

POST-EARTHQUAKE TECHNICAL CLEARINGHOUSE

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**_____ Geological Survey
and
_____ Office of Emergency Management**

INTRODUCTION

An earthquake disaster in _____ will attract a large number of earthquake professionals with the intent to learn lessons and lend assistance. These visitors are researchers, engineers, seismologists, geologists, and representatives of organizations concerned with seismic safety. They have a wide range of knowledge and experience, and their observations in the field can add substantially to the information available to officials managing response and recovery operations. However, without a plan for coordinating their reconnaissance activities and integrating their findings into emergency management, their efforts will not be directly useful in response, damage assessment, and early recovery activities. Furthermore, their deployment should be coordinated so that their presence benefits rather than burdens local officials in affected cities and counties. Additionally, a forum for the daily sharing of the information gathered by all observers allows for the capture of much valuable and perishable data that may otherwise be lost to both the government and research communities.

To coordinate the gathering of information, maximize its availability, and better use the talents of those present, a clearinghouse operation is necessary. This plan outlines the purposes to be served, the management and participants, and the operations of the clearinghouse. The plan is adapted from the *California Post-Earthquake Information Clearinghouse* draft plan, and includes sections taken from that plan with little modification.

PLANS AND INTELLIGENCE

The clearinghouse is intended to facilitate exchange of critical information from field investigations, and to promote its use by technical specialists and emergency managers during response and recovery from damaging earthquakes. The clearinghouse will provide a single point of contact for easy exchange of information among researchers, emergency managers, and practitioners. It will direct information to the State Emergency Operations Center (EOC). It will accommodate investigators from other states and countries, and provide a contact for media to use in gathering more in-depth information on damages and their implications.

The clearinghouse will allow for a more coherent and methodical investigation of all earthquake impacts, the gathering of perishable data, and the tracking of all field investigations. It will help ensure that all areas have been thoroughly explored, and that optimum value is

derived from technical personnel provided by other WSSPC states.

Further, it will make possible the documentation of findings and observations. A record of field observations will be displayed in the clearinghouse, but we do not plan a Geographic Information System (GIS) capability at the clearinghouse. Agencies responsible for mapping of geologic, geotechnical, and engineering effects of the earthquake will use their internal GIS capabilities to document effects, and make them available at the clearinghouse as necessary. A state GIS capability may be available to the clearinghouse through _____, but personnel will not necessarily be located at the clearinghouse.

MANAGEMENT

The _____ Geological Survey (_GS) will request the _____ Office of Emergency Management (_EM) and _____ Division of Facilities Construction and Management (_DFCM) to identify a facility for the clearinghouse, and work with them to get it established based on pre-arranged cooperative agreements. Clearinghouse management will be through a team of representatives of the _GS, _OEM, U.S. Geological Survey (USGS), Earthquake Engineering Research Institute (EERI), and the _____ Seismic Safety Commission (_SSC). Clearinghouse staff will be flexible in numbers and duties, but at least two positions will be designated: 1) director, and 2) staff coordinator. Both will initially be _GS employees to get the clearinghouse up and running, but once the management team assembles, they will designate a permanent director and identify additional staff as needed. We anticipate that the _GS will supervise its field operations from the clearinghouse, so the _GS field-operations supervisor will act as initial clearinghouse director. The clearinghouse director will provide a technical contact for visiting professionals, and administratively oversee clearinghouse operations. The director will conduct the nightly briefings. The staff coordinator will oversee clearinghouse logistics and office operations, including acquiring equipment and making it operational, providing assistance to clearinghouse users, coordinating activities, overseeing establishment of a website and link with the EOC and DFO, supervising clearinghouse staff, and ensuring that information is widely disseminated.

The director will deal with media representatives and set ground rules for their presence at daily clearinghouse briefings. Media representatives can attend briefings, but not ask questions during the briefings. Following the briefings, media representatives can speak with the investigators who indicated they were available for further discussions.

Organizations that will be active in, and support the work of, the clearinghouse are:

- _____ Geological Survey (_GS)
- _____ Office of Emergency Management (_OEM)
- _____ Seismic Safety Commission (_SSC)
- _____ Seismic Network (_SN)
- _____ Earthquake Engineering Research Institute (EERI)
- _____ Emergency Management Agency, Region VIII (FEMA VIII)
- _____ Division of Facilities Construction and Management (_DFCM)

Structural Engineers Association of ____ (SEA_)
U.S. Geological Survey (USGS)
Western States Seismic Policy Council (WSSPC)

Figure 1 indicates the functions of the clearinghouse, and particular roles for each of the clearinghouse organizations. WSSPC geoscience representatives should check in at the clearinghouse and coordinate activities with the _GS. If necessary, _GS will assign them to aid in specific response duties. WSSPC emergency management representatives should check in at the EOC, and may be asked to help with clearinghouse operations.

Figure 1. Clearinghouse functions and organizational responsibilities.

