

**EFCOG Chemical Safety and Lifecycle Management Subgroup
Fall 2009 Meeting Minutes
DOE/NNSA Support Facility, Las Vegas, Nevada**

**Chemical Safety & Lifecycle Management
Subgroup Agenda Day 1**

Tuesday, October 6, 2009

8:30 – 9:00	Welcome, Introductions & Safety	Jim Morgan, SRS
9:00 – 9:30	Workshop discussion	Dan Marsick, DOE-HQ
9:30 – 10:00	Task Team Overview/Updates: Publication Team Inventory Accuracy Team Hazard Database Team DOEHRS/ESOH Watch Group Team Leading Indicators team update	Dave Quigley Y12 Steve Harris LLNL Dave Freshwater DOE-HQ Randy Castillo SNL/NM Jim Morgan SRS
10:00 – 10:15	Break	
10:15 – 11:45	Inventory Accuracy Team Discussions Leading Indicators Team Discussions	Steve Harris, LLNL Jim Morgan, SRS Dina Matz-Siegal, LANL
11:45 – 1:00	Lunch	
1:00 – 2:00	PoIARES Hazardous Materials Decision Support Tool	Derek Skene, AlphaTRAC
2:00 – 4:30	EISM Watch Group Team Discussions and Presentations	Randy Castillo, SNL/NM
4:30 – 5:00	Daily Wrap-Up	Jim Morgan, SRS
6:30	Group Dinner at “Battista’s Hole in the Wall”	Steve Harris, LLNL

Joint Chemical Safety & Lifecycle Management And Environment Subgroup Meeting Agenda Day 2

Wednesday, October 7, 2009

	Joint Meeting with the Environmental Subgroup	
8:30 - 9:00	Welcome, Introduction and Safety	CSLM Chair Jim Morgan, SRS Env Chair Ross Fanning, SRS
9:00 - 10:00	CMS at SLAC CMS at PNNL CMS Haas Overview	Judy Fulton, SLAC/ Judi Johannesen/PNNL Haas Rep
10:00- 10:30	Hot Topics discussion– NFPA 400 ENV Hot Topic	Jim Morgan, SRS Dave Quigley, Y- 12 ENV Presenter
10:30 – 10:45	Break	
10:45 – 11:45	DOE-HQ Hot Topics Discussion	Jane Powers, DOE-HQ Josh Silverman, DOE-HQ
11:45 – 1:00	Lunch	
1:00 – 2:00	CSLM/Environmental Subgroup Joint Wrap-up	Jim Morgan, SRS Ross Fanning, SRS
2:00 – 4:30	EFCOG General Meeting	

Chemical Safety and Lifecycle Management (CSLM) Subgroup Fall Meeting Summary

October 6-7, 2009

Participants:

Mikhail Alnajjar, PNNL	Larry Holcombe, Haas TCM
Michael Baghoomian, Northrop Grumman	Gerald Jensen, Idaho Clean Project
Robert Beauchamp, KCP	Scott Lee, INL
Dale Bignell, Washington Closure Hanford	Dan Marsick, DOE HS-11
Mark Brynildson, SNL/CA	Dina, Matz-Siegel, LANL
Randy Castillo, SNL/NM	Jim Morgan, SRNS
Richard Debusk, LBNL	Jean Myers, LBNL
Michael Dolan, Northrop Grumman	John Nangle, NREL
Shawn Dolan, Northrop Grumman	An Oskarsson, AlphaTRAC
Ross Fanning, SRS	John Peters, BNL
Danny Field, NA-1	Steve Prevette, SRNS
Dave Freshwater, DOE NA-41	Dave Quigley, B&W Y-12
Judy Fulton, SLAC NAL	Bob Rolston, Pantex
Victoria George, LANL	Michael Roper, SRNS
Steve Green, Hanford	Scott Seydel, Hanford
Steve Harris, LLNL	Josh Silverman, HS-22
Leigh Hayes, Haas TCM	Derek Skene, AlphaTRAC
Jeffrey Hieb, CH2M Hill PRC	Bill Von Holle, DFNSB
Jeff Hodgjin, AlphaTRAC	Jim Woodring, ANL

10/6/2009

1. Welcome, - Jim Morgan, SRNS, EFCOG CSLM Subgroup Chair

Jim Morgan, welcomed participants to the semi-annual meeting of the EFCOG CSLM Subgroup and each participant introduced themselves.

