

EFCOG Engineering Practices Subgroup (EPSG)
Minutes of July 19, 2023 All-Hands Televideo Meeting

Chair Grant Ryan welcomed callers and he and Tobin Oruch led the one-hour meeting following the agenda; minutes follow.

Do not miss:

Chair Grant Ryan is stepping down; we thank him for several years of service to us! Julie Minton-Hughes, former Vice Chair, was elected to Chair in the call. Tobin is stepping down as well, so we need to elect two more officers -- Vice Chair and Coordinator. Self-nominations for these two positions are desired, so please contact Julie by end of July to discuss interest. Julie.minton-hughes@ports.pppo.gov or (740) 897-2346.

Agenda (1 hr.)

- Safety Topic
- Overview of Spring EFCOG Joint Operations Work Group Planning Workshop at ORNL
- DOE Liaison Remarks
- EPSG Leadership Elections
- Fire Protection Community of Practice report
- Pressure Safety CoP status
- Hot issues around the sites (where we can help each other)
- Possible subgroup initiatives and volunteers
- Any other thoughts for the group?

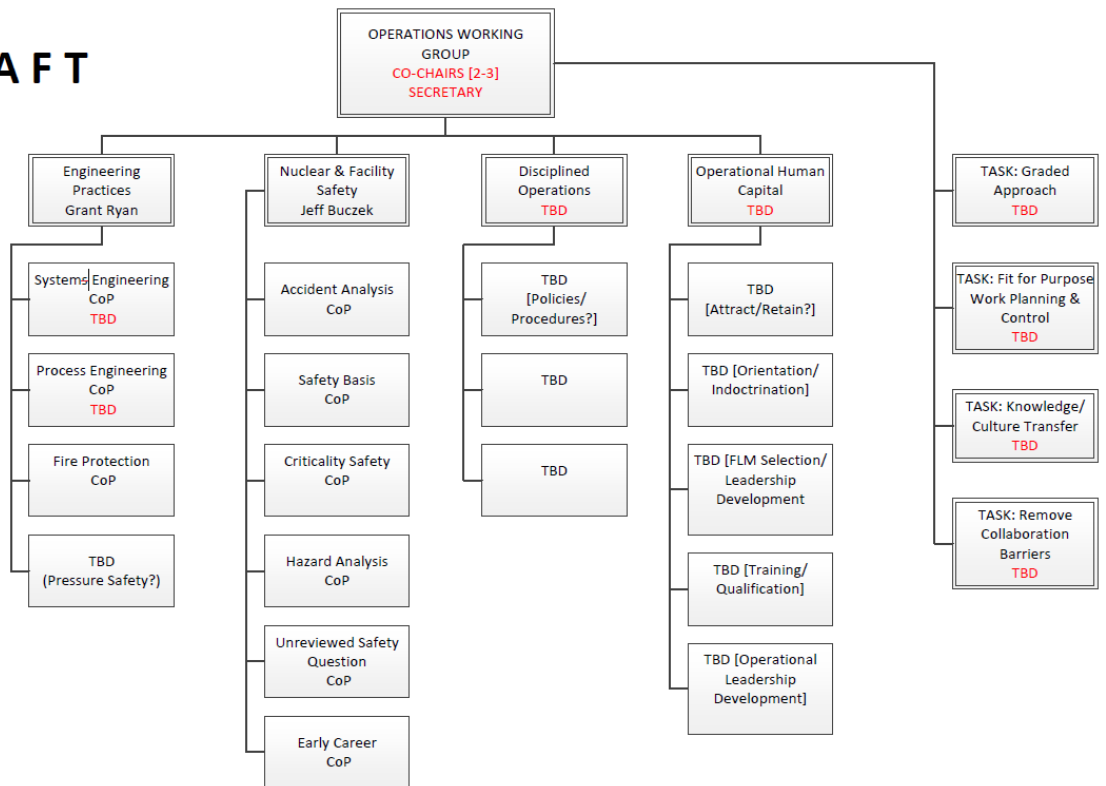
Safety Topic

Heat stress and dry climate masking of perspiration loss was discussed.

Overview of Spring EFCOG Joint Operations Work Group (WG) Planning Workshop at ORNL

Jan Preston, Operations WG Co-Chair, summarized the event. After an EFCOG WG reorganization, Engineering Practices and Nuclear Facility Safety are now the two subgroups that appear in Operations per <https://efcog.org/operations-working-group/>, but others are forming/formed along with targeted task efforts (see April draft below).

