SB 137

<TARGET><BILL>SB 137</BILL><SUBJECT>SB 137</SUBJECT><COMM>HRES28</COMM></TARGET>

HOUSE COMMITTEE REPORT

(9)
Date Referred to Committee: March 25, 2014 **FURTHER REFERRALS: Finance**

Date of Committee Action: 4/7/14

The RESOURCES Committee considered: **SB 137**

SENATE BILL NO. 137
"An Act extending the termination date of the Alaska Seismic Hazards Safety Commission; and providing for an effective date."

SB 137 EXTEND SEISMIC HAZARDS SAFETY COMMISSION

Recommends it be replaced with [ ] HCS *or* **[ ] CS** *for* _____ (_____)
*For Senate Bills with new title: [ ] Technical Title [ ] New Title: HCR*_____ [ ] Same Title [ ] New Title

[ ] attach amendments
[ ] add new referral to _____Committee
[ ] Letter of Intent_____Committee

List of Abbrev for Depts.:
ADM
CED
COR
CRT
EED
DEC
DFG
GOV
DHS
LWF
LAW
LEG
MVA
DNR
DPS
REV
DOT
UA

***NEW* FISCAL NOTES**
*FN# is assigned by Chief Clerk's Office

*FN#	List by Dept(s):	Fiscal	Indet.	Zero

***PREVIOUS* FISCAL NOTES**

FN#	List by Dept(s):	Fiscal	Indet.	Zero
1	DNR	X		

Signing with recommendations	Printed Last Name	DP	DNP	NR	AM
	Seaton	X			
	Johnson	>			
	Kreiss-Tomkins			X	
	Hawker			*	
	WILSON	X			
	OLSON			✓	
	TARR	X			
Chair:	FEIGE	X			
Chair:	SADDLER	X			

ALASKA STATE LEGISLATURE

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Senator Click Bishop

SB 137 Sponsor Statement

Alaska has more earthquakes than any other region in the U.S. and is one of the most seismically active areas in the world. In fact, we are approaching the 50th anniversary of the 1964 Good Friday Earthquake, the most powerful in recorded North American history.

Given the historical record and inevitable potential of future earthquake activity, Alaska needs the Alaska Seismic Hazards Safety Commission. The ASHSC is statutorily designated as an advisory body for seismic hazard safety mitigation. The ASHSC's overarching purpose is to analyze and disseminate information, review predictions and proposed warnings, and to provide recommendations for seismic safety mitigation.

I would like to see the termination date of the Alaska Seismic Hazards Safety Commission (ASHSC) extended from June 30, 2014 to June 30, 2020. According to the Division of Legislative Audit, the commission has a demonstrated public need and therefore the termination date should be extended.

The public need is proven and the public interest is served in the following ways:

1) The commission assists with seismic hazard safety training efforts. For example, in 2011 and 2012, the ASHSC coordinated with the Department of Military and Veterans Affairs to facilitate training workshops for volunteer first responders who would respond after a severe earthquake.
2) They hope to significantly improve school safety by collaborating with the Department of Education and Early Development on seismic issues concerning school construction and renovations. Seismic hazard mitigation efforts for schools are an important commission priority, as schools are critical infrastructure.
3) The ASHSC served the public's interest by making seismic hazards mitigation recommendations to the governor, legislature and private entities through annual reports.
4) The commission helps facilitate collaboration amongst agencies with related missions and private sector entities on seismic hazard mitigation.

E-Mail: Senator.Click.Bishop@akleg.org
Website: www.alaskasenate.org/bishop/

Fiscal Note

State of Alaska
2014 Legislative Session

Bill Version: SB 137
Fiscal Note Number: 1
(S) Publish Date: 2/28/14

Identifier: SB137-DNR-DGGS-2-21-14
Title: EXTEND SEISMIC HAZARDS SAFETY COMMISSION
Sponsor: BISHOP
Requester: Senate Resources

Department: Department of Natural Resources
Appropriation: Land & Water Resources
Allocation: Geological & Geophysical Surveys
OMB Component Number: 1031

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2015 Appropriation Requested	Included in Governor's FY2015 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2015**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**
Personal Services							
Travel		8.0	8.0	8.0	8.0	8.0	8.0
Services							
Commodities		2.0	2.0	2.0	2.0	2.0	2.0
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**0.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**
Fund Source (Operating Only)							
1004 Gen Fund		10.0	10.0	10.0	10.0	10.0	10.0
Total	**0.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**
Positions							
Full-time							
Part-time							
Temporary							
Change in Revenues							

Estimated SUPPLEMENTAL (FY2014) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2015) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency? No
If yes, by what date are the regulations to be adopted, amended or repealed? n/a

Why this fiscal note differs from previous version:

Initial Version

Prepared By: Steven Masterman, Acting Director Phone: (907)451-5007
Division: Geological and Geophysical Surveys Date: 02/21/2014 05:00 PM
Approved By: Joe Balash, Commissioner Date: 02/21/14
Agency: Department of Natural Resources

FISCAL NOTE ANALYSIS #1

STATE OF ALASKA
2014 LEGISLATIVE SESSION

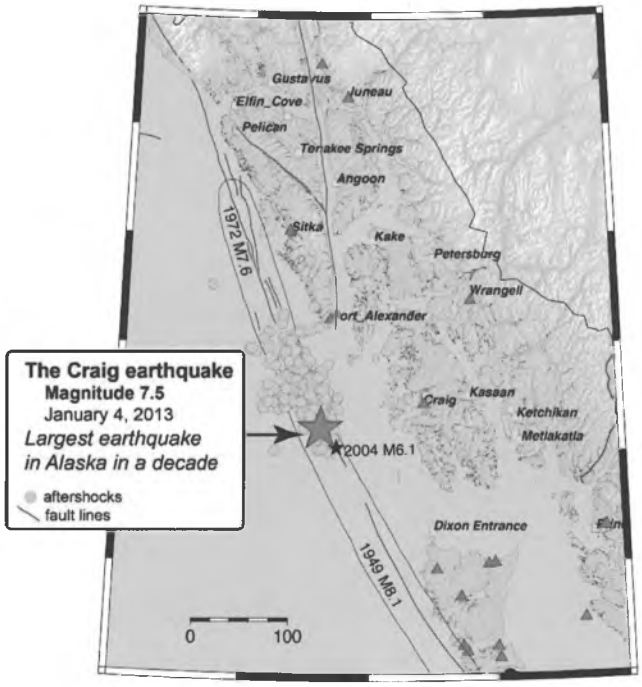
BILL NO. SB 137

Analysis

SB137 extends the term of the Alaska Seismic Hazard Safety Commission (ASHSC) to June 30, 2020. This fiscal note extends the amount included in the FY2015 Governor's Budget for ASHSC through FY20.

ALASKA SEISMIC HAZARDS SAFETY COMMISSION

ANNUAL REPORT TO THE GOVERNOR AND STATE LEGISLATURE FOR 2013



The largest Alaska earthquake in 2013 (magnitude 7.5) occurred along the Fairweather-Queen Charlotte fault on 5 January 2013, about 71 miles west of Craig. The earthquake was felt strongly throughout southeastern Alaska, to as far away as Seattle. No ground failure or structural damage was reported, but damage to an underwater fiber-optic cable affected GCI service to Wrangell. A tsunami warning was issued for many southeastern communities, but no significant waves or inundation was reported. This was the largest earthquake in Alaska in a decade.

21 JANUARY 2014

ASHSC Alaska Seismic Hazards Safety Commission

EXECUTIVE SUMMARY

This report summarizes the Alaska Seismic Hazard Safety Commission's (ASHSC) business, activities and accomplishments in 2013 as related to its statutory (AS 44.37.067) powers and duties on behalf of the Governor, Legislature, local governments, as well as public and private sectors.

In December 2013, the Alaska Legislative Budget and Audit Committee (LB&A) approved its audit of the ASHSC (currently scheduled to terminate on June 30, 2014); concluding that the ASHSC is operating in the public's interest and should be extended for another six years. By year-end, the ASHSC had addressed and begun to implement all four of the recommendations in the LB&A's report. In particular, the ASHSC: (i) revised and updated its *Strategic Plan*; refining the scope, priorities and metrics of the specific strategies listed to implement the commission's seven general objectives; (ii) updated its general operating rules (e.g. basic member and officer responsibilities, business and meetings, etc.); and (iii) established standards for preparing and implementing designated policy recommendations.

Over the course of 2013, the ASHSC: (i) maintained a full membership of 11 commissioners; (ii) conducted nine public meetings; (iii) had no written determinations, requests for determinations, or suspected potential violations under the Ethics Act (AS 39.52); and (iv) expended a total $9,710 in FY13 (within its allotted budget of $10,000).

Activities initiated directly by the ASHSC included approval of one designated resolution, recommending that Governor Parnell dedicate the year 2014 in commemoration of the 1964 Great Alaska Earthquake; and approval of two designated policy recommendations for mitigating seismic hazards in the State (i.e. *VALUE OF SEISMIC INSTRUMENTATION FOR CRITICAL FACILITIES; and SEISMIC PROVISIONS FOR DESIGNING SCHOOLS AND PUBLIC BUILDINGS*). The ASHSC also initiated or continued work associated with its current major long-term projects to:

- Identify and prioritize seismically vulnerable schools in Alaska;
- Complete a scenario earthquake study for the Kodiak Island Borough;
- Advocate for Alaska earthquake research programs; and,
- Amend State regulations to assure seismic knowledge of registered civil and structural engineers.

Finally, the ASHSC: (i) received briefings during its public meetings on seven topics related to mitigating seismic hazards; (ii) responded to specific requests for information or assistance from no less than six entities, including the Federal Emergency Management Agency, Alaska Department of natural Resources-Division of Geologic and Geophysical Surveys, the University of Alaska, the Matanuska-Susitna Borough, the Western States Seismic Policy Council, and the Government of Yukon in Canada; and, (iii) continued to partner with numerous other organizations and government entities focusing on the mitigation of seismic risks.

Robert L. Scher, Chair
Richard D. Koehler, Vice-Chair

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Abbreviations used in this report for Federal and Alaska entities:

AELS	Board of Registration for Architects, Engineers, and Land Surveyors
AEC	Alaska Earthquake Center
ASHSC	Alaska Seismic Hazards Safety Commission
DGGS	Division of Geological & Geophysical Surveys
DNR	Department of Natural Resources
FEMA	Federal Emergency Management Agency
DEED	Department of Education & Early Development
DHS&EM	Division of Homeland Security & Emergency Management
DLA	Division of Legislative Audit
DMVA	Department of Military & Veterans' Affairs
LB&A	Legislative Budget and Audit Committee
USCG	U.S. Coast Guard
USGS	U.S. Geologic Survey

ALASKA SEISMIC HAZARDS SAFETY COMMISSION
ANNUAL REPORT TO THE GOVERNOR
& STATE LEGISLATURE FOR 2013

This report summarizes the Alaska Seismic Hazard Safety Commission's (ASHSC) business, activities, and accomplishments in 2013 as related to its statutory powers and duties (AS 44.37.067) on behalf of the Governor, Legislature, local governments, as well as the public and private sectors, including:

- *Recommending goals and priorities for mitigating seismic hazards (e.g. strong ground shaking, landslide, avalanche, liquefaction, tsunami inundation, fault displacement, and subsidence);*
- *Recommending policies including needed research, mapping, and monitoring programs;*
- *Reviewing the practices for recovery and reconstruction after a major earthquake; to recommend improvements to mitigate losses from similar future events; and,*
- *Gathering, analyzing, and disseminating information of general interest on seismic hazard mitigation to reduce the state's vulnerability to earthquakes.*

INTRODUCTION

Destructive earthquakes over the past decade in Alaska (e.g. 2002 M7.9 Denali fault) and around the world (e.g. 2010 M8.8 Maule Chili, 2011 M9 Tohaku Japan, etc.) serve as reminders of the need to be prepared for future damaging seismic events. Alaska has more earthquakes than any other region of the United States and is, in fact, one of the most seismically active areas of the world. The second largest instrumented earthquake in the world occurred in southcoastal Alaska on March 27, 1964 (magnitude 9.2), and the largest on-land earthquake in North America in almost 150 years occurred in central Alaska on November 3, 2002 (magnitude 7.9). During 2013 the Alaska Earthquake Center[a] (AEC) located roughly 28,000 earthquakes in the state (Figure 1), including about 40 that exceeded magnitude 5[b]. The largest earthquakes in 2013 were the magnitude 7.5 Queen Charlotte Fault earthquake on January 5th (see cover) in southeastern Alaska, and a magnitude 7.0 earthquake on August 20th near the Andreanof Island group of the Aleutian Islands.

While it is not possible to predict the time and location of the next big earthquake, the active geology of Alaska guarantees that major, potentially damaging earthquakes will continue to occur. Further, despite advancements in seismic hazards analysis and engineering, the age and structural resilience of buildings and infrastructure vary across Alaska, especially in areas of higher seismicity. Therefore, the risks to public safety and infrastructure from these future events can be greatly reduced through proper planning, design, construction, and continuing education and outreach.

Since 2005 when the ASHSC first became active[c], it has submitted annual reports to the Governor and Legislature - this report summarizes the ASHSC's business and accomplishments for 2013.

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[a] www.aeic.alaska.edu

[b] A magnitude greater than about 5 is generally considered sufficient to cause structural damage, subject to the distance and site conditions.

[c] Legislation establishing the ASHSC was passed in 2002, but the first commissioners were not appointed until 2005.

