

# EEOICPA Part E Review

*A private citizen's perspective of Current DOL Review Processes, Discussion of Database Shortcomings (Site Exposure Matrices and Haz-Map) for Determinations of Significant Toxic Substance Exposure, and Greater than 50% Probability of Aggravating, Contributing to, or Causing Covered Illnesses*

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# Background Information

## Kansas City Plant 1949-2014

- ▶ Non-nuclear components production facility of DOE/NNSA
- ▶ 3 million ft<sup>2</sup> secure perimeter within a Federal Complex of 310 acres on Bannister Rd, KC, MO
- ▶ Electrical components & assemblies, Mechanical products, Special Material production, supporting processes like plating, machining, painting, welding, lab analysis “all under one roof”

## Maxine Pennington

- ▶ Retired KCP chemist, technical manager and R&D Program Manager
- ▶ 1981-2013. As analytical chemist, work assignments often included analyzing legacy toxics substances and chemical interactions both in weapon products and in the KCP work environment
- ▶ Worked with colleagues across the DOE weapon’s complex
- ▶ After retiring, sought by EEOICPA claimants to provide help on their claims reviews. Volunteer since 2014.

# EEOCIPA Summary

- ▶ EEOICPA enacted October 2000 (ionizing radiation, Beryllium, Silica causants)
  - ▶ Administered by DOL. Information and decisions by DOE. Cancer determinations by HHS via dose reconstruction methodology, special cohort class investigations, Radiation Advisory Board.
- ▶ Part B effective July 31, 2001
- ▶ Part E enacted October 31, 2004 (amendment adds **toxic substances** to causants of illness or death)
  - ▶ Administered by DOL AND Decisions by **DOL**. DOE provides information to DOL.
    - ▶ At least as likely as not that exposure caused covered illness AND
    - ▶ At least as likely as not that exposure was related to employment at DOE facility
  - ▶ FY 15 Appropriations Bill (Dec 14, 2014) enacted formation of a Toxic Substances Advisory Board for Part E
    - ▶ Call for nominations July 2015
    - ▶ Comments due on nominations Nov 2015
    - ▶ Named by Secretary of Labor—March 2016

# 2004 Amendment to EEOICPA Created Process Gaps that Still Exist

These Process were in place for Part B ionizing radiation, Be, Si causants with involvement of NIOSH and DOE. DOL processes were not in place on Nov 1, 2004 for “toxic substance” causants

1. Toxic Substances Dose Reconstruction Methodology ?
2. Special Exposure Cohort class ?
3. Toxic Substances Advisory Board ?

1. EEOICPA Transmittal no. 16-01, November 2015. “Transmission of Revised Material to be Incorporated into Federal (EEOICPA) Procedure Manual. Chapter 2-0700, Establishing Toxic Substance Exposure”
2. Process has not been established to date. Not under consideration as far as I know.
3. Enacted Dec. 19, 2014. Announcement & Request for Nominations July 21, 2015 with Deadline Sept 4. Nominees Published Oct 15. Public Comments open through Nov 19, 2015. Selected March 2016

# DOL Review Process for Part E

**U.S. Department of Labor**

Employment Standards Administration  
Office of Workers' Compensation Programs  
Division of Energy Employees Occupational  
Illness Compensation  
Washington, D.C. 20210



RELEASE - TRANSMISSION OF REVISED MATERIAL TO BE  
INCORPORATED INTO THE FEDERAL (EEOICPA) PROCEDURE MANUAL:  
CHAPTER 2-0700, Establishing Toxic Substance Exposure.

EEOICPA TRANSMITTAL NO. 16-01 November 2015

## EXPLANATION OF MATERIAL TRANSMITTED:

This material is issued as procedural guidance to update,  
revise and replace the EEOICPA Procedure Manual (PM)  
Chapter 2-0700, Establishing Toxic Substance Exposure to  
include:

<http://www.dol.gov/owcp/energy/regs/compliance/PolicyandProcedures/UnifiedProcedureManual.htm>

<http://www.dol.gov/owcp/energy/regs/compliance/PolicyandProcedures/UnifiedProcedureManualPart2.htm>

[http://www.dol.gov/owcp/energy/regs/compliance/PolicyandProcedures/proceduremanualhtml/unifiedpm/Unifiedpm\\_part2/Chapter2-0700ToxicSubstanceExposure.htm](http://www.dol.gov/owcp/energy/regs/compliance/PolicyandProcedures/proceduremanualhtml/unifiedpm/Unifiedpm_part2/Chapter2-0700ToxicSubstanceExposure.htm)

