



SITE EXPOSURE MATRICES (SEM) TRAINING 2013

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**Basic Training
Seattle District Office**

OBJECTIVES

- Review the history and structure of SEM
- Discuss SEM access
- Examine how SEM results should be used
- Using the SEM Mailbox

IN AN IDEAL WORLD.....

- DOL would have complete information about every worker at every DOE site, what chemicals they used and how they used them
- Unfortunately, complete information is rarely available
 - SEM is simply a repository of known information
 - SEM is continually updated as new information is obtained

BRIEF HISTORY OF SEM

- Designed in 2005 with DOL
- Data collected at DOE sites and document repositories in 2006-2009
- Simplified version of SEM was made available to the public in 2007
- Expanded public version of SEM that is almost identical to the version used by DOL was made available starting in 2010

DOCUMENTS

- Documents were collected from DOE and other credible sources
 - Worker meetings held at all operating sites
- **43** DOE facilities visited to gather records
- **10** records archives visited
- **22,530** records in SEM library

SEM COVERS

- SEM contains information that includes:
 - 113 DOE sites
 - 4,252 RECA sites
 - 15,951 toxic substances
 - 131 occupational diseases

REVIEW OF SEM STRUCTURE

- SEM is designed to provide you site information of most interest to claims evaluation
 - Toxic substances used
 - Health effects of those toxic substances
 - Labor categories
 - Buildings
 - Work processes
 - Major incidents

DOE SITES IN SEM

- All major DOE and all known RECA sites are now profiled on SEM
 - Uranium mill remediation about to be added
- One new site (Dayton Project) added in past year; one existing site (Gilman Hall) consolidated into the LBNL SEM profile
- 29 smaller DOE sites are not in SEM
 - Low claims activity
 - May be added in the future as determined by DOL

AS DESCRIBED BY JOSH, A TYPICAL DOE SITE....

- Some are small, some are very large
 - Large sites are the source of most claims
- The large sites are a lot like a small city
- Many of the sites are in geographically isolated areas far from large population centers (e.g., Lawrence Livermore National Lab)



WHAT DOES SEM TELL US?

- Potential exposures to toxic materials
- The Claimant may have been exposed to.... NOT the Claimant was exposed to
- SEM is only one source of information
- You will also need, in many cases:
 - IH referral to help evaluate the extent of an exposure identified in SEM
 - Tox referral
 - CMC referral

Let's discuss how to use SEM

LOGIN

- Logging in
 - Password protected
 - SEM will require password change periodically
- Password
 - Assignment
 - Reset
 - Usually reset within a couple of hours of notification
 - Follow your local rules for requesting a reset
- Acknowledge disclaimer

THE SEM MAIN MENU

- What the main menu shows and how it is organized
- The SEM Mailbox: cover later today
- Select category of the site you are interested in
 - DOE Site
 - Uranium mine
 - Uranium mill
 - Ore buying station
 - Uranium transport

SELECT THE SITE

- Drop-down menu of DOE sites
- Click on site of interest
- The returned page shows site-specific information

THE MAIN MENU

- Toxic substances used at the selected site
- Health effects of those toxic substances
- Areas/Facilities/Buildings: what's the difference?
- Work processes
- Labor categories
- Major incidents
- Site information

EXAMPLE: LLNL

AT A GLANCE

- Toxic substances: 2129
- Buildings: 502
- Work processes: 638
- Labor categories: 100
- Site history
 - Years of Part E coverage
 - Other names of the site
 - Location (State)
 - Names of operating contractors
 - Construction contractors are not included

EXAMPLE 1: LLNL LABOR CATEGORIES

- Did machinists work at the site?
 - From the LLNL site menu, select “Labor category information” in middle column
 - Click on drop down menu
 - Search for “machinist”
- Did janitors work at the site?

EXAMPLE 1: LLNL LABOR CATEGORIES (CONTINUED)

- When you cannot find a claimants labor category use the “Labor category by alias” search to see if it is called by another title
- Type in “janitor”
- What does the returned page tell us?
 - Janitors are called “Custodians” at LLNL

ALIAS SEARCHES

- Similar alias searches can be done for toxic substances, health effects, buildings, and processes

WHAT TOXIC SUBSTANCES WERE USED BY LLNL SHEET METAL WORKERS?