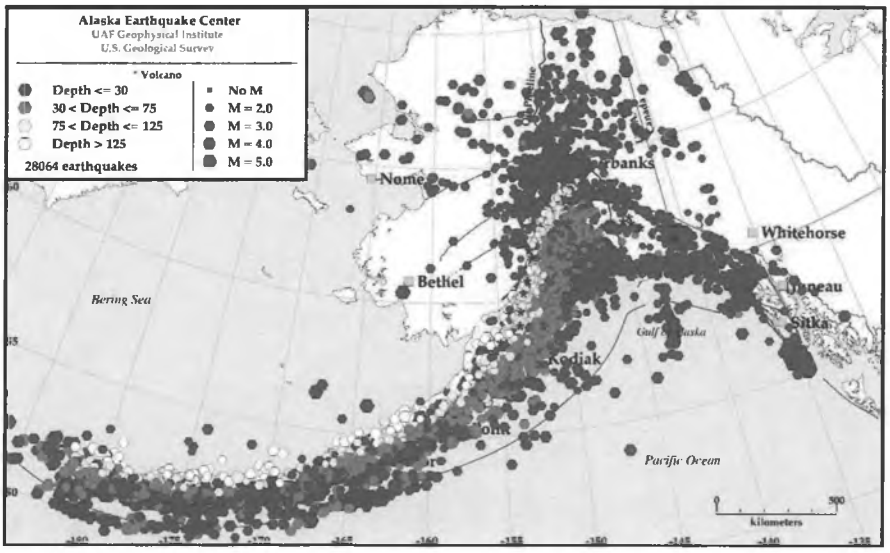

FIGURE 1: Earthquakes Reported by the Alaska Earthquake Center in 2013

COMMISSION BUSINESS IN 2013

This section summarizes the ASHSC's business conducted in 2013, including membership, meetings, ethics act, a legislative audit, updates of its strategic plan and operating rules, and finances. These elements were completed with administrative support provided by the Alaska Department of Natural Resources (DNR) Division of Geologic & Geophysical Survey (DGGS) (e.g. meeting logistics, budget, travel, website, etc.). The ASHSC's documents associated with the following topics (e.g. meeting agenda and minutes, strategic plan, reports, etc.) are posted on its website: www.seismic.alaska.gov.

MEMBERSHIP

The ASHSC maintained a full membership of 11 commissioners through 2013, listed below.

NAME/OCCUPATION	REPRESENTATION[a]	CONTACT
John L. Aho, Ph.D., Sc.D. Engineering Consultant; Anchorage	Public/Restricted	eqman39@gmail.com
Gary A. Carver, Ph.D. Geologic Consultant; Kodiak	Public/Restricted	cgeol@acsalaska.net
Bud Cassidy Borough Manager, Kodiak	Local Government	bcassidy@kodiakak.us
Mark J. Delozier Maritime Services, Valdez	Local Government	akmaritime@ak.net
Ann Gravier Hazard Mitigation Officer, Anchorage	Alaska Department of Military & Veteran Affairs	ann.gravier@alaska.gov

Laura W. Kelly, P.E. Civil Engineer, USCG Base Kodiak Juneau	Federal Agency	laura.w.kelly@uscg.mil
Richard D. Koehler, Ph.D. Geologist; Fairbanks	Alaska Department of Natural Resources	rich.koehler@alaska.gov
Robin J. McSharry State Farm Insurance; Anchorage	Insurance Industry	robin.mcsharry.chi7@statefarm.com
David E. Miller Fire Chief, Sitka	Local Government	davem@cityofsitka.com
Robert L. Scher, P.E. Geotechnical Engineer; Anchorage	Public/Restricted	bscher@rmconsult.com
Michael West[b], Ph.D. Alaska State Seismologist, Fairbanks	University of Alaska	mewest@alaska.edu

a. As defined in AS 44.37.065(b)
b. Replaced former member Roger Hansen who retired in February

MEETINGS

The ASHSC conducted nine public meetings in 2013, including seven half-day teleconference meetings (January 10, February 11, March 7, May 30, July 11, August 22, and November 14), and two two-day 'face-to-face' meetings in Anchorage (April 24-25, and October 7-8). The ASHSC also conducted one additional teleconference meeting in executive session, pertaining to a legislative audit (see below).

ETHICS ACT

The ASHSC members had no written determinations, requests for determinations, or suspected potential violations under the Ethics Act (AS 39.52) in 2013.

LEGISLATIVE AUDIT

Per AS 44.66.010(a)(8) the ASHSC is scheduled to terminate on June 30, 2014. From May through October 2013, the ASHSC cooperated with the Alaska Legislative Budget and Audit Committee (LB&A), Division of Legislative Audit (DLA) during its audit of the commission. The ASHSC was pleased to learn that on December 11, 2013 the LB&A approved the DLA's report[d] which concluded that the ASHSC is operating in the public's interest and should be extended for another six years. Note also that by year-end, the ASHSC had addressed and begun to implement all four of the recommendations in the DLA's report (i.e. see *Strategic Plan*, and *Operating Procedures*, below).

STRATEGIC PLAN

Based on a DLA[d] recommendation, the ASHSC revised its *Strategic Plan*[e]; in particular refining the priorities, completion dates, and metrics for gauging success for the specific strategies listed to implement each general objective. As this is a dynamic plan, the ASHSC also adopted a policy to

[d] DLA. *Audit Report*, Alaska Seismic Hazards Safety Commission. September 19, 2013.

[e] The ASHSC's original strategic plan was approved in June 2012 and provided to the Office of the Governor, the Legislature, and DNR as part of its annual report for 2012.

review the plan objectives and strategies every two years as experience is gained and additional information becomes available.

OPERATING PROCEDURES

Based on a DLA[d] recommendation, the ASHSC revised and updated its *Rules of Procedure* (e.g. basic member and officer responsibilities, business and meetings, standards for resolutions, policy recommendations, and reports, etc.).

FINANCES

The ASHSC's expenditures (e.g. meeting and travel expenses, etc.) in FY13 totaled $9,710; within its allotted budget of $10,000.

ACTIVITIES & ACCOMPLISHMENTS IN 2013

This section summarizes the ASHSC's activities and accomplishments in 2013, including resolutions, policy recommendations, progress on long-term projects, briefings and presentations, responses to requests from others, partnering, etc. While these items generally involved the ASHSC as a whole, most were coordinated or implemented under one or more of the commission's six standing committees, including: Earthquake Scenarios (*chair* Gary Carver), Education-Outreach-Partnering (Robert Scher), Hazards Identification (Rich Koehler), Insurance (Robin McSharry), Response and Recovery (Ann Gravier), and Schools (Laura Kelly).

The bracketed {} number/letter(s) following the items listed under *Policy Recommendations*, *Long-Term Projects*, and *Briefings and Presentations* refer to the corresponding 'objective' and 'implementation strategy' described in the ASHSC's updated Strategic Plan (Appendix A).

Final documents the ASHSC prepared under the following headings are posted on its website: www.seismic.alaska.gov.

RESOLUTIONS

The ASHSC approved one designated *resolution* in 2013 (R 2013-1), recommending that Governor Parnell dedicate the year 2014 in commemoration of the 1964 Great Alaska Earthquake; the largest earthquake ever recorded in North America (second largest worldwide), which devastated many Alaska communities and was a major historic hallmark in its statehood. The full resolution is provided in Appendix C.

POLICY RECOMMENDATIONS

The Commission approved two designated *policy recommendations* in 2013 for mitigating seismic hazards in the State[f]:

- **PR 2013-1: VALUE OF SEISMIC INSTRUMENTATION FOR CRITICAL FACILITIES.** Government, public and private owners of important facilities should incorporate and maintain seismic

[f] A summary of the ASHSC's 10 designated policy recommendations approved to-date, including current status, is provided at the end of Appendix C.

instrumentation as part of its routine operating systems, especially in the moderate to high seismic and more densely populated areas of Alaska. {1. c, e; 2. b}

- **PR 2013-2: SEISMIC PROVISIONS FOR DESIGNING SCHOOLS AND PUBLIC BUILDINGS.** The Alaska Department of Education and Early Development, Department of Public Safety (Division of Fire Safety), and Department of Transportation and Public Facilities should temporarily adopt the seismic provisions in the 2012 International Building Code (IBC) for designing new schools and public buildings, or structural retrofits thereof, versus using the seismic provisions in the 2009 IBC currently in effect. {1. b, c, e}

Full versions of both these new policy recommendations, including discussions of need, basis, and implementation strategy are provided in Appendix C.

LONG-TERM PROJECTS

- Identification and Mitigation Prioritization of Seismically Vulnerable Schools: {1. b, c}
  - Completed FEMA's *Hazard Mitigation Grant Program (HMGP) Intent to Apply Form* for funding a Rapid Visual Screen of Alaska Schools Pilot Program. *[no HMGP funds were available for Alaska in 2013, intend to submit application for funding in 2014]*
  - Updated the ASHSC's Alaska map of schools and seismic hazard. *[produced by DNR/DGGS for the DLA audit report – see footnote 'd' on page 3 of this report]*
  - Sent letters (November and December) to eight Alaska school districts soliciting information on any studies or projects they administered pertaining to the seismic vulnerability or retrofit of its facilities (i.e. the Aleutians East Borough, Anchorage, Fairbanks-North Star Borough, Juneau, Kenai Peninsula Borough, Lake and Peninsula Borough, Matanuska-Susitna Borough, and Southeast Island school districts).
  - Sent a letter (December) to the Alaska Department of Education and Early Development (DEED) requesting a list of school projects funded through its *Capital Improvements Projects* program since 2010 that involved seismic improvements or mitigation.
- Kodiak Scenario Earthquake Study: {5.a}
  - Continued work on a scenario earthquake study for the built environment along the Kodiak Island road system (which has experienced several damaging earthquakes and tsunamis over the past few hundred years). *[final report expected in 2014]*
  - Participated in a teleconference with FEMA Region 10 to discuss the preliminary results of its risk assessment (*estimation of infrastructure damage value and casualties using the computer program HAZUS*) for the Kodiak Island Borough (*based on scenario earthquakes previously provided by the ASHSC*).
  - Worked with the AEC to develop a ShakeMap for a Narrow Cape fault earthquake scenario, which was then provided to FEMA for use in its Kodiak risk assessment.
  - On behalf of the Kodiak Island Borough, reviewed and provided comments on FEMA's draft report of its Kodiak risk assessment project.
- Advocate for Alaska Earthquake Research: {2.a, d; 4.c}
  - Continued work on an abbreviated summary of the known earthquake sources and seismicity across the state. *[final report expected in 2014]*
  - Continued work for development of an Alaska earthquake clearing house website. *[based on templates developed by the Utah Geologic Survey]*
- Regulations of Civil and Structural Engineers: {1.e}
  - Met with the Alaska State Board of Registration for Architects, Engineers, and Land Surveyors (AELS) to discuss the Commission's 2012 specific recommendations for

amendments to state licensing regulations intended to ensure civil and structural engineers possess a basic knowledge of seismic hazards and seismic engineering.
- Sent a letter to the AELS (October) requesting a response to ASHSC's 2012 recommendations.

BRIEFINGS & PRESENTATIONS

- The ASHSC received the following briefings during its public meetings through the year: {4.}
  - Local emergency and public response during the tsunami warning and evacuation at Sitka after the magnitude 7.5 Queen Charlotte Earthquake on January 5, 2013 (see cover) – David Miller (Sitka Fire Chief/ASHSC)
  - ATC 71-4, update of Rapid Visual Screening guidelines (FEMA 154) – Laura Kelly, P.E. (ATC Project Review Panel/ASHSC)
  - Web-based Alaska Earthquake Alliance – Dr. Peter Haeussler (USGS) *[ASHSC is a member]*
  - Earthquake early warning systems – Ann Gravier (DHS&EM/ASHSC)
  - EarthScope Transportable Array (Alaska deployment plan) – Dr. Mike West (AEC/ASHSC)
  - Developing a tsunami-resilient building design code – Gary Chock (ASCE 7 Tsunami Loads & Effects Subcommittee)
  - Alaska Legislative process, and tracking resources (bills, hearing & meeting schedules, etc.) – Esther Tempel (DNR Legislative Liaison)
- Commissioners Aho and Scher presented two single-day (April), ASHSC sponsored training courses to the Municipality of Anchorage regarding rapid assessment of building safety following an earthquake. {3.b}

RESPONSES TO REQUESTS BY OTHERS

- Commissioners Carver and Koehler provided (January) input to FEMA regarding viable catastrophic scenario earthquake for its March 2014 Alaska Shield exercise. Commissioners Aho and Scher provided comments regarding the built environment and ground failure potential in Anchorage to FEMA's *Critical Infrastructure Workgroup* also for the Alaska Shield exercise.
- The ASHSC sent a letter (February) to the National Science Foundation supporting a proposed University of Alaska research project to utilize existing information and modeling tools to enhance an overall understanding of the possible physical, economic, and social impacts within the more populated regions of Alaska from design-level scenario earthquakes.
- The ASHSC provided (March) the Matanuska-Susitna Borough Planning Department a summary of the strategies and available resources for developing seismic hazard zonation maps.
- Commissioner West represented the ASHSC at a meeting of the New Madrid Coordination Committee (during the April 2013 Seismological Society of America Annual meeting in Salt Lake City, Utah) to explore interest within the state seismic hazard commissions and others for inter-regional coordination of earthquake education and outreach activities and programs.
- The ASHSC reviewed and provided comments to DGGS for updating the 2010 version of the *State of Alaska All Hazard Mitigation Plan.*
- The ASHSC provided (October) the Government of Yukon Department of Highways and Public Works a summary of the government entities and its programs associated with seismic safety and hazard mitigation in Alaska (i.e. DEED, Department of Military & Veteran Affairs Division of Homeland Security & Emergency Response, DNR-DGGS, Department of Public

Safety's Division of Fire and Life Safety, and the Department of Transportation & Public Facilities; as well as the AEC and ASHSC).

- The ASHSC provided written comments (October) to the Western States Seismic Policy Council (WSSPC) on its draft new policy recommendations pertaining to (i) improving tsunami public education, mitigation and warning procedures; (ii) earthquake monitoring systems/networks; (iii) tsunami monitoring systems/networks; and (iv) earthquake emergency handbooks for first responders.

