

## **California Earthquake Clearinghouse and UICDS**

This document provides an update of the Clearinghouse's plan to implement the Unified Incident Command & Decision Support (UICDS) data sharing framework developed through the U.S. Dept. of Homeland Security's Science and Technology Directorate (<http://www.uicds.us/>). In short, the Clearinghouse is going ahead with testing and evaluating of this web service for post-earthquake information exchange. While it is clearly understood that each Clearinghouse partner is independent and will act in accordance with their responsibilities to their own organization, the Clearinghouse itself has a responsibility to act in the best interests of all of its partners. Due to the time and effort required to fully realize the benefits of the UICDS data sharing concept and the uncertainty regarding the timing of the next major earthquake in California, the Clearinghouse will proceed with immediate testing of the UICDS framework. Further, we invite all of the Clearinghouse partners that are interested in post-event investigation to stand up their own core and to participate in development of this important data-sharing resource at their earliest convenience. Establishing the technology to provide the means for sharing data now, with even a limited number of partners, allows a means of evaluating UICDS' utility for Clearinghouse activities, and for developing guidelines to expedite implementation for subsequent partners. Below is some background on the issue and all are encouraged to read through it to understand the reasons behind our decision.

### **UICDS Adoption by California agencies**

Based upon discussions at our Clearinghouse IT group meeting in September 2011, when the UICDS concept was introduced to the Clearinghouse by our partners at Cal EMA and the State Geographic Information Officer (GIO), it is our understanding the State of California is adopting the UICDS framework. Between September 2011 and as recently as February of 2012 the Clearinghouse has had many discussions with various State Agency/Department representatives regarding the implementation of UICDS, and though the timeframe for implementation is somewhat vague, the Clearinghouse has been assured by all that the intent to implement the framework is solid.

Based upon the assurances we've received the California Earthquake Clearinghouse is planning a phased implementation of UICDS over the next 3 years. Recall, implementation of UICDS is a two-step process: 1) Obtain appropriate middleware; and then 2) define data-sharing agreements between UICDS users. The first step takes roughly an hour or so and is relatively easy to accomplish. However, the second task, forging the data sharing agreements, will require much more thought and discussion.

### **Developing UICDS through Scenario-based exercises**

The Clearinghouse intends to leverage the timing of the following earthquake preparedness drills, roughly every six months through 2014, as natural milestones in our effort to implement UICDS:

- 1) Golden Guardian May 2012 S. CA Catastrophic Earthquake
- 2) Golden Guardian May 2013 Hayward Fault Earthquake
- 3) Golden Guardian May 2014 Cascadia Region Subduction earthquake and tsunami
- 4) Annually in October - ShakeOut earthquake preparedness drill

Starting with the 2012 Scenario, each of the five Clearinghouse Executive Committee organizations (California Geological Survey (CGS), US Geological Survey (USGS), California Emergency Management Agency (Cal EMA), CA Seismic Safety Commission (CSSC) and Earthquake Engineering Research Institute

(EERI)), as well as the Clearinghouse itself, will begin the process of standing up a UICDS test core. On May 30, 2012, the Clearinghouse will ask participating volunteers to download one of several available applications for field data collection that run on a mobile platform (i.e. smartphone, pda) and to collect simulated data representing surface fault rupture, earthquake-induced landslide and/or liquefaction ground failure, or engineering/structural data, and then upload it to one of the newly-established test cores. The objective will be to upload field information into UICDS during the exercise.

The simulated collection and uploading of data will help all of us understand how UICDS actually works and help us define key issues that need to be addressed in creating the UICDS data-sharing agreements. We will then repeat the process again roughly every six months, either for ShakeOut or Golden Guardian, each time expanding the number of participants by inviting additional Clearinghouse stakeholders to stand up a UICDS core. Any stakeholders who are not able to stand up a core but who still want to participate may do so via the Clearinghouse core. The Clearinghouse is already in discussions with the various Lifelines operators to define their participation in the 2013 Golden Guardian exercise and with our partners in Northern California for 2014.

For purposes of the planned Clearinghouse May 2012 exercise, the Homeland Security UICDS Technology Consultant has volunteered the use of its development space to host a temporary Clearinghouse core should that be necessary.

### **UICDS Adoption by the Clearinghouse**

To date most members of the Clearinghouse management team have elected to begin testing UICDS. Both EERI and the USGS are in the process of installing the UICDS middleware. Cal EMA has a UICDS core set up in their GIS group development space. The California Geological Survey is exploring the possibility of a UICDS core hosted by the California Natural Resources Agency (CNRA) where information collected by its responding departments (e.g. Forestry and Fire Protection or Water Resources) regarding other types of natural disasters, such as fires and floods, could also be shared. The California Seismic Safety Commission is in the process of evaluating if it will implement UICDS in their response plans.

### **Getting up to speed with UICDS**

In support of UICDS, the U.S. Dept. of Homeland Security's Science and Technology Directorate sponsors weekly telephone conferences for organizations implementing UICDS. Jim Morentz, Homeland Security Technology Consultant and UICDS Outreach Director, leads the Clearinghouse weekly teleconference and his team provides technical support to assist in installation of appropriate middleware, and in addition, insight to help draft data sharing agreements. All are encouraged to participate in as many of these teleconferences as possible to learn more about UICDS and for progress reports on Clearinghouse partners' efforts to implement UICDS. For more information on the weekly phone call and to view Clearinghouse-specific UICDS presentations, please visit the California Earthquake Clearinghouse website <http://www.eqclearinghouse.org/CA/>.

The Clearinghouse is setting modest goals for our first test of UICDS on May 30, 2012 e.g. to establish the first ever Clearinghouse UICDS cores. Building on our experiences over the next three years will provide Clearinghouse partners a solid understanding of how UICDS can be used and, hopefully, will establish a solid foundation upon which to grow the UICDS framework in the future.