## From Procedures Manual: At least as likely as not that *the toxic substance* aggravated, contributed to, caused the covered illness

- ▶ “at least as likely as not” defined as greater than 50% probability
- ▶ “Denial is not based on Site Exposure Matrix (SEM)”
- ▶ Reviewer instructions: SEM is the only source of links between toxic substances and covered illnesses. SEM information derived from Haz-Map database of Hazardous Chemicals and Occupational Diseases (NIH). Link to Haz-Map for claimants, not reviewer, use. If reviewer has not enough information to make a decision, then can ask claimant for addition information or refer a specific question to Industrial Hygienist or Toxicologist from the National Office
- ▶ If SEM has a match for Site, Job Description, disease linked to chemical and chemical linked to site, then reviewer can make a favorable decision

*In practice, reviewers generally deny claim on basis of no link between claimed toxics and Medical Diagnosis with suggestion that claimant can provide peer-reviewed research literature as evidence if they disagree*

# Haz-Map Home Page

Home

About Us

**Haz-Map®** is an occupational health database designed for health and safety professionals and for consumers seeking information about the adverse effects of workplace exposures to chemical and biological agents. The main links in Haz-Map are between chemicals and occupational diseases. These links have been established using current scientific evidence.

Haz-Map shows the diseases linked to each agent and the agents linked to each disease. Agents are chemical such as formaldehyde, or biological such as grain dust. Haz-Map links jobs and hazardous job tasks with occupational diseases and their symptoms.

In Haz-Map, chronic occupational diseases are linked to both jobs and industries, while acute diseases and infectious diseases are linked only to jobs. Cancers are not linked to jobs, industries or findings.

The information in Haz-Map comes from textbooks, journal articles, the Documentation of the Threshold Limit Values (published by [ACGIH](#)), and electronic databases such as NLM's [Hazardous Substances Data Bank \(HSDB®\)](#). [Haz-Map staff](#) classifies, summarizes, and regularly updates the information found in the database.

*Haz-Map provides a wealth of information about EEOICPA covered cancers and potential chemical causes with research study citations. Also shows IARC and NTP conclusions regarding human carcinogenicity (suspected and reasonably expected). It appears that SEM is populated only with links that are definite causes, ignoring literature and highly regarded sister agency decisions regarding “possibly contributing to” and “aggravating”. Haz-Map has caveat that cancers are not linked to jobs, industries or findings !!*

# Conclusions --- toxic links to disease

DOL procedure for determining link between toxic exposure and disease

- ▶ Is repeatable
- ▶ Can result in some favorable decisions (based on historical epidemiology that accepts 100% cause and effect, like asbestos causes lung problems in mine workers)
- ▶ Does not give recognition to any SEC that might appear to DOE cold war legacy workers and be due to hazardous substance(s)
- ▶ Does not support EEOICPA provisions
  - ▶ Aggravating or Contributing to
  - ▶ Claimant favorable when applying review procedure
  - ▶ As least as likely as not (50-99.9%)
- ▶ Is based on SEM, contrary to DOL claims

# At least as likely as not that exposure *was related to employment* at DOE site

- ▶ “at least as likely as not” defined as greater than 50% probability
- ▶ “Denial is not based on Site Exposure Matrix (SEM)”
- ▶ Reviewer instructions “good place to start is Job Classification in the SEM”
- ▶ Job Classification and Work Process fields have contradictory, incomplete information for KCP (and other NNSA sites)

*In practice, if the claimant’s job classification is not included in that field in the SEM, the claim is denied as “no evidence that your job title had any potential exposures at KCP” regardless of how many documents, statements, and other testimonies are given in the individual’s case file.*

## Link to Employment Examples

Using search text request, these results were obtained for “weld” and “molding”

Work Process Matching Alias Search Text

SCOPE -- Search text: weld

- Arc **WELD** aluminum
- Arc **WELD** stainless steel
- Decompose chlorinated solvents by UV light or heat from **WELD**ing
- Decompose fluoropolymers by **WELD**ing, burning, brazing, or soldering
- Gas or arc **WELD** on galvanized metal
- Gas **WELD** or cut in a confined space
- Machine or **WELD** on cadmium-alloyed or cadmium-plated steel
- Use manganese-containing **WELD**ing rods
- WELD** mild steel
- WELD** or machine on beryllium-containing alloys

