Cancers and Part B
Introduction and Overview
Topics covered in this section

- Types of cancer claims
- Employment requirement for cancer claims
- Medical requirements for cancer claims
- Special Exposure Cohort (SEC)
- Specified Cancers
- SEC employment
- Non-SEC Claim
- Development for Non-SEC claim
- Probability of Causation
- IREP and Purposes
- Steps for Reworks
What is Cancer?

- Malignant tumor or neoplasm
  - Uncontrolled cellular proliferation
  - Tend to multiply rapidly
  - Invasive
  - Capable of spreading to other sites
  - Tend to become progressively worse and may result in death
Characteristics of Tumors

**Tumor**

- “neoplasm” – new growth that arises from normal tissue, not necessarily cancer
- lump, growth, mass – not necessarily cancer
- benign – non-cancerous (e.g., adenomas)
- malignant – cancerous
Terms

- Carcinoma – refers to solid tumors that begin in epithelial tissues that lines internal or external organs, including skin

- Sarcoma – cancers that begin with bone, cartilage, fat, muscle, or other connective tissues (e.g., fibrosarcoma, osteosarcoma)
More Terms

- CNS tumors – cancer arising from tissues of the brain and spinal cord
- Lymphomas & Myelomas – begin with cells of the immune system
- Leukemia – uncontrolled proliferation of blood forming tissues (derived from bone marrow)
Primary Cancers

- Defined by the original body site where the cancer occurred
- One Primary
  - Same organ, same diagnosis date and same type (e.g., lt. breast – 3 bx. lobular ca.)
- Multiple primary cancers
  - Same organ, same diagnosis date, different type (e.g., lt. breast - bx. lobular/ infiltrating ductal ca.)
- See PM 2 – 0900 Eligibility Criteria for Cancer and Radiation
Secondary Cancers

- Body site to which a primary cancer has spread (metastasized)
- Metastatic – spread by blood and lymph to distant sites
- Even when a cancer spreads, it is still named for the site that it originated
- Examples
  - Breast ca to liver (still breast ca)
  - Prostate ca to bone (still prostate ca)
Metastasized Cancer

- A secondary cancer
- Originates from the primary, (e.g., lung to brain)
- Medical evidence includes
  - Diagnosis of secondary cancer
  - Medical report from a physician
  - Links cancer to previously accepted primary
  - Date of diagnosis may be subsequent, same, or before if primary site is not obvious
- Seek clarification from Treating MD or CMC
External Dose: Radiation dose received from external exposure (or, from sources external to the body)
Los Alamos National Laboratory
{Los Alamos, NM}
Dosimetry: Generic term for radiation exposure/dose measurement techniques.

- **External dosimetry:**
  - Film badges,
  - Thermoluminescent Detectors (TLDs),
  - Neutron detectors,
  - Pocket (pencil) dosimeters

- Results are in roentgen (R), rad, or rem depending on era and reporting practices
Ring TLD  WB TLD  Pocket Dosimeter
Employment Requirements for Cancer

- Exposed to radiation

- Employed by:
  - Department of Energy (DOE)
  - DOE contractor or subcontractor
  - Atomic Weapons Employer
Medical Requirements for all Cancers

- Medical narrative
  - Qualified Physician
  - Cancer diagnosis
  - Initial date of diagnosis

- All cancers potentially covered

- Initial diagnosis should be after initial exposure on first date of employment
Establishing Date of Diagnosis

- Medical progress notes – date of diagnosis, impression or assessment
  - Reports must be dated and signed
- Laboratory reports – date specimen collected
- Pathology report – date biopsy obtained
  - Pathology report must be signed by a physician
- Death Certificate for survivors
  - Must be signed by physician and only used after soliciting for more medical evidence
SEC Cancer

Establishing Special Exposure Cohort Status (SEC)

Chapter 2-0600
SEC Employment Requirements

- Employment criteria (identified by Congress)
  - Gaseous Diffusion Plants
  - Certain nuclear tests
  - New SEC definitions

