

U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

**NUCLEAR WASTE TECHNICAL REVIEW BOARD
FULL BOARD MEETING**

**SUBJECT: TOTAL SYSTEM PERFORMANCE
ASSESSMENT (TSPA): SUMMARY
OF NEXT STEPS**

PRESENTER: ERIC SMISTAD

**PRESENTER'S TITLE
AND ORGANIZATION: TECHNICAL SYNTHESIS TEAM
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
LAS VEGAS, NEVADA**

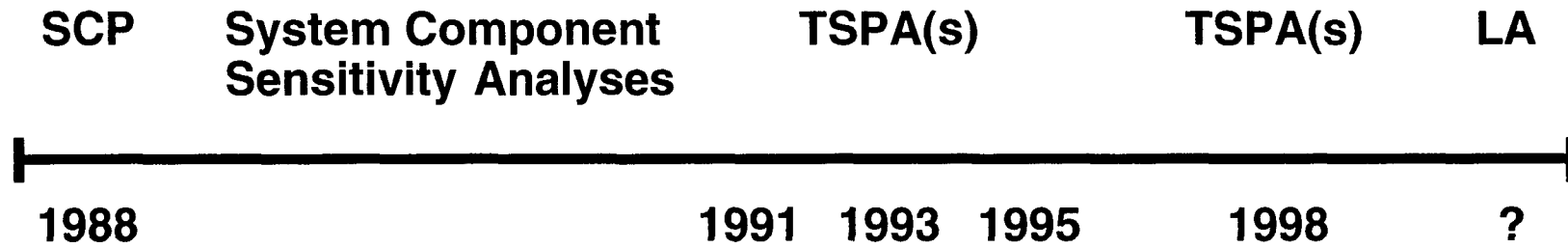
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**ARLINGTON, VIRGINIA
OCTOBER 17-18, 1995**

Total System Performance Assessment (TSPA)

- **TSPA timeline**
- **Process-level models**
- **Guidance**
- **Summary**

TSPA Timeline



Process-Level Models

- **Process-level models from the site and design programs are used as the bases for TSPA**
- **It is the intent of the Program in the next few years to concentrate on the synthesis and modeling of data and information to support TSPA**
- **As these models are implemented in TSPA, the realism and confidence will increase, and the instructiveness of the guidance back to these modeling elements will also increase**

Process-Level Models

(Continued)

- **Abbreviated list of process-level models supporting TSPA**
 - ***UZ Flow***
 - **SZ Flow**
 - **UZ Transport**
 - **SZ Transport**
 - **Volcanic Effects**
 - **Climate Change**
 - **Waste Package Degradation**
 - **Waste Form Dissolution**
 - **Drift Scale Thermo-hydrology**
 - **Etc.**

Guidance

- **Guidance to the site and design programs is contained in each of the TSPAs (1991, 1993, and 1995)**
- **Project planning has utilized PA guidance to assist in prioritizing tasks. In particular, the recent FY96 and beyond planning**
- **A document entitled "Summary of 1995 PA Recommendations for Site Characterization and Design" has been produced**
 - **TSPA 1995 Recommendations**
 - **Climate Program**
 - **UZ Flow Model**
 - **Seismic Program**
 - **Process-level model development, substantiation, documentation, and testing**
 - **Etc.**

Summary

- **TSPAs will continue to be produced**
- **Process-level model development and implementation is key to the production of more realistic TSPAs**
- **TSPAs will continue to provide guidance and to support major program decisions**