

DOE-STD-5506
Status and Technical
Issues

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Background

- STD-5506-2007 released in April 2007
- EM headquarters issued letter requesting site's perform a gap analysis of existing safety bases against the standard
- Each site presented results of gap analysis at July workshop in Idaho Falls

Purpose of ID Workshop

- Understand each site's level of compliance with STD-5506-2007
- Identify any common or outstanding issues that impede implementation of the standard
- Reach agreement on implementation strategy for DSA/TSR Updates
- Identify any further EM corporate actions needed

Gap Analysis Results

- Gaps between the standard and facility safety bases at EM sites not considered significant impact on controls
- Several technical issues related to specific guidance in the standard (LANL, ICP, and Hanford)
- Safety basis upgrades ongoing at several sites already using the standard before it was finalized

EM Site Status

- SRS near completion on major DSA/TSR upgrade for SWMF
- TWPC at Oak Ridge just completed major upgrade of DSA/TSR for RH/CH Wastes
- WIPP DSA/TSR undergoing major revision...evaluating dispersion code compliance
- Hanford (Fluor) has no firm plans for DSA/TSR revision...evaluating dispersion code compliance
- AMWTP (Idaho) plans on filling minor gaps at next annual update
- CWI (ICP) in close compliance except for MAR issue

Technical Issues

- Hanford/WIPP use of GXQ dispersion code not compliant with standard usage of MACCS2
- SRS identified issues that impacted usage of statistical based MAR approach (i.e., priority selection of drums being processed)
- MAR statistical approach created issues at ICP related to maximum container value
- LANL issues related to breathing rate and empirical evidence for damage ratios

Standard Sections Related to Technical Issues

- Section 5.3 (Collocated Worker and Public Consequences)
 - *Use of other DOE-Approved Toolbox Codes [besides MACCS2], or site-specific codes...must be technically justified*
 - *Breathing rate value, as specified in the DOE Toolbox Codes, $3.3 \times 10^{-4} \text{ m}^3/\text{s}$*
- Section 4.3 (Bounding the Material at Risk)
 - Single container accidents must use maximum container value + 20%
 - MAR methodology not intended for “...operations that intentionally commingle containers with the highest distribution of radioactive material”

**[Presentations and/or discussions from
Hanford, Idaho, SRS, LANL; input
And discussions with audience]**

Conclusions/Path Forward

- STD-5506 helpful in standardizing analytical methods and controls
- Many EM sites in close compliance, though some conservatisms remain within existing safety bases
- EM working with sites on remaining technical issues and will issue direction to implement the standard