

NEHRP Congressional Hearings May 3, 2003



***National Earthquake Hazards Reduction Program
Advisory Committee on Earthquake Hazards Reduction***

**National Institute of Standards and Technology (NIST)
Gaithersburg, MD
May 10-11, 2007**

***Briefing
Scientific Earthquake Studies Advisory Committee
(SESAC)
Committee Activities
2002 - 2007***

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SESAC Mandate

- **2000 NEHRP reauthorization**
- **Appointed and charged, through Public Law 106-503, to advise the Director of the United States Geological Survey on matters relating to that agency's participation in the National Earthquake Hazards Reduction Program**
- **2002 DOI (USGS) created SESAC**

SESAC Membership

- **Dan Abrams, engineering**
- **Lloyd Cluff, chairman**
- **Ron Eguchi, lifelines**
- **Mimi Garstang, geology**
- **Tom Jordan, seismology**
- **Jon Price, geology**
- **Paul Segall, seismology**
- **Bob Smith, seismology**
- **Sharon Wood, structural engineering**
- **Jim Dieterich, geophysics**
- **Gary Rogers, geosciences**
- **Art Lerner-Lam, geophysics**
- **Vicki McConnell, geology**
- **Paul Somerville, engineering seismology**
- **Mark Zoback, geophysics**

SESAC Meetings

- **May 2002, San Francisco**
- **August 2002, Golden**
- **January 2003, Reston**
- **June 2003, Los Angeles**
- **August 2003, Alaska**
- **January 2004, Reston**
- **June 2004, Memphis**
- **September 2004, Jackson Hole**
- **January 2005, Reston**
- **April 2005, Menlo Park**
- **September 2005, Seattle**
- **February 2006, Reston**
- **July 2006, Golden**
- **October 2006, Albuquerque**
- **February 2007, Reston**