- Ensure employee was employed for 250 aggregate work days unless employed at Amchitka Island, Alaska (no specified duration)
4. **Statutory SEC Classes.** The EEOICPA designated the following statutory SEC classes according to their respective covered facilities

a. **Gaseous Diffusion Plants (GDP) located in Paducah, Kentucky, Portsmouth, Ohio or Oak Ridge, Tennessee.** A Department of Energy (DOE) employee, DOE contractor employee, or an employee of an atomic weapons employer (AWE) qualifies for inclusion in this SEC if he or she was:

   (1) **Employed for an aggregate of 250 workdays** prior to February 1, 1992, at one or more of the above GDPs; and

   (2) **Monitored during such employment** through the use of dosimetry badges for exposure to radiation, or worked in a job that had exposures comparable to a job that is or was monitored through the use of dosimetry badges.

   (a) If the employee qualifies for possible inclusion in the SEC on the basis of work at a GDP, but Form EE-3 does not indicate whether a dosimeter was worn, the **CE is to determine whether the employee had exposure during his or her employment that is comparable to a job that is or was monitored through the use of dosimetry badges.**

In making this determination, the CE assumes that the employee had comparable radiation exposure if employment occurred during the following periods at the particular GDPs:

- **Paducah GDP:** 7/52 – 2/1/92
- **Portsmouth GDP:** 9/54 – 2/1/92
- **Oak Ridge GDP (K-25):** 9/44 – 12/87 (not 2/1/92)
6. **Workday Requirement:**

- Eligibility under the SEC provision typically requires 250 workdays of eligible employment at one or more SEC worksites. In most cases, the determination of 250 workdays of employment is straightforward. However, there are some cases where the employee worked for less than a year, and additional guidance is required to calculate the 250 workdays.

<table>
<thead>
<tr>
<th>250 days =</th>
<th>50 five-day weeks, or</th>
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<tbody>
<tr>
<td></td>
<td>42 six-day weeks, or</td>
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<td></td>
<td>12 months (five-day weeks), or</td>
</tr>
<tr>
<td></td>
<td>10 months (six-day weeks), or</td>
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<td></td>
<td>2,000 hours</td>
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</table>

| One month = | 21 days (if evidence indicates six-day weeks, 25 days |
Identifying SEC Cases

- Specified cancers
- Causation presumed
- Secretary of HHS determines whether additional classes of employees will be included in the SEC
- Check claim form to see if SEC box is checked
SEC Cancers

- Primary or secondary:
  - Renal cancer
  - Bone cancer
  - Lung cancer

- All other specified cancers must be primary

- Latency period should be 5 years after first exposure, except leukemia, which is 2 years
  - No latency period for lung, bone or renal cancer
(1) Multiple myeloma (a malignant tumor formed by the cells of the bone marrow);
(2) Lymphomas (other than Hodgkin’s disease).
(3) Primary cancer of the:
   (a) Thyroid;
   (b) Male or female breast;
   (c) Esophagus;
   (d) Stomach;
   (e) Pharynx – The pharynx has 3 parts - nasopharynx, oropharynx and hypopharynx. (The oropharynx includes the soft palate, the base of the tongue, and the tonsils);
   (f) Small intestine;
   (g) Pancreas;
   (h) Bile ducts (includes Ampulla of Vater, a/k/a hepatopancreatic ampulla);
   (i) Gallbladder;
   (j) Salivary gland;
   (k) Urinary bladder;
   (l) Brain (malignancies only). The brain is the part of the central nervous system (CNS) contained within the skull, i.e., the intracranial part of the CNS consisting of the cerebrum, cerebellum, brain stem, and diencephalon. (The intracranial endocrine glands and other parts of the CNS, benign and borderline tumors of the brain, and borderline astrocytomas are excluded);
   (m) Colon (includes rectum and appendix);
   (n) Ovary;
   (o) Liver (except if cirrhosis or hepatitis B is indicated);
NON-SEC Cancer

