



# National Earthquake Technical Assistance Program (NETAP)

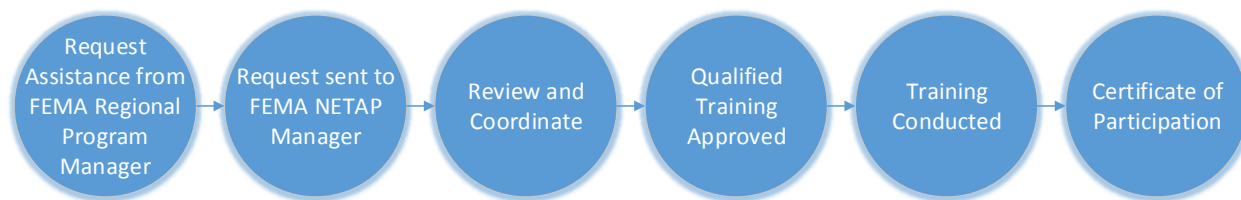
A Toolkit for Regional and State Earthquake Program Managers

September 2014



**FEMA**





## WHAT IS NETAP?

In accordance with the Earthquake Hazards Reduction Act of 1977 (Public Law 95–124) and the National Earthquake Hazards Reduction Program (NEHRP) Reauthorization Act of 2004 (Public Law 108–360), it is the responsibility of the Federal Emergency Management Agency (FEMA) to support the implementation of a comprehensive earthquake education and public awareness program, including development of materials and their wide dissemination to all appropriate audiences and support public access to locality-specific information that may assist the public in reducing earthquake risk.

**FEMA developed the National Earthquake Technical Assistance Program (NETAP) as a mechanism for delivering direct assistance to the public through State, local, or tribal government entities, to increase their knowledge and ability to analyze their risk, make a plan, and take actions aimed at reