



HSS Expectations for Nanoscale Safety and Health

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Role of HSS Policy Development

- Role of HSS is to develop the ES&H policy
- HSS may also coordinate, collaborate, and assist in policy development with other organizations
- The approach to developing policy could be a top-down or bottom-up approach





History of DOE Nano Policy

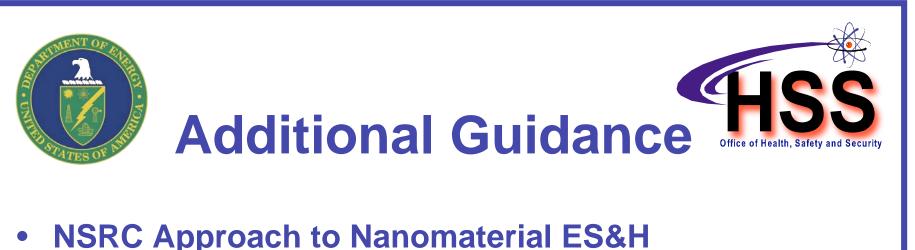
- 7/04 White Paper, "Ensuring the Safety and Viability of Nanotechnology"
- 3/05 1st meeting of Emerging Technology Workgroup to discuss nanotechnology
- 5/05 Safety Bulletin , "Good Practices for Handling Nanomaterials"





History of DOE Nano Policy

- 9/05 DOE P 456.1 "Secretarial Policy Statement On Nanoscale Safety"
- 2/06 10 CFR 851 Appendix A 11 "Nanotechnology Safety "– Reserved
- 3/06 NSRC Approach to Nanomaterial ES&H
- 4/07 Justification Memo for DOE N XXX.X "The Safe Handling and Transfer of Nanoscale Materials"



- ASTM Standard Guide for Handling Unbound Engineered Nanoscale Particles in Occupational Settings (E 2535–07)
- ASTM Terminology for Nanotechnology (E 2456-06)
- NIOSH Interim Guidance for the Medical Screening of Workers Potentially Exposed to Engineered Nanoparticles





DOE IG Audit Report

 Recommend: HSS adopt and disseminate the NSRC working group's guidance as the Department's expectation of safety policies and procedures at the laboratories for key topics.





HSS Management Decision

- Coordinated with SC and FE
- Based on Lab Directors response to HSS memo requesting information on implementing DOE P 456.1
 - Indicated Laboratories were implementing P 456.1
 - Laboratories were using NSRC Approach document
 - HSS Concluded that no new policy was needed at that time
- Committed to have HS-60 undertake a Special Review of Departmental Nanotechnology activities
 - Address IG's classifying HSS response as not responsive to their Audit Report



Special Review



• Overall inspection goal to provide status

- Implementation of the approach specified in NSRC and
- Application of ISM.

• The key inspection topics include

- Integration of nanoscale material analysis and controls into work planning and execution at all levels
- Related institutional procedures and processes
- Related feedback and improvement processes.

Completed reviews

- BNL, SNL, SRNL, NREL, JLAB, ANL, and LBNL
- Summary report will be completed in August 2008



- Implementation was in the early stages at many sites
- Senior management provided strong support for the review process and responded immediately to identified program weaknesses
- Self identification and correction of deficiencies with nanomaterial activity safety needs improvement
- Many types of engineering controls were effectively used in many cases. However, use of HEPA filters as an engineering control was sporadic



Preliminary Observations

- Further effort is needed at most sites to fully implement nanomaterial process and procedures regarding: transportation, PPE usage, labeling of nanomaterials, inventory of nanomaterials, and labeling and control of nanomaterial waste.
- Nanoscale material activity training had been developed and presented at most sites. In some cases, the participation in training was not extended to support organizations.
- The implementation of baseline medical evaluations requirements and the identification of workers classified as needing baseline evaluations varied widely between the sites reviewed from the recommendations in the Approach document.