Eligibility Criteria for Cancer and Radiation

Chapter 2-0900
1. Review and Verify Eligibility
2. Requests Employment Verification from DOE
4. Requests Dose Reconstruction from NIOSH
9. Calculated Probability of Causation
10. Issues recommended Decision
11. Renders Final Decision

3. Verifies Employment
6. Provides Radiation Dose Data

5. Requests Dose Data from DOE
7. Interviews Claimant or Survivor
8. Conducts Dose Reconstruction
Non-SEC Cancer

- Any potentially radiogenic cancer is covered
- If SEC criteria is not met, the cancer must be causally related to potential radiation exposure "at least as likely as not"-in order to qualify
- Determine the presence of a diagnosed cancer
- A pre-cancerous condition is NOT a cancer
Processing Non-SEC Cancers

- Review EE1/EE2 to determine what type of condition is being claimed
- Obtain required medical records
- Determine the primary cancers or the secondary cancer, if an unknown primary
- Obtain required employment evidence
- If a survivor claim, obtain survivorship documents
- Refer case to NIOSH
Non-SEC Cancers with Unknown Primary Cancers

- NIOSH performs a dose reconstruction for each primary cancer site in a specific organ.
- If no primary cancer is known then refer secondary cancer to NIOSH with primary cancer established by inference.
- Use Exhibit 8 from EEOICPA PM 2-0900 for the list of primary cancers that are produced by secondary cancers (males and females are considered separately).
Non-SEC Cancers with an SEC Approved Cancer

- If claim with multiple cancers and one or more of these cancers are classified as “specified cancers” for the purposes of the SEC
- If SEC cancer was accepted for compensation, all non-SEC cancers plus the SEC cancer(s) need to be referred to NIOSH for dose reconstruction for medical benefits – Example: secondary bone cancer and prostate cancer
Additional Information for Skin Cancer

- Skin cancer
  - Obtain completed ethnicity questionnaire for verified condition of skin cancer
  - Obtain completed ethnicity questionnaire if skin cancer is a potential primary site
  - This information may be obtained from medical records or DAR if unable to obtain the signed form
Additional Information for Lung Cancer

- Lung cancer
  - Obtain completed smoking questionnaire for condition of lung cancer
  - Obtain completed smoking questionnaire if lung cancer is a potential primary site
  - This information may be obtained from medical records or DAR if unable to obtain the signed form
National Institute for Occupational Safety & Health (NIOSH)
NIOSH

- Located in Cincinnati, Ohio
- Responsible for collecting & organizing information to allow DEEOIC to make the determination of Probability of Causation (PoC)
- To determine whether the cancer was “at least as likely as not” (50% or greater PoC) caused by ionizing radiation at a covered facility
NIOSH Process

- All Non-SEC cancer claims (and some SEC cancer, with exceptions) sent to NIOSH
  - b. SEC Case with Award. For any SEC cases where an award has been made for a specified cancer, any non-SEC cancers for the case must be forwarded to NIOSH for dose reconstruction to determine eligibility for medical benefits. In these SEC cases, all cancers must be listed on the NIOSH Referral Summary Document (NRSD), including the specified cancer(s).
    - (1) An exception to this rule includes those SEC claims where a primary cancer which is not a specified cancer metastasizes to a secondary cancer site that is considered a specified cancer.