- On LLNL Main Menu, select Labor category information then pick “sheet metal worker” from the drop-down menu
- Toxic substances are shown in the section **HAZARDOUS CHEMICALS POTENTIALLY ENCOUNTERED BY LABOR CATEGORY**
- What else does the page tell us about sheet metal workers?
 - Buildings where they worked (shops)
 - Processes performed by sheet metal workers
 - Incidents involving sheet metal workers

HOW WOULD WE DETERMINE THE TOXIC SUBSTANCES THAT SHEET METAL WORKERS IN BUILDING 511 WERE POTENTIALLY EXPOSED TO?

- We know:
 - Sheet metal workers worked at LLNL
 - They worked in Building 511
- Let's select Building 511 from the main menu
 - 215 toxic substances are displayed
- Can we conclude that a Claimant who was a sheet- metal worker Building 511 was potentially exposed to 215 toxic substances?

ANSWER

- Absolutely not
 - SEM displays potential exposures
 - The list shows all 215 substances known to be used by all labor categories in that building, not just sheet metal workers
- To find out the potential exposures of our Claimant requires the use of a **FILTER**

SEM FILTERS

- Filters allow us to refine our results to make them more meaningful to our Claimant's situation
- Filters need to be used in most searches (there are always exceptions) to narrow the results
- Only one filter can be applied at a time
 - But we have a way to deal with that limitation
 - We are now working to add a second filter capability

SEM FILTERS (CONTINUED)

- In our example, to find the potential toxic substances that a sheet metal worker who worked in Building 511 could have been exposed to requires the following
 - On the main menu, select **Labor category**
 - Click on the drop-down menu
 - Select Sheet metal worker
 - At the top of the page, find **Building** and select **511** from the drop down menu
 - The returned page lists the toxic substances that a sheet metal worker in Building 511 could have been exposed to 62 toxic substances

NOW WHAT?

- We could try to further filter the list of substances by the work process
 - Rarely necessary or wise to do this
 - A long-term sheet metal worker in Building 511 can be assumed to have performed most or all of the work processes associated with the returned list of substances
- Print or save (Keeper Stack) the results of the search (List A)

USING SEM HEALTH EFFECTS INFORMATION

- We now know the substances to which our claimant was potentially exposed. Are those substances linked to his disease?
- Let's assume he/she has **Skin Cancer**

SEARCH SEM FOR THE HEALTH EFFECT

- Return to the LLNL main menu
- Find and select the Sheet metal worker labor category
- Filter the results by the **Health effect** at the top of the page
 - Find “Skin cancer” on the drop-down menu and select it

SEARCH SEM FOR THE HEALTH EFFECT (CONTINUED)

- Print or save the returned list (List B) of toxic substances used by LLNL sheet metal workers that are linked to “Skin cancer”
 - 4 substances (Arsenic, Benzo(a)pyrene, Dibenz(a,h)-anthracene and Mineral oil)
- Compare List B with List A
- Identify common toxic substances and generate List C
 - All four substances are on both list A and B
 - This means that four substances linked to Skin cancer, were potentially used by sheet metal workers in Building X-720

QUESTION

- The results tell us to (select one):
 - _____ The CE has enough information to make findings of fact about exposure to send the case to a CMC
 - _____ Ask the Claimant if he used the substances
 - _____ Request an industrial hygiene review
 - _____ Request a toxicology review
 - _____ The CE has enough information to conclude that there was not likely any substantive exposure

QUESTION

- The results tell us to (select one):

_____ The CE has enough information to make findings of fact about exposure to send the case to a CMC

_____ Ask the Claimant if he used the substances

_____ **Request an industrial hygiene review**
WHY??

_____ Request a toxicology review

_____ The CE has enough information to conclude that there was not likely any substantive exposure

MORE Q & A

- What if the Claimant worked in more than one building at LLNL?
 - Generate a separate List A for sheet metal workers in each building
- What if the Claimant worked in more than one labor classification?
 - Generate a separate List A for each labor category
- What if the Claimant worked at more than one DOE site?
 - Generate applicable List A's for his/her work at each site

The industrial hygiene review will assess the employee's likely degree of exposure, including level (incidental, significant – low, medium or high), duration and frequency.

