

EFCOG Subsurface Investigation Committee

Introduction and Organization Meeting

David Inskip
INL Subsurface Investigations

Clark Scott
INL Env. Engineering & Technology

Outline

- **History**
- **Drivers**
- **Current Committee Organization**

- **Committee Mission**
- **Results From SRNL Meeting**
- **Subsurface Utility Engineering - Standards**
- **Process Breakdown**
- **Deliverables**
- **Responsibilities**

History

- **2000 – 2002 Incidents started several sites improving SI process**
- **INL Charter**
- **2006 – DOE directed INL to communicate with others in complex following Incident (SI exemplary, other issues not so much)**
- **2007 – EFCOG Initiative to identify best practices for excavation and D&D related to electrical safety**
- **2008 – SRNL hosts workshop on Hidden Electrical Hazards (NNSA)**
- **2008 – EFCOG ES Subgroup Fall Meeting, current committee proposed**

Drivers

- **Complexity of current and legacy systems requires higher level of technical effort.**
- **Systems and processes have improved over time.**
- **Expectations have increased with demonstrated improvements by leading sites.**
- **Costs of utility hits far outweigh the cost of finding the utilities**
- **Contractor cost overruns due to lack of understanding at planning and contracting phases**



Client demands Zero-Tolerance in utility hits

Current Makeup and Members

Co-Chairs

- **David Inskeep, INL**
- **Jim Luhring, SRNL**

Members

- Clark Scott, INL
- Rick Baca, LANL
- Tom Gross, Pantex
- John McIntosh, SRNL
- Wim Lewis, SRS
- Jenny Oldman, Y-12
- Sal Sferrazza, NREL
- Greg Kirsch, SNL
- Jeremy Michaels, SNL
- Carl Haller, Fluor

Committee Name, Mission, Purpose, etc

The EFCOG Subsurface Investigation sub-committee is established to improve the SI Process of member sites by

- Establishing best practices collected from facilities within the DOE complex and from external sources
- Provide a forum among member sites for the reporting of incidents and the sharing of lessons learned.
- Develop a process for sharing of procedures and processes among member facilities
- Establish criteria published in the center of excellence for acceptable standards in subsurface utility engineering
- Develop chapter for SUE for eventual inclusion in electrical safety handbook.

Savannah River NL (Best Practices)

Best Practices

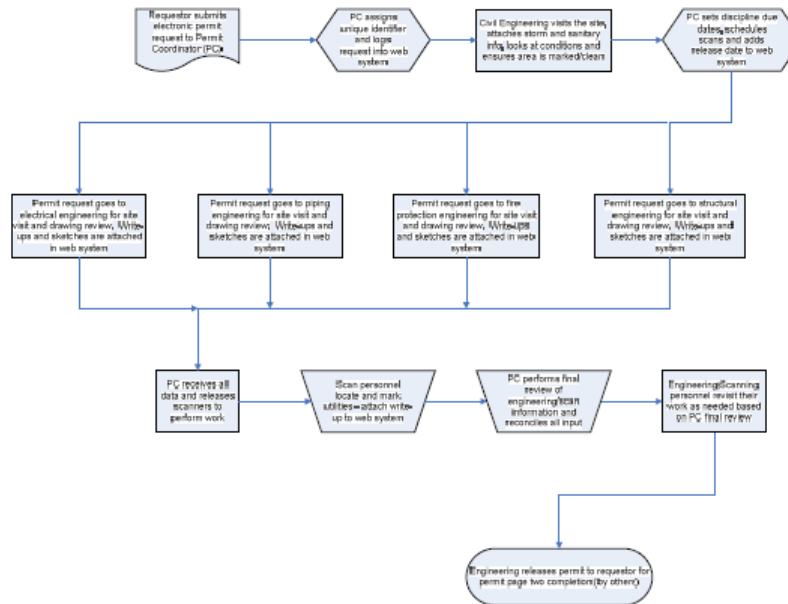
- **Benchmarking**
- **Training**
 - **Formal Locator Training**
 - **Formalized in site training system**
 - **RF – Vendor and/or Staking U.**
 - **GPR – Vendor and site specific test area**
 - **Apprenticeship (OJT)**
 - **Qualification on GPR**
 - **Re-qualify every 2 years**
- Discussions with other Complex Sites
- Review of other site programs/procedures
- Participation in EFCOG/DOE programs
- Review DOE Lessons Learned Database
- Common Ground Alliance
- Underground Focus
- Office of Pipeline Safety, Research and Special Programs Administration, US DOT

