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California Seismic Safety Commission's  
 Ad Hoc Committee on Tsunami Safety  
 Minutes of Meeting  
 July 25, 2005  
 Los Angeles County Lifeguard Training Center  
 2600 The Strand  
 Manhattan Beach, California 90266

**Committee Members Present**

- Mr. Donald Parker, Chairman (CSSC)
- Mr. Linden Nishinaga (CSSC)
- Dr. Michael Reichle (CGS)
- Mr. Orville Magoon (Coastal Zone Foundation)
- Dr. Lori Dengler (Humboldt State University)
- Dr. Lucile Jones (CSSC/USGS)
- Dr. Jose Borrero (University of Southern California)
- Mr. Richard Eisner (OES)
- Mr. Daniel Shapiro (CSSC)
- Jeff Terry (LAOES)

**CSSC Staff Present**

- Mr. Richard McCarthy
- Mr. Robert Anderson
- Mr. Henry Reyes
- Mr. James Lee

**Speakers**

- Mr. Linden Nishinaga (CSSC)
- Mr. David Dystra (Moffat & Nichol)
- Dr. Fred Raichlen (Cal Tech)
- Dr. Dick Seymour (Scripps/UCSD)
- Mr. Martin Eskijian (State Lands Commission)
- Jeff Terry (LAOES)
- Larry Collins (LACOFD-USAR)

**OBSERVERS**

- Angus Alexander (LACOFD/Lifeguard)
- Rene Mortensen (American Red Cross)
- Don Hoirup Jr. (CGS)
- Robert Kovacik (NBC-LA)
- Omar Jaradat (PBS&J)
- David Malin (Port of LA)
- Ken Hudnut (USGS)
- Michael Brooks (LAOES MGNT.)
- Peter Yin (Port of LA)
- Gregg Nelson (LASD/Marina Del Rey)

**Call to Order**

The Seismic Safety Commission's Ad Hoc Committee on Tsunami Safety Chairman Mr. Donald Parker called the meeting to order at 10:00am. He welcomed all of the Committee members along with Staff and the guest speakers. Mr. Parker then thanked Jeff Terry and the Los Angeles County Lifeguards for being able to use the meeting place.

## **General Discussion**

Mr. Parker asked the committee members if they had any corrections or questions about the minutes from the previous meeting.

Mr. Nishinaga addressed a change that should be made on page 5.

Mr. Parker then asked for a vote and amended the minutes after approval from the Committee.

Mr. Parker then spoke about the purpose of the meeting and then introduced Linden Nishinaga as the first speaker.

## **Speakers**

Mr. Nishinaga spoke on the Port of Los Angeles and Port of Long Beach. The topics discussed were the economic impacts that the Ports have to the State of California and the rest of the U.S. The amount of cargo that comes through the Ports, and also the amount of jobs that are related to the ports.

Mr. Parker then introduced David Dystra to speak for the Committee.

Mr. Dystra introduced some technical terms about tsunamis to the committee and observers. Also discussed were the difference between deep and shallow water waves, short and long period waves and how these would bring about different conditions in the ports causing damage. Mr. Dystra also showed illustrations on the wave conditions in the ports if a tsunami were to hit the LA/LB Ports.

Mr. Nishinaga asked if the tsunami models input wave was modeled after a tsunami that is supposed to come with 500-year periods.

Mr. Dystra answered by saying he has seen work done for landslides, and that we are thinking a 4-5 foot wave that could come in every 500 years but he was not sure.

Dr. Jones stated that the tsunami predictions should be done with probabilities which isn't being done right now.

Mr. Eisner said that there was a small program in Oregon that is being funded by the USGS that is doing work in probabilities now.

Mr. Thio said that URS Corp was also in the process of finding the probabilities of a tsunami hitting the coast in California.

Dr. Dengler said it looked as if the studied were for the only short period waves and asked if he did any studied on long period waves.

Mr. Dystra answered by showing that his illustrations went through all of the periods that could be found in a tsunami.

Mr. Parker thanked Mr. Dystra and introduced Dr. Fred Raichlen to speak to the Commission.