- The sheet metal worker example that we just worked through illustrates the SEM search process you will use to evaluate most claims
- Most CEs find that starting with the labor category is easiest
- Sometimes you may not know the building where a claimant worked
 - Use the SEM Mailbox to ask for help
 - Filter on work process(es) if that information is known

HEALTH EFFECTS IN SEM

- Health effects are as defined in the National Library of Medicine's Haz-Map database
- DOL funds Dr. Jay Brown, Haz-Map author, to study substances used in DOE and RECA facilities
- The health effects shown in SEM are identical to those in Haz-Map
- SEM has links to Haz-Map to assist DOL
 - Example: Xylene

EXAMPLE 2: ADMINISTRATIVE, OFFICE AND STAFF WORKERS

- Example: Claimant was a Secretary at the Hanford site. During her 25 years of employment including Building 328. She has claimed her leukemia was caused by work at Hanford.
- How would you approach this search in SEM?

EXAMPLE 2 (CONTINUED)

- Should we find the list of toxic substances in Building 328 and filter it with the disease leukemia to see if there is a match?

EXAMPLE 2 (CONTINUED)

- Should we find list of toxic substances in Building 328 and filter it with the disease skin cancer to see if there is a match?
- **No. Doing so would presume potential exposure by a Secretary to all the substances in the building.**

EXAMPLE 2 (CONTINUED)

- Does the labor category exist at Hanford?
- What toxic substances are listed for a Hanford Secretary?
 - None

QUESTION

- The results tell us to (select one):
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QUESTION

- The results tell us to (select one):

_____ The CE has enough information to make
findings of fact about exposure to send the case
to a CMC

_____ Ask the Claimant if he used the
substances

_____ Request an industrial hygiene review

_____ Request a toxicology review

_____ **The CE has enough information to
conclude
that there was not likely any substantive
exposure***

***Unless there is evidence in the file that suggests
otherwise. In those cases,
a phone call to the National Office IH is appropriate.**

EXAMPLE 2 (CONTINUED)

- **SEM will frequently not return any health effects for administrative, clerical, staff, draftsman, office and similar workers because such persons typically don't have significant workplace exposures to toxic substances**
 - What is an incidental exposure?
- Most toxic substances are associated with production, research and laboratory activities where administrative persons would not be working (there are always exceptions)

EXAMPLE 3

- The EE-3 and the evidence in the case file points to the claimant being classified as a “Laborer.” However, the claimant indicates that she was involved in certain processes that would make her more of a “Mechanic.”
- How should we proceed?

SUPERVISORS

- In general, SEM shows few or no toxic substances in the profiles for supervisors
- Reason: Assume a supervisor gets the same exposures as the labor category he/she supervises
- Example: If Claimant is a “Welding Group Supervisor” then assign him/her the “Welder” profile in SEM
 - Use “Welder” for SEM searches, not “Supervisor”

SUPERVISORS/FOREMAN/MANAGER

- What's the difference? In general:
- Supervisor: supervises salaried workers
- Foreman: supervises hourly workers
- General foreman/Superintendent/Manager:
supervises other persons in supervision

CAUTIONS

- Job titles, practices, systems are not consistent among the DOE sites
 - An operator at a site like the Nevada Test Site may not perform the same tasks as an operator at the Sandia National Laboratory
 - The post-WWII companies that managed the DOE sites introduced their own management/HR systems
 - Introduced many inconsistencies site-to-site

CONSTRUCTION WORKERS

- Covered in SEM User's Guide (on DOL Share Drive)
- If the Claimant is a construction worker, a 2-step SEM search must be made
 - Step 1: Identify the toxic substances linked to the worker's trade
 - Step 2: Identify the toxic substances used by the site that the construction worker could have been exposed to

CONSTRUCTION WORKERS (CONT'D)

- Example
 - Site: Tonopah Test Range
 - Job title: Painter
 - Employer: Jack's Painting Company
 - Repaired and painted interior offices and the outside of Building 03-75, Shipping & Receiving, between 1975-1977
 - Claimed illness: COPD
- Let's go to SEM and evaluate the potential exposure

PUBLIC SEM

- The publicly accessible version of SEM is found at www.sem.dol.gov
- With only a few exceptions, the public has access to the same information about the DOE and RECA sites that DOL does
 - The DOL SEM has the most recent information; public SEM has only the information reviewed by DOE and approved for public release
 - There is usually a lag of approx. 6 months after an update of the DOL SEM is reflected in the public SEM

SEM MAILBOX

- A way for you to ask questions about SEM content, DOE and RECA facilities, labor categories and others
 - Not for IH evaluation
 - Not for policy questions
 - Follow your local policy for submittals
- Can also be used to review questions asked by others about a site

WRAP UP

- SEM is a mature website
 - Structure has changed little over the past 5 years
 - Content has changed a lot
- Remember that the User's Guide is available to help you
- Use the Mailbox to get help

Questions????