Y-12 Best Practices

- *Marker Balls Standard*
- *Web Based Permit System*

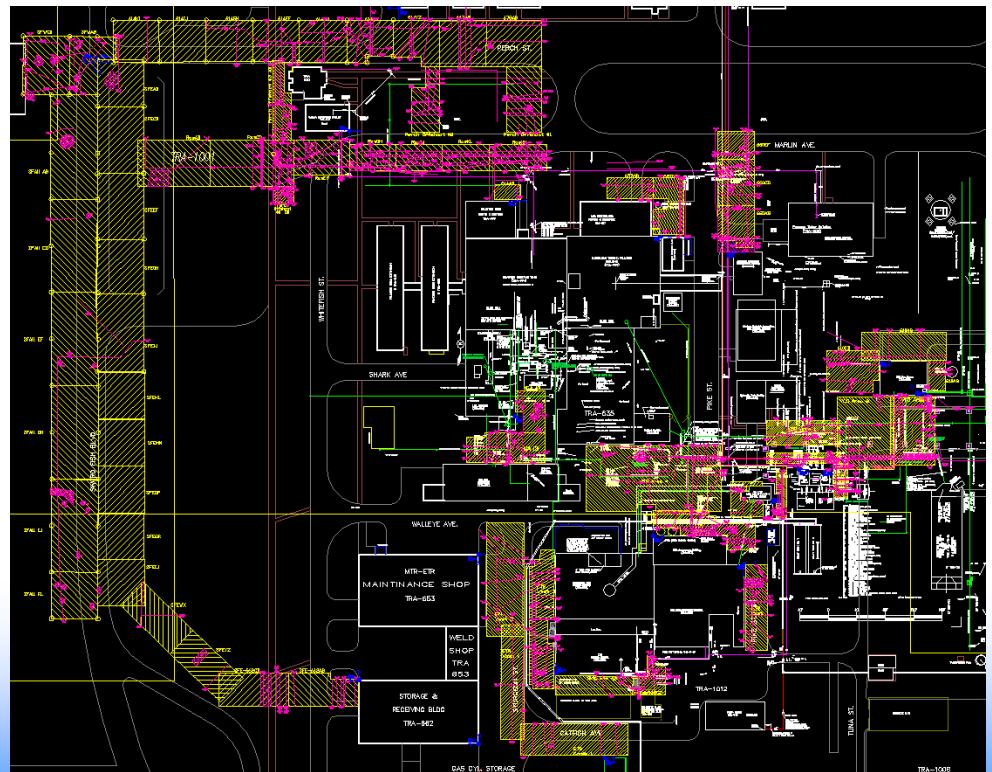


Summary of Web-Based Permit System



INL - Best Practices

- Enhanced surveying techniques
- Data kept for forensic purposes
- Results recorded for planning and work control
- Multi-level/Multi-org release forced good communication



Standards

Various ASTM Geophysical Standards

ASCE 38-02 (SoDeep inc.)

Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data

–Quality D – records search

–Quality C - quality D + feature surveying

–Quality B – quality C + geophysical surveying

–Quality A – quality B + physical locating

Other Info

Stirling, R.L., 2000

Utility Locating Technologies: A Summary of Responses to a Statement of Need Distributed by the Federal Laboratory Consortium for Technology Transfer, Federal Laboratory Consortium Special **Reports Series No. 9, ISSN 1075-9492C**

Stirling et. al., 2008, 2009?

Encouraging innovation in locating and characterizing underground utilities

Deliverables & Responsibilities

- **Best Practices for Process**
 - Requesting and Permitting
 - Legacy Data Handling
 - Training
 - Physical Surveying
 - Geophysical Surveying
 - Data Storage and Data Management
- **Sharing (Posting?) Incidents, lessons learned**
- **Provide training and services**
- **Provide technical expertise**

Organizing

- **Committee Organization**
- **Future Meetings**
- **Support**
- **Call List**
- **Notes**