Operating Experience (OPEX) Awareness: Beryllium Reports in the Occurrence Reporting and Processing System (ORPS)

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29 January 2020

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Technical Standards
standards.doe.gov

Directives (Orders, Policies, Guides)
directives.doe.gov

Response Line - Clarifications
responseline.doe.gov

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AU-11 Updates

Technical Standards:
1. **DOE-STD-1112-2019, Department of Energy Laboratory Accreditation Program for Radiobioassay**
2. **DOE-SPEC-1142-2019, Beryllium Lymphocyte Proliferation Testing (BeLPT)**
3. **DOE-STD-1187-2019, Beryllium-Associated Worker Registry Data Collection and Management Guidance**
4. **DOE-STD-1212-2019, Explosives Safety**
5. DOE-STD-1128, *Good Practices for Occupational Radiological Protection in Pu Facilities* – Reaffirmed; Publication Pending
6. DOE-HDBK-1145-2013, *Radiological Safety Training for Pu Facilities* – Cancelled
7. DOE-HDBK-1163-2003, *Integration of Multiple Hazard Analysis Requirements and Activities*: DOE-wide REVCOM review 1/31/2020
AU-11 Updates, cont’d

  
  D19-04-002, Medical Surveillance and Silica
  D19-08-001, Thermal Heat Stress – Monitoring Signs and Symptoms
  D19-08-002, 2016 ACGIH Heat Stress TLVs (supersedes D12-07-002)
  D19-08-005, Compressed Gas Cylinder Storage Requirements for Welding in General Industry

• Draft Amended Beryllium Rule, 10 CFR 850, Status
Announcements

• Response Line Website – Future Upgrades
• January is National Safe Driving Month
2020 AU-11 WebEx Series
- Currently developing schedule
- Email Joe Dobbins with suggestions: Joseph.Dobbins@hq.doe.gov
- Next WebEx: March 2020
  - Topic and Date TBD; watch for web invitation

EFCOG Industrial Hygiene and Safety Task Group Spring Meeting:
- March 30th through April 2nd at the Pacific Northwest National Laboratory (PNNL)
- To Register, go to https://efcog.org/events/worker-safety-health-subgroup-meeting-3/
- Tours for Hanford and PNNL sites.
- Note: This is EXEMPT in the DOE Conference Management Tool Event ID# 41613.
- WebEx as well as on-site
- No cost to register for this meeting. Please register if you plan on attending either directly or remotely.
Announcements, cont’d

DOE Laser Safety Workshop: March 31 – April 2, 2020

- DOE Event ID# 38203
- To Register: https://cvent.utexas.edu/event/4395905a-3777-44d6-9936-fc4d469ab1a2/summary

DOE IH Meeting at AIHce in Atlanta, GA – June 1, 2020

- Monday Evening, 6:00 pm - 8:30 pm
Audio Considerations

• Always Mute WebEx Phone When Not Speaking

CTRL + M

*6
Participation

• Q and A at the end of the presentation
  - Use chat function
  - Unmute self at end (*6 on phone)
• Any problems
  - Speak up now
  - Use chat
• We are not recording
• Slides will be posted after the WebEx
Operating Experience (OPEX) Awareness Presentation: Beryllium Reports in the Occurrence Reporting and Processing System (ORPS), for the DOE Office of Worker Safety and Health Policy (AU-11) DOE Webex Webinar

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January 29, 2020
Presentation Agenda:

1. PowerPoint presentation on beryllium events in the ORPS database, and then introduces the Nuclear Safety Information (NSI) Dashboard.

2. Use the NSI Dashboard to extract data on beryllium, and other types of events of interest to the industrial hygiene community.

3. Time permitting, introduce the Corporate Safety Performance (CSP) Dashboard and its extraction of data.
DOE ES&H Databases: AU-23 Manages Major DOE-Wide ES&H Databases and Provides Expert Information and Support to Department Managers

- ORPS
- CAIRS
- REMS
- Fire Protection
- Dashboards
Occurrence Reporting and Processing System (ORPS): Major Nuclear/Non-Nuclear Events

- Events are documented when they meet **Reporting Criteria** of the ORPS DOE Order.
  - For example: Electric shock, TSR violation, etc.
  - Reporting Criteria can be used to sort and quantify.
  - 70 reporting criteria.

