

NASA Stennis Space Center Environmental Resources Document

8.0 Toxic Substances

The Toxic Substances Control Act (TSCA) was enacted to protect human health and the environment by regulating chemicals used in commerce and newly developed chemicals. Under TSCA, EPA places controls on chemical manufacture, distribution, use, and disposal. Included in TSCA are a variety of requirements to control the manufacture, distribution in commerce, use, and disposal of specific chemical substances or mixtures. At SSC, TSCA's primary applicability relates to the decontamination and disposal of PCB-contaminated electrical equipment and the removal and disposal of asbestos insulating materials.

8.1 Polychlorinated Biphenyl's (PCB's)

In March 1989, SSC implemented a program to reduce the use of PCBs on site, and in 1993 accomplished this by retrofitting PCB transformers with non-PCB electrical insulating oil. The PCB fluids were properly disposed. These transformers were then resampled to verify that the PCB content was less than 500 ppm, and to ensure compliance with EPA regulations.

Due to the minimal load on the transformers and the slow leaching of PCBs trapped inside the transformer coils, the PCB content of the retrofilled transformers has increased. Currently there are 16 large, pad-mounted PCB transformers in use at SSC. All pole-mounted and smaller pad-mounted transformers containing PCBs have been removed. In accordance with regulatory requirements, SSC conducts inspections on the transformers and develops an annual PCB status report.

Fluorescent lighting fixtures with PCB containing ballasts are replaced upon failure with non-PCB ballasts. They are disposed in accordance with state and federal regulations.

8.2 Asbestos

This program is intended to serve as an operations and maintenance plan for managing asbestos in place by monitoring and maintaining its condition, ensuring proper cleanup of fibers previously released, and preventing further release. On-going monitoring has shown that the measured concentration of asbestos in SSC buildings is less than the 0.01 fibers per cubic centimeter (cc). The current OSHA standard for asbestos workers is 0.10 fibers/cc.

Asbestos Containing Material (ACM) was used at SSC for fire protection and thermal insulation. ACM used for fire protection is usually spray-applied in a thin layer over building structural

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components including structural steel in I-beams and corrugated steel decking. Thermal insulation is usually found as a troweled-on thermal insulation found primarily in mechanical equipment rooms covering pipes, ductwork, and air handling equipment. Frequently, straight runs of pipe are insulated with fiberglass, with the elbows, tees, and valves having ACM insulation. Rarely would building occupants encounter asbestos containing material.

Spray-applied asbestos insulation (SAAI) has been found above ceiling tile in labs, offices, and hallways in buildings 1000, 1100, 1200, 2101, and 2201. Debris and small pieces of asbestos insulation, which have accumulated over the years since these buildings were constructed, are visible on top of ceiling tiles (1). In 1998 a floor tile survey was completed that identified all asbestos containing floor tile at the Center.

A detailed assessment of the condition of ACM materials and preliminary cost projections for removal and replacement of ACM was completed in 1990. Buildings affected with ACM were 1000, 1100, 1105, 1110, 1200, 1201, 2101, 2105, 2201, 2204, 2205, 2421, 2423, 2424, 3101, 3202, 3203, 3204, 3305, 4110, 4120, 4122, 4210, 4220, 4400, 4995, 7001, 8100, 8110, 8130, and 8201. A detailed breakdown of this survey is given in Appendix F.

The Asbestos Hazard Control Plan provides for:

- Notification to all persons affected by the presence of ACM
- Reinspection of all ACM by a qualified inspector every three years and routine surveillance of ACM by a trained maintenance worker every six months
- On-going reports of changes in ACM condition by service workers
- Air monitoring to establish baseline conditions, in conjunction with visual reinspection (air monitoring is conducted annually in the five buildings with SAAI)
- Corrective action based on detection of ACM damage or deterioration

Control has been established on all work that could disturb ACM. Operations and maintenance work practices have been established, including worker health and safety training and protection,

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recordkeeping of all documents related to asbestos management, and approval procedures for operations and maintenance activities in areas where ACM may be disturbed.

When renovation, demolition, or deterioration require the removal of asbestos-containing surface material or thermal system insulation, the work is performed by a licensed asbestos abatement contractor in accordance with state and federal regulations. All removed asbestos is disposed of in the on-site non-hazardous solid waste landfill as approved by the Mississippi Department of Environmental Quality.

8.3 Other TSCA-Regulated Substances

In addition to PCBs and asbestos, EPA currently regulates chlorofluorocarbons (CFCs) under its TSCA authority. CFCs and their planned phase out are discussed in Section 2.0, Air Resources, as are other air toxic pollutants. No other substances regulated under TSCA are known to be present at SSC.

8.4 Major Environmental Considerations for Proposed Actions

The following are regulatory considerations for proposed projects involving chemical substances that are regulated under TSCA:

- Will any new action result in the use or disturbance of PCBs, asbestos, or other substances regulated under TSCA at SSC?
- Will any new action impact areas at SSC already identified as having PCB's or ACM present?

If any of these considerations apply to a proposed project, NASA Environmental Management should be contacted to discuss measures needed to ensure TSCA compliance. The NASA Environmental office can provide assistance in making these determinations. All construction and testing operations must be coordinated through NASA Environmental Management to properly address environmental impacts.

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8.5 References

1. NASA, 1997, Asbestos Hazard Control Plan.