PARTNERING

- Commissioners Aho, Carver, Gravier, Kelly, Koehler, and Scher continued to participate in the local organizing committee for the 10th National Conference on Earthquake Engineering; to be held in Anchorage in 2014. The ASHSC is a non-financial sponsor of the conference.
- Commissioners Gravier and Scher participated in the Anchorage Museum's organizing committee for its 2014 exhibit to commemorate the 1964 Great Alaska Earthquake.
- Commissioner Aho continued to represent the ASHSC on the DMVA's *Alaska Partnership for Infrastructure Protection* organization.
- Commissioners West and Aho facilitated a meeting in June between the USGS, the Alaska Earthquake Center, and the University of Alaska Anchorage to improve maintenance, operation and data distribution for the Alaska Strong Motion Network.
- Commissioner Koehler represented the ASHSC during the 2013 annual meeting (May) of the Western States Seismic Policy Council (WSSPC) in Seattle – *[the ASHSC, DNR-DGGS, and DMVA-DHS&EM are members of WSSPC]*. Commissioners Gravier and Koehler continued to participate on the WSSPC Tsunami Hazards Mitigation Committee, and Commissioner Scher joined the WSSPC Engineering, Construction and Building Codes Committee.
- Commissioner West participated (in December) on a panel in Washington D.C. to discuss FEMA's Alaska Shield response exercise planned for March 2014.
- Commissioner Kelly continued to participate on the Applied Technology Council's *Project Review Panel* for updating FEMA 154 (*Rapid Visual Screening*). Commissioners Kelly and Aho participated in an exercise at San Francisco to test the new guidelines.
- Commissioner McSharry continued to update the Alaska Department of Commerce, Community and Economic Development Division of Insurance, and Commissioner Kelly continued to update the Alaska Department of Education and Early Development of the ASHSC's activities.

MISCELLANEOUS

- Sent letters (March) to the Alaska legislative House and Senate Transportation Committees regarding the Knik Arm Bridge Toll Authority (KABATA) project; and volunteered its consultation should the committees have any questions regarding seismic hazards (e.g. earthquake-induced strong ground shaking, ground failure, tsunamis, etc.) pertaining to the KABATA or any other State project before them.
- Sent letters (October) to the Alaska congressional delegation recommending its support for reauthorization of the federal *Tsunami Warning and Education Act*, which expired in 2012.
- Initiated work on general guidelines for communities and entities to follow for planning scenario earthquake studies to improve assessment of their local risks.

APPENDIX A

RESOLUTIONS & POLICY RECOMMENDATIONS

THE STATE
of ALASKA
GOVERNOR SEAN PARNELL

SEISMIC HAZARDS
SAFETY COMMISSION

Department of Natural Resources
3354 College Road
Fairbanks, Alaska 99709-3707
Main: 907.451.5010
Fax: 907.451.5050

RESOLUTION NO. 2013-01

DEDICATION OF 2014 IN COMMEMORATION OF THE 1964 GREAT ALASKA EARTHQUAKE

WHEREAS, the March 27, 1964 Great Alaska magnitude 9.2 Earthquake was the largest earthquake every recorded in North America, second largest worldwide, and constitutes one of the major hallmarks in the history of Alaska statehood; and

WHEREAS, the earthquake and associated tsunami caused devastating damage to many coastal communities as well as economic effects extending across much of the State; and

WHEREAS, the year 2014 will be the 50th anniversary of the earthquake and tsunami; and

WHEREAS, numerous events including exhibits, national conferences, emergency response exercises, etc., are planned in many Alaska communities during 2014 to commemorate the earthquake (e.g. Anchorage, Fairbanks, Kodiak, Valdez, etc.); and

WHEREAS, Alaska is located in one of the most seismically active regions of North America and the State will continue to experience earthquakes resulting in damage and injury to the populace; and

WHEREAS, public awareness is critical to being prepared for the next earthquake,

NOW, THEREFORE, BE IT RESOLVED that the Alaska Seismic Hazards Safety Commission recommends and requests Governor Parnell dedicate the year 2014 in commemoration of the 1964 Great Alaska Earthquake.

PASSED AND APPROVED by the Alaska Seismic Hazards Safety Commission on this 14th day of November 2013.

Robert L. Scher, P.E.
Chair

ASHSC Alaska Seismic Hazards Safety Commission

POLICY RECOMMENDATION 2013-1

VALUE OF SEISMIC INSTRUMENTATION FOR CRITICAL FACILITIES
(ADOPTED 7 OCTOBER 2013: UNANIMOUS)

Government, public and private owners of important facilities should incorporate and maintain seismic instrumentation as part of their routine operating systems, especially in the moderate to high seismic and more densely populated areas of Alaska. The Commission believes there is near-term economic value and life-safety benefit to state and local governments, facility owners, and the public from maintaining on-site or in-structure seismic instrumentation.

BACKGROUND

Based on a recent study by the Federal Emergency Management Agency[1] (FEMA) Alaska was ranked second only to California in terms of the estimated annualized earthquake loss (AEL), or damage, versus the replacement value of the total infrastructure. Additionally, the risk along the rail belt, from Anchorage to Fairbanks, compares with the greater Los Angeles and San Francisco metropolitan areas in terms of AEL per capita.

Seismic instruments are sensitive devices that detect and record vibrations caused by passing energy waves traveling through the earth, in particular those generated by an earthquake. Of particular interest to engineers, building officials and the public are ground motions strong enough to potentially cause ground failure or structural damage. The Alaska Earthquake Information Center (AEIC)[2] collects and analyzes strong motions measured at over 80 instrumented sites spread across the state; including denser instrument networks in the Anchorage and Fairbanks areas. While most of these instruments are situated on the ground away from the influence of a building (aka free-field), a number are also located within structures (from the basement to rooftop), and buried in 'down-hole' arrays.

Earthquake scientists and civil engineers have long recognized the importance of ground motion data for monitoring seismic activity, evaluating seismic hazards, damage estimate studies (e.g. FEMA *HAZUS*) and certainly structural design. However, less well known are studies over the past few decades which have demonstrated that strong motion records measured using on-site or in-structure instrumentation can be a simple and cost effective means to:

- Improve the validity, quality, and detail of information available to emergency responders and the public pertaining to the possible extent, types, and severity of damage within the subject area immediately following a damaging earthquake;
- Enhance the means available for engineers involved with assessing the potential damage to a building or facility immediately after an earthquake, thereby possibly optimizing the need, scope, and cost for more intrusive structural inspections, and/or possibly limiting the time before which the facility can be put back into operation; and,

[1] FEMA. 2008. HAZUS MH Estimated Annualized Earthquake Losses for the United States. FEMA 366.

[2] http://www.aeic.alaska.edu/

- Improve the cost and efficiency of structures to resist earthquake forces, new as well as upgrades to existing, and thereby reducing risk to the public through continued improvements to the building codes, and design and construction standards, on both a national and local level.

In conclusion, the Commission believes these applications demonstrate there is economic value and life-safety benefit to state and local governments, facility owners, and the public from maintaining on-site or in-structure seismic instrumentation.

IMPLEMENTATION & ASSESSMENT

The Commission will prepare a report providing more complete background and discussion to support the policy recommendation. This report will be completed within three months of the policy's approval date. The report will then be forward to the Alaska departments responsible for major structures (e.g. DEED and DOT&PF), and city building departments and major facility operators (e.g. power and communication utilities, pipelines, petroleum and chemical manufacturing, etc.) located in moderate to high seismic areas of the state (e.g. Anchorage, Fairbanks, Juneau, Kodiak, Wasilla, etc.).

Measure of the acceptance of this policy recommendation will be tracked by the number of entities that respond to and act upon the report.

The Commission's Education, Outreach and Partnering committee will be responsible for the implementation and assessment of this policy recommendation.

ASHSC Alaska Seismic Hazards Safety Commission

POLICY RECOMMENDATION 2013-2

SEISMIC PROVISIONS FOR DESIGNING SCHOOLS AND PUBLIC BUILDINGS
(ADOPTED 14 NOVEMBER 2013; UNANIMOUS)[1]

The Alaska Department of Education and Early Development, Department of Public Safety (Division of Fire Safety), and Department of Transportation and Public Facilities should temporarily adopt the seismic provisions in the 2012 International Building Code (IBC) for designing future new schools and public buildings, or structural retrofits thereof, versus using the seismic provisions in the 2009 IBC currently in effect. The seismic provisions in the 2012 IBC reflect a number of significant technical changes from the 2009 IBC, all very relevant for Alaska, which would improve the resiliency and safety of future schools and public buildings until such time as the full 2012 IBC is adopted by the State.

BACKGROUND

Alaska statute requires that building structures be designed following the triennial International Building Code (IBC). The State adopted the 2009 IBC effective November 2012. The 2012 IBC was published in February 2012, but will likely not be adopted by Alaska until possibly 2015.

The seismic provisions in the 2012 IBC reflect a number of significant technical changes from the 2009 IBC, all specifically intended to improve the structural resiliency of buildings to resist earthquake loads. The technical changes in the 2012 IBC seismic provisions most relevant to building designs in Alaska include:

- Design ground motions in the 2012 IBC are based on the most recent USGS probabilistic seismic hazards maps for Alaska, published in 2007, which reflect much improved characterizations of the principal known earthquake sources across the state. The 2009 IBC uses the USGS maps for Alaska published in 1998.
- The 2012 IBC design ground motions provide a uniform one-percent in 50-years risk target of building collapse. The design ground motions in the 2009 IBC, and proceeding editions, are derived from a uniform hazard maximum considered earthquake with a probabilistic return period of 2,500 years. This represents a significant change in basis of determining seismic ground motions and loads, and is intended to improve the consistency of structural designs across the United States to prevent building collapse; which is the over-riding principal safety objective of the code.
- Design ground motions in the 2012 IBC reflect the maximum directional component of the ground motion, which is approximately 10 to 30 percent greater (depending on the period of the motion) than the geometric mean of the two principal horizontal motion directions used in the 2009 IBC. However, the 2012 IBC also set a 'deterministic' upper

[1] This conforms to the Western States Seismic Policy Council (WSSPC) Policy Recommendation 13-4, *Seismic Provisions in the 2012 International Building Codes*, which was adopted in November 2012.

limit for the design ground motions at sites near large, active sources; which control the design ground motions over much of southcoastal Alaska.

- To evaluate the potential for earthquake-induced ground failure (e.g. liquefaction, settlement, lateral spreading, slope instability, etc.), the 2012 IBC uses an index peak ground acceleration (PGA) with a slightly lower probability of occurring versus the building design ground motions. The 2009 IBC uses an index PGA that has the same probability of occurring as the building design ground motions. This change reflects the current reasoning of code officials and seismic engineers that more conservancy is warranted in the geotechnical evaluations to improve confidence that the ground does not fail before the structure; a fundamental condition of all model building codes.
- Details are improved for seismic design of critical nonstructural components such as stairways, doors, suspended ceilings, etc.

The consequence of these changes in Alaska will be most dramatic to the structural design of taller or more flexible buildings, and the geotechnical investigations for all buildings. For example, the 2012 IBC design ground motions in regions of Alaska characterized with moderate to high seismic activity will generally be within plus or minus five to 15 percent of the 2009 IBC values for short period (e.g. short and stiff) structures, but over 15 to plus-30 percent greater than the 2009 IBC values for longer period (e.g. tall and flexible) structures. Further, the index PGAs used in Alaska to evaluate the potential for earthquake-induced ground failure are roughly 25 to plus-50 percent greater than the values used in the 2009 IBC.

In conclusion, the Commission believes that the seismic provisions in the 2012 IBC are more up-to-date and appropriate for use in Alaska versus the seismic provisions in the 2009 IBC, the building code presently enforced by Alaska. Therefore, the Commission believes that applying the seismic provisions of the 2012 IBC would improve the resiliency and safety of future schools and public buildings until such time as the full body of the 2012 IBC is adopted by the State.

Implementation & Assessment

The Commission will prepare a position paper providing more complete background and discussion to support the policy recommendation. The position paper will then be submitted directly to the Commissioners of the Alaska Department of Education and Early Development, Department of Public Safety, and Department of Transportation and Public Facilities.

Measure of this policy recommendation will be gauged by its acceptance and adoption by the targeted departments.

The Commission's Schools, and Education, Outreach and Partnering Committees will be responsible for the implementation and assessment of this policy recommendation.

STATUS OF ACTIVE POLICY RECOMMENDATIONS (Note a) – December 2013

POLICY RECOMMENDATION (*Note b*)		ADOPTED	IMPLEMENTATION
2010-1	Identification and Mitigation Prioritization of Seismically Vulnerable School Buildings	*(Notes c, d)*	-Originally submitted to Alaska DEED in 2009; resulting in changes to the DEED's CIP application in 2010. -Submitted to the Governor and Legislature in the Commission's 2010 Annual Report. -Submitted a *White Paper* to the Governor and Legislature in the Commission's 2012 Annual Report. -Initiated planning in 2013 for a Rapid Visual Screening Pilot Program of select schools. Also initiated compilation in 2013 of database of recent Alaska school projects pertaining to study of seismic vulnerability or structural retrofits.
2010-2	Seismic Risk Mitigation of Future Design, Construction, and Major Renovation of Schools	*(Notes c, d)*	-Submitted to the Governor and Legislature in the Commission's 2010 Annual Report -Submitted a *White Paper* to the Governor and Legislature in the Commission's 2012 Annual Report
2011-1	Position Statement in Support of Development of an Earthquake Research Program	*(Note c)*	-Submitted to the Governor and Legislature in the Commission's 2011 Annual Report -Submitted a *White Paper* to the Governor and Legislature in the Commission's 2012 Annual Report
2011-2	Earthquake Engineering - Basic Knowledge Requirements for Professional Engineering Licensure *Directed to the Alaska Board of Architects, Engineers, and Land Surveyors (AELS)*	*(Note c)*	-Submitted to the Governor and Legislature in the Commission's 2011 Annual Report -Presented the PR to the AELS in August 2012; and then submitted a *Position Paper* with specific recommendations to amend the licensing regulations to the AELS in Dec 2012 (included in the Commission's 2012 annual report to the Governor and Legislature). -Met with AELS in May 2013. Sent letter to AELS in Oct 2013 requesting their response to the Commission's 2012 recommendations.

