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**ALFRED E. ALQUIST
SEISMIC SAFETY COMMISSION MEETING**

Zoom Teleconference Meeting
May 13, 2021

I. Call to Order

The meeting was called to order by Dr. H. Kit Miyamoto, Chairperson at 9:03am. Salina Valencia, Legislative & Communications Director, conducted the roll call.

Present:

Dr. H. Kit Miyamoto, Chair
Cindy Silva, Vice Chair
Ida Clair
Representative Diane Gould for Ida Clair
Representative Nestor Lopez for Ken Cooley
Michael Gardner
Representative Lori Nezhura for Mark Ghilarducci
Mia Marvelli
Jorge Meneses
Timothy Strack
Fuad Sweiss
Ivan Wong

Absent:

Ken Cooley
Mark Ghilarducci
David Rabbitt
Andrew Tran



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II. Approval of Seismic Safety Commission March 11th, 2021 Meeting Minutes

Discussion:

The Seismic Safety Commission (SSC) discussed the meeting minutes of March 11, 2021. Motion to approve by Commissioner Gardner, seconded by Commissioner Silva. Motion passed unanimously.

III. Chairman's Remarks

Chairman Miyamoto shared an update to the SSC Commissioners and staff.

IV. HayWired Societal Consequences (Vol. 3)

Speaker – Dale Cox, Project Manager, USGS

Anne Wein, Operations Research Analyst, USGS

Project manager Dale Cox shared Anne Wein's presentation by disclosing that editors for Volume 3 of the HayWired Scenario had retired causing the delay of releasing the Volume 3.

This scenario examined the effects of a 7.0 magnitude earthquake on the Hayward Fault in the East Bay of California. The word 'Wired' in HayWired is present because there has not been a major earthquake in an urban environment during the time of the world wide web. This scenario made sure to address the issue of telecommunications and economic impacts that may befall Silicon Valley.

HayWired Volume 3 will include earthquake early warning, telecommunications, lifeline infrastructure systems, communities at risk, and the economic impacts and resilience. The rollout is believed to come out in 2021.

Discussion:

Chairman Miyamoto stated that this information that is provided by the HayWired Scenario is critical by showing what it looks like after an earthquake.



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V. Earthquake and Fire-Following Earthquake Resiliency of Mid-Rise Cold-Formed Steel Buildings

Speaker – Tara Hutchinson, Professor of Engineering, UC San Diego

Director McCarthy explained that this presentation is a proposal for the SSC to participate in the Shake Table project. Director McCarthy stated that it meets the criteria for research fund, such as the ability to leverage money, and to bring in other partners. Hopefully the participation of the SSC will attract more partners to the project.

Professor Tara Hutchinson presented a proposal to investigate the earthquake and Fire Following Earthquake resiliency of midrise perform steel buildings.

The presentation explained why Cold-Formed Steel (CFS) has become almost readily available as a prefabricated system on building sites

Use of CFS as a prefabricated material means that subsystems of uniform quality can be readily erected at a site. It would require reduced skilled labor and minimal tools on site but still retain a high-quality structure.

CFS is a green material because even if it is not prefabricated and is generally cut to length which reduces waste.

The SSC has partnered on previous project with Professor Hutchinson and her team.

Professor Hutchinson explained that this project includes a team of researchers from UC San Diego, John Hopkin's University, and the University of Massachusetts Amherst. The core funding for the research team is already provided through a grant with the engineering program from the National Science Foundation. Support for the UC Shake table is provided through the operations and maintenance grant from its NHERI program which allows it to serve as a national shared use facility for the community.

Partnership with the American Iron and Steel Institute and the Steel Framing Industry Association brings several design engineers and material suppliers. In total, the operations of the Shake table, the already secured research grant and support of the steel decking institute brings over \$3,000,000 for this collaborative ongoing project.

Professor Hutchinson stated that the proposal to the SSC is to expand the CFS-NHERI effort with three tasks. First is to perform seismic tests then repair and retest



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structure. The second is to conduct live fire scenarios across a three-month period. Project planning will take place in the first year and beginning construction in Fall 2022. The third task is to prepare a distilled report that the SSC can use to articulate the societal impact of the test results.