Work Process Matching Alias Search Text

SCOPE -- Search text: molding

*There are no work processes in this database matching your search text.*

The image shows two screenshots of a web application interface. The top screenshot is titled 'Work Process Matching Alias Search Text' and shows search results for the text 'weld'. The results are a list of ten items, each with a magnifying glass icon and the word 'WELD' in red. The items are: 'Arc WELD aluminum', 'Arc WELD stainless steel', 'Decompose chlorinated solvents by UV light or heat from WELDing', 'Decompose fluoropolymers by WELDing, burning, brazing, or soldering', 'Gas or arc WELD on galvanized metal', 'Gas WELD or cut in a confined space', 'Machine or WELD on cadmium-alloyed or cadmium-plated steel', 'Use manganese-containing WELDing rods', 'WELD mild steel', and 'WELD or machine on beryllium-containing alloys'. The bottom screenshot is also titled 'Work Process Matching Alias Search Text' but shows search results for the text 'molding'. It displays the message: 'There are no work processes in this database matching your search text.' Both screenshots include a search bar with the respective text, a 'Find matching work processes' button, and a disclaimer: 'The site specific information in this database reflects available data and may not be complete. The results should be used with a full understanding of the limitations of the current dataset.'

## From SEM

86 toxics match hazardous chemicals potentially related to molding operations at KCP.

2 searches give contradictory information regarding whether Molding was a process linked to KCP and also listing hazardous chemicals potentially related to molding

The site specific information in this database reflects available data and may not be complete. The results should be used with a full understanding of the limitations of the current dataset.

**Site Work Process:**

(button must be clicked after changing any selection in order to update results.)

**Secondary filters to apply to lists of related items (from Kansas City Plant) :**

**Toxic substance:**

**Health effect (per associated toxics):**

**Building:**

**Labor category:**

**Incident:**

Site: Kansas City Plant  
**Site Work Process: Molding Operations**

<b>IDENTIFICATION --</b>	<i>no additional information listed</i>
<b>RECORD HISTORY</b>	Facility Data Last Updated: Nov 11, 2015 (Note: Toxic substance/disease relationships may have changed after this date.)
<b>RELATED ITEMS IN THE SITE EXPOSURE MATRIX</b> <b>Secondary filters applied -- none</b>	
<b>HAZARDOUS CHEMICALS POTENTIALLY RELATED TO SITE PROCESS</b> (86 matching criteria)	<b>1,1,1-Trichloroethane</b> CAS: 71-55-6 Aliases: Ethane, 1,1,1-trichloro-; Methyl chloroform; Methylchloroform; 1,1,1-TCA (1,1,1-Trichloroethane); 1,1,1 TCA (1,1,1-Trichloroethane); 1,1,1-Trichlor; 1,1,1 Trichlor; Vythene degreasing agent; Chlorothene; Chlorothene VG; TCA (1,1,1-Trichloroethane); GE Material D5B79; BLACO-THANE (Baron-Blakeslee); CHLOROTHENE NU & VG (Dow); DOWLCENE WR (Dow); INHIBISOL (Penetone Corp.); TRI-ETHANE (PPG Ind., Inc.); TRITHENE (SRS, Inc.); Desicote Rinsing Aid; Desicote; ; Zep-X-Out; Panther D-135-A solvent degreaser; Aervoe Silicone Spray; Micro-Finish Cutting Fluid; CCl3CH3; C2H3Cl3 Site Aliases: TCA Category: Solvents
	<b>2,2'-Dibenzothiazyl disulfide</b> CAS: 120-78-5 Aliases: 2,2'-Benzothiazyl disulfide; 2,2'-Bis(benzothiazolyl) disulfide; 2,2'-Dibenzothiazyl disulfide; 2,2'-Dithiobis(benzothiazole); 2,2'-Dithiobisbenzothiazole; 2-Benzothiazolyl disulfide; 2-Benzothiazyl disulfide; 2-Mercaptobenzothiazole disulfide; 2-Mercaptobenzothiazyl disulfide; Aesol TM; Benzothiazole disulfide; Benzothiazole, 2,2'-dithio-

## Molding Operations SEM (cont'd)

Labor categories performing this site work process/activity obviously incomplete. Process Engineers, Product Engineers, Production Planners, Accountants, HS&E professionals, among others had daily, weekly, or other periodic assignments to work in the area for directing the Fabricators and Assemblers, for troubleshooting, tracking orders, taking inventory, providing area monitoring, determining PPE, etc

DOL reviewers are very specific in using labor categories as a basis for verifying (AND DENYING) claims