- **Keywords**: AU HQ SMEs add keywords ("Tags") to enhance sorting capabilities after ORPS report submittal.
  - For Example: Arc flash, Conduct of Operations, IH exposure.
  - 140 Keywords
66 beryllium events were identified from ORPS during CY2007 through CY2019. A subject matter expert reviewed ORPS reports and broke them down to 9 categories. The 66 events were keyworded: Beryllium Incident.
ORPS Beryllium Reports per Calendar Year since 2007

Beryllium Reports by Calendar Year (Keyword 8T)


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Reporting Criteria that Captured Beryllium Events

Reporting Criteria Distribution for Beryllium Events

- Management Concerns: 83%
- Occupational Exposure: 6%
- Spread of Radioactive Contamination: 3%
- Other: 8%

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Characterization of Beryllium ORPS Reports

CHARACTERIZATION OF BERYLLIUM ORPS REPORTS
2007-2019

- Be Inventory, 7
- Hazardous Waste, 9
- Movement of Contamination, 9
- CBD Diagnosis, 1
- Positive Wipe Samples, 23
- IH Controls, 8
- Worker Exposure or Potential Exposure, 9
- Unauthorized Person/Regulated Area, 6
- Radioactive Be, 1

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Key to the Beryllium Characterizations

**Key**

**Be Inventory:** Unexpected discovery of Beryllium materials

**Hazardous Waste:** Beryllium as hazardous waste; included some transport, storage issues

**Movement of Contamination:** Contaminated equipment/material was transported out of controlled area and/or an issue was noted with shipping

**CBD Diagnosis:** Worker diagnosed with Chronic Beryllium Disease

**Positive Wipe Samples:** Surface contamination was detected; either above housekeeping or above release limit

**Radioactive Be:** Involved radioactive Beryllium contamination

**Unauthorized Person/Regulated Area:** Involved violation of regulated area or authorized worker requirements

**Worker Exposure:** Worker was exposed or potentially exposed to Beryllium

**IH Controls:** Involved personal protective equipment (PPE), ventilation, program issues, sampling, etc.
**Goal**: Facilitate use of the DOE ORPS database for quicker and more in-depth analysis and trending of nuclear safety information for PSOs and sites.

- **NSI extracts** ORPS nuclear safety data to eliminate time consuming searches.
- **NSI displays** data in trending/analytical graphic format. Easily accessible and usable.
- Nuclear safety precursor-type events are **weighted** and grouped, and weighted categories are presented by PSOs and sites.
Sorting Functions Include...

- Reporting Criteria
- Keywords
- Significance Category
- Year/Quarterly
- PSOs
- Indicator Groups
- Total Events
- High Consequence Events
- Dual Charts
NSI features **Four Vantage Points** from same sorted ORPS Information

1. Weighted scoring of precursor-type ORPS events.
2. Weighted scoring, normalized to manpower (per/1K.)
3. Total number of ORPS events.
4. Total events, normalized to manpower.
Site Specific Events

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NSI Dashboard 2018+: The ORPS Order was rewritten to 232.2A, changes required new Dashboard

- Major Changes to Order:
  - Reporting Criteria
  - SigCat to Reporting Level

- Dashboard 2018+ includes combining graphics, including tabulations, adjusting new requirements.

- Where the two Orders are somewhat Same:
  - Total numbers, Keywords
Visual on how the NSI Dashboard upgraded to the NSI Dashboard 2018+

- Eliminated Chart
- Combined Sorting Criteria for PSOs with the Sites
Corporate Safety Performance (CSP) Dashboard: Provide Standard ES&H Metrics

• If time permits...review CSP.
• Purpose of the CSP is to provide standard ES&H metrics.
• Establish strategic ES&H metrics of high importance and fundamental interest.
• Acts as a bridge between the two NSI Dashboards for 232.2 and 232.2A.
• Maintain operational awareness that impacts ES&H.
Five CSP Dashboard Pages:

- High Hazard vs Total ORPS
- ORPS comparing sites
- Keywords and cause codes
- Safety, electrical
- Environmental

- Adding 6\textsuperscript{th}, Rad/Nuclear, NSI weighted scores
The CSP and NSI Dashboards are located at...

- Go to: http://energy.gov/ehss
  - Click on “Reporting & Analysis”
  - Click on “Dashboards”
  - Click on Dashboard link: “Pilot Project: Nuclear Safety Information (NSI) Dashboard”
  - Click on “Launch Dashboard Icon, and you’ll get Dashboard choices
  - Click on Dashboard choice (such as NSI or CSP)

- ...or go to the link: https://data.doe.gov/MS/asp/main.aspx This brings you to the Dashboard choices

- If you have an ORPS account, you will need to re-acquire and use your ORPS UserID and Password to access the CSP and NSI Dashboards.  (ORPS Support: 800-473-4375, ORPSSupport@hq.doe.gov)

- If you don’t have an ORPS account, in order to obtain a UserID and Password, you will need to get an ORPS account by filling out the User Registration Form (PDF), which is found at:
  - (Right click on link below, choose “Open Hyperlink”)
  - https://registration.doe.gov/registration/ORPSRegistration

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