STATUS OF ACTIVE POLICY RECOMMENDATIONS, CONTINUED (Note a) – December 2013

POLICY RECOMMENDATION (*Note b*)		ADOPTED	IMPLEMENTATION
2011-3	Identification and Mitigation Prioritization of Seismically Vulnerable Buildings	*(Note c)*	-Submitted to the Governor and Legislature in the Commission's 2011 Annual Report -Submitted a *White Paper* to the Governor and Legislature in the Commission's 2012 Annual Report
2011-4	Relief from Liability for Qualified and Trained Volunteers who are Assigned to Damage Assessments Tasks	*Introduced Nov 29-30, 2011 (Note c)*	-Submitted to the Governor and Legislature in the Commission's 2011 Annual Report. -Sent a letter to the Alaska Office of the Attorney General in Oct 2012 requesting an opinion on AS 09.65.091 (*Civil Liability for Responding to Disaster*). Submitted a *White Paper* to the Governor and Legislature in the Commission's 2012 Annual Report. -Received in Mar 2013 a reply from the Alaska Attorney General's office to our 2012 letter (*AG believes AS 09.65.091 addresses the focus of PR 2011-4, but also stated that a new, more specific statute could be of value*).
2011-5	Investigate Potential Impacts and Develop Contingency Plans to Prepare for and Mitigate the Possible Detrimental Effects of a Great Pacific Northwest Earthquake on Alaska	*Introduced Jun 20-21, 2011 (Note c)*	-Submitted to the Governor and Legislature in the Commission's 2011 Annual Report. -Completed report in May 2012, which was then published by DGGS in Aug 2012, *Misc. Publication* 148.
2012-1	Development of a Post-Earthquake Clearinghouse for Alaska	*Introduced May 5-6, 2011 (Note c)*	-Submitted to the Governor and Legislature in the Commission's 2011 Annual Report. -Submitted a *White Paper* to the Governor and Legislature in the Commission's 2012 Annual Report.
2013-1	Value of Seismic Instrumentation for Critical Facilities	Oct 7, 2013	-Submitted to the Governor and Legislature in the Commission's 2013 Annual Report. Also initiated work on a position paper to be sent to specific Alaska state and local government entities and private and public facilities.
2013-2	Seismic Provisions for Designing Schools and Public Buildings	Nov 14, 2013	-Submitted to the Governor and Legislature in the Commission's 2013 Annual Report. Also initiated work on a position paper to be sent to the Alaska DEED, DPS-DFS, and DOT&PF.

Notes:

a. In 2010 the Commission adopted its current practice to formally number and document policy recommendations. Prior to 2010, the Commission had made numerous recommendations which are discussed in the Commission's annual reports to the Governor and Legislature, and are not included in Table A1.

b. The policy recommendations are directed to the Governor and Alaska Legislature unless noted otherwise.

c. Prior to 2013 the policy recommendations were effectively adopted as part of Commission's annual reports to the Governor and Legislature.

d. In 2013, the Commission adopted its current practice to review and terminate or re-approve policy recommendations within three years of its adoption. Accordingly, the Commission will review PRs 2010-1 and 2010-2 in 2014.

ASHSC Alaska Seismic Hazards Safety Commission

STRATEGIC PLAN, V2

V1 Adopted October 2012

V2 Adopted November 2013

Table of Contents

Abbreviations for Federal and Alaska Agencies named in the Plan:

ASHSC	Alaska Seismic Hazards Safety Commission
DGGS	Division of Geological & Geophysical Surveys
DNR	Department of Natural Resources
FEMA	Federal Emergency Management Agency
GAC	Municipality of Anchorage Geotechnical Advisory Commission
DEED	Department of Education & Early Development
DHS&EM	Division of Homeland Security & Emergency Management
DMVA	Department of Military & Veterans' Affairs
DOT&PF	Department of Public Transportation & Public Facilities
DPS	Department of Public Safety
UA	University of Alaska
USCG	U.S. Coast Guard
USGS	U.S. Geologic Survey

EXECUTIVE SUMMARY

Alaska has more earthquakes than any other region of the United States and is, in fact, one of the most seismically active areas of the world. Recent disastrous earthquakes in Haiti, Chili, Japan, New Zealand and other areas of the world continue to remind us of the need to be prepared for the next damaging seismic event in our area. While it is not possible to predict where or when an earthquake will occur, advancements in seismic hazards analysis are now providing better estimates of how likely future earthquakes may affect our built environment and population centers. The mission of the Alaska Seismic Hazards Safety Commission (ASHSC) is to make recommendations to the Governor and Legislature for reducing the State's vulnerability to seismic hazards and to advise the public and private sectors on approaches for mitigating earthquake and tsunami risk.

This Strategic Plan has been developed to guide the ASHSC for the next three to five years in their efforts to address seismic risk mitigation issues. The plan is dynamic and will be reviewed, modified and updated every two years as experience is gained and additional information is obtained. Several strategies identified in the Plan can be addressed and solved quickly while other strategies will take years to resolve. The ultimate goals of the ASHSC are to provide advice that will result in the development of an earthquake-resilient society, one that can recover relatively quickly after a damaging seismic event.

The Strategic Plan begins with an introductory section that summarizes the history and status of the ASHSC, the earthquake risk in Alaska, and current ASHSC membership. The next section of the Plan describes the Charter that has governed ASHSC activities from its inception. The final section of the Plan addresses six objectives for earthquake safety and risk mitigation and provides strategies for accomplishing these objectives. Each strategy includes a priority designation, target date, and measure(s) of success.

Time is required to introduce and educate the public and decision makers about the benefits of seismic safety advocacy. Repeated efforts are necessary to make the case that earthquakes are truly a threat and that cost-effective actions can be taken to mitigate risk. The ASHSC is committed to assuring policy makers that effective steps can be taken to reduce exposure to risk before the next damaging earthquake occurs. The ASHSC believes that many of these solutions are affordable and can be relatively easy to implement.

1.0 INTRODUCTION

The ASHSC is charged by Alaska Statute (AS 44.37.067) to recommend goals and priorities for seismic hazard (e.g. strong ground shaking, landslide, avalanche, liquefaction, tsunami inundation, fault displacement, and subsidence) mitigation to the public and private sectors; recommend policies to the governor and the legislature, including needed research, mapping, and monitoring programs; review the practices for recovery and reconstruction after a major earthquake; recommend improvements to mitigate losses from similar future events; and to gather, analyze, and disseminate information of general interest on seismic hazard mitigation, among other duties to reduce the state's vulnerability to earthquakes. The ASHSC is administered by the Alaska DNR-DGGS.

The ASHSC consists of eleven members appointed by the Governor for three-year terms. ASHSC members include: a representative from the UA, three representatives from local government; a representative from the DNR; a representative of the DMVA; a representative from an appropriate federal agency; a representative of the insurance industry; and three members of the public who are experts in the fields of geology, seismology, hydrology, geotechnical engineering, structural engineering, emergency services, or planning. The ASHSC has no executive director, although DGGS provides administrative, travel, and publication support.

The ASHSC developed this *Strategic Plan* to guide its efforts for the next three to five years to address seismic risk mitigation issues. While some of the strategies identified in the Plan can be addressed and solved quickly, others will take many years to resolve. Therefore, the plan is dynamic and will be reviewed, modified and updated every two years as experience is gained and additional information is obtained. The ultimate goals of the ASHSC are to provide advice that will result in the development of an earthquake-resilient society, one that can recover relatively quickly after a damaging seismic event.

1.1 History of the ASHSC

In 2002, the 22nd Alaska Legislature passed, and the Governor signed into law, House Bill (HB) 53 establishing the ASHSC with nine members. This legislation originally placed the ASHSC under the Office of the Governor, but in January 2003, Governor Frank Murkowski issued Executive Order Number 105 transferring the ASHSC to the DNR. In 2005 Governor Murkowski appointed the first nine members to the ASHSC. In 2006, HB 83 was passed which added two additional local government positions, bringing the total number of members to 11, and extended the ASHSC through June 30, 2012. Most recently, the legislature passed HB 279 in 2012 extending the ASHSC to June 30, 2014.

The ASHSC first met on October 28, 2005, at which time it elected a Chair and Vice Chair, listened to briefings from the California Seismic Safety Commission and various state and local agencies in Alaska with responsibilities in earthquake-risk mitigation, and began developing goals and priorities for its activities. Since then, the ASHSC has held eight to ten meetings annually, generally all but two via teleconference. Since 2005, the ASHSC has submitted an annual report to the Governor and Legislature summarizing

its accomplishments and near-term plans. The ASHSC posts basic information about its mission, earthquake risk in Alaska, meeting agendas, minutes, presentations, annual reports, policy recommendations, and appropriate links on its website www.seismic.alaska.gov.

1.2 Earthquake Risk in Alaska

Alaska has more earthquakes than any other region of North America and is one of the most seismically active areas of the world. The second largest instrument recorded earthquake in the world occurred on the Prince William Sound and Kodiak segments of the Aleutian Subduction Zone in southern Alaska on March 27th, 1964 (moment magnitude, M_W9.2). The largest on-land earthquake in North America in almost 150 years occurred on the Denali fault (M_W7.9) in central Alaska on November 3rd, 2002.

Alaska has changed significantly since the great 1964 earthquake. The population has more than doubled, and building codes have continued to improve design provisions to prevent collapse during intense shaking. Further, some older buildings have been reinforced, and development has been discouraged in some particularly hazardous areas. However, despite these improvements, and because practices to reduce vulnerability to earthquakes and tsunamis are not applied uniformly in regions of high risk, future earthquakes of magnitude and proximity to cause life-threatening damage to buildings, disrupt basic utilities and critical infrastructure, and result in significant economic repercussions should still be expected during our lifetime. The catastrophic April 2011 (M_W9.0) Tohoku Earthquake in Japan is a grim reminder of why it is important for a society to be prepared to deal with major seismic events.

In addition to the Aleutian Subduction Zone and Denali fault, there are other active sources of potentially damaging earthquakes in Alaska, which have each produced strong earthquakes over the past few hundred years. These sources include the Castle Mountain fault in lower Matanuska-Susitna valley; the active belt of faulting beneath northern Cook Inlet; the Fairbanks, Minto Flats, and Salcha area seismic zones; the Yakataga seismic gap near Yakutat; and the Fairweather-Queen Charlotte fault in southeast Alaska; among others.

Noteworthy earthquake statistics for Alaska include:

- Eleven percent of the world's recorded earthquakes have occurred in Alaska.
- Alaska has more frequent earthquakes then the entire rest of the United States.
- Three of the eight largest instrument recorded earthquakes in the world were in Alaska.
- Seven of the ten largest instrument recorded earthquakes in the United States were in Alaska.
- Approximately 2,000 earthquakes are recorded in Alaska each month. And,

- Since 1900, Alaska has had an average of: one "great" (magnitude 8 or larger) earthquake every 13 years; one magnitude 7 to 8 earthquake every two years; six magnitude 6 to 7 earthquakes per year; 50 magnitude 5 to 6 earthquakes per year; 300 magnitude 4 to 5 earthquakes per year.

While it is not possible to predict the time and location of the next big earthquake, the active geology of Alaska guarantees that major, potentially damaging earthquakes will continue to occur. Further, while advancements in seismic hazards analysis now provide better estimates of how future earthquakes may affect our built environment and population centers, the age and structural resilience of buildings and infrastructure vary across the state, especially in areas of higher seismicity. Therefore, the risks to public safety and infrastructure from these future events can be greatly reduced through proper planning, design, construction, and continuing education and outreach.

1.3 Current ASHSC Membership

John L. Aho	Public Member	Retired
Gary A. Carver	Public Member	Carver Geologic, Inc.
Bud Cassidy	Local Government	Kodiak Island Borough
Mark J. Delozier	Local Government	City of Valdez
Ann Gravier	Alaska DMVA	DHS&EM
Laura W. Kelly	Federal Agency	USCG
Richard D. Koehler	Alaska DNR	DGGS
Robin J. McSharry	Insurance Industry	State Farm Insurance Co.
David E. Miller	Local Government	City and Borough of Sitka
Robert L. Scher	Public Member	R&M Consultants, Inc.
Michael West	UA	Geophysical Institute

2.0 COMMISSION CHARTER

Purpose

To provide a vehicle through which statewide seismic risk issues can be addressed and solutions can be proposed that will reduce life and property losses from a future damaging earthquake.

Vision

Eliminate losses from future earthquakes and tsunamis. Promote public and government awareness of Alaska's seismic hazards and seismic risk mitigation.

Mission

Make recommendations to the governor and legislature for reducing the State's vulnerability to seismic hazards. Advise the public and private sectors on approaches for mitigating earthquake and tsunami risk.

- ***Act in an Advisory Capacity*** - Advise the Governor, the Legislature, and the public on Alaska's seismic hazards and risk mitigation.
- ***Provide Information and Technical Guidance*** - Recommend studies, policies, and programs that will mitigate the risks associated with seismic hazards.
- ***Recommend Educational Programs*** - Recommend and participate in programs that will disseminate information to government agencies and the public.
- ***Encourage Seismic Hazards Risk Mitigation Efforts*** - Encourage efforts to address issues related to seismic hazards risk mitigation.

By achieving this mission, we create an opportunity to be an effective body in mitigating the potential damaging effects of major seismic events.

Core Values

Honesty; Integrity; Trust; Diligence; Service to the State; Responsibility for One's Own Work; Support to Other Commission Members; Commitment to Complete Accepted Assignments; Provide Value to Stakeholders; Be Objective and Reasonable; Advocate for Seismic Risk Mitigation Efforts; Recognize Exemplary Seismic Risk Mitigation Efforts

3.0 STRATEGIC OBJECTIVES FOR EARTHQUAKE SAFETY AND RISK MITIGATION

The following objectives delineate a framework within which the ASHSC will work over the next three to five years to fulfill its powers and duties as assigned in AS 44.37.067. As a framework, objectives may and should be expected to change with time, and some may not necessarily ever be completed. However, there are tasks and actions that can be completed in support of the objectives. Therefore, specific strategies are also described that the ASHSC has identified to implement each general objective, including relative priority, completion target, and metrics for measuring success. As this is a dynamic plan, the objectives and strategies will be reviewed, modified and/or updated every two years as experience is gained and additional information is obtained.

OBJECTIVE # 1: Recommend Goals and Priorities for Seismic Hazards Mitigation to Public and Private Sectors

Implementation Strategies

a. Develop a directory of speakers with expertise in seismic risk mitigation issues and make it available on our website for use by interested groups.

   Priority: Low

   Target Date: 2014

   Measure of Success: A directory is posted on the ASHSC website

b. Work with the Alaska DEED and DOT&PF to identify and prioritize seismically vulnerable public schools and buildings.

   Priority: Very Important

   Target Date: Continuing

   Measures of Success: Demonstrate need by compiling case history information. Facilitate a rapid visual screening (e.g. FEMA 154) pilot program to evaluate a sampling of schools. Provide specific recommendations to the DEED and DOT&PF.

c. Work with the Alaska DEED, DPS, and DOT&PF to improve seismic design and construction of public schools, buildings, and critical infrastructure.

