Department of Health and Human Services (HHS), the U.S. Department of Labor (DOL) and the U.S. Department of Energy (DOE). The role assigned to HHS included the promulgation of two regulations central to the adjudication of cancer-related claims and to consider procedures for the evaluation of petitions for adding classes of workers to the Special Exposure Cohort. The first of these rules, 42 CFR Part 81, establishes guidelines to determine whether an individual with cancer shall be found "at least as likely as not" to have sustained that cancer from exposure to ionizing radiation in the performance of duty for nuclear weapons production programs of the U.S. Department of Energy (DOE) and its predecessor agencies. These "probability of causation" guidelines will be used for the adjudication of cancer claims by the U.S. Department of Labor (DOL), which has lead responsibility to administer this federal compensation program. The second of these rules, 42 CFR Part 82 , establishes the methods by which HHS will estimate the doses of radiation incurred by individual employees of nuclear weapons production programs. This presentation discusses 1) the approach NIOSH has taken to implement its roles and responsibilities under the EEOICPA; 2) NIOSH's interaction with the DOL and DOE; and 3) the overall status of the program.

TAM-D.2

IMPLEMENTATION OF THE DOSE RECONSTRUCTION RULE—42 CFR PART 82. J.W. Neton (National Institute for Occupational Safety and Health, 4676 Columbia Parkway, Cincinnati, OH 45226)

In May of 2002, NIOSH published 42 CFR Part 82, Methods for Conducting Dose Reconstructions Under the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) of 2000. These methods are being used by the National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC) to conduct dose reconstructions for covered employees seeking compensation for cancer, other than as a member of the Special Exposure Cohort, under EEOICPA. The rule provides guidance as to how dose reconstructions are conducted to characterize the radiation environment to which workers were exposed. A hierarchy of methods is used, depending on the nature of the exposure conditions and the type, quality, and completeness of data available to characterize the environment. The methods employed are based on approaches similar to that used in traditional occupational dosimetry, but achieve efficiency by substituting scientific, reasonable, and fair assumptions in the place of extensive data collection. This allows for an increase in claims processing efficiency, which is essential for an effective compensation program, without compromising the accuracy of the final compensation decision.

TAM-D.3

THE APPLICATION OF DOSE RECONSTRUCTION RESULTS TO NIOSH-IREP (NIOSH'S VERSION OF THE INTERACTIVE RADIO-EPIDEMIOLOGICAL PROGRAM) IN ESTIMATING THE PROBABILITY OF CAUSATION OF RADIOGENIC CANCER. R.W. Henshaw and L.J. Elliott (National Institute for Occupational Safety and Health, 4676 Columbia Pkwy, Cincinnati, OH 45226)

NIOSH-IREP is an online, interactive software program created specifically for use in adjudicating cancer claims under the Energy Employees Occupational Illness Compensation Program Act (EEOICPA), as promulgated by 42 CFR, Part 81, "Guidelines for Determining Probability of Causation." To qualify for compensation, EEOICPA stipulates that an individual's cancer has to have been "at least as likely as not" caused by exposure to ionizing radiation while in the performance of covered duties. This presentation provides an overview of NIOSH-IREP and its application of reconstructed radiation doses and other variables to calculate the statistical probability, according to the provisions of EEOICPA, that a worker's cancer was induced by occupational exposure to ionizing radiation. Examples of the types of radiation exposures that are likely to be compensated are presented, as well as those not likely to result in compensation. To calculate the unique probability of causation (PC) for each claim, NIOSH-IREP incorporates probability distributions derived from uncertainties associated with cancer risk models, radiation exposure, dose-response assumptions, and personal attributes, employing Monte Carlo simulations to propagate these uncertainties. Individual dose reconstruction results are factored into the calculations via inputs for radiation type and exposure rate, organ dose in cSv, and year of exposure. In order to provide the benefit of doubt to each claimant, a claim is considered compensable if the PC result is 50% or greater at the upper 99th percentile credibility limit.