- Provide as much employment evidence as possible
- Dose runs from first date of covered employment through date of diagnosis
Refer Case to NIOSH

- Cases are referred to NIOSH when:
  - All case development is complete
  - Employee has diagnosed primary cancer or secondary cancer with unknown primary
  - Covered employment is verified
  - Not member of the SEC
  - Member of SEC, but medical benefits required for non-SEC cancers

- Requires completion of NIOSH Referral Summary Document (NRSD)

- Needs to be reviewed by Senior CE

- Send letter to claimant(s) advising their case is being sent to NIOSH and no additional information is needed
NRSD

- Provides:
  - Employee information
  - Survivor information (including whether they are potentially eligible)
  - Other contact information (this should be any authorized representative)
Other Information Relevant to NIOSH Dose Reconstruction, if Available:

| If the claim is for skin cancer or a secondary cancer for which skin cancer is a likely primary cancer, list one or more of the following: | [ ] American Indian or Alaska Native  
[ ] Asian or Native Hawaiian or Pacific Islander  
[ ] Black  
[ ] White-Hispanic  
[ ] White-Non-Hispanic  
[ ] Not given |
|---|---|
| If the claim is for lung cancer or a secondary cancer for which lung cancer is a likely primary cancer, select one of the following (Note: Currently refers to time of cancer diagnosis): | [ ] Never smoked  
[ ] Former smoker  
[ ] Current smoker  
(?? cig/day)  
[ ] <10 cig/day (currently)  
[ ] 10-19 cig/day (currently)  
[ ] 20-39 cig/day (currently)  
[ ] 40+ cig/day (currently) |
Preparing Amendments to NRSD for Non-SEC Cancer Claims. Sometimes CEs obtain additional information on a case after it has been referred to NIOSH but before the completion of the dose reconstruction. This includes new information related to the employee’s employment, new medical condition(s), or other survivor-related information.

When new information become available, this information must be forwarded to NIOSH so it is available for dose reconstruction.
Supplemental NRSD Process

- If the CE needs to submit additional evidence to NIOSH, such as additional medical information for the same reported cancer, this must be submitted using a NRSD with “Supplement” marked, and only the DOL case number, NIOSH tracking number, and employee’s name need be included. **A supplemental NRSD should be used only for a submission that does not change the original information in the NRSD.** Clearly mark any supplemental packages and separate them from NRSDs that are submitted with the DO’s weekly package to NIOSH.
Communications From NIOSH

- NIOSH will send e-mails to the CE requesting clarification of information received
- Respond to NIOSH as soon as possible
Pending vs. Pulling a Case at NIOSH

- Pending is an action taken by NIOSH to alert their staff that there are technical issues that need to be addressed for a specific case.
- Pulling is an action taken by DOL to retrieve a case at NIOSH for further development or other case specific issues.
NIOSH Pends Case at NIOSH

- Reference PM 2-900.10
- NIOSH “pends” a case for technical reasons, i.e. the addition of time to a facility’s covered period; a technical dose reconstruction issue for a facility; or a change to a site profile, based on the identification of additional dose data.
- Does not stop the dose reconstruction process,
- May delay completion of the dose reconstruction.
- Alerts the NIOSH staff that clarification is needed on a specific issue that may affect the dose reconstruction.
- DOL is not necessarily notified of a case placed in pend status for technical reasons or when these issues are resolved.
DOL Pulls a Case from NIOSH

- Reference PM 2-900.11
- If further development needs to be completed on a case at NIOSH, the case should be pulled from NIOSH
- Pulling a case should go through a Senior CE
- Notify NIOSH (again through Senior CE) when case should be returned, providing updated information (ANRSD)
NIOSH Pulls a Case

- Reference PM 2-900.11
- During the DR process, NIOSH may identify cases submitted by DOL that should be included in the SEC, typically when a new SEC class is designated.
- NIOSH pulls the case from the DR process and returns to DO for additional development
- NIOSH sends letter to claimant advising him or her that their claim is being returned to DOL for additional development.
NIOSH Receives Claim From DOL

Request Data from DOE

Triage Claims

Conduct Interview

Conduct Dose Reconstruction

CATI Report to Claimant

Dose Reconstruction Report to Claimant

Closeout Interview

Prepare Admin Rec.