   Priority: Very Important

   Target Date: Continuing

   Measures of Success: Provide specific recommendations to improve seismic design code provisions, conduct third-party reviews, improve special construction inspection requirements, etc.

d. Educate Commission members about the State's plans to identify and retrofit 'at-risk' critical structures.

   Priority: Moderate

Target Date: Continuing

Measure of Success: ASHSC has documented the State's plans for retrofit.

e. Develop Policy Recommendations, with supporting documentation, to address seismic risk mitigation issues.

Priority: Very important

Target Date: Continuing

Measures of Success: Develop at least one new policy recommendation each year (*see the ASHSC Rules of Procedure*). Review, update and re-adopt (or drop) existing policy recommendations that are ≥3-years older.

OBJECTIVE # 2: Recommend Policies to the Governor and Legislature Including Needed Research, Mapping, and Monitoring

Implementation Strategies

a. Encourage, and provide advice on, continued efforts in the Identification, mapping, and characterization of active faults in Alaska.

Priority: Very important

Target Date: Annually

Measures of Success: ASHSC offers suggestions to the DGGS and receives annual updates from them concerning this work.

b. Encourage, and provide advice on new and existing seismic monitoring at the municipal, state, and private industry levels.

Priority: Very important

Target Date: Annually

Measures of Success: ASHSC offers suggestions to USGS and UA concerning the seismic instrumentation program(s) and receives annual updates from them concerning this work.

c. Maintain routine communication with the Governor and the legislature of earthquake risk mitigation research activities of significance to the State.

Priority: Important

Target Date: Continuing

Measure of Success: Address active earthquake risk mitigation research relevant to Alaska in the ASHSC's annual report to the Governor and Legislature.

d. Develop a report summarizing the present state of knowledge concerning active seismic sources in Alaska.

Priority: Important

Target Date: 2014

Measures of Success: A report is written, published, and made available on the ASHSC website. The Report is also circulated to appropriate government, public and private entities.

OBJECTIVE # 3: Advise Government at all Levels on Coordinating Earthquake Disaster Preparedness and Seismic Hazards Mitigation. Review the Practices for Recovery and Reconstruction After Major Earthquakes, and Recommend Improvements to Mitigate Losses From Future Similar Events

Implementation Strategies

a. Develop a plan that defines the ASHSC's role in the intervals after a damaging earthquake of 1 week, 1 month, 6 months and greater.

   Priority: Very important

   Target Date: 2014

   Measure of Success: Adoption of the plan.

b. Work with the DHS&EM or independently to present Post-Earthquake Safety Evaluation of Buildings (e.g. ATC-20) training.

   Priority: Important

   Target Date: Continuing

   Measure of Success: At least one course is made available annually to public and private participants.

c. ASHSC commissioners complete the FEMA Incident Command System (ICS) 100 short course

   Priority: Low

   Target Date: Continuing

   Measure of Success: New members complete the on-line course within one year of appointment.

OBJECTIVE # 4: Gather, Analyze, and Disseminate Information of General Interest on Seismic Hazards Mitigation

Implementation Strategies

a. Participate in opportunities to discuss seismic hazard mitigation strategies with seismic commissions in other States.

   Priority: Moderate

   Target Date: Continuing

   Measure of Success: Number of meetings or teleconferences between the ASHSC and at least three other commissions outside the State.

b. Develop a brochure that describes the ASHSC and its current and ongoing activities.

Priority: Low

Target Date: 2016

Measure of Success: ASHSC develops an ASHSC information brochure and provides access to it on the ASHSC website.

c. Develop an Alaska post-earthquake information clearing house website.

Priority: Moderate

Target Date: 2015

Measures of Success: Evaluate website templates in other states for application to Alaska. Identify and recommend the appropriate Alaska entity to develop and operate the website.

d. Participate in earthquake risk mitigation briefing presentations to the general public, and to public and private agencies.

Priority: Important

Target Date: Continuing

Measure of Success: Participate in at least one presentation per year.

e. Regularly post to the ASHSC website commission activities, other information of earthquake risk mitigation interest, and links to other appropriate earthquake and tsunami information websites.

Priority: Moderate

Target Date: Continuing

Measure of Success: The ASHSC website is up-to-date and contains information of interest to the public and private sectors.

OBJECTIVE # 5: Establish and Maintain Working Relationships with Other Public and Private Agencies

Implementation Strategies

a. Assist the Kodiak Island Borough (KIB) and FEMA complete an earthquake planning scenario for the Kodiak road-system area.

Priority: Very Important

Target Date: 2014

Measure of Success: An earthquake planning scenario report is submitted to the KIB and posted on the ASHSC website.

b. Participate in meetings of the Alaska Partnership for Infrastructure Protection (APIP).

Priority: Moderate

Target Date: Continuing

Measure of Success: At least 25% of the APIP meetings are attended annually by an ASHSC representative.

c. Regularly interact with the GAC on seismic risk mitigation issues.

Priority: Moderate

Target Date: Continuing

Measures of Success: Provide a briefing to the GAC of the ASHSC activities at least four times per year. Provide a briefing to the ASHSC of the GAC activities at least four times per year. Organize joint meetings between the ASHSC and the GAC to discuss common issues.

d. Continue participation as a seismic commission member of the Western States Seismic Policy Council (WSSPC).

Priority: Important

Target Date: Continuing

Measures of Success: An annual report of ASHSC activities is published in a WSSPC publication. WSSPC meetings are attended if funding is available. Participate on a WSSPC committee.

e. Provide annual updates of ASHSC activities to Alaska's local emergency planning committees (LEPC) and the State Emergency Response Commission (SERC).

Priority: Low

Target Date: Continuing

Measure of Success: At least 25% of the LEPC's and the SERC are provided with ASHSC's annual reports.

f. Work with the Earthquake Engineering Research Institute (EERI) on the 10th Conference on Earthquake Engineering to be held in Anchorage during July 2014.

Priority: Moderate

Target Date: 2014

Measures of Success: ASHSC provides support as requested from EERI. Participate on the EERI Local Organizing Committee.

g. Invite public and/or private agency speakers to present topics of interest on seismic safety issues at ASHSC face-to-face meetings.

Priority: Low

Target Date: Continuing

Measure of Success: At least one presentation at each face-to-face meeting.

h. Identify a member(s) of the legislature willing to be a champion for earthquake risk mitigation issues and who will offer advice to the ASHSC on presenting Policy Recommendations and draft legislation.

   Priority: Important

   Target Date: Continuing

   Measure of Success: A legislative champion is identified.

OBJECTIVE # 6: Review Earthquake Forecasts and Tsunami Warnings Issued by the Federal Government, Research Institutions, and Other Organizations, and Suggest Appropriate Responses at the State and Local Levels

Implementation Strategies

a. Review and assess earthquake and tsunami forecasts and warnings for Alaska issued by the State, Federal government, research institutions, other organizations, or individuals.

   Priority: Moderate

   Target Date: Continuing

   Measure of Success: [*ASHSC is continuing dialog on the best approach to work towards, implement and measure the success of this strategy*]

THE STATE
of ALASKA
GOVERNOR SEAN PARNELL

SEISMIC HAZARDS
SAFETY COMMISSION

Department of Natural Resources
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February 4, 2014

Sent via email

Senator Click Bishop
State Capitol, Room 115
Juneau, Alaska 99801

RE: Senate Bill No. 137

Dear Senator Bishop:

The Alaska Seismic Hazards Safety Commission (ASHSC) sincerely appreciates and supports Senate Bill No. 137 as you introduced on January 24, 2014, which would extend the commission to June 30, 2020; six years from its current termination date on June 30, 2014. The ASHSC believes strongly that it is operating in the public's interest – as was concluded by the Legislative Budget and Audit Committee (LB&A) following their audit of the ASHSC in 2013. The six-year extension in SB137 will provide the ASHSC appropriate time to continue fulfilling its statutory (AS 44.37.067) powers and duties on behalf of the Governor, Legislature, local governments, as well as public and private sectors.

As stated the ASHSC's letter to the LB&A on November 4, 2013, the ASHSC concurred with all the comments and recommendations in the Division of Legislative Audit's (DLA) *Preliminary Report* (dated September 19, 2013). Further, the ASHSC has already addressed and initiated practices to implement all four of the DLA's recommendations. In particular, the ASHSC: (i) revised and updated its *Strategic Plan* (refining the scope, priorities and metrics of the specific strategies listed to achieve the ASHSC's seven overreaching objectives); (ii) updated its general operating rules (e.g. basic member and officer responsibilities, procedures for active cooperation with Boards and Commission in the Office of the Governor to assure timely replacement of vacancies, business and meetings protocol, etc.); and (iii) established standards for preparing and implementing designated policy recommendations.

SB137 will allow the ASHSC to continue work on several major efforts already underway, intended to mitigate the seismic risk in Alaska, including:

- *Identifying and prioritizing the seismically vulnerable schools and public buildings in Alaska (e.g. To investigate the possible scale of this concern, the ASHSC is currently working with the Alaska Division of Homeland Security and Emergency Response to facilitate a pilot project to utilize FEMA's updated 'rapid visual screening method' as a means to qualify to potential number and vulnerability of public school buildings to earthquake damage in a sampling of areas across the state. Additionally, the ASHSC has started to amass an inventory of state-funded projects over the past few years that involved assessment of the seismic vulnerability of existing public schools);*

- *Completing a scenario earthquake study to qualify the seismic risk to the built environment at the City of Kodiak and adjacent areas for the Kodiak Island Borough;*
- *Advocating for Alaska earthquake research programs (e.g. identifying and characterizing earthquake sources; mapping seismic hazards, such earthquake-induced ground failure and landslide potential; tsunami inundation modeling; earthquake warming systems, etc.); and,*
- *Amending State regulations and departmental practices to (i) assure an appropriate level of understanding of Alaska earthquakes and knowledge of seismic engineering for registered civil and structural engineers; and (ii) assure more timely adoption of the seismic design provisions in new building codes.*

In closing, the ASHSC fully supports SB137, and looks forward to continuing our service to the government, private, and public sectors in Alaska. I will welcome the opportunity to testify on behalf of the ASHSC's at any legislative committee hearing where it is to be discussed. In the meantime, please feel free to contact me if you have any questions or would like to discuss this further.

Respectively yours,

Robert L. Scher, P.E.

Chair, Alaska Seismic Hazards Safety Commission
907.522.1707; bscher@rmconsult.com

Written Testimony to Alaska SB137-Extend Seismic Hazards Safety Commission

From Dr. John Aho, Alaska Seismic Hazards Safety Commission (ASHSC)

February 26, 2014

My name is John Aho and I am a life-long Alaskan who currently serves on the Alaska Seismic Hazards Safety Commission (ASHSC). I am a 75-year resident of Anchorage and have been involved in seismic risk mitigation activities at the international, national, State, and local levels for 40-years,

Thank you for the opportunity to offer this testimony in support of extending the ASHSC termination date to June 30, 2020 as proposed in SB137 and supported by the current Legislative Budget and Audit Report (LBAR). The report's conclusion was that the ASHSC is operating in the public's interest.

A representative sample of current ASHSC activities include:

- Advocating mapping of active faults
- Planning and participating in post-earthquake safety evaluation of buildings training
- Development of Policy Recommendations to the Legislature
- Working with the Kodiak Island Borough (KIB), in conjunction with FEMA, to development a current Earthquake Planning Scenario for the KIB
- Development of an Earthquake Insurance informational brochure
- Public presentations on seismic risk mitigation issues
- Participation in organization of the 10th National Conference on Earthquake Engineering (10NCEE) to be held in Anchorage on July 21-25, 2014 anticipated to draw up to 1,000 experts to the State.
- Development of numerous "white papers" addressing seismic risk mitigation issues

These, in addition to many other items being addressed by the ASHSC, are important to overall risk mitigation activities and are **not addressed by other State agencies**. Additional information can be obtained from the ASHSC web site at www.seismic,alaska.gov.

The talented members of the ASHSC are true advocates who work hard and care deeply about the benefits of proactive efforts in seismic risk mitigation. Efforts in seismic safety can be challenging because many people seem indifferent to their benefits and dismiss good ideas about ways to make communities more resilient to the damaging effects of earthquakes.

The ASHSC is addressing areas that, if implemented, could prevent a potential future disaster from becoming a catastrophe. Each step, no matter how small, brings us closer to the goals of a safe and resilient State.

There is no doubt that the ASHSC is an important entity in the most seismically active State in the United States and should be extended in accordance with the LBAR recommendations.

Thank you for this opportunity to testify in support of SB137.

Dr. John L. Aho, Ph.D., Sc.D.

ALASKA STATE LEGISLATURE

LEGISLATIVE BUDGET AND AUDIT COMMITTEE

Division of Legislative Audit

P.O. Box 113300
Juneau, AK 99811-3300
(907) 465-3830
FAX (907) 465-2347
legaudit@akleg.gov

October 10, 2013

Members of the Legislative Budget
and Audit Committee:

In accordance with the provisions of Title 24 and Title 44 of the Alaska Statutes (sunset legislation), we have reviewed the activities, and the attached report is submitted for your review.

DEPARTMENT OF NATURAL RESOURCES
ALASKA SEISMIC HAZARDS SAFETY COMMISSION

September 19, 2013

Audit Control Number
10-20087-13

This audit was conducted as required by AS 44.66.050 and under the authority of AS 24.20.271(1). Alaska Statute 44.66.050(c) lists the criteria to be used to assess the demonstrated public need for a given board, commission, agency, or program subject to the sunset review process. Per AS 44.66.010(a)(8), the Alaska Seismic Hazards Safety Commission (commission) is scheduled to terminate on June 30, 2014.

In our opinion, the termination date for the commission should be extended. The commission is operating in the public's interest, but improvements are needed to increase effectiveness. We recommend the commission's termination date be extended six years to June 30, 2020.

The audit was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings, recommendations, and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our conclusions and recommendations based on our audit objectives. Fieldwork procedures utilized in the course of developing the conclusions and recommendations presented in this report are discussed in the Objectives, Scope, and Methodology.