DRAFT



Fire protection and likely pressure safety, long-time EPSG groups, will continue as EPSG CoPs. For process and system engineering, they suggested we explore current issues, tackle/solve, and possibly form Communities of Practice (CoPs) if long-term interest (also an Early Career CoP like N&FS if interest).

DOE Liaison Remarks

David Compton noted that Garrett Smith will continue to liaison with us upon his imminent return as EHSS-30 from a detail. Jessica Kratchman is acting for Brain DiNunno and may also participate. David and Lyndsey Fyffe have been on a **DOE-STD-1189 listening tour**, SNL and BNL so far, and taking input on change (ref. Oruch 6/30 email to EPSG dist).

Jim O'Brien, a longstanding EPSG supporter now with NNSA, joined the call. Among other things he's involved with SAFER asset analytics and plans to get more engaged with EPSG.

EPSG Leadership Elections

Julie Minton-Hughes, most recently the EPSG Vice Chair, had volunteered to assume the chair since Grant Ryan is stepping down. There were no other expressions of interest so she was elected by acclamation.

For the Vice Chair and Coordinator (former Secretary) roles, self-nominations will be accepted by Julie through the end of July with voting to decide, if necessary.

Fire Protection Community of Practice (from chair Michael Cates, INL, via email)

There will be an EFCOG Fire Protection workshop being hosted by NREL the first week of August, it sounds like pretty good numbers have already registered. We also have a good representation from the EMI-SIG "Fire Chiefs".

We have formed two subteams within the FP task team, one for stored energy systems, the other is for hydrogen. I have also broken out a section of time during our monthly calls for the delegated AHJs to have a discussion.

Like Tobin and Grant, I have informed my EHSS "Champion" of my intention to step down as Chair. I have not yet heard back from the person I asked to take over.

(With Community of Practice the preferred concept for long-term groups, that term will be used for FP going forward.)

Pressure Safety Community of Practice Status

This longstanding EPSG group was a task team and now a CoP, has been relatively inactive. Chris Rojas of the ANL ESH division has been leading an effort to rejuvenate it along with Dejan Ristic (ANL), Roza Doubnik (FNL), and current leader Ryan Russell, INL. There's consensus that the CoP should remain under EPSG but include ESH professionals in its membership and perhaps leadership (e.g., a team of 3-5 people). Another organizational meeting is planned for August.

Hot issues around the sites (where we can help each other)

Richard Zaharek, SRNS Chief Engineer, spoke of **conservative code interpretation, particularly in pressure safety** and costs with associated component testing approaching that of the larger assembly. His second interest was **EVs and the fire protection** issues with those, particularly those parked near nuclear facilities (ref FP Task Team report above). In general he feels the EPSG represents a great resource for benchmarking each other.

Mark Medsker, WTCC (WTP), plans to promote EPSG within his management, and hopefully more participation from same.

Brad Walker, CNS (Y-12, Pantex), discussed **non-nuclear commercial approach**, the issues with also meeting 10CFR851 pressure and electrical safety mandates, welding, building codes. He's recently assumed systems engineering responsibilities among other things.

Kegan Grimes, NREL, seeks advice on **lighting protection for H2 fuel cells** and their manifold vents. Both LANL (Oruch) and Pantex (Walker) offered help since explosives facilities have much expertise.

Perry D'Antonio, SNL, is working on a DOE O 413 major capital investment project that received CD-1 last December. They took a **systems engineering approach and used a model-based systems engineering (MBSE) tool (Genesys) to demonstrate traceability of high level Program Requirements (derived from Mission Needs Statement) into facility space design needs (labs, office, storage, etc.), including footprint requirements**. Perry was told SNL is the only site that has used this MBSE approach and believes this approach was instrumental in navigating through the turmoil they went through to keep the project moving forward and receiving CD-1. Their derived req'ts were constant throughout the initial design process and demonstrated to NNSA that they really knew what was needed to meet NNSA mission needs.

Perry also discussed a pending **request for exclusion from EO 14057 zero emissions requirements for process loads**. He will share upon expected S-1 approval.

He thinks correlating DOE mandates to the subgroups will help the enterprise with their content and implementation.