OCAS-1 Form

Admin Record sent to DOL
NIOSH’s Expediency Model

After review of the evidence, NIOSH performs each dose reconstruction as an overestimate, underestimate, partial estimate, or best estimate for the purpose of efficiency and promptness. The process used by NIOSH is stated in the NIOSH DR report. Typically overestimates or underestimates as stated in the DR report for the purpose of efficiency.

- Overestimates are used in cases that will likely result in a PoC less than 45%
- Underestimates are used in cases that will likely result in a PoC greater than or equal to 50%
- Partial estimates are used for:
  - Those cases that do not meet SEC requirements
  - Those cases that have been accepted for a cancer but have an additional cancers that need adjudication for medical benefits
  - Those cases where NIOSH knows the outcome will be 50% or greater and therefore uses only internal, external, or sometimes just the medical dose.
- Detailed dose estimates (best estimates) are used in cases where the PoC may be slightly higher or lower than 50% (Primarily in the 45-52% range)
Probability of Causation (PoC)

- The probability that the cancer was caused by radiation exposure during covered employment
- If PoC is equal to or greater than 50%-claim is compensable
- If PoC is less than 50%-claim is non-compensable
Factors Affecting PoC

The factors that can affect an employee’s PoC are the employee’s:

- Type of cancer
- Gender
- Age at exposure
- Length of exposure
- Age at diagnosis
- Exposure information
Factors NOT Affecting PoC

- Minor changes to employee information
  - Name spelling
  - Address change
  - Typo
- Change in date of diagnosis, if it falls within the same month
IREP

- NIOSH Interactive Radio Epidemiological Program (IREP)
- Used to determine whether the diagnosed cancer was “at least as likely as not” caused by radiation during covered employment
- Computer software program to calculate the PoC
Logging into NIOSH-IREP Site


- From the CDC NIOSH main page, click on the NIOSH-IREP link

<table>
<thead>
<tr>
<th>Probability of Causation Final Rule</th>
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</thead>
<tbody>
<tr>
<td>Final Rule: Guidelines for Determining the Probability of Causation--42 CFR 81</td>
</tr>
<tr>
<td>PDF 184 KB (20 pages)</td>
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</tbody>
</table>

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NIOSH-IREP

To determine probability of causation for a cancer claim under The Act, DOL uses a computer software application NIOSH has developed in collaboration with the National Cancer Institute, called NIOSH-IREP. This computer software is a science-based tool that allows DOL to determine the probability a cancer was caused by a person's radiation dose from nuclear weapons production work. The actual outcome of a claim depends on a number of important factors such as the dose estimates of past exposures and the type of cancer that has been diagnosed. OCAS is responsible for maintaining and updating this software and the scientific elements (cancer risk models) that it uses.

NIOSH-IREP (on-line, interactive software program)
External Link: http://www.niosh-irep.com/rep_niosh

User's Guide for the Interactive RadioEpidemiological Program (NIOSH-IREP)
Open IREP Input File

From the NIOSH IREP page, click on the button next to “To begin by using a NIOSH provided input file.”
Upload Saved File Screen

Select “Browse” for the NIOSH data file to upload and again navigate to the NIOSH CD (D-drive) and its “A_DR Files” folder.
Search for Excel Spreadsheet

- Look for the Excel .xls spreadsheet saved in the designated folder on your PC
- (If there are multiple spreadsheets, start with the one with a “1” at the end of its name.)
- Double-click to select and open it.
Upload File

- Hit “Upload File,” and then “Continue” past the next screen that generates, bringing you to the claim’s IREP screen.

- On its lower right side click on “Generate Results” to generate the Probability of Causation figures; the IREP results for the case.