Mr. Raichlen spoke on records of Tsunamis in the Port of Los Angeles and Port of Long Beach, amplification and resonance of waves in the harbors, and also the effects of waves on ships in the

harbors. Also stated was that the velocity of the water could be a big problem by helping ship resonance and cause extensive erosion.

Mr. Magoon asked how do you determine the best impedance values for different basins along the coast?

Mr. Raichlen answered that the shape of the basins determines the amount of excitability of the waves.

Mr. Parker asked if there were any more questions. When no questions were asked Mr. Parker thanked Mr. Raichlen and introduced Dick Seymour to speak.

Dr. Seymour spoke on the Scripps network of the 24 near shore water height sensors that could be used to track and monitor tsunamis in real time. The sensors are rugged and reliable and can be used for 10-15 years.

Dr. Borrero showed slides of what the response time would for different locations along the coast if sensors were installed off the coast.

Mr. Parker concluded the morning session at 12:05 for lunch.

Mr. Parker resumed the Meeting at 1:05 and introduced Martin Eskijian to speak to the Committee.

Mr. Eskijian First spoke about marine oil terminals in California. For distant tsunamis the ships should be taken out of the ports so they are not affected by the tsunamis. For near field events the most that can usually be done is to shut down the flow of oil and get to higher ground or board a ship. Mr. Eskijian also spoke on how vessel impact during a tsunami can cause large amounts of damage.

Mr. Parker said there is concern in Northern California about Tsunami surge in San Francisco. Is there a reason your remarks are only about Southern California?

Mr. Eskijian said that the State Lands Commission working with Dr. Dengler and Dr. Borrero are working on Northern California statistics right now and should have results by the end of the year, but it is not as bad as Southern California.

Don Parker thanked Mr. Eskijian and introduced Committee Member Jeff Terry to give his presentation.

Jeff Terry introduced Captain Larry Collins who assisted in the presentation. The presentation is about lessons learned from the initial work, what we've done to enhance our current tsunami response plan, and where we see the county going in conjunction with our coastal cities when it comes to tsunami response.

Mr. Eskijian asked if British Columbia had an advantage because were you able to contact them?

Mr. Eisner said that it isn't the same as in the Indian Ocean because British Columbia is also notified by Palmer as we are.

Ms. Jones what are the evacuation routes going to be operated on?

Mr. Terry said that the evacuation planning routes are planned for the worst-case scenario so that we are covered for all events.

Mr. Eisner added that for the evacuation planning if someone is called late at night with a tsunami warning if there was one route and one map so there is only one decision that has to be made.

Mr. Yin spoke in regards to the Port of LA and Port of Long Beach on their thoughts on what the Tsunami predictions should be based on.

Mr. Parker responded by saying the report is for information only and not a regulatory report, and that Mr. Yins comments will be taken into account in the report. Mr. Parker then opened up the next part of the meeting with general comments from the Committee on recommended topics to put into to report.

Dr. Dengler recommended that we address the June 14<sup>th</sup> event in the report.

It was mentioned that there should be a focus in the report about public education because that would be the only way that people can avoid danger in near field events.

Mr. Parker then suggested that assignments be given out to the Committee Members that would be ready for the next Tsunami Safety Meeting. Also Mr. Parker asked that recommendations and findings from every Committee Member should be send in to Henry Reyes or James Lee before the next meeting.

Dr. Borrero and Dr. Dengler agreed to write about historic tsunamis and sources of tsunamis.

Mr. Nishinaga agreed to write about information on the Ports of Los Angeles and Long Beach.

The Committee recommended Mr. Eisner to write about 5 state membership, signage, and warning systems.

Jeff Terry agreed to write on different forms of media on different levels of education.

Dr. Lucile Jones said she would write a short piece on education of tsunamis in schools.

Dan Shapiro and Orville Magoon will write on recommendations to mitigate structures in vulnerable zones to withstand tsunami forces

Mr. Parker then asked the Committee to decide on a location for the next meeting.

The date August 12, 2005 was agreed upon without any conflicts. And there were no location preferences by any of the members of the Committee so Sacramento was chosen for the location of the next meeting with a meeting place to be determined.

Mr. Parker then adjourned the meeting at 3:40 Pm.