Professor Hutchinson requested \$402,500 in support for this project from the SSC.

Discussion:

Director McCarthy explained the process should the SSC give approval to move forward with the proposal.

Commissioner Rabbitt stated he is supportive of going forward due to the current housing situation in his county. The cost of building materials and the struggle of getting housing built shows the value of this project. CFS would not only benefit the fire aspect, but it would provide housing as well.

Commissioner Strack stated that the work done with the shake table is an invaluable project and a huge next step. Combining two actions (shaking and fire) that can be tested together is the correct approach. He supports this project and made a motion to fund the work with UC San Diego.

Commissioner Gardner seconded the motion.

Commissioner Sweiss stated he would be glad to help and bring partners to contribute to modular units on the shake table.

Commissioner Marvelli appreciated the hard work and dedication done and she thinks it is phenomenal. She understands research being done doesn't necessarily have to wait for a reference standard and information will be available through design guides.

Professor Hutchinson stated they have an agreement for the shared use facility with Natural Hazards Earthquake Research (NHERI). They received money from the Foundation to maintain and operate the facility only for researchers to perform research projects, but UC San Diego does not have to facilitate support operations 100% of the time. If someone has a one-month project, UC San Diego must make sure to pay appropriately from funding from the sponsor. It will cost more for a dedicated commercial project.

Commissioner Gardner commented on the importance of the steel being recycled material.



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Representative Diane Gould mentioned how to handle the detailing and addressing requirements for exterior nonstructural walls of ASCE 7 section 13.5.3. There is a language that talks about the wall system connections need to accommodate building drift and how to implement on lighter frame walls. The scope to do that analysis on what kind of damage occurs, repairing, and how it performs would be great work towards that effort.

Commissioner Silva asked how big the Shake table is in terms of dimensions.

Professor Hutchinson clarified it is 25 feet by 40 feet.

Motion by Commissioner Strack to approve \$402,500 in SSC Research Funds to support UC San Diego's Cold Formed Steel Shake/Fire test. Motion was seconded by Commissioner Gardner. Motion passed unanimously.

VI. Update on Early Earthquake Warning Program

Speaker – Lori Nezhura, Deputy Director, Planning, Preparedness and Prevention, Cal OES

Ms. Nezhura stated that the SSC was given an update in November on the Earthquake Warning California Program

Ms. Nezhura stated the Earthquake Warning California focuses their outreach campaign on the MyShake app which was developed in conjunction with UC Berkeley and provides audio and visual warnings sent to mobile devices once an earthquake is predicted. The app can be downloaded for free.

The Shake Alert LA app was launched in 2018 and “retired” by the city of LA in December 2020.

Ms. Nezhura explained that the MyShake app must be always set to “on” to provide warnings. Push notifications are sent to the user's mobile device as needed. It signals when the sensors pick up on shaking from the first primary weaker waves. The further away the person is from the epicenter, the more warning they can get.

There are updates on the safety pages to give people the information to be prepared for an alert. Beginning in August 2020, Android phones have built in earthquake technology. Warnings are sent to Android phones in California regardless of downloading an app or not. Users can opt out if desired.



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There are wireless emergency alerts which are automated text messages to warn of threats. This setting is automatically opted in on a new phone and users must take an additional step to opt out.

For more information there are fact sheets at earthquake.ca.gov. Spread the word, sign up to receive partner tool kit, they have a lot of social media, PSAs, and other material that can be shared.

Discussion:

Chairman Miyamoto stated that this is a critical component and asks for any comments or questions.

Salina Valencia, Director of Communications and Legislation inquired if there was a social media button that could be placed on the SSC website which will link people directly to the MyShake app. Mrs. Nezhura stated that this is being worked on and will let the SSC know when it completed for use.

VII. Miscellaneous Announcements

Budget Presentation – Tanya Black

Ms. Black stated that at the January 14th meeting an overview of the budget was given to SSC after finalizing the transition to Cal OES. She stated that SSC staff continues to meet our Cal OES personal liaison monthly to reconcile expenses and ongoing account balances. The budget balance when transferred to Cal OES was at \$2,518,000 which consists of four funding sources. Included in the balance was a one-time general fund distribution of \$503,000 to cover the administrative and operating expenses obtained during the transition.