Not discussed in the call but noteworthy, Matthew Pacheco in the SNL Facilities Design and Engineering organization is leading a **Community of Practice type effort for sites to collaborate on building information modeling (BIM)** using Revit. LANL is considering

adoption of SNL's BIM documents for a pilot project. Also, Pacheco is hosting various DOE laboratories at SNL to meet, shake hands, share ideas, processes, and workflows. The topics presented will be **Computer-Aided Drafting & Design (CADD)**, Building Information Modeling (**BIM**) and **Drawing Management (DM)** focused. **The sessions are scheduled for two all-day sessions on August 30th and 31st.**

Tobin Oruch, LANL, shared two matters raised by Sarah Murdock:

Electronic COE forms and processes: To achieve efficiency and increase coordination, Facility Engineering is looking into the best methods to create an electronic process for all forms. This method would ideally allow for access by multiple organizations, allow multiple individuals to access at same time, provide ability for signature approvals, and feed into an electronic records software program at the end.

Design-Build Approaches: We are interested to hear what other sites have set up in their documents to handle DB projects differently than their Design-Bid-Build -- what documents have they created specifically for this type of project.

Possible subgroup initiatives and volunteers (path forward)

Although time ran out before this could be discussed, the group priorities appear to be:

1. Complete elections of officers by August, establish leadership meetings.
2. Establish all-group meeting plans. Consider in-person (or hybrid) meeting a minimum of annually (possibly spring in DC, fall at a rotating site as in the past), plus video meetings as needed (e.g., a meeting each quarter).
3. For fire protection and pressure safety, continue to foster these Communities of Practices.
4. For system and process engineering, explore current issues in (EPSG once had an SE subteam), tackle/solve, and possibly stand up CoP(s) if interest. Maybe Early Career as well.
5. Develop initiatives for FY24 by end of Sept.; review hot issues above, seek input from sponsors and membership, publish and submit to Operations WG leadership.

From: Oruch, Tobin H
Sent: Friday, June 30, 2023 1:34 PM
Subject: DOE-STD-1189 Listening Tour and Workshop Offer

For the nuclear sites, below is an article on DOE-STD-1189, *Integrating Safety into the Design Process*, extracted from the Technical Standards Program's June newsletter. We may hear about this on our July 19 Teams call as well.

From: <https://www.standards.doe.gov/news/new-june-2023-technical-standards-newsletter-has-been-published>

**Department of Energy, Office of Nuclear Safety Basis & Facility Design,
(EHSS-31) Standard 1189 Listening Tour and Workshop**

Does your team find itself implementing DOE-STD-1189-2016, *Integrating Safety into the Design Process*, (or the 2008 version) and having questions about what something means, or comments about something that is not working for you? ***EHSS-31 wants to know!*** Since May 2022, EHSS-31 has been listening carefully to contractor and Federal subject matter experts (SMEs) who are implementing DOE-STD-1189, collecting data on past and current use, identifying areas where more guidance would be helpful, and developing a workshop to support effective future use.

EHSS-31 has spoken with over 30 SMEs around the DOE complex. The major conclusion thus far is that ***STD-1189-2016 is working for people and, generally, the method and function of the Standard is effective in its goal of integrating safety into the design process.*** From the listening tour, EHSS-31 has developed a few areas for clarification that would benefit groups that are using the Standard. Methods of delivery for these lessons learned are currently under consideration, but the most frequently mentioned areas for clarification include change control; preliminary technical safety requirements; design upgrade analysis; required correspondence and timeframes; and major modification determinations. If your organization has any feedback in these areas or others that you'd like to share, please contact Lyndsey Fyffe at the address below.

Based on information generated by field interviews and requests for training on the Standard, EHSS-31 has developed a DOE-STD-1189 Implementation Workshop for ongoing projects and delivered the inaugural session at Sandia National Laboratory. The workshop provides an overview of the Standard and its relationship to 10CFR830, *Nuclear Safety Management*, DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets* and DOE O 420.1C, *Facility Safety*. The workshop can be tailored to the specific needs of your site project(s) and any unique challenges you are facing. It also provided lessons learned from the listening tour, along with practical examples. If you are interested in hosting an 1189 Implementation Workshop, contact Lyndsey Fyffe at Lyndsey.fyffe@hq.doe.gov.

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