

State of West Virginia Field Sampling Team Standard Operating Procedures (SOP)



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Background

This Standard Operating Procedure (SOP) was prepared to assist the West Virginia Field Sampling Teams (FST) in collecting samples such as fruit, vegetables, game, and other items for laboratory analysis in the event of a contamination incident involving nuclear materials. This SOP covers collection techniques, packaging samples for transport, documentation, cross-contamination safeguards and waste control.

Overview

There is one 50-mile radius Ingestion Exposure Pathway (IEP) Emergency Planning Zone (EPZ) associated with a nuclear power plant affecting the State of West Virginia. The Beaver Valley Power Station affects four (4) counties in the northern panhandle of West Virginia. Hancock County is in both the 10-mile Plume EPZ and the 50-mile IEP EPZ. Brooke County and Ohio County are wholly in the 50-mile IEP EPZ and Marshall County is partially in 50-mile IEP EPZ.

- The State of West Virginia accepts the planning guidance of the Food and Drug Administration (FDA) concerning emergency action levels for dealing with accidental radioactive contamination of human food and animal feeds. *Note: The FDA guidance was published August 13th, 1998.*
- The West Virginia State Recovery Task Force (SRTF) will use the FDA guidance in making its recommendation to the Governor of the State of West Virginia.

Responsibilities

FST responsibilities during an emergency involving nuclear materials include:

- The collection of samples within the area affected by the radiological release from BVPS
 - To determine if contamination of plants or animals has occurred or is present
 - To determine if radiation levels remain within permissible limits for ingestion
 - To determine if consumables exceed permissible limits for radiation
- Collecting data for actions taken by the SRTF including, but not limited to, issuance of embargoes or restrictions or public precautionary actions involving the consumption, sale, transport, or processing of foods.

These procedures do not provide for radiological contamination control techniques or address exposure control. Overseeing the actions related to these activities is the responsibility of the Escorts who shall accompany the FST, if assignments include restricted areas where exposure limits exceed those established for occupancy by the public. FST procedures attempt to minimize cross-contamination in all areas where sampling occurs.

General Operations

These procedures provide a basis for control of cross-contamination of samples since the majority of the sampling performed by the sample teams is within the 50-mile Ingestion EPZ.

Sampling teams **must** stay below a total accumulative dose of **5 rem TEDE with an administrative limit at 1R or 0.5R/hr**. Escorts from the Field Team Center (FTC), established near the accident site and operated by the West Virginia Division of Homeland Security and Emergency Management WVDHSEM, will provide instruction and continuous supervision on the use of the following:

- Dosimetry to measure personnel exposure
- Protective clothing
- Respirators, if levels of re-suspension warrant use.

In addition, the Escort will advise the sampling team on contamination control techniques and provide instrumentation to check sampling kit equipment for contamination after each use. The Escort and FST will proceed with samples to a Sample Reception Center (SRC) and proceed through sample reception, monitoring, and decontamination (if needed).

Concept of Operations

The State Emergency Operations Center (SEOC) will activate dose assessment personnel through the Department of Health and Human Resources (DHHR), when it has determined that a radioactive release involving a fixed nuclear facility has occurred and may affect West Virginia.

Dose Assessment personnel from DHHR will determine the operational location for the SRC, after conferring with the DHSEM and assessing the possibility of co-location with the FTC, and dispatch personnel to establish the SRC.

The SRTF will use accident assessment information, meteorological data (from the date of the incident), flyover information provided by federal assets, and information provided by local authorities to determine:

- Types of samples required
- Number of each sample type required
- Approximate locations for each sample type.

Based on the above requirements, the SRTF will instruct the SRC via the FTC on sample requirements.

The SRTF will instruct the SRC Coordinator on delivery location for the samples.

Dose Assessment personnel will make protective action recommendations to the SRTF based on the results from the laboratory analysis, using Food and Drug Administration (FDA) and Environmental Protection Agency (EPA) protective action guidance and the EPA Clean Water Act.

Composition

The exact composition of the Field Sampling Teams will vary based on the type and number of samples that will be collected for a given mission. When possible, the sample team should consist of an Escort, a Scribe, a Clean Person, and a Dirty Person. The duties of the Escort have been outlined above. The Scribe will be responsible for ensuring sampling SOP's are followed and recording information about the sample on the appropriate forms. The clean person will be responsible for providing the sampling tools and supplies to the dirty person. The clean person will also receive the bagged sample from the dirty person. The dirty person will be responsible for taking the sample. They will also decontaminate the sampling equipment.

Common Field Sampling Procedures

Before leaving for destination:

- Obtain radio(s) and extra batteries from FTC. Receive briefing on radio functions and protocol. Verify cell phone and FTC phone numbers.
- Inspect sampling kit to ensure its completeness and that all equipment and supplies are available
- Check all survey meters to be used to ensure they are operational and calibrated
- Receive dosimetry briefing from DHHR. At a minimum, the briefing will include information on how to read the dosimeter, how dosimeters are to be worn, how often dosimeters should be read, and turn-back limits (currently 1R or 0.5R/hr)
- Put on ppe per annex
- Begin Sample and Laboratory Data Sheet with information from FTC

Upon arrival at sampling location:

- Contact FTC of arrival and advise property owner of purpose of sampling.
- Conduct sampling and measurements and record information onto Sample and Laboratory Data Sheet.
- Notify FTC of completion of sample and estimated time of travel to proceed to next sample location or to the SRC.