	Erase <b>Category:</b> Other Materials <input type="checkbox"/> <b>Zinc oxide</b> CAS: 1314-13-2 Aliases: Zinc monoxide; ZnO <b>Category:</b> Other Materials
BUILDINGS IN WHICH THIS SITE WORK PROCESS/ACTIVITY OCCURRED	<input type="checkbox"/> <b>Building 1, Department 26</b> Name: Molding
LABOR CATEGORIES PERFORMING THIS SITE WORK PROCESS/ACTIVITY	<input type="checkbox"/> <b>Plastic Fabricator and Mechanical Assembler</b> Alias: Assembler; Assembler, Mechanical; Autoclave Operator; Blaster, Sand; Metal Bond Fabricator; Plastic Fabricator; Plastic Worker; Sand Blaster
INCIDENTS INVOLVING THIS SITE WORK PROCESS/ACTIVITY	<i>none listed</i>

Entry has KCP process, chemical substance linked to bladder cancer, but otherwise incomplete

Buildings in which this site—none listed even though in supplemental information sent in an individual case is the “MOCA decontamination project” circa 1973 that lists decontamination occurring in at least 10 departments in main building 1<sup>st</sup> floor and mezzanine.

Historical data incomplete in SEM leading to inaccurate reviews and decisions for claimants

full understanding of the limitations of the current dataset.

**Site Work Process:** Adiprene/MOCA preparation, mixing, and potting

Submit Process selection and filters (button must be clicked after changing any selection in order to update results.)

**Secondary filters to apply to lists of related items (from Kansas City Plant) :**

**Toxic substance:** [dropdown]

**Health effect (per associated toxics):** Bladder cancer

**Building:** [dropdown]

**Labor category:** [dropdown]

**Incident:** [dropdown]

**Site: Kansas City Plant**  
**Site Work Process: Adiprene/MOCA preparation, mixing, and potting**

<b>IDENTIFICATION --</b>	<i>no additional information listed</i>
<b>RECORD HISTORY</b>	Facility Data Last Updated: Nov 11, 2015 (Note: Toxic substance/disease relationships may have changed after this date.)
<b>RELATED ITEMS IN THE SITE EXPOSURE MATRIX</b>	
<b>Secondary filters applied -- Health Effect: Bladder cancer</b>	
<b>HAZARDOUS CHEMICALS POTENTIALLY RELATED TO SITE PROCESS</b> (1 matching criteria)	<a href="#">4,4'-Methylenebis-(2-chlorobenzenamine)</a> CAS: 101-14-4 Aliases: 3,3'-Dichloro-4,4'-diaminodiphenylmethane; p,p'-Methylene-bis-o-chloroaniline; 4,4'-Methylene-bis(2-chloroaniline); 4,4'-Methylenebis(2-chloroaniline); 4,4'-Methylenebis(o-chloroaniline); 4,4'-Methylene bis (2-chloroaniline); MOCA; MBOCA; DACPM; Methylenebis(chloroaniline); Methylene-bis-ortho-chloroaniline; Methylene bis chloroaniline; Methylene bis (o-chloroaniline); Conathane TU-79MF Part B Curative; Conathane TU-79MF Part B; ; Conathane TU-80MF Part B Curative; Conathane TU-80MF Part B; 4,4'-Methylenebis-(2-chlorobenzenamine); C13H12Cl2N2 <b>Category:</b> Other Materials
<b>BUILDINGS IN WHICH THIS SITE WORK PROCESS/ACTIVITY</b>	<i>none listed</i>

## Contradiction in SEM

Previous slide shows that Adiprene/MOCA preparation, mixing, and potting process is linked to KCP

Not shown in this screen shot, but in the SEM is also the inaccuracy that “engineer” is not listed as a job classification with potential exposure