Five annual reports submitted to the USGS Director, DOI, and Congress

2003 SESAC Alaska Denali Earthquake



SESAC Delta Junction, Alaska August 2003



SESAC 2003 report writing, Delta Junction, Alaska



SESAC Denali fault 2003



Preparation for Denali fault helicopter reconnaissance



***Newmark at completed Denali fault crossing
1975***

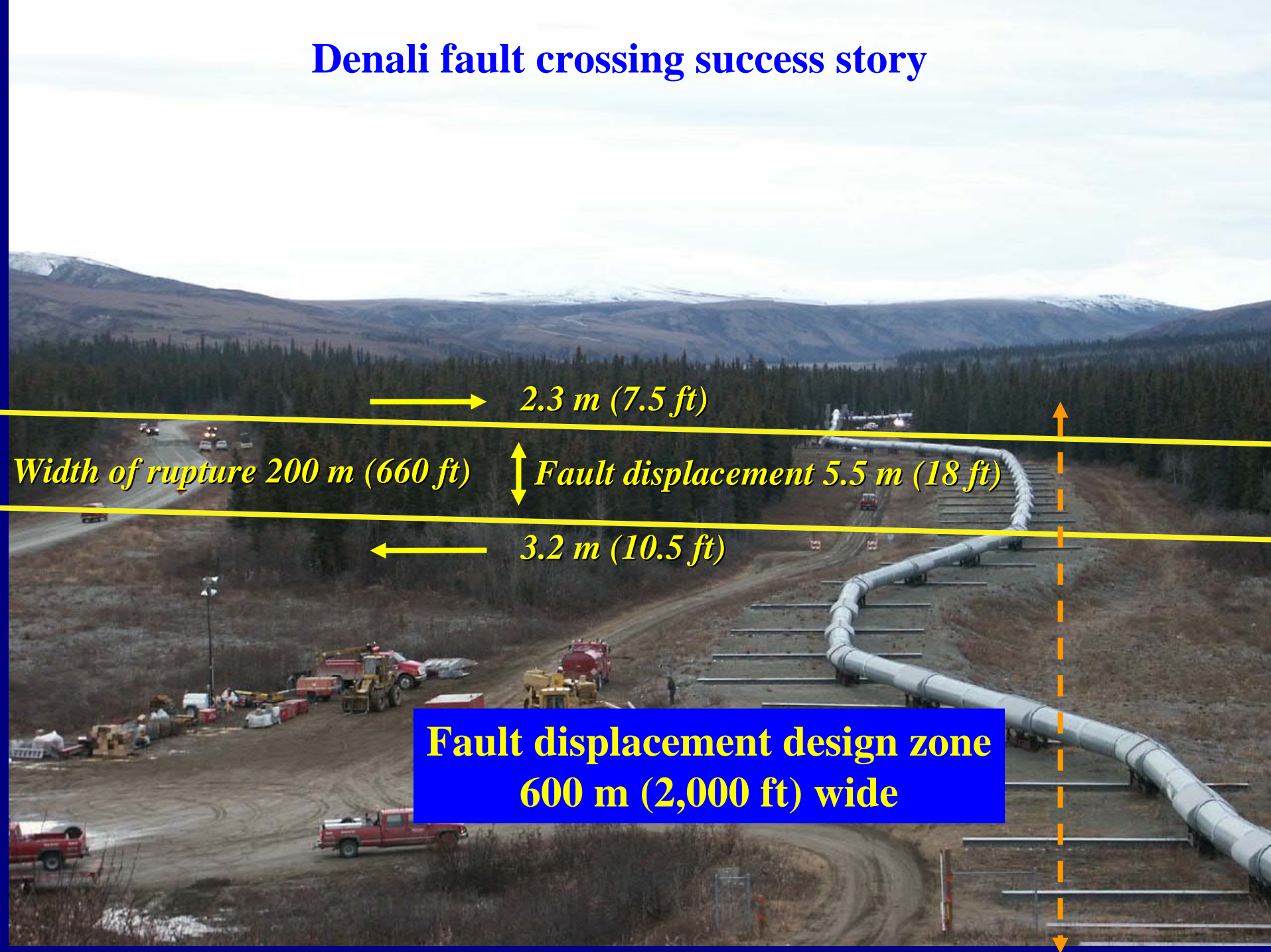


Debris avalanches, Denali fault earthquake





Denali fault crossing success story



→ 2.3 m (7.5 ft)

Width of rupture 200 m (660 ft)

↕ Fault displacement 5.5 m (18 ft)

← 3.2 m (10.5 ft)

**Fault displacement design zone
600 m (2,000 ft) wide**

Denali Fault Crossing (Before and After)



***2004-Denali fault crossing retrofit completed
to restore pipeline fault displacement capacity***



SEP 2 2004

2004-SESAC Report Writing, Jackson Hole



Summary

Conclusions and Recommendations

- Continue to seek full funding at the authorized level for the Advanced National Seismic System
- Develop means internally to take advantage of the EarthScope data and research opportunities for earthquake science, and risk Reduction, and collaboration with NSF and NASA
- The SESAC strongly recommends full funding of the ANSS at the level authorized in the current NEHRP legislation be appropriated. The USGS must make a commitment to work through the Department of the Interior and the Office of Management and Budget to ensure that this objective is met

Recommendations continued

- Take advantage of opportunities for collaboration between the users of the Advanced National Seismic System and the U.S. Array component of the National Science Foundation's EarthScope initiative. Similar synergies are possible between the ANSS and the NEES
- The USGS and the NSF should develop memoranda of understanding that clearly state the responsibilities and expectations of the respective agencies, and should communicate regularly to avoid duplication of effort
- The USGS needs ample budget and more flexible strategies for learning from future earthquakes. Discretionary funds should be set aside for multiple years, instead of annually. To ensure the broadest level of support from all NEHRP agencies, post-earthquake investigations should be coordinated to the greatest extent possible with the Interagency Coordinating Committee on Earthquake Hazards Reduction

Recommendations continued

- The Committee continues to strongly recommend to the Director of the USGS that full funding of the ANSS at the level authorized in the current NEHRP legislation be appropriated. The USGS must make a commitment to work through the Department of the Interior and the Office of Management and Budget to ensure that this objective is met
- The Committee recommends the USGS reestablish the National Earthquake Prediction Evaluation Council to serve as the forum to review predictions and resolve scientific debate prior to public controversy or misrepresentation, so decision makers are not misled by unfounded short-term earthquake predictions. The Committee encourages the USGS to support an active NEPEC equipped with adequate resources to perform this role

Recommendations continued

- The Committee stresses the need for balance in the Earthquake Hazards Program. The USGS must maintain learning from future earthquakes, hazard mapping, earthquake geology, and earthquake physics components of the program. The USGS should not become simply a monitoring agency
- The SESAC encourages the development of risk-targeted ground motion maps as a means for enhancing the ways in which risk is judged by both the public and private sectors, and suggests that the needs of potential users and potential actions from them be carefully considered in its development
- Full Funding of ANSS: As stated in past Committee reports, the SESAC strongly recommends to the Director of the USGS, that full funding of the ANSS at the level authorized in the current NEHRP legislation be appropriated. The USGS must make a commitment to work through the Department of the Interior and the Office of Management and Budget to ensure that this objective is met

Recommendations continued

- The SESAC endorses the decision by the USGS to proceed with a multi-hazard demonstration project in Southern California. In addition, the SESAC encourages the demonstration project to expand the multi-hazard scope to eventually include the San Francisco Bay Area multi-hazards as part of this effort