is not always possible. A person's exposure record may be incomplete, missing, or perhaps the individual was not monitored properly or at all during the time of employment. The development of site profiles for all of the major Department of Energy sites is a necessary tool for completing dose reconstructions. These profiles serve several purposes: 1) they provide a brief, general overview of specific DOE sites; 2) they identify the facilities on site with a brief description of the processes and radionuclides of interest; and 3) they provide very important support information for the dose reconstructor to use if the monitoring data are inadequate or not available. These are technical basis documents that include specific information and assumptions that can be used by the dose reconstructor. Each claim is reviewed individually. Depending on the situation, important parameters may include facility monitoring data (by radionuclide, mechanism, year, location within a facility); medical x-ray exposures and techniques used; environmental measurements (by area on site, radiation type, energy range); MDAs for different radionuclides; specific source terms within each facility or process; and specifics of the dosimetry program itself as it has evolved over time. Resources include technical basis documents for the external and internal dosimetry programs, facility descriptions, environmental reports, safety analysis reports, and other reports that have been written to describe the workplace environments within the facilities. For example, the Site Plan for the Savannah River Site provides the above-referenced information for five heavy-water reactors (no longer operational) and other facilities in seven Areas on the site.

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TPM-D.2

DEVELOPMENT OF EXTERNAL DOSIMETRY PARAMETERS FOR SITE PROFILES.* J.J. Fix,[1] J.L. Kenoyer,[2] S.E. Merwin,[2] W.G. Tankersley,[3] and T.D. Taulbee[4] ([1]Pacific Northwest National Laboratory, P.O. Box 999, Richland, WA 99352; [2]Dade Moeller & Associates; [3]Oak Ridge Associated Universities; [4]National Institute for Occupational Safety and Health)

An important activity within the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) concerns the evaluation of external dosimetry parameters significant to the measurement and recording of dose from beta, photon, and neutron radiation. A brief examination of actual claim information quickly underscores the variability and complexity of potential circumstances in DOE predecessor facilities important to the evaluation, or reconstruction as necessary, of the dose to an individual worker. Although there are many similarities among DOE sites, there are also notable differences and some limitations, particularly historically, in external dose parameters that must be considered. Crucial guidance in selected technical parameters was achieved during the 1949 trilateral (i.e., Canada, UK, and U.S.) meeting in Chalk River, Canada. This meeting identified basic dose assessment parameters concerning relative biological effectiveness factors and dose quantities that did provide general comparability in the dose of record. However, interpretation of the respective site-specific dose of record information requires an understanding of the various parameters to measure dose from beta, photon, and neutron radiation, typically in mixed fields, in different facilities, using different technology, and during selected periods of time. Site Profiles are being developed that examine the relative significance of various parameters involved in dose measurement. These profiles provide an effective means for the dose reconstruction staff to evaluate the dose of record for monitored workers.

*(Work supported by the National Institute for Occupational Safety and Health under contract no. 200-2002-00593.)

TPM-D.3

EVALUATION OF ENVIRONMENTAL MEASUREMENTS AND CALCULATIONS FOR SITE PROFILES.* E.M. Rollins (Dade Moeller & Associates, 545 Blackburn Drive, Augusta, GA 30907)

Environmental profiles have been developed for DOE sites for use by dose reconstructors to evaluate the contribution of ambient site background to a energy employee's occupational dose. Site annual environmental reports have been reviewed for data that would be useful in reconstructing ambient radiation levels and airborne radionuclide concentrations. Data in these historical documents included ambient pressurized ion chamber and TLD radiation measurements, air sampling results, and residual soil activity. The historical ion chamber and TLD results with uncertainty estimates, where available, were tabulated and are located in the Technical Basis Document. Environmental dose estimates to workers, including background radiation, ranged from 0.05 cSv to 0.8 cSv y^{-1} for the Savannah River Site. Careful review of the air sampling data deemed it to be of limited value due to confounding effects of above ground nuclear testing, limited spatial and radionuclide resolution, and insensitivity of early sampling techniques for radionuclides of interest. Therefore, methods were developed to use well documented source terms developed by previous studies,

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CONTENTS

FORTY-EIGHTH ANNUAL MEETING OF THE HEALTH PHYSICS SOCIETY
20–24 July 2003
San Diego, California

Abstracts of Papers Presented at the Meeting

On the cover: A panda at the San Diego Zoo. Photo courtesy of the San Diego Convention and Visitors Bureau.

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