### Health Effect: Bladder cancer

SCOPE -- Health Effect List: NLM Haz-Map Disease List Site: Kansas City Plant

<b>IDENTIFICATION</b>	Aliases: Bladder Neoplasms; Cancer of bladder
<b>TOXIC SUBSTANCES HAVING THIS HEALTH EFFECT</b>	<p><b>2-Naphthylamine</b> CAS: 91-59-8 Aliases: beta-Naphthylamine; 2-Aminonaphthalene; 2-Naphthalamine; 2-Naphthalenamine; C10H7NH2</p> <p><b>4,4'-Methylenebis-(2-chlorobenzamine)</b> CAS: 101-14-4 Aliases: 3,3'-Dichloro-4,4'-diaminodiphenylmethane; p,p'-Methylene-bis-o-chloroaniline; 4,4'-Methylene-bis(2-chloroaniline); 4,4'-Methylenebis(2-chloroaniline); 4,4'-Methylenebis(o-chloroaniline); 4,4'-Methylene bis (2-chloroaniline); MOCA; MBOCA; DACPM; Methylenebis(chloroaniline); Methylene-bis-orthochloroaniline; Methylene bis chloroaniline; Methylene bis (o-chloroaniline); Conathane TU-79MF Part B Curative; Conathane TU-79MF Part B;</p> <p><b>4-Biphenylamine</b> CAS: 92-67-1 Aliases: p-Biphenylamine; (1,1'-Biphenyl)-4-amine; 4-Amino-1,1'-biphenyl; 4-Aminobiphenyl; 4-Aminodiphenyl; 4-Biphenylamine; Biphenylamine; Biphenyl-4-ylamine; 4-Phenylaniline; Aniline, p-phenyl-; HSDB 1325; Paraaminodiphenyl; p-Aminobiphenyl; p-Aminodiphenyl; p-Phenylaniline; p-Xenylamine; Xenylamine; C6H5C6H4NH2; C12H11N</p> <p><b>Benzidine</b> CAS: 92-87-5 Aliases: 4,4-Bianiline; 4,4-Biphenyldiamine</p> <p><b>o-Toluidine</b> CAS: 95-53-4 Aliases: o-Aminotoluene; 2-Aminotoluene; 1-Methyl-2-aminobenzene; 2-Methyl-1-aminobenzene; o-Methylaniline; 2-Methylaniline; ortho-Toluidine; Orthotoluidine; 2-Toluidine; CH3C6H4NH2</p>
<b>WORK PROCESSES LINKED TO THIS HEALTH EFFECT</b>	There are no work processes directly linked to the selected disease.

# Conclusions ---linking exposure to employment

DOL procedure for determining link between potential toxic exposure and employment

- ▶ May be repeatable???
- ▶ Can result in some favorable decisions (based on match of claimant work history with job classification and work process and hazardous substance and health problem link)
- ▶ Does not support EEOICPA provisions
  - ▶ Claimant favorable when applying review procedure
  - ▶ As least as likely as not (50-99.9%) exposed
- ▶ Is based on SEM, contrary to DOL Procedure Manual statements

# Conclusions -SEM ???

- ▶ SEM is incomplete--especially for the first 50 years of KCP
- ▶ Incomplete results in inaccurate conclusions and decisions by DOL reviewers
- ▶ Search Contradictions exist in SEM
- ▶ Physical facility and Administrative Changes are very complex & difficult to represent in the database
- ▶ Job classification and incidents fields are especially misleading

*Regardless of job classification, most employees were potentially exposed (50% or greater) to most hazardous substances used at KCP prior to 1993*

# Is it *possible* to reconstruct any person's toxic chemical exposure history? (the SEC question)

- ▶ Historical records do not exist that can substantiate KCP employee exposures
  - ▶ Continuous environmental air and surface monitoring was not performed in most areas of the facility including main traffic routes used by all employees to report to work, walk to cafeterias, walk to/from meetings, and walk around for exercise breaks. Awareness of Departmental Hazards and training not implemented until 1993.
  - ▶ Individuals were not monitored for hazardous chemical exposure
  - ▶ Hazards were not recognized at time of potential exposures that have long latency periods so PPE was generally not recognized as required
  - ▶ Physical access inside the KCP was not limited except by Q clearance until mid 1990s. Any job classification with a Q could work/travel through nearly any area of KCP.
  - ▶ The SEM does not reflect any of these common, daily practices at KCP

*Regardless of job classification, most employees were potentially exposed (50% or greater) to most hazardous substances used at KCP prior to 1993*

# Path forward ??

- ▶ Provide information to the Toxic Substances Advisory Board
- ▶ Regardless of DOL stating that SEM is not used to deny claims, it is.
  - ▶ Can we reconcile this?
- ▶ SEM is incomplete leading to inaccurate DOL decisions
  - ▶ Related to above, and in addition can/should we champion major updating of KCP SEM data?
- ▶ Ask ourselves: Is it possible to reconstruct potential hazardous material exposures to Bannister KCP facility from 1949 to ??? (department hazard assessments and documents began in 1993, access control by badge readers -later 2 tiers first late 1990s then around 2005, etc).
  - ▶ Can DOE high-performance computers be used to model the KCP toxic substance history so that we could “simulate and analyze” for a quantitative toxic substance reconstruction analogous to the NIOSH radiation reconstruction methodology