POLICY RECOMMENDATION 2014-1

EARTHQUAKE-RESPONSE AND INVESTIGATION GUIDE[1]
(ADOPTED 21 APRIL 2014)

Documenting the geologic, geotechnical, and engineering effects of earthquakes are a critical element of post-earthquake response investigations. These data can increase the information available to public officials managing response and recovery and can expand upon lessons learned that can be incorporated into standards and practices for future hazard reduction. Currently, the State of Alaska does not have an earthquake specific plan outlining documentation procedures essential for investigation teams to quickly and efficiently evaluate aspects of destructive earthquakes. Therefore the Alaska Seismic Hazards Safety Commission recommends that the Alaska Division of Geological & Geophysical Surveys develop a field guide for earthquake-response and investigations.

INTRODUCTION

The State of Alaska Division of Geological & Geophysical Surveys is the lead state scientific agency responsible for understanding and documenting geologic hazards, including the primary and secondary effects of earthquakes (Alaska Statute 41.08.017b). Although the State of Alaska has developed an emergency operations plan (State of Alaska, 2011), it does not currently have a response plan specific to earthquakes that outlines procedures for:

- *Conducting post-earthquake field investigations;*
- *Coordinating activities with other emergency-response and geosciences professionals; and,*
- *Reporting investigation results.*

The following position statement lends support to the Alaska Seismic Hazards Safety Commission's Policy Recommendation 2014-1, and presents justification for the development of such a post-earthquake response and investigation field guide specific for Alaska.

POSITION STATEMENT

Field investigations in the aftermath of damaging earthquakes are now common practice and typically conducted by multiple state and federal agencies, university researchers, and other professionals. These investigations provide the opportunity to collect information related to surface rupture processes, secondary ground deformation effects, and the response of the engineered or built environment to seismic shaking. Subtle geologic effects are often rapidly destroyed due to rebuilding efforts and other natural processes, and thus it is critical to archive the information in a timely and organized framework. The information can be useful to public

[1] This expands upon elements of the Western States Seismic Policy Council (WSSPC) Policy Recommendation 13-3, *Post-Earthquake Technical Clearinghouses*, adopted by unanimous vote of the membership in May 2013; which included the Alaska Division of Geological & Geophysical Surveys, Alaska Division of Homeland Security and Emergency Management, and Alaska Seismic Hazards Safety Commission.

officials in response and recovery efforts immediately following an earthquake and is valuable for developing standards and practices for future hazard reduction including improved seismic hazards maps and development decisions.

Due to differing priorities, compromised communication systems, and "on-the-fly" coordination, the effectiveness of post-earthquake studies often suffers from poor organization. General post-earthquake field guides have been published outlining the types of data that should be collected, and recommended methods for data access and organization (e.g. EERI 2003; 1996; Holzer, 2003). The Utah Geological Survey has published a post-earthquake action guide outlining the relative roles of staff in coordinating activities with other investigators and has developed field investigation guidelines and data forms to record observations (Solomon, 2001). These publications provide excellent resources for planning post-earthquake field investigations; however, rugged topography, poor access, and other logistical constraints may limit the usefulness of some aspects of these guides in Alaska. Therefore, it is essential that an Alaska specific post-earthquake investigation field guide be developed before the next major destructive earthquake occurs.

CONCLUSION

Post-earthquake response, recovery efforts, and planning to mitigate the effects of future earthquakes in Alaska will all benefit from the coordinated and systematic investigation and documentation of damage caused by a specific earthquake. Therefore, the Alaska Seismic Hazards Safety Commission recommends that the Division of Geological & Geophysical Surveys develop a post-earthquake response and investigation field guide as part of its efforts to characterize geologic hazards.

REFERENCES

EERI, 2003, Collection and management of earthquake data: Defining issues for an action plan, Earthquake Engineering Research Institute publication EERI 2003-03, https://www.eeri.org/projects/learning-from-earthquakes-lfe/eq-data-collection/

EERI, 1996, Post-earthquake investigation field guide: Learning from earthquakes, Oakland, California: Earthquake Engineering Research Institute, https://www.eeri.org/projects/learning-from-earthquakes-lfe/post-earthquake-investigation-field-guide/

Holzer, T.L. and others, 2003, The plan to coordinate NEHRP post-earthquake investigations, Circular 1242, U.S. Department of the Interior, U.S. Geological Survey, Menlo Park, CA.

State of Alaska, 2011, State of Alaska 2011 Emergency Operations Plan, promulgated on November 01, 2011, Division of Homeland Security & Emergency Management pursuant to Alaska Statue AS 26.23.040.

Solomon, B.J., 2001, Utah Geological Survey earthquake-response plan and investigation field guide, Utah Department of Natural Resources, Utah Geological Survey Open-File Report 384.

INTERNAL SECTION

Implementation & Assessment

The Commission will submit the policy recommendation to the Director of the Division of Geologic and Geophysical Surveys.

Measure of this policy recommendation will be gauged by its acceptance and funding requests for FY16.

The Commission's Earthquake Hazards Committee will be responsible for the tracking this policy recommendation.

History

PR 2014-1 was adopted on 21 April 2014 by a unanimous vote of 6-0.