

SECTION 8

FINAL STATUS SURVEY

8.1 A final status survey can be used to show that a NRC licensee's areas of operation are not a hazard to the general public. It can also identify areas where further actions are necessary. The final status survey is also known as a termination survey or a close-out survey of operations involving radioactive material. The survey is a planned and reproducible study of an area that results in a formal report. When combined with data from history review and other surveys the licensee will have the data to show that they are in compliance with all applicable Federal, State and Local radiological regulations.

8.2 Prior to the initiation of the survey, the project officer will coordinate the data from previous surveys to allow for proper planning. This includes the writing of a formal sampling plan with the goals of reproducibility and the final report in mind. It is important to remember that the final report is a collection of all data. If the final status survey is documented in a manner that allows it to be imported directly into the final report much time can be saved.

8.3 Objectives. To demonstrate that all radiological parameters (total surface activity, removable surface activity, and exposure rate) satisfy State of California and NRC established guideline values for release to unrestricted use.

8.4 Presurvey preparations. The project officer will coordinate the lab support, technician support, safety support, and any other support required to perform the survey. He will be responsible for the collection and review of all pertinent documentation and information. He will also ensure that a sampling plan is written to include sampling methods, instrumentation, schedules, costs, analysis, and special considerations.

8.5 Conduct of the Final Status Survey. A Final Status Survey is used to evaluate the site or area's contamination status after all operations and remediations are completed in that area.

8.5.1 Document/Records Review. A thorough review of the Survey Procedures and Survey Reports will be conducted prior to conducting the Final Status Survey. The survey team will develop a sampling plan from the data obtained in all previous surveys and reports. Additional biased sampling locations can be chosen as well.

8.5.2 Survey Preparation. The performance of the actual survey will vary due to installation size, numbers and diversity of facility operations. The applicability of these factors, as well as the time constraints of the survey, will dictate the use of separate or concurrent surveys. The preparation of the site may include, but is not restricted to:

8.5.2.1 Physical inspection of the site to be surveyed to ensure the condition of the site has not changed since the remediation was finished.

8.5.2.2 Preparation of a grid system or any system that can be used to verify that the locations are reproducible locations. If a grid system is not used, then a sampling plan should be designed in such a manner that the locations can easily be reproduced.

8.5.2.3 A clean area, building, room, or office, which has never been compromised by the use, storage, or any activity involving radioactive material, will be converted into a field laboratory. This is where all instrumentation QA/QC functions will be performed and all paperwork can be filled out. If needed a field counting laboratory can also be established, depending on the needs of the project.

8.5.2.4 Background Radiation Study. A radiological background study will be conducted to determine the levels and variance of the natural background radiation which are typical to the area, and to the type of buildings. Areas which are known not to have radioactive material stored or used will be surveyed for this purpose (see Background Study - section 10).

8.5.3 Field measurements and sampling. Stakes, flags, or other temporary markers should be used to define the survey blocks. Elements of this survey design include instrumentation survey techniques, soil sampling, water sampling, and other media samples as needed.

8.5.3.1 Instrumentation Survey Techniques

(A) Alpha survey instruments will be held less than 0.5 cm away from the surface to be surveyed. The alpha probe should be held in place for reading (do not "scan" with the alpha probe).

(B) Beta-gamma survey instruments will be held at approximately 1 cm from the surface to be surveyed. Scanning should be done slowly (at about 2 cm/sec).

(C) Gamma survey instruments will be held about 1 meter from the area to be surveyed.

(D) External radiation exposure measurements will be measured from random grids and recorded in the USAEHA Sampling Sheet (Appendix B).

8.5.4 Quality Assurance/Quality Control. The responsibility of ensuring quality surveys is that of all members of the survey team from laboratory technician on up to senior project officer. All data obtained during any survey should be reviewed by a designated QA/QC project officer. At a minimum the following should be looked for on the Data Collection Forms.

(A) Instruments MDAs are less than 75% of NRC guidelines for release to unrestricted use.

(B) All data sheets are properly filled out.

(C) All instrument operational checks are within the guidelines of NUREG/CR-5849.

(D) A Statistical Analysis of all Data. (See NUREG/CR-5849) Ensure any value above guidelines are explained.

8.5.4.1 Field blanks, blanks, split samples, duplicates, and spikes should be used to ensure quality data. Depending on the size of the survey, the project officer may have the QA/QC officer replicate a portion of the USAEHA's survey to ensure reproducibility and accuracy.

8.5.5 Final Report. A final report will be prepared after completion of field work and analysis of field samples.