Jim discussed the upcoming DOE CSTC/EFCOG CSLM Workshop in Washington, DC (3/16/10 - 3/18/10) and led a discussion on the workshop. Jim also provided an overview of the EFCOG ES&H Group/CSLM Subgroup. He presented the CSLM officers that were voted in or reconfirmed at the subgroup meeting in Las Vegas, October 2008:

Jim Morgan, CSLM Subgroup Chair
Steve Harris, CSLM Subgroup Vice-Chair
Mark Brynildson, CSLM Subgroup Secretary

General CSLM Information:

CSLM Definition

Chemical Lifecycle and Safety Management – CSLM is the effective application of Integrated Safety Management principles to safely manage chemicals from cradle to grave (planning, acquisition, storage, transportation, use, and disposition) in a manner that

protects workers and the general public, maximizes efficiency, and minimizes adverse impacts to the environment.

CSLM Mission & Vision

- The Chemical Safety and Lifecycle Management (CSLM) team mission is to promote excellence and efficiency in all aspects of CSLM by gathering, evaluating, and sharing performance measures, best management practices, and lessons learned.
- Our vision is for continual improvement of CSLM to minimize impacts to workers, community, and the environment.

CSLM Goals and Objectives

- Benchmark and report current CSLM practices
- Identify and share best practices
- Identify and recommend performance measures
- Develop Points of Contact and resource lists
- Support the function of the DOE Chemical Safety Topical Committee
- Identify related DOE ISM assessment criteria and “Lines of Inquiry” to EFCOG members and provide feedback to DOE
- Interface with other EFCOG groups regarding CSLM principles and requirements
- Identify new and emerging requirements and impacts to CSLM

Accomplishments for FY2009

B. Chemical Safety and Lifecycle Management (CSLMSG)

The Chemical Safety and Lifecycle Management (CSLM) Subgroup mission is to promote excellence and efficiency in all aspects of CSLM by gathering, evaluating, and sharing performance measures, best management practices, and lessons learned. Our vision is continual improvement of CSLM to minimize impacts to workers, community, and the environment.

Specific achievements by this group include:

- The CSLM Sub-Group, in conjunction with the Chemical Safety Topical Committee (CSTC), co-sponsored the successful Annual Joint EFCOG/DOE Chemical Management Workshop, March 10-12, 2009. This year's theme, "*Chemical Safety and Lifecycle Management Workshop--Lean and Green*". The Workshop focused on Chemical Safety Leadership, Leading Indicators, Chemical Lifecycle Management, Green Chemical Management, Nanotechnology, and the proposed Globally Harmonized System at the Department of Energy sites. The Workshop attracted approximately 250 participants, either in person or by telecast from fourteen sites throughout the DOE complex, and included 30 speakers representing various federal and private sectors. Also included at the meeting was the EFCOG ESH Group Spring Meeting. The CSLM Sub-Group also met with the EFCOG ESH Group at the October 2008 meeting in Las Vegas.

- Published the technical paper: Simmons, F., Quigley, D., Whyte, H., Robertson, J., and Freshwater, D. (2009) Chemical Safety: Asking the Right Questions. J. Chem. Hlth Safety. 16(3):34-39.
- Submitted the technical paper: Quigley, D., Simmons, F., Whyte, H., Robertson, J., and Freshwater, D. (2009) Variations in Reproductive Toxicant Identification. J. Chem. Hlth Safety. (In press).
- Submitted a draft white paper to DOE NA-41 for review on the DOE Hazards Database Project. The white paper proposes that NA-41 fund the DOE Hazards Database Project to maintain and make available to all DOE sites select hazard information on chemicals in the DOE.
- The CSLM Sub-Group continues to actively monitor the progress of the *The Globally Harmonized System of Classification and Labeling of Chemicals* (GHS) as the federal regulations are promulgated. This regulatory change will have significant impact on all businesses that have chemicals in the United States including DOE facilities.
- The CSLM Sub-Group continues to actively monitor and support the progress of the DOE initiative to study the Northrop Grumman Enterprise Integrated Safety Management (EISM) as a DOE standard software package.
- The CSLM Sub-Group continues to grow in active membership bringing more DOE and contractor personnel together to better manage chemical safety and lifecycle activities at DOE sites.

