Potted with Asphaltic Material** - Certain models of inductor commonly found in power supplies for electronic equipment were potted with an asphaltic material during manufacture. This asphaltic may have been "cut" or thinned with mineral oil to give it the right consistency. Over time, this oil, which may contain PCBs, may have separated from the asphaltic. Inductors manufactured before 1982 and answering this description must be assumed to contain PCBs unless they have been tested.

**4. Mercury Relays and Switches** - Certain electronic relays and switches as well as early vapor tubes contain mercury, which is a toxic heavy metal. Mercury relays are commonly used in switching equipment. They contain a mercury wetted contact type switch hermetically sealed under pressure in a gas filled envelope, with the metal casing filled with a potting compound. Mercury relays have either a circular or a rectangular base. The ones with a rectangular base have prongs on either the bottom or the other side of the relay. Mercury relays should be labeled with one or more of the following warnings:

- "UP"
- "Danger"
- "High Pressure, Do Not Open"
- An arrow pointing up when the relay is mounted correctly

Mercury switches are found as stand alone components as well, but they may not be marked with any warning labels. If the system containing these components is in good condition, owners should send it to Surplus Property with the mercury containing components installed. If the system does not work for any reason, send the mercury containing parts to SRS.

**5. Oil-Filled Transformers** - Any transformer using liquid dielectric must be assumed to contain PCBs unless its dielectric fluid has been sampled or the transformer has been certified by the manufacturer on the name plate to contain less than 50 parts per million (ppm) of PCBs.

**6. Planar Triode Electron Tubes Containing Beryllium Oxide** - Certain planar triode electron tubes contain insulators made of beryllium oxide. If the coating is in good condition and the item is in working order, these tubes can be sent to Surplus Property. Otherwise, handle the item as a hazardous chemical waste.

**7. Polychlorinated Biphenyls (PCBs)** - Even though the U.S. Environmental Protection Agency (EPA) banned the manufacture and distribution of PCBs in 1979, there is still a chance that oil containing devices with PCBs could exist at UNM. PCBs were used in liquid-filled electrical and electronic equipment because of their unique insulating properties. For information about the health and environmental effects of PCBs, consult SRS's Polychlorinated Biphenyls (PCBs) Program.

**Oil-Containing Devices That May Contain PCBs:**

Capacitors and transformers	Circuit breakers and switches	Electromagnets
Fluorescent lamp ballasts	Hydraulic systems (some)	Inductors potted with asphaltic material
Oil insulated cable	Reclosures	Transformer bushings
Voltage regulators		

Personnel wanting to re-apply any of these types of components must contact SRS to have their property items inspected. Devices that contain free liquids cannot be accepted by Surplus Property unless their factory seals are intact. **Note:** Electrolytic capacitors are not oil filled and, therefore, do not contain PCBs.

Common PCB Trade Names - Some of the more common trade names under which PCBs were manufactured. These names may or may not appear somewhere on the unit.

Capacitors		Other Devices	
Aroclor	Elemex	Abestol	Inerteen
Askarel	Eucarel	Aroclor	Nepolin
Clorinol	Hyvol	Askarel	No-Flamol
Clorphen	Inerteen	Chlorextol	Saf-T-Kuhl
Diaclor	MCS 1489	Dykanol	Pyranol
Dykanol	Pyranol	EEC-18	

**8. Radiation-Related Equipment** - The Radiation Safety Division must perform a radiation release survey of any equipment which has been used to process, store, or handle radioactive materials prior to its release from the permitted radioactive use location (e.g. laboratory).