Kris Curtis, CPA, CISA
Legislative Auditor

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OBJECTIVES, SCOPE, AND METHODOLOGY

In accordance with Title 24 and 44 of the Alaska Statutes, we have reviewed the activities of the Alaska Seismic Hazards Safety Commission (commission or ASHSC) to determine if there is a demonstrated public need for its continued existence and if it has been operating in an efficient and effective manner.

As required by AS 44.66.050(a), this report shall be considered by the committee of reference during the legislative oversight process in determining whether the commission should be reestablished. Currently, under AS 44.66.010(a)(8), the commission will terminate on June 30, 2014, and will have one year from that date to conclude its administrative operations.

Objectives

The three, interrelated audit objectives were:

1. Determine if the commission's termination date should be extended.
2. Determine if the commission is operating in the public's interest.
3. Provide a current status of recommendations made in the prior sunset audit.

Scope

The audit examined the commission's operations and activities from June 2011 through July 2013, except where otherwise noted.

Methodology

The assessment of the ASHSC's operations and performance was based on the 11 criteria set out in AS 44.66.050(c). Criteria set out in this statute relate to the determination of a demonstrated public need for the commission.

To gain an understanding of the commission's operations and activities, the following were examined and evaluated:

- Applicable commission statutes and rules of procedure to identify commission functions and responsibilities including member composition and required qualifications.

- Alaska Statutes pertaining to the Department of Natural Resources (DNR), Division of Geological and Geophysical Surveys' state geologist to determine duties related to

collection, evaluation, and distribution of geologic data on seismic events and informing public officials and industry about potential hazards.

- Commission meeting transcripts and annual reports to gain an understanding of the operational proceedings and activities as well as the nature and extent of public input. Additionally, we evaluated the information for compliance with Alaska Statutes and commission rules of procedure.

- Commission policy recommendation documents, the strategic plan and "*action item*" listing for meetings to gain an understanding of commission activities related to meeting its statutory duties, goals, and objectives.

- Department of Education and Early Development capital improvement project instructions to determine how seismic issues are addressed in bidding documents for new school construction.

- Public notice documentation to ascertain whether public notices for commission meetings were published as required by statute.

- State of Alaska accounting system information related to expenditures for commission operations.

Inquiries regarding board-related complaints were made with the following organizations:

- DNR's Commissioner's Office;
- Office of the Ombudsman;
- Alaska State Commission for Human Rights;
- Office of Victims' Rights;
- Department of Administration's Division of Personnel and Labor Relations; and
- United States Equal Employment Opportunity Commission.

Various state agency staff and commission members were interviewed to identify and evaluate commission activities. Specific areas of inquiry included commission operations, duplication of efforts, public input at meetings, and the commission's goals and objectives during the audit period.

Alaskan and national organization websites containing seismic hazards safety information were reviewed for potential duplication of commission activities.

Other state government websites were reviewed to gain an understanding of other states' methods regarding strategic hazard mitigation plans.

ORGANIZATION AND FUNCTION

Alaska Seismic Hazards Safety Commission (commission or ASHSC)

The commission is authorized by AS 44.37.065 to analyze and disseminate information, review predictions and proposed warnings, and provide recommendations for seismic safety mitigation. The ASHSC is an advisory body; other agencies and organizations are responsible for implementing the recommendations. The commission is administered by the Department of Natural Resources' (DNR) Division of Geological and Geophysical Surveys (DGGS) and operates on a $10,000 annual budget.

The ASHSC is comprised of 11 members appointed by the governor for three-year terms. The commission is designed to include a cross section of government and private sector representatives. Commission members include representatives from: the University of Alaska, local governments in various seismically active regions of the State, DNR, the Department of Military and Veterans' Affairs (DMVA), an appropriate federal agency, and the insurance industry. In accordance with AS 44.37.065(c)(7), the commission also includes three members from the general public who are experts in geology, seismology, hydrology, geotechnical engineering, structural engineering, emergency services, or planning.

Exhibit 1

Commission Members
As of July 31, 2013

Robert Scher
Chair, Public Member

John Aho
Public Member

Gary Carver
Public Member

Charles Cassidy, Jr.
Local Government

Mark Delozier
Local Government

Ann Gravier
DMVA Designee

Laura Kelly
Federal Agency

Richard Koehler
DNR Designee

Robin McSharry
Insurance Industry

David Miller
Local Government

Michael West
University of Alaska Designee

Commission members serve without compensation, but are entitled to per diem and travel expenses. The commission receives administrative assistance from DGGS.

The commission maintains six standing sub-committees: earthquake scenarios; education, outreach, and partnership; insurance; hazards identification; response and recovery; and schools.

Alaska Statute 44.37.067(a) requires the commission to:

1. *Recommend goals and priorities for seismic hazard mitigation to the public and private sectors;*

2. *Recommend policies to the governor and the*

legislature, including needed research, mapping, and monitoring programs;

3. *Offer advice on coordinating disaster preparedness and seismic hazard mitigation activities of government at all levels, review the practices for recovery and reconstruction after a major earthquake, and recommend improvements to mitigate losses from similar future events;*

4. *Gather, analyze, and disseminate information of general interest on seismic hazard mitigation;*

5. *Establish and maintain necessary working relationships with other public and private agencies;*

6. *Review predictions and warnings issued by the federal government, research institutions, and other organizations and persons and suggest appropriate responses at the state and local levels; and*

7. *Review proposed seismic hazard notifications and supporting information from state agencies, evaluate possible socioeconomic consequences, recommend that the governor issue formal seismic hazard notifications when appropriate, and advise state and local agencies of appropriate responses.*

The commission is authorized by AS 44.37.067(b) to perform the following.

1. *Advise the governor and the legislature on disaster preparedness and seismic hazard mitigation and on budgets for those activities and to recommend legislation or policies to improve disaster preparedness or seismic hazard mitigation;*

2. *Conduct public hearings;*

3. *Appoint committees from its membership and appoint external advisory committees of ex-officio members; and*

4. *Accept grants, contributions, and appropriations from public agencies, private foundations, and individuals.*

The commission has adopted an organization charter, rules of procedure, and a strategic plan to assist in guiding efforts to achieve statutory objectives.

BACKGROUND INFORMATION

Alaska has more earthquakes than any other region in the United States and is one of the most seismically active areas in the world. The second largest earthquake ever recorded, with a magnitude of 9.2, occurred in March 1964 in the southern coastal region of Alaska. In 2012, the Alaska Earthquake Information Center reported an average of more than 2,300 monthly seismic events.[1] Large magnitude earthquakes have the potential to cause severe or catastrophic damage to buildings; disrupt transportation systems, basic utilities, and critical facilities; and cause loss of life.

In 2001, the Alaska Seismic Hazards Safety Commission (commission) was created to help reduce the disaster potential of major earthquakes and to reduce dependence on disaster relief. *Seismic hazard mitigation* refers to proactive efforts to improve safety and to reduce potential damage resulting from earthquakes by studying, identifying, and prioritizing needed actions. Efforts to mitigate hazards include considering where earthquakes are most likely to strike and how infrastructure can be constructed or modified to reduce damage. Examples of infrastructure critical to public safety include: airports, ports, harbors, hospitals, clinics, water and wastewater treatment facilities, bridges, roads, and schools.

Seismic hazard mitigation efforts for schools are an important commission priority. According to the commission's 2013 annual report, the number of schools, high occupancy rates, and designations as emergency shelters make schools a major commission focus. The Department of Military and Veterans' Affairs, Division of Homeland Security and Emergency Management also considers schools to be critical infrastructure.[2] Appendix A of this report depicts the locations of Alaskan schools in relation to seismic zones as published by the commission.

[1]The Alaska Earthquake Information Center is part of the University of Alaska Fairbanks' Geophysical Institute.
[2]The 2013 final updated, State of Alaska Emergency Operation Plan 2011.

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REPORT CONCLUSIONS

In developing our conclusion whether the Alaska Seismic Hazards Safety Commission's (commission or ASHSC) termination date should be extended, we evaluated the commission's operations using the 11 factors set out in AS 44.66.050. Under the State's "*sunset*" law, these factors are to be used in assessing whether an agency has demonstrated a public need for continuing operations.

Overall, we conclude the commission is operating in the public's interest, but improvements are needed to increase effectiveness. During the audit period, the commission served the public's interest by issuing eight seismic hazards mitigation recommendations. As the State's designated seismic hazard mitigation advisory commission, the ASHSC relies on other organizations to implement recommended actions. Six recommendations were issued to the State and legislature, and two were issued to other entities. The commission also gathered, analyzed, and disseminated information and assisted with seismic hazards safety mitigation training efforts.

The ASHSC significantly impacted school safety by collaborating with the Department of Education and Early Development (DEED) on seismic issues concerning school construction and renovations. The collaboration resulted in a revised capital funding bidding document for new and rehabilitation construction. The revised bidding document addresses seismic issues and requires professional cost assessments for seismic hazard mitigation of school facilities. This revised form was implemented for all future DEED funding requests starting in FY 12.

Under AS 44.66.010(a)(8), the commission is scheduled to terminate June 30, 2014. We recommend extending the commission's termination date six years until June 30, 2020.

The audit identified several areas for operational improvements. (See Recommendation Nos. 1 through 4.) Recommendations include improving strategic planning documents; replacing chronically absent commission members; filling vacant positions in a timely manner; and ensuring commission recommendations identify the required actions and organizations responsible for implementation.

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FINDINGS AND RECOMMENDATIONS

The 2011 Alaska Seismic Hazards Safety Commission (ASHSC or commission) sunset audit contained four recommendations. The first directed the commission to develop a strategic plan to provide guidance to decision makers and coordinate with the Department of Natural Resources (DNR) to establish annual performance measures. This recommendation was partially resolved and is reiterated in this report as Recommendation No. 1.

The second recommendation directed the ASHSC to provide reasonable public notice prior to all meetings. This recommendation has been materially resolved. During the audit period, the commission held 19 meetings. Adequate advance public notice was issued for all but one meeting.

The third and fourth recommendations directed the commission to replace chronically absent members and directed the Office of the Governor to fill member vacancies in a timely manner. Neither recommendation has been resolved; both are reiterated in this letter as Recommendation Nos. 2 and 3.

One new recommendation is made as part of this sunset audit.

Recommendation No. 1

The commission should improve prioritization and accountability within its strategic planning documents.

Prior Finding

The commission lacked a clear strategy for prioritizing and monitoring its efforts which limited its effectiveness and efficiency in providing guidance over hazard mitigation issues. While the commission met some of its objectives, there were few deliverable or measurable effects of its efforts. The Office of Management and Budget requires departments to develop performance measures that identify end results, outline strategies to achieve the results, and provide an update on progress. The benefits of such planning include a clearer focus and a basis for measuring progress. We recommended the commission develop a strategic plan to guide its efforts to mitigate seismic hazard risks in Alaska.

Legislative Audit's Current Position

The commission made progress toward resolving this finding by developing a strategic plan that identifies objectives and strategies that correlate to the commission's statutorily mandated powers and duties. Each strategy lists a priority, target date, and planned outcome.

The commission also used goals contained in its annual report and action lists during commission meetings to direct and focus its efforts.

Although the ASHSC has made significant progress, the following additions would help the commission more fully focus its efforts:

1. Clearly prioritizing tasks – while each of the tasks in the strategic plan is assigned a priority, 27 of the 29 tasks are listed as "*important*." The commission goals and action lists do not contain priorities;

2. Consistently identifying the person or subcommittee responsible for task completion; and

3. Associating goals and action lists with the commission's overarching strategic plan objectives and consistently identifying a specific outcome.

The commission's operational structure contributed to a lack of uniformity in the strategic planning documents. There are six subcommittees; each has a different strategy. The subcommittee chairs have various approaches and processes to achieve commission-mandated objectives.

Prioritizing projects would improve the commission's effectiveness by focusing efforts and resources on the most important tasks. Identifying the individuals or subcommittees responsible for tasks adds a degree of accountability that may enhance the commission's efficiency and effectiveness. Relating all planned activities to one of the commission's objectives ensures efficient use of limited resources. Incorporating these elements into the planning process could improve the commission's ability to serve the public.

We recommend the commission improve prioritization and accountability within its strategic planning documents. Improvements should include prioritizing tasks to focus efforts and resources on the most important tasks; promoting accountability by assigning task completion to an individual or subcommittee; and consistently associating commission goals and action lists with the commission's overarching objectives.

Recommendation No. 2

The commission should recommend replacing habitually absent members in a timely manner.

Prior Finding

During the prior audit period, one commission member missed at least 10 consecutive meetings. The commission's rules of procedure require a member with three or more consecutive unexcused absences to be immediately recommended for replacement. Rather

than recommend replacement after the third consecutive unexcused absence, the commission elected to delay its recommendation for replacement until the member's term expired.

Legislative Audit's Current Position

This finding was not resolved during the audit period. Between November 2012 and February 2013, one member had four consecutive unexcused absences. The commission did not follow the procedures in Article II-6 which require members with three or more consecutive unexcused absences to be immediately recommended for replacement. The commission elected not to recommend replacement assuming the member would return.

The member's absences contributed, in part, to the lack of a quorum for commission meetings in August and November 2012. Without a quorum, the commission could not conduct official business which decreased effectiveness.

We again recommend the commission propose replacing habitually absent members in a timely manner.

Recommendation No. 3

The Office of the Governor and the commission should work together to fill all commission vacancies in a timely manner.

Prior Finding

During the prior audit period, one local government seat on the commission was vacant for more than nine months. According to staff within the Office of the Governor, the vacancy was due to an insufficient applicant pool. Alaska Statute 44.37.065(c) requires the governor to appoint both private and government commission seats.

Legislative Audit's Current Position

This finding was not resolved during the audit period. During FY 12 and FY 13, the Department of Military and Veterans' Affairs (DMVA) commission designee seat was vacant for 10 months. DMVA's representative left the commission in early March 2012, and the replacement was not appointed until January 2013.

The delayed appointment was due to unclear guidance over new appointment procedures. The delayed appointment contributed, in part, to the lack of a quorum for two commission meetings in 2012. Without a quorum, the commission could not conduct official business which decreased effectiveness.

We again recommend the Office of the Governor and the commission work together to fill all commission vacancies in a timely manner.