- Print this screen and bronze into OIS
Results of Calculation

- You will see the results of the calculation in a summary table suitable for printing.
- In the Results of NIOSH-IREP Probability of Causation table near the bottom, the percentage in the 99th percentile block is the PoC.
IREP – Enterprise Edition (EE)

- Run for doses where the PoC result is between 45-52%
- Should use this website: http://ww3.niosh-irep.com/irep_niosh_ee/
- Password is DOL1
- Follow same steps for running IREPs
Review of the Dose Reconstruction (DR)

- After running IREP ensure the information in the DR report is accurate
  - Employment periods
  - Cancers with their diagnosis dates and ICD 9 codes
- If any discrepancies are noted – rework should be done
When Reworks are needed

- Newly provided/identified information verifying a change to:
  - Cancer diagnosis
  - ICD 9 code
  - Diagnosis date (outside calendar year)
  - Employment facilities
  - Employment dates
The majority of Reworks can be done by the submittal of an Amended NRSD

For those that contain new information that was not considered in the original DR, the Rework will be submitted electronically to the Health Physicist in the National Office.
Reworks Steps

- Prepare the Amended NRSD with supporting documentation and send to NIOSH in weekly shipment

- E-mail a brief statement to NIOSH Point of Contact indicating the ANRSD and rework letter will be provided in the weekly shipment.
  - Example: A rework is being requested for Smith, 2345, NIOSH #12345. Please watch for the hard copy of the rework that is being sent in the shipment on Tuesday (and provide date).
Reworks Steps, continued

• Prepare and release a rework notification letter to the claimant(s), bronze a copy in OIS, and include a printed copy of the ANRSD to NIOSH in the weekly shipment

• In ECS, go to the original NIOSH Causation Path and choose View/Perform Rework

• In accordance with ECS Instructions, code Rework Type, Rework Date, and Rework Reason
Notifying Claimant

Send the claimant a letter advising that a rework is being done
Useful Links


- http://www.dol.gov/owcp/energy/
Why is this Important?

### Part B Cancer Cases - NIOSH and SEC Statistics

#### Part B - Status and Location of NIOSH Referrals

<table>
<thead>
<tr>
<th>Case Description</th>
<th>Number</th>
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<tbody>
<tr>
<td>Cases Referred to NIOSH for Dose Reconstruction (DR)</td>
<td>45,571</td>
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<tr>
<td>Cases Returned by NIOSH</td>
<td>37,452</td>
</tr>
<tr>
<td>- With Dose Reconstruction (DR)</td>
<td>6,030</td>
</tr>
<tr>
<td>- Without Dose Reconstruction (DR)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>43,482</td>
</tr>
<tr>
<td>Cases Currently at NIOSH</td>
<td>2,089</td>
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</table>

*1 Most cases without a DR are cases withdrawn from NIOSH for DOL review and approval based on a new SEC designation. Other reasons for withdrawal include administrative closure, death of claimant.

#### Part B - Cases with Dose Reconstruction (DR) and Final Decision

<table>
<thead>
<tr>
<th>Decision Type</th>
<th>Number</th>
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<tbody>
<tr>
<td>Final Decision to Accept and Probability of Causation (POC) 50% or Greater</td>
<td>10,616</td>
</tr>
<tr>
<td>Final Decision to Deny and POC Less Than 50%</td>
<td>19,570</td>
</tr>
<tr>
<td>Total</td>
<td>30,186</td>
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#### Part B Cancer Cases with Final Decision to Accept

*2 Accepted Part B Cancer cases are defined as either a NIOSH or SEC approval, additional medical conditions could also be included within the Final Decision.

- **Accepted DR Cases**
  - Cases Paid: 9,717
  - Individual Claims Paid: 13,690
  - Amount Paid: $1,441,749,181

- **Accepted SEC Cases**
  - Cases Paid: 23,546
  - Individual Claims Paid: 38,994
  - Amount Paid: $3,515,067,726

- **Cases Accepted Based on SEC Status and POC 50% or Greater**
  - Cases Paid: 860
  - Individual Claims Paid: 1,010
  - Amount Paid: $129,075,000

*3 For these cases at least one specified cancer was approved based on SEC employment and at least one other cancer was approved based on the DR process resulting in a POC of 50% or greater.
Questions