ORGANIZATION	FUNCTIONS															
	Managing & Coordinating	Public Affairs	Policy Issues	EOC Liaison	Communications	GIS	Geologic Effects Mapping	Seismic Monitoring	Overflights	Tracking	Risk Evaluation	Hazard Evaluation	Site Inspections	Support Staffing	Logistics	Funding (maybe)
_GS	●	●	●			●	●		●	●		●	●	●	●	
_OEM	●	●	●	●	●	●					●	●		●	●	●
_SSC	●	●	●													
_SN								●				●				
WSSPC												●		●		
EERI	●	●					●			●	●		●			
FEMA VIII					●	●					●			●		●
_DFCM											●		●			
SEA_											●		●			
USGS	●	●	●			●	●	●	●	●		●		●		

Other research institutions, professional organizations, and out-of-state agencies may take part in the clearinghouse activities; their participation will be determined by the location and the

impacts of the earthquake in question. The EERI Post-Earthquake Response Team will be a valuable resource because of their expertise and experience in post-earthquake response, and we anticipate the Team will play an active role in clearinghouse briefings and operations.

OPERATIONS

The primary functions of the clearinghouse will be to 1) collect and verify perishable reconnaissance information; 2) convey that information to the EOC; 3) serve as the “check-in” and “check-out” point for all researchers who arrive at the scene; 4) provide updated damage information to all investigators, through daily briefings and reports; 5) track where investigators are in the damaged area; and 6) introduce method into what is frequently haphazard by arranging for investigators to cover areas not yet sufficiently reported on. The clearinghouse will channel researchers and observers toward the specific damaged areas where their expertise will be most valuable. Arrangements for access into secured areas will be facilitated by the clearinghouse through provision of letters of passage, badges, and contacts with local governments. All researchers requesting letters of passage will sign in with the clearinghouse staff coordinator, and be asked to observe certain protocols with respect to local emergency managers and residents. No credentials will be supplied by the clearinghouse, but WSSPC will identify and provide credentials to out-of-state WSSPC representatives that are available to assist.

A. Thresholds for Activation

The clearinghouse will be put into operation at the discretion of the Clearinghouse Management Team. An earthquake in an urban area will trigger clearinghouse establishment when it is damaging and/or has a magnitude of 5.5 or above. In cases of relatively small or rural earthquakes where emergency response activities are limited, the clearinghouse may still be activated mainly to coordinate geoscience activities.

The clearinghouse may be established upon recommendation of initial field investigators from _GS and _OEM staff deployed to survey the earthquake impacts. A federal disaster declaration is not necessary to activate the clearinghouse, but the clearinghouse will always be activated when there is a federal disaster declaration.

B. Timing

Since the clearinghouse should be operating by the time the first reconnaissance organization or agency arrives on the scene, it is critical to get it operational within 24 hours of the earthquake.

The duration of clearinghouse operation is dependent on the magnitude of the damage and extent of the response and early recovery periods. Clearinghouse operations can be reduced when the need for reconnaissance decreases. Termination will occur after most perishable damage information has been gathered and detailed studies begin.

C. Location and notification

The clearinghouse should be as close to the affected area as possible, while still providing space and support services necessary. It should be located such that it affords access to the state or local EOC, although physical proximity may not be as important as electronic connectivity.

For contact and intelligence sharing with safety assessment personnel, the clearinghouse is ideally located proximate to the EOC, which may be a field (local) EOC for earthquakes remote from the State Capitol. Though it will not be located *in* the EOC, it should be sited so that traffic and communication between it and the EOC is relatively easy to accomplish. The space should be chosen in recognition of the fact that the clearinghouse operation requires electricity, phones, fax machines, copiers, and working and display space. A meeting room large enough for convening a group of a minimum of 50 people is necessary. Lastly, the clearinghouse location should be close enough to the affected area to permit relatively easy access.

_GS will notify the WSSPC home office of the clearinghouse location as soon as it is established. WSSPC will post it on their website and forward the information to WSSPC states interested in sending representatives.

D. Relationship to EOC/DFO

The clearinghouse will supplement the intelligence-gathering and damage assessment activities of the EOC. Every evening the clearinghouse will hold a reconnaissance briefing, during which researchers and field observers will report their observations of damages or impacts in the affected area. The EOC will have a liaison present at each briefing to gather information. This information will also be summarized daily in a written report by the _GS and USGS (geologic and geotechnical aspects) and EERI and SEA/_DFCM (engineering aspects) and made available to the EOC and all other participants. Clearinghouse staff will attempt to keep track of researchers' whereabouts.

The Disaster Field Office (DFO), FEMA's primary locus of activity, has a role different from the immediate information-gathering of the EOC and the clearinghouse organizations. The DFO is much more concerned with disaster-recovery activities, and is typically not activated immediately. The clearinghouse will be in action before the DFO, and may cease action shortly after the DFO is set up. Thus, the relationship of the clearinghouse to the DFO will be dependent on what information gathering and dissemination needs remain at the time of DFO activation. The FEMA liaison at the clearinghouse will represent the DFO, and where overlap occurs, DFO GIS capabilities may be used by the clearinghouse.