Recommendation No. 4

The commission should ensure recommendations clearly identify the organization responsible for implementing an action and the action to be performed.

Recommendations issued by the commission did not consistently specify the organization responsible for implementing the recommendation. Additionally, not all recommendations adequately identified the action to be performed. Of the 10 recommendations issued by the commission since 2005, seven did not clearly indicate the appropriate agency responsible for implementation, and two were vague regarding actions needed.

At times, the commission was uncertain about where to direct its recommendations. The commission would benefit from working with DNR management to identify the most appropriate agency or organization to direct commission recommendations.

Alaska Statute 44.37.067(a) requires the commission to:

> *(1) Recommend goals and priorities for seismic hazard mitigation to the public and private sectors.*
> *(2) Recommend policies to the governor and the legislature, including needed research, mapping, and monitoring programs.*

Unclear assignment of responsibility and vaguely written recommendations diminish the commission's effectiveness.

We recommend the commission ensure recommendations clearly identify the organization responsible for implementing an action and the action to be performed. Additionally, the commission should seek assistance from DNR management in identifying the appropriate organizations responsible for implementing recommendations.

ANALYSIS OF PUBLIC NEED

The following analyses of board activities relate to the public need factors defined in AS 44.66.050(c). This analysis was not intended to be comprehensive, but address those areas we were able to cover within the scope of the audit.

Determine the extent to which the board, commission, or program has operated in the public interest.

The Alaska Seismic Hazards Safety Commission (commission or ASHSC) is statutorily designated as an advisory body for seismic hazard safety mitigation. The ASHSC's overarching purpose is to analyze and disseminate information, review predictions and proposed warnings, and to provide recommendations for seismic safety mitigation. Other agencies and organizations are responsible for implementing the recommendations.

During the audit period, the commission held at least six annual meetings as required by the commission's adopted rules of procedure. The meetings were generally teleconferenced although the commission had at least two face-to-face meetings a year.

The ASHSC served the public's interest by making recommendations to the governor and legislature through annual reports. The commission made the following six policy recommendations in its 2011 and 2012 annual reports.

- Fund government agencies in their efforts to characterize active fault locations.
- Require applicants for registration as civil engineers to have completed a university-level or equivalent course addressing earthquake engineering.
- Perform Federal Emergency Management Agency rapid visual screening of existing state-owned buildings to identify and prioritize all seismically vulnerable buildings.
- Provide relief from liability for qualified and trained volunteers who are assigned by a jurisdiction to serve following a damaging earthquake.
- Investigate potential impacts and develop contingency plans to prepare for and mitigate the possible detrimental effects of a great Pacific Northwest earthquake on Alaska.
- Develop an Alaska-specific post-earthquake technical clearinghouse.

Each recommendation in the annual report is supported by a white paper[3] which provides details about the underlying research and the importance of the recommendation.

In addition to the annual report recommendations, the commission also issued the following recommendations.

- *The Knik Arm Bridge and Toll Authority [should] establish an independent technical review board to assure that the ultimate design and construction is sound, constructible, and in particular appropriately addresses the seismic hazard (e.g. strong shaking, ground failure, etc.).*

- *[The Port of Anchorage should] establish and maintain a seismic instrumentation program as part of your routine operations systems, including strong motion instruments and geodetic survey monuments strategically positioned around the facility (e.g. behind the new sheet pile bulkheads, near the pile docks, in the backland, etc,).*

The commission further served the public's interest by assisting with seismic hazard safety training efforts. In 2011 and 2012, the ASHSC coordinated with the Department of Military and Veterans' Affairs to facilitate training workshops for volunteer first responders after a severe earthquake. The two-day workshops covered post-disaster facility safety assessments.

The commission also participated in organizations concerned with seismic hazards. Through representation by its members, the commission actively participated in organizations such as the Alaska Partnership for Infrastructure Protection, the Anchorage Geotechnical Advisory Commission, and the Western States Seismic Policy Council. Participation included making presentations and attending meetings. Additionally, the ASHSC periodically acts in an advisory capacity for non-state entities. During the audit period, the commission advised the Matanuska-Susitna Borough on developing a seismic hazard zone map.

Determine the extent to which the operation of the board, commission, or agency program has been impeded or enhanced by existing statutes, procedures, and practices that it has adopted, and any other matter, including budgetary, resource, and personnel matters.

Commission operations were impeded by limited administrative support from the Department of Natural Resources (DNR). The commission depends on DNR staff for assistance with tasks such as disseminating annual reports, recording meeting minutes, and facilitating communications with organizations. During the audit period, the DNR employee assigned to assist the commission was on leave for an extended period. Limited administrative support resulted in the commission recording its own minutes for two meetings and a significant delay in distributing the FY 12 annual report.

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[3]A *white paper* is a brief technical report designed to help the reader better understand a specific issue.

Operations were also hindered by commission member absences and a vacancy. As a result of these combined factors, the commission was unable to conduct business at two meetings due to the lack of a quorum. (See Recommendations Nos. 2. and 3.)

Determine the extent to which the board, commission, or agency has recommended statutory changes that are generally of benefit to the public interest.

The commission made no statutory recommendations during the audit period.

Determine the extent to which the board, commission, or agency has encouraged interested persons to report to it concerning the effect of its regulations and decisions on the effectiveness of service, economy of service, and availability of service that it has provided.

The commission met 19 times during the audit period. Eighteen of those meetings were public noticed at least 10 days prior to the meeting. Due to an oversight within DNR's Division of Geological and Geophysical Surveys (DGGS), one meeting was public noticed only three days in advance of the meeting. Commission meeting agendas were published on the State's On-Line Public Notice System and provided a teleconference number and a telephone number for the commission chair.

Although the public may contact the commission during commission meetings, the ASHSC could do more to encourage public input regarding commission decisions by establishing a public comment process during the development of its annual report and recommendations.

Determine the extent to which the board, commission, or agency has encouraged public participation in the making of its regulations and decisions.

During the audit period, members of the general public rarely attended commission meetings. However, the ASHSC invited guest speakers to address specific topics. Speakers included subject matter experts and those potentially impacted by seismic hazards. Information provided by guest speakers assisted the commission in formulating final recommendations.

Determine the efficiency with which public inquiries or complaints regarding the activities of the board, commission, or agency filed with it, with the department to which a board or commission is administratively assigned, or with the office of victims' rights or the office of the ombudsman have been processed and resolved.

From FY 12 through FY 13, no complaints were filed against the ASHSC with the commission chair, DNR's Commissioner's Office, the Office of Victims' Rights, or the State's Office of the Ombudsman.

Determine the extent to which a board or commission that regulates entry into an occupation or profession has presented qualified applicants to serve the public.

This criterion is not applicable because the commission does not regulate occupations or professions.

Determine the extent to which state personnel practices, including affirmative action requirements, have been complied with by the board, commission, or agency to its own activities and the area of activity or interest.

During FY 12 and FY 13, no complaints were filed against the commission with the Department of Administration's Division of Personnel and Labor Relations, the United States Equal Employment Opportunity Commission, or the Alaska State Commission for Human Rights.

Determine the extent to which statutory, regulatory, budgeting, or other changes are necessary to enable the agency, board, or commission to better serve the interests of the public and to comply with the factors enumerated in this subsection.

Currently, the commission's primary communication with the governor and legislature is through the annual report. The commission rarely receives feedback about the reports, and members are uncertain whether the ASHSC is proceeding as expected by the governor and legislature. The commission would benefit from DNR management's assistance in facilitating communications with the governor, the legislature, and other entities to which the commission issues recommendations.

A few commission recommendations were vague regarding what action should be performed, and several were unclear about which agency or organization was responsible for implementing the recommendation. The commission could increase the impact of its recommendations by specifying the actions to be performed and the agencies or organizations responsible for implementing the actions. (See Recommendation No. 4.)

Although the ASHSC made progress in better defining objectives and measures of success, improving prioritization and accountability within its strategic planning documents could increase the commission's efficiency and effectiveness. (See Recommendation No. 1.)

Determine the extent to which the board, commission, or agency has effectively attained its objectives and purposes and the efficiency with which the board, commission, or agency has operated.

The ASHSC's strategic plan describes seven primary commission objectives.

- Recommend goals and priorities for seismic hazard mitigation to public and private sectors.

- Recommend policies to the governor and legislature including needed research, mapping, and monitoring progress.

- Offer advice on coordinating disaster preparedness and seismic hazard mitigation to all government levels, review the practices for recovery and reconstruction after a major earthquake, and recommend improvements to mitigate losses from future similar events.

- Gather, analyze, and disseminate information about general interest in seismic hazard mitigation.

- Establish and maintain necessary working relationships with other public and private agencies.

- Review predictions and warnings issued by the federal government; research institutions, and other organizations and individuals; and suggest appropriate responses at the state and local levels.

- Review seismic hazard notifications and supporting information from state agencies, evaluate possible socioeconomic consequences, recommend that the governor issue formal seismic hazard notifications when appropriate, and advise state and local agencies of appropriate responses.

During the audit period, the ASHSC actively worked toward meeting its objectives. The commission issued eight recommendations to the public and private sectors and the legislature regarding seismic hazard risk mitigation in Alaska. Also, the commission provided a two-day course on post-disaster facility assessments, and advised the Matanuska-Susitna Borough about seismic hazard maps.

The commission also worked collaboratively with the Department of Education and Early Development (DEED) on seismic issues concerning school construction and renovation. The collaboration resulted in a revised capital funding bidding document for new and rehabilitation construction. The revised bidding document specifically addresses seismic issues and requires a professional cost assessment for seismic hazard mitigation of a school facility. This revised form was implemented for all future DEED funding requests starting in FY 12.

During the audit period, the commission gathered, analyzed, and disseminated information. Significant projects included developing and publishing a paper on Pacific Northwest earthquakes and their effects on Alaska,[4] developing an earthquake insurance brochure that is posted on the commission's website, facilitating DGGS' compilation of a comprehensive

[4] "*Pacific Northwest Earthquakes and Potential Effects on Alaska*," Alaska Seismic Hazard Safety Commission, 2012.

inventory and database of active faults in the State, and assisting with the analysis and mapping of earthquakes scenarios for the Kodiak Island Borough.

Additionally, efforts to establish and maintain relationships materialized in a meeting between state seismic commissions and agency individuals at the Western States Seismic Policy Council 2012 annual meeting in Memphis. In response to an ASHSC resolution, the 2014 National Conference on Earthquake Engineering is being hosted in Anchorage, Alaska. Also the commission now co-chairs an annual meeting with the Municipality of Anchorage Geotechnical Advisory Committee.

There have been no seismic hazard predictions, warnings, or notifications issued by the federal government or state agencies during the audit period.

Determine the extent to which the board, commission, or agency duplicates the activities of another governmental agency or the private sector.

The ASHSC's mission is closely related to the missions of other state agencies such as DGGS and DMVA's Division of Homeland Security and Emergency Management (DHS&EM). The commission also interacts with the Municipality of Anchorage Geotechnical Advisory Commission, the Alaska Partnership for Infrastructure Protection, the Alaska Earthquake Information Center, and the United States Coast Guard. The commission is distinct from these agencies in its focus on seismic hazard mitigation and its ability to facilitate collaboration amongst agencies with related missions.

Duplication of activities is avoided through the collaboration between the commission and other governmental and private sector entities. For example, the commission was active in advocating for the mapping of active faults which DGGS now performs. Also, the commission collaborated with DHS&EM on various training activities and was active in reviewing and updating the earthquake section of the 2013 State of Alaska Hazard Mitigation Plan. Commission membership includes representation from each of these agencies.

APPENDIX

The map on the following page shows the locations of public school facilities throughout the State of Alaska in relation to expected ground-shaking intensities. The ground-shaking intensities include perceived shaking, potential damage, and the resulting effects on personal property and structures. The map was provided by the Department of Natural Resources' Division of Geological and Geophysical Surveys and is unaudited.

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PUBLIC SCHOOLS AND EARTHQUAKE HAZARDS IN ALASKA

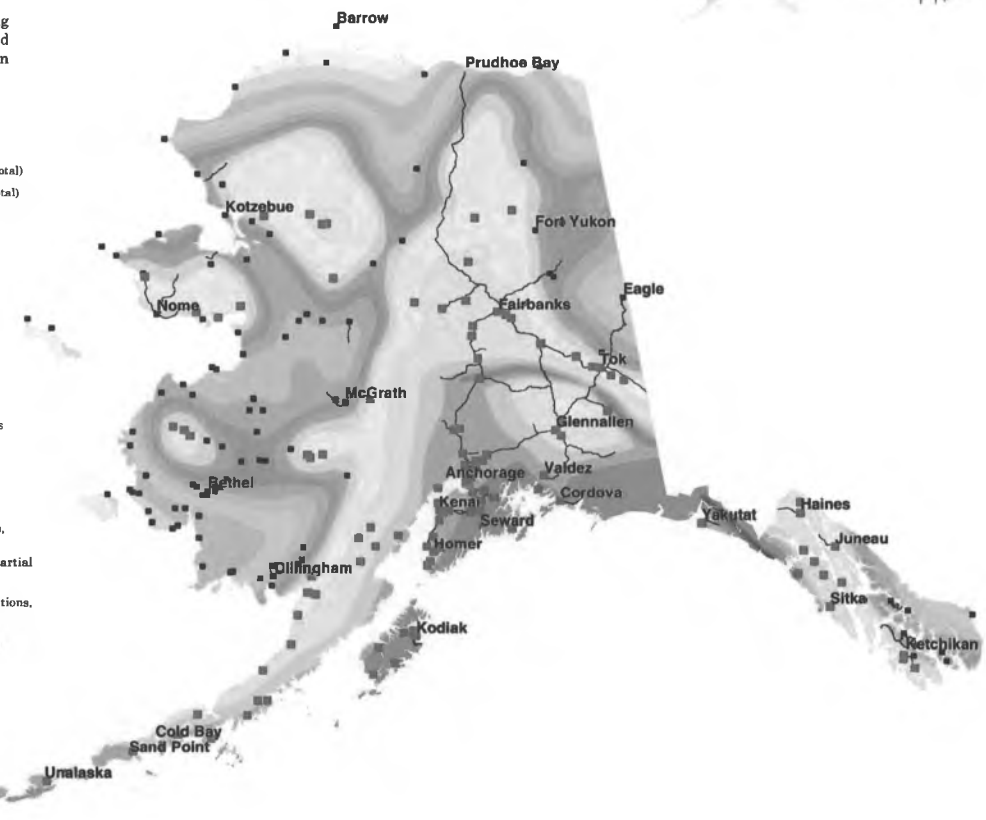
ASHSC Alaska Seismic Hazards Safety Commission

This map shows location of public school facilities in relation to expected ground-shaking intensities, taking into account all known earthquake sources. The colors represent peak ground acceleration (PGA) that has a 10-percent probability of being exceeded in a 50-year period, or an average of once every 475 years.