2. Workshop Discussion

Dan Marsick discussed the March 2010 meeting plus the history of the Chemical Safety Topical Committee (CSTC) beginning with the 1994 report on the Chemical Vulnerability at DOE Sites. Dan proceeded to discuss the draft agenda (see attachments) in detail.

Dan stressed the importance of the meeting as two fold, 1) Education, especially in changes in regulations and DOE initiatives, and 2) providing feedback to DOE HQ.

3. Task Team Overviews

3A. Technical Publication Presentation, Progress & Discussion – Dave Quigley, Y-12

This team has been very productive with their publications and has been very successful in advancing Chemical Safety through their work. A current paper in review is on reproductive toxins (due to be published Nov.- Dec. 2009 in the Journal of Chemical Health and Safety). Topics under consideration include: accident rates of chemicals events - “why do we continue to have chemical accidents?” and over-pressurization of drums

Dave requested the CSLM Subgroup suggest additional topics to be considered for publication and if anyone is interested joining the task team to contact him.

Jim Morgan commented on the Chemical Safety Council’s discussion on making Chemical Management a formally recognized profession. It was further stated that the number of DOE chemical incidents are on average ~1/day. 5 individuals have been killed at DOE chemical related accidents in 25 year while 0 individuals have been killed at DOE nuclear related accidents in 25 years. Based on this statistic, we need to raise the awareness of Chemical Safety above or at least on par with Nuclear Safety in the DOE.

3B. Discussion on Chemical Hazard Database Strategy – co-lead by Fred Simmons, SRNS and Dave Freshwater, DOE-NA-41

Dave Freshwater mentioned the “EICID – Electronic Chemical Information Database” project update. The team led by Fred and Dave has looked at the scope, requirements, and process and has concluded that the database must keep only the minimum amount of data due to support costs. A White Paper describing a path forward to obtain further support is nearly complete. Dave urged the group to get serious and move forward with this project!

Dan field discussed the need to get the DOE complex to standardize these issues. 5 billion dollars is projected to be spent by the DOE on chemical exposure compensation due to chemical safety injuries and illnesses due to overexposure to chemicals at DOE facilities.

Josh Silverman asked questions on the boundaries and scope/range of the data. Will it include environmental data? The group will continue to discuss these issues.

3C. Chemical Inventory Accuracy White Paper Team – Steve Harris, LLNL

Jim Morgan began the discussion with the question: "What constitutes an accurate inventory?". Nuclear material tracking is an extreme and expensive case in DOE. Jim asked; "Does this same standard rationally apply to the chemicals DOE?" Dave Quigley stated: "The nuclear materials tracking model is invalid as a model at DOE sites." Most sites have inventories but the chemical inventory problem is too big and expensive to apply the nuclear materials tracking model.

Steve presented the goals behind a Chemical Inventory Accuracy White Paper and reviewed the origin of the effort and the need for better definition of chemical inventory accuracy expectations in the DOE. The measure of accuracy is basically the degree of agreement between the inventory database location record and the observation of inventory in the chemical storage locations in a facility. Since accuracy expectations are also not well defined in regulations such as EPCRA or state right-to-know laws, the draft white paper will propose a process to determine appropriate site accuracy expectations. The draft white paper will be further reviewed in the project team meeting and the team is reorganized. The product of the task team will then be circulated for review in the broader CSLM subgroup.

Questions were raised whether the task team was confusing precision and accuracy in the draft white paper. The task team will discuss this further. Steve questioned whether a consensus standard could be reached. If not, a different approach would be needed. Accuracy at different sites is driven by the regulatory environment and site priorities.

The lively discussion continued with Dave Quigley saying that one of the biggest problems is defining material ownership. Programs then put requirements on owners. The crisis then happens when auditors enforce requirements so chemical management owns the process but not the requirements.

In EISM, inventory accuracy is command graded. In the pharmacy model (production like environment) no more than 2% inaccuracy is typical. In the VA (R&D like environment) inaccuracy or 10 – 12 % is typical.

Different requirements drive different standards of accuracy. Multiple models exist that need to be defined for different sites. One size fits all should not be the mandate because the R&D, Hybrid R&D/Production, Production only and D&D sites all need to be thoughtfully considered. We need to walk before we can run on this topic.