TAM-D.4

CREATION OF A DOSE RECONSTRUCTION ORGANIZATION.* R.E. Toohey (Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831)

Upon award of the NIOSH dose reconstruction project, ORAU and its partners, MJW Corp. and Dade

Moeller & Associates, Inc., began to build a machine capable of completing in excess of 8,000 dose reconstructions per year. In addition to the dose reconstructions themselves, the ORAU Team also has to create and manage computer databases, receive and review individual monitoring records, perform dose reconstruction research, conduct telephone interviews with claimants, and provide technical and administrative support to NIOSH. Based on our proposal, we established six task groups, each of which includes health physicists with specific experience in occupational dosimetry or closely related fields. Management challenges have included creating a fifty-person facility in Cincinnati from scratch, implementing a conflict-of-interest management plan, developing a comprehensive quality assurance program, changing the typical dosimetrist mind-set, and finding health physicists with good "people" skills. Lessons learned include the needs to plan for expansion (and contraction) in all areas, maintain centralized control over decentralized execution, build defensibility into every process, and develop openness and transparency to address stakeholders' concerns.

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

TAM-D.5

FLOW OF CLAIMS THROUGH THE DOSE RECONSTRUCTION PROCESS.* J.P. Griffin (MJW Corporation Inc., 338 Harris Hill Road, Williamsville, NY 14221)

The dose reconstruction of EEOICPA claims requires the performance of more than 100 discrete process steps. These activities include the assembly of personnel monitoring data, review of site characterization data, conduct of the claimant interview, and performance of the actual reconstruction of internal and external dose. NIOSH staff health physicists processed a number of compensation claims to completion during the initial development stages of the dose reconstruction program. That effort involved an individual NIOSH health physicist performing each step required for complete dose reconstruction. While this system was invaluable for the development of dose reconstruction methodology and guidance documents, it would not provide the claims processing capacity to meet the program needs. A program objective to process more than 200 claims per week has been established to clear the existing case backlog and provide an acceptable turnaround time for newly submitted claims. The pool of available health physicists, possessing the broad expertise required for the individual approach, is inadequate to meet this program objective. Therefore, a compartmentalized system of claims processing has been established in which each task is performed sequentially by individuals possessing the skills and expertise needed for that particular function. This allows health physicists to focus on the tasks requiring their expertise while permitting others to perform those tasks that do not require that qualification. Health physicists may also be assigned tasks within their areas of specialty and for which they are most qualified. Additional objectives of the claims processing model are to enhance dose reconstruction efficiency and accuracy by providing feedback mechanisms for lessons learned, allow for immediate identification of claim status, and to both track and meet the various contractually required claims processing metrics.

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

TAM-D.6

COMPUTER ASSISTED TELEPHONE INTERVIEW IN SUPPORT OF EEOICPA DOSE RECONSTRUCTION.* M.C. McFee, R.P. Weaver, and J.P. Griffin (MJW Corporation Inc., 338 Harris Hill Road, Suite 208, Williamsville, NY 14221)

The process of estimating occupational radiation exposure has many facets. Certain workers with cancer who supported the development of atomic weapons in the United States, or their survivors in cases where workers are deceased, are known as claimants under the Energy Employee Occupational Illness Compensation Program Act (EEOICPA). An important aspect of reconstructing a worker's dose is a one on one interview with the claimant. In addition to records maintained by the Department of Energy and its predecessor organizations, personal contact with the claimant can uncover information that might not have been recorded elsewhere. An Office of Management and Budget approved interview script is used to ensure consistency of information gathered, but the claimant is also allowed to comment on his/her recollection of their radiation exposure environment. A report of the interview is forwarded to the claimant for review or comments. This report is then combined with established records of occupational exposure, reviewed, and assigned to a health physicist for dose reconstruction. In addition to augmenting the records from the DOE or its contractors, which in the early days of the atomic weapons programs might have been sparse, this process allows the claimant to participate in the process of dose reconstruction.

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