EXPLANATION

- Main Road
- School facilities in areas with a 10 percent probability in 50 years of having a PGA exceeding 10 percent g (360 facilities total)
- School facilities in areas with a 10 percent probability in 50 years of having a PGA less than 10 percent g (144 facilities total)

Peak Ground Acceleration (% g) 475 year average return	Perceived Shaking	Potential Damage	Earthquake Effects
0 to 1 1 to 2 2 to 3 3 to 4	Not Felt to Light	None	Felt by few to many. Dishes and windows rattle.
4 to 5 5 to 6 6 to 7 7 to 8	Moderate	Very Light	Felt by everyone. Dishes/windows may break. Unstable objects turned over.
8 to 9 9 to 10 10 to 15	Strong	Light	Felt by all, many frightened. Some heavy furniture moved.
15 to 20 20 to 25	Very Strong	Moderate	Considerable damage in poorly built or designed structures, chimneys broken. Moderate damage in well-built structures.
25 to 30 30 to 40 40 to 60	Severe	Moderate/Heavy	Considerable damage in ordinary substantial buildings with partial collapse. Heavy furniture overturned.
60 to 80 80 to 100	Violent	Heavy	Damage great in substantial buildings. Buildings shifted off foundations, partial collapse, some masonary and frame structures destroyed. ■



DATA SOURCES

Information compiled from the Seismic-Hazard Maps for Alaska and Aleutian Islands," US Geological Survey. 1999, the Probabilistic Seismic Hazard Map of Alaska," US Geological Survey (Open File Report 99-36), the Alaska Department of Education & Early Development, Division of School Finance and Facilities school database, 2007, and the "Alaska School Map", Alaska Department of Education & Early Development, revised 2003.

Peak ground acceleration converted to percieved shaking and potential damage based on: Wald, D.J., Quitoriano, V., Heaton, T.H., and Kanamori, H., 1999b, Relationship between Peak Ground Acceleration, Peak Ground Velocity, and Modified Mercalli Intensity in California. Earthquake Spectra, v. 15, no. 3, p. 557-564.

Additional information, including gridded values and arc/info coverages used to make this map is available at: http://earthquake.usgs.gov/research/hazmaps/. Alaska state boundary, main roads and school data were obtained from the Alaska State Geospatial Clearinghouse at http://www.asgdc.state.ak.us/ on April, 2007.

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Office of Governor Sean Parnell
STATE OF ALASKA

October 25, 2013

Ms. Kris Curtis, CPA, CISA
Legislative Auditor
Division of Legislative Audit
P.O. Box 113300
Juneau, AK 99811-3300

Dear Ms. Curtis,

This letter is in response to your October 16, 2013 CONFIDENTIAL Preliminary Audit Report of the Department of Natural Resources (DNR), Alaska Seismic Hazard Safety Commission (ASHSC).

Regarding Recommendation No. 3: The Office of the Governor and the commission should work together to fill all commission seat vacancies in a timely manner.

The Commission has no current vacancies and is at full membership. The Office of the Governor consistently works to network, recruit, and appoint qualified candidates to serve in professional and public seats.

Substantively, this recommendation is without basis in law. Appointments are exclusively the constitutional function of the Governor, and the ASHSC statutes do not change this. Functionally, however, the Office of the Governor needs to timely know of vacancies and similar issues. To this end, the Office of Boards and Commissions diligently works to collaborate with and support ASHSC in view of the Commission's upcoming term expirations and vacancies.

We recognize the Commission functions most effectively with full representation and participation. Our office has taken steps to fill vacant seats with qualified candidates in a timely manner to allow the Commission to function productively.

If you need additional information, please contact me at 907-269-7450.

Sincerely,

Elizabeth Giardina
Acting Director
Boards and Commissions

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THE STATE
of ALASKA
GOVERNOR SEAN PARNELL

Department of Natural Resources

Office of the Commissioner

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RECEIVED
NOV 0 5 2013
LEGISLATIVE AUDIT

November 5, 2013

Kris Curtis
Legislative Auditor
Legislative Budget and Audit
P.O. Box 113300
Juneau, AK 99811-3300

RE: Response to preliminary audit, Department of Natural Resources (DNR), Alaska Seismic Hazard Safety Commission, Received October 21, 2013

Thank you for the preliminary audit of October 16, 2013, outlining the findings, conclusions and recommendations that arose from your audit of the Alaska Seismic Hazards Safety Commission (ASHSC), which is administered by DNR's Division of Geological & Geophysical Surveys (DGGS). We have carefully read the letter, and have minimal comments, suggestions, and responses concerning the results of your work. Overall, we believe the audit to be thorough, well researched, and fair, and we concur with the majority of the findings/recommendations. However, we do have some suggestions that we will outline below in the same order as the audit is organized.

Response:

Organization and Function

DNR agrees with the information presented in this section of the preliminary audit.

Background Information

We agree with the information presented for background purposes. However, we suggest that the first sentence of the second paragraph be expanded to clearly inform the reader of the commission's purpose by amending the sentence as follows: "...dependence on disaster relief [.] by identifying and recommending policy actions of the governor and legislature; and recommending goals, priorities, and improvements to seismic hazard mitigation efforts in the public and private sectors."

Report Conclusions

We agree that the ASHSC is operating in the public's interest and that the termination date of ASHSC should be extended to June 30, 2020. However, we also agree that improvements can be made to increase effectiveness of the commission.

Findings and Recommendations

We agree that some of the recommendations from the previous audit conducted in 2011 were resolved and that some improvements could still be made and will work with ASHSC to better address those issues where DNR can. Specific comments are outlined in the following sections below.

Recommendation No. 1
Legislative Audit's Current Position

DNR agrees with the conclusions made in recommendation No. 1. ASHSC has made significant progress in developing and following a strategic plan; however, a concerted effort in prioritization and accountability by identifying the individuals or subcommittees responsible for tasks will improve the effectiveness of the commission and provide added benefit to the public. DNR will continue to work with the commission, where appropriate, to achieve this goal.

We believe that once this recommendation is implemented, DNR/DGGS will be able to better develop performance measures and targets with the ASHSC.

Recommendation No. 2
Legislative Audit's Current Position

DNR concurs with the conclusion made in recommendation No. 2. It is critical that an active commission be maintained and that commissioners contact the chair to excuse legitimate absences, and keep unexcused absences to a minimum. It should be pointed out that one extenuating circumstance during the period of this audit was the untimely retirement of one of the commissioners from the entity they represented. There was a significant amount of confusion whether this person could continue to represent the organization, remain as a member of the commission, or be removed; there were at least 2 meetings where this confusion ensued. That issue has since been completely resolved, and should no longer affect the performance of the commission.

Recommendation No. 3
Legislative Audit's Current Position

We agree with this recommendation and will work with the ASHSC and the Governor's Office to fill appointments in a timely manner. However, we would point out that the DMVA did provide an alternate representative who was serving on the commission prior to being officially appointed by the Governor's Office.

Recommendation No. 4
Legislative Audit's Current Position

DNR concurs with the conclusion made in Recommendation No. 4. Because of the relative importance of many recommendations provided by the commission, as well as the fact that the commission does not have the ability or authority to carry out the recommendations, it is important that the potentially responsible party for ultimate implementation be clearly stated. It is also important that the commission

discuss their recommendations with that responsible party to make certain there is reasonable communication and understanding of the issue by both entities. DNR will work with the commission on that communication effort, as well as help in identifying potentially responsible parties.

Analysis of Public Need

Your detailed Analysis of Public Need as required by Alaska's "sunset" law is informative. We do not take any major issues with any of your observations but would like to comment on a few points.

We believe that the first paragraph on page 13, under the section determining the extent to which the commission has operated in the public interest, is well written and the point that the ASHSC is an advisory body and that other agencies are responsible for implementing the recommendations is critical. DNR also suggests clarifying that "Other agencies and organizations are responsible for implementing the recommendations, *where appropriate and sufficient funds are available*."

The commission has worked to improve and make clear policy recommendations that could be communicated to decision makers; by establishing the entities responsible, follow-up of policy recommendations will be easier. However, it is also important to note that although the commission may advise that an agency or the legislature should implement one of their recommendations, as an advisory body, it does not have the ability to dictate priorities nor the budget within that agency.

We request some clarification with regard to the analysis on page 14 on the impediments by limited administrative support from DNR. While we agree that improvements may be made, DNR would like to clarify that the employee assigned to assist the commission was on maternity leave. Furthermore, DNR would also like to clarify that the commission had to record its own minutes for two of the 19 meetings due to the employee's absence. DGGS chose not to train a new administrative person for the two meetings missed as it did not seem prudent at the time. The technical nature of the commission meetings dictates that the person providing administrative support has sufficient knowledge in geophysics and seismic related terminology to decipher the conversations. If extended absence (the length of which was not predicted in this case) is scheduled, DNR will ensure the continued provision of administrative support. DNR agrees that there was a significant delay in distributing the FY12 annual report and will make efforts to ensure its proper distribution in a timely manner in the future.

DNR has already begun working with the ASHSC to address some of the concerns that have been brought up in this audit with regard to improving support of the commission and looks forward to continuing working with the commission. This concludes the Department of Natural Resources, Commissioner's Office comments on the Management Letter No. 1. We very much appreciate the thorough job the Auditor performed, and the ability to constructively comment on the findings.

Sincerely,

Joe Balash
Acting Commissioner

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THE STATE
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4 November 2013

Sent via email

Kris Curtis, CPA, CISA
Legislative Auditor
Legislative Budget and Audit Committee,
Division of Legislative Audit
P.O. Box 113300
Juneau, Alaska 99811-3300

RE: Preliminary Audit Report, Alaska Seismic Hazards Safety Commission

Dear Ms. Curtis:

The Alaska Seismic Hazards Safety Commission has reviewed and discussed the Alaska Division of Legislative Audit's (DLA) *Preliminary Report* (dated 19 September 2013), received on 20 October 2013. Briefly, all of the commissioners are very pleased and appreciative of the DLA's conclusion that the Commission is operating in the public's interest and should be extended for another six years. Further, the Commission agrees with all four of the DLA's recommendations. While the Commission has made concerted and continued efforts to address the DLA's recommendations from the prior audit review in 2011, we acknowledge there are still aspects of our business to improve. In that regard we have also appreciated the DLA's constructive comments, suggestions, and foremost support during the course of the subject audit.

The following summarize the Commission's specific response to each of the four recommendations presented in the subject report, including the methods or procedures we intend to employ to assure they are implemented.

***RECOMMENDATION No. 1** - The Commission should improve prioritization and accountability within its strategic planning documents.*

The Commission agrees with Recommendation No. 1. The Commission has begun to re-evaluate the prioritization and accountability of the strategies we have identified to achieve the objectives described in our existing Strategic Plan (dated June 2012). The Commission intends to complete the updated Strategic Plan by early 2014.

Following the DLA's previous audit review in 2011, the Commission worked diligently to develop our first detailed strategic plan, which was approved in June 2012 and then provided to the Office of the Governor, the Legislature and DNR as part of the Commission's 2012 annual report. The Commission believes our existing plan fully addressed and resolved the DLA's first recommendation from the 2011 review. Therefore, we consider the above recommendation No 1 to be new, as it applies to our existing plan, versus a continuation of the 2011 recommendation as implied in the report.

***RECOMMENDATION NO. 2** - The Commission should recommend replacing habitually absent members in a timely manner.*

The Commission agrees with Recommendation No. 2. The Commission has begun discussions to amend its 'rules of procedure' to clarify the responsibilities of the members and officers in regards to participation on the Commission, which we intend to complete by early 2014.

While the Commission agrees active participation of its members is essential to our performance, the Commission has also never failed to meet a mandated deadline, scheduled vote, or to achieve our goal of conducting at least six meetings per year (defined in our rules of procedure) due to not having a quorum. The two meetings in 2012 referred to in the report where a quorum was not established did not affect any of our goals or otherwise hinder or prevent the commission from acting on any scheduled business.

***RECOMMENDATION NO. 3** - The Office of the Governor and the Commission should work together to fill all commission seat vacancies in a timely manner.*

The Commission concurs with Recommendation No. 3. While beyond the statutory powers of the Commission, we agree to take a more active role in assuring that the Office of the Governor (i.e. the Boards and Commissions office) fill vacant commission seats in a timely manner. The Commission has begun discussions to amend our 'rules of procedure' to address such involvement, which we intend to complete by early 2014.

***RECOMMENDATION NO. 4** - The Commission should ensure recommendations clearly identify the organization responsible for implementing an action and the action to be performed.*

The Commission agrees with Recommendation No. 4. The Commission has begun to draft a general policy defining the format, structure, implementation, accountability, over-sight, and periodic post-approval review of our formal recommendations to the Legislature, Governor, State government, and private and public sectors. We intend to complete this general policy and amend it to our 'rules of procedure' by mid-2014.

Since 2010 the Commission has approved nine designated 'policy recommendations' for mitigating seismic hazards in the State (the most recent in October 2013, after the DLA completed their subject review). All of these recommendations were directed to the legislature or a State government entity; and all were provided in our annual reports to the Office of the Governor and legislature, or by direct mailing - the Commission looks forward to their response.

ASHSC Alaska Seismic Hazards Safety Commission

In closing, the Commission agrees with all of four recommendations put forth in the DLA's preliminary report, and we are very pleased and encouraged with your conclusions – we certainly hope that the Legislative Budget and Audit Committee, and both houses of the legislature agree.

Please feel free to contact me at your convenience if you have any questions.

Respectively yours,

Robert L. Scher, P.E.

Chair, Alaska Seismic Hazards Safety Commission
907.522.1707; bscher@rmconsult.com

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