Hass TCM accuracy is by the Haas Board of Directors and customers expectations. Emphasis is placed on 0.5% inventory inaccuracy at the time of receipt. 100% piece count, cycle counts are not done at the lab storage level.

Our challenge as a group is to define a DOE technical standard used as defense against unreasonable audit standards and expectations. We need to clearly define what we are trying to achieve per data element. This can best be achieved by clearly defining the Data Quality Objectives (DQOs)

Since accuracy standards and data needs to be used as leading indicators, the group was asked to comment on how interested they are in this topic. Steve Harris stated we need to

reconstitute the Inventory Accuracy task team. The following individual have signed up at this meeting to help:

Mikhail Alnajjar, Randy Castillo, Dave Quigley, Dina Matz-Siegel, John Peters, Jim Woodring.

Task outline from the board:

Identify Data Quality Objectives
Define Inventory Accuracy vs. Precision
Define types of errors
Establish inventory standards
Avoid accuracy dependencies
Catalog graded approaches in measuring precision
Use as leading indicator

3D leading Indicators – Dina Matz-Siegel, LANL

Dina discussed the Lead Indicator definition the task group drafted.

Definitions:

Metric: the measurable performance of an activity, program, or process.

Leading Indicator: a metric which provides measurable indicator that the process is either operating within specified performance standards, or provides a measurable indicator which predicts future process problems.

A leading indicator:

- is a predictor of future performance based on selected criteria, allowing for modifications or changes in process and/or performance,
- is used to drive and measure activities carried out to prevent negative outcomes, e.g., injury, damage or loss,
- allows for prediction of the likelihood of a negative outcome before it occurs,
- allows for effective intervention to address or reverse a negative trend, or continuance a positive trend
- is proactive, predictive, and objectively and reliably measurable,
- has direct connection with desired goal, outcome, or result, and
- is built on a reliable system of data management that includes reporting, tracking and correction

Leading indicators are a diagnostic tool. Leading indicators should be quantitative information, but on occasion may include qualitative information. Leading indicators are used to assess quality and rate of improvement. Some leading indicators have a single metric while others have multiple metrics, any of which could indicate future problems.

Steve Prevette commented that Leading Indicators should be used to build a better future, not just predict the future.

Dina indicated we need to define both lagging and leading indicators. We must also define chemical incidents and events so we can do effective tracking. Accidents reports often don't give complete information to define/classify events.

Jim Morgan described the effort in the past to evaluate ORPs reports. It was very difficult because ORPS criteria needed to be changed to properly evaluate for chemical incidents. Jim then discussed the possibility of merging IH and CSLM Lagging/Leading Indicator task teams. Total Recordable Case (TRC) and Days Away, Restricted, or Transferred (DART) rates are lagging indicators. CSLM is very crosscutting throughout ES&H and more disciplines.

Some in the CSLM group say we should keep separate IH and CSLM Leading Indicator task teams because it could get too big and complex. Others say we should combine because integrated solutions are the best.

Model:

ES&H Overarching Indicator Group
Electrical Safety Subgroup Indicator Task Team
IH Subgroup Indicator Task Team
CSLM Subgroup Indicator Task Team
Environmental Subgroup Indicator Task Team
Nanomaterials Indicator Task Team
Other Subgroup's Indicator Task Teams

Steve Prevette, SRNS, will work with all the groups as needed.

It was mentioned that Lagging Indicators metrics are top down while Lead Indicators metrics are bottom up.

Jim Morgan proposes CSLM keeps the CSLM Subgroup Indicator Task Team and ask Tony Umek to have an ES&H Overarching Indicator Task Team coordinate efforts at a higher level.

It was mentioned that other federal agencies also are doing Leading/Lagging Indicator analysis. Perhaps their efforts can be useful to our effort too.

Finally, it was stated that all Subgroup Indicator Task Team members need to have common training so they can work together more effectively.

4. AlphaACT – Derek Skene, Jeff Hodgkin AlphaTRAC

Derek and Jeff presented a recognition-based crisis decision system. It is a tool for an emergency responder to make response decisions even if the material identity is not known. The presentation slides are attached.

