

plicable to the instrument type. New facilities for temperature, humidity, vibration, pressure/vacuum and radio frequency field testing are in the process of installation and characterization. With the exception of a few highly specialized tests, PNL has the facilities for all the required testing. Arrangements have been investigated for specialized testing at other laboratories where required by the standard.

In the testing phase of the program, a semi-random sample of production health physics surveillance instruments will be evaluated. Tests are assumed to apply to all instruments of a particular class and will thus permit evaluation of performance specifications in the applicable ANSI standards.

High Efficiency Particulate Air Filter Experience Survey

E. H. Carbaugh

A FY-1981 study of high efficiency particulate air (HEPA) filter experience at DOE sites was concluded with the presentation of summary results at the Seventeenth DOE Nuclear Air Cleaning Conference (Carbaugh 1982). The study evaluated causes and magnitude of HEPA filter changeouts and failures at DOE sites for the years 1977-1979. Several conclusions were inferred from the data including:

- HEPA filters have been generally performing the task they were designed for.
- Most changeouts have been made because of filter plugging, preventive maintenance, or precautionary reasons rather than evidence of filter failure.
- Where failures have been experienced, records generally have not been adequate to determine the cause of failure.
- Where cause of failure has been determined, damage attributed to personnel handling and installation has been substantially more prevalent than that from filter environmental exposure. Some respondents indicated the need for improved personnel training in handling and installation.
- Some reduction in filter failure frequency can be achieved by improving the acid and moisture resistance of filters, and providing adequate pretreatment of air prior to HEPA filtration.

Characterization of Emergency Preparedness at Department of Energy Contractor Facilities

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In 1980 a study was initiated at the request of DOE to expand and upgrade the information/data base contained in a series of five reports (Selby and Unruh 1971; Selby et al. 1972; Andersen, Selby et al. 1974; Anderson, Selby et al. 1976; Bramson, Selby et al. 1976) that characterized DOE facility emergency preparedness in the early 1970s. These earlier studies focused on radiation protection instrumentation used for emergency assessment purposes.

To characterize emergency preparedness in the 1980s, a detailed emergency preparedness questionnaire was sent to DOE field offices in August 1980 for transmittal to appropriate DOE contractors. This questionnaire consisted of 15 information modules for nine subject areas:

- administration
- security
- transportation accidents
- emergency medical capability
- effluent monitoring
- environmental surveillance
- meteorological monitoring
- communications
- quality assurance/control

Data were received from 30 DOE contractors, and the first computer-assisted tabulation of responses was completed in August 1981. A second tabulation of responses was completed in February 1982 and used a facility classification system identical to that used in the 1971 report (Selby and Unruh 1971). Using this system, all facilities were categorized into high-, medium- or low-hazard classifications based upon the severity of potential accidents (keyed to the radioactive materials inventory).

The analysis of this data is being performed and includes an in-depth look at the present state of emergency preparedness at DOE facilities; a review of the 1970s documents to determine their applicability to state of the art instrumentation, and a comparison between the 1970 and 1980 state of emergency preparedness at DOE facilities. In addition, a comparative analysis was made between NRC and DOE emergency preparedness requirements and similarities noted.