LOGISTICS

A. Staffing

Initially, the clearinghouse director and staff coordinator will come from the _GS. Additional staff will be needed, depending on the size of the earthquake and level of damage and geologic effects. An assignment of a permanent director and early assessment of staff needs will be made by the management team, and if necessary a formal request will be made to FEMA for staff. Potential sources of staff assistance are _OEM, FEMA, EERI, USGS, and WSSPC. Radio

communications with those in the field will be provided by individual agencies and participants. The clearinghouse will not provide communications assistance.

Participant organizations= staff will be responsible for database and GIS-related activities. Such staff will be elsewhere, probably at their home offices, but in close contact with the clearinghouse. Students should be used where possible to help compile databases and provide other assistance.

Below is a listing of the approximate staffing—some technical and some clerical—that various organizations plan to provide at the clearinghouse location:

_GS	2 staff (initial director and staff coordinator); management team member
_OEM	1 staff; EOC liaison/management team member
USGS	1 technical liaison; management team member
FEMA	1 technical liaison and other staff as requested
WSSPC	Visiting emergency-management members from other states may provide staff
EERI	Management team member
_SSC	Management team member

B. Equipment

The following equipment will also assist in the full functioning of the clearinghouse:

Appropriate maps
Computers (2-3), preferably with modems for email and web access
Printers
Bulletin boards
Chalk boards, white boards
Layout tables
Lights
Telephones/cellular phones
Faxes: one incoming, one outgoing
High-speed copier, with collator
First aid kit
TVs and VCR
Overhead projector
Slide projector
Coffee pots
Local road maps
Office Supplies: name tags, note pads, phone message pads, pens, rubber bands, staplers, scotch tape, scissors, tacks, flip charts.

Although some of this equipment may be supplied by _OEM or _GS, or purchased or leased in a federally declared disaster, critical equipment should be already available in the clearinghouse facility.

C. Facility

The size of the clearinghouse will be event-specific; the needs of the operation will govern the dimensions. In general, the following are necessary:

- Open office space
- Wall space for maps and other documents
- Work stations for a minimum of three people
- Conference room accommodating at least 50 people
- Parking
- Accessible to airport and damaged areas

This facility will most likely be in a state- or other government-owned building. For nearby earthquakes, if the _GS main office is damaged or inaccessible during the earthquake, ____ is the preferred alternate location for _GS operations and the clearinghouse. Permission for use of space in ____ or, if needed, in U.S. Government buildings, must be obtained through _OEM. _DFCM will assist in obtaining space in other buildings including state facilities. _GS will request _DFCM to identify a facility immediately following the earthquake, and may pre-arrange potential sites in designated areas.

WEBSITE, DATA MANAGEMENT, AND REPORTS

A clearinghouse website will be established to make clearinghouse reports, databases, and maps generally available. Links will be established to/from the _GS, _OEM, _SN, USGS, WSSPC, EERI, and FEMA websites. The clearinghouse staff coordinator will oversee establishment of the website, which will be maintained by the _GS and may be a page on the _GS website.

The clearinghouse will facilitate uniform data collection and management by providing paper and electronic-format data sheets for geoscience and engineering data collection. Those checking in at the clearinghouse will be asked to voluntarily fill out these data sheets, which will be collected during evening briefings. Appropriate agencies or groups will be responsible for compiling databases, maps, and reports; the clearinghouse will facilitate activities where possible. Responsibility for compiling geoscience (geologic, seismology, and geotechnical engineering) maps and databases will be with the _GS and USGS; compilation of structural engineering/architectural maps and databases will be with EERI and SEA/_DFCM. Databases may be compiled at the clearinghouse or at a facility of the responsible group. Clearinghouse staff and student volunteers can aid in database compilation. All databases will be compiled in MSAccess and MSExcel. GIS hardware will likely not be available at the clearinghouse, so GIS map compilations will be done at agency home offices, ____ GIS agency, or the DFO. ARCVIEW, ARCINFO, and MAPINFO software will be used in GIS map compilation.

Following each evening briefing, a summary report will be compiled by clearinghouse staff for posting on the clearinghouse webpage and distribution to the EOC, DFO, media, and

other interested parties. _GS and USGS will prepare reports on geoscience effects; EERI and SEA_/_DFCM will prepare reports on structural engineering. These reports will be available the following morning.

FINANCING

During a clearinghouse activation, the accounting of costs for operations will be the responsibility of each participating organization. Because the clearinghouse is a response function, it may be possible to cover some of its costs in a presidentially declared disaster. Facility rental, per diem for some investigators, and other eligible charges could be recouped. This possibility will be determined after the disaster scope is known and appreciated. Federal reimbursement should not be counted on, but it should not be ruled out.

In disasters with no federal declaration, costs will be smaller; arrangements will be based on the understanding that the organizations would have undertaken many of the clearinghouse tasks, and funded them, irrespective of clearinghouse activation. Therefore, each organization will bear the costs it would do in its normal post-earthquake investigations.