Mrs. Black provided an overview of all the account balances as of February 28th, 2021 and explained that all future reports will have a two-month lag in the account balances.

Mrs. Black provided an update on the status of hiring a new SSC Senior Structural Engineer. Ms. Black disclosed that the November meetings lands on Veteran's Day which is a state holiday and will be moved to November 4th.

Ms. Valencia mentioned based on the direction of Commissioner Sweiss at a previous Commission meeting, SSC presentations that are given at a Commission meeting will now be placed on the SSC website and follow the State's website accessibility requirements.



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Ms. Valencia gave a status update on the following legislative bills,

SB 109 Dodd Office of Emergency Services: Office of Wildfire Technology Research and Development.

SB 440 Dodd Earthquake and wildfire loss mitigation authorizes the California Earthquake Authority (CEA) to invest CEA reserve funds in a new joint power's authority for hardening homes in high wildfire threat zones and increases funds for retrofitting homes in high hazard earthquake zones. In exchange for these investments, the CEA would be granted the authority to assess personal property insurance policies up to 2% of the policy premium contingent on the occurrence of an earthquake event that exceeds all other CEA claims paying capacity. Such an event has a risk of occurring of between 1 in 200 and 1 in 400 in any given year.

AB 1329 Nazarian Building codes: earthquakes: functional recovery standard. This bill would require the Building Standards Commission to develop, adopt, and publish building standards that would require new construction of buildings, except for buildings regulated by the Office of Statewide Health Planning and Development or the Division of the State Architect, to be designed and built to a functional recovery standard, for earthquakes. as defined, for earthquake loads.

Ms. Valencia stated she will continue to watch the bills as they move through the legislature, but she will begin deferring specific positioning of bills to the Cal OES legislative office. Cal OES is currently watching 64 bills that have been

Commissioner Wong asked if Ms. Valencia has been following AB-1464, the Hospitals: Seismic Safety bill. Ms. Valencia stated she will add the bill to the legislative bill watch list.

Director McCarthy stated the California Geological Survey, and the Office of Statewide Health Planning and Development will present at the SSC's September 9th Commission meeting under the requirements of AB 100. Mr. McCarthy stated that the SSC will act as a clearing house to illustrate what California has done to reduce seismic risk and/or speed recovery. Final products will be placed on the Commission's website.

Director McCarthy mentioned those Commissioners that have terms expiring and still would like to serve on the Commission will need to reapply through the Governor's Office. Mr. McCarthy mentioned due to SSC's new statute that Commissioner Meneses and Commissioner Wong positions will be rotated off the Commission.



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Director McCarthy states it has been an honor to work with Commissioners Meneses and Wong.

VIII. Public Comment

Ryan Kersting shared a few public comments from the Structural Engineers Association of California (SEAOC). Mr. Kersting represents the policy committee of the SEAOC and serves on the board of directors for National Council of Structural Engineers Association and on the Applied Technology council.

Mr. Kersting shared a few insights from the NIST Functional Recovery Report - Recommended Options for improving the Built Environment for Post-Earthquake Preoccupancy and Functional Recovery Time. Mr. Kersting stated that the theme in this report to congress is on improving the post-earthquake recovery times. This is the culmination of a few years of efforts. It was charged to FEMA and NIST in the 2018 reauthorization of the National Earthquake Hazard Reduction Program at the federal level. They convened a committee of experts to assess and recommend options for improving the post-earthquake response and recovery time.

The report contained seven primary recommendations –such as developing a functional recovery framework. Which buildings need to be functional and in what time frame after an earthquake. Not all buildings need to be recovered right away but some are more critical than others.

Mr. Kersting stated that SEAOC has been sponsoring and working with AB1329 to look at ways to safely implement better recovery times within the building code.

IX. Adjourn

The meeting was adjourned at 11:11 am by Kit Miyamoto, Chair.