5. EISM – Randy Castillo, SNL/NM Presentation by Shawn Dolan and Mike Baghoomian, Northrop Grumman

An DOE EESOH Workshop was held February 18 – 19, 2009 at NTS North Las Vegas that focused on Industrial Hygiene, Chemical Management, and Occupation Medicine Database systems. There is a DOE initiative led by Dan Field, DOE Headquarters to study the Northrop Grumman EESOH/DOEHRS System for all DOE facilities. Currently, the EESOH/DOEHRS System is mandated for use in the DOD and is various stages of implementation at some DOD sites. The meeting brought together DOE information systems management, ES&H management and SMEs to discuss the issues related to adopting this system for DOE. Using the same system at all DOE sites is appealing to some since standardization is perceived to improve the information management and reporting processes across all DOE sites and reduce overall DOE costs.

Shawn Dolan and Mike Baghoomian, Northrop Grumman made the presentation including a demonstration of the system. The presentation slides are attached.

Questions asked during the group discussion:

Should an EFCOG Task Team be chartered to evaluate EESOH focused on whether DOE should adopt the system as a standard throughout the DOE complex?

Would DOE sites be willing to adopt a standard system?

Is the Government Owned Contractor Operated (GOCO) business model in DOE a barrier to success?

Since DOE facilities have a common set of challenges shouldn't we have a common set of tools?

In the past, DOE encouraged sites to be individuals but now it is ok to standardize across facilities.

The real questions as stated by the group is: What is DOE intent toward how business models should be standardized at all sites?

The EFCOG Executive Board should spearhead an evaluation of the solution.

10/7/2009 Joint Meeting of the CSLM and Environmental Subgroups

**1. Welcome, - Jim Morgan, SRNS, EFCOG CSLM Subgroup Chair and
Ross Fanning, SRNS, EFCOG Environmental Subgroup Chair**

2. Chemical Management Services (CMS) at SLAC – Judy Fulton, SLAC

Haas TCM was selected to be the CMS provider at SLAC several years ago. Judy made a presentation on the success of that system at SLAC. The presentation slides are attached.

3. Haas TCM Chemical Management Services (CMS) at SLAC – Larry Holcomb, Haas

Haas TCM was selected to be the CMS provider at SLAC several years ago. Judy made a presentation on the success of that system at SLAC. The presentation slides are attached.

4. Hot Topics – NFPA 400, Dave Quigley, Y-12

NFPA 400 is an effort to pull together NFPA requirement. A release of the draft requirement was made in 2005 but it has not gone final. The draft NFPA 400 standard tries to add OSHA PSM like requirements but with much lower reporting thresholds. This continues to be an issue that needs to be monitored due to the large potential impact to the DOE facilities.

5. Hot Topics – Chemical Management for Onsite Contractors – Cathy Alstatt, TRU Waste Processing Center-OR, TN.

The presentation slides are attached.

6. Hot Topics – DOE-HQ, Dave Freshwater, NA-41

Dave Freshwater is the DOE TEELS Coordinator. TEELS Revision 25 is the latest. The TEELS process is being reexamined to ensure the data is standardized.

US EPA AEGLS will soon stop issuing additional AEGALS at ~400 chemicals. It is a complicated and slow process to get values assigned.

US EPA AEGLS (<http://www.epa.gov/oppt/aegl/>)

Regulatory changes upcoming from US EPA will drive changes to TSCA and other US EPS regulatory frameworks. Global Harmonized System (GHS) is another US government initiative under OSHA that will require changes at DOE facilities.– stay tuned!

7. Hot Topics – DOE-HQ, Josh Silverman, HS-22

Josh Silverman presented an overview of the very new EO13514 Federal Leadership in Environment, Energy and Economic Performance.

The presentation slides are attached.

There was discussion regarding the recent DOE Sulfur hexafluoride Safety bulletin and the greenhouse gas (GHS) inventory available at some sites already. It was suggested that SF6 data would suffice as an initial baseline inventory for purposes of near-term compliance with EO13514 provisions while sites establish a longer term strategy for dealing with GHG management issues.

**8. Closing Session, - Jim Morgan, SRNS, EFCOG CSLM Subgroup Chair and
Ross Fanning, SRNS, EFCOG Environmental Subgroup Chair**

Jim Morgan asked the group if the joint meeting was a useful teaming exercise. Yes was the general consensus. Please send feedback to Jim or Ross.

Meeting Minutes Contact

Contact Mark Brynildson, Secretary, DOE EFCOG CSLM Subgroup
(925) 294-3150, mebryni@sandia.gov if you have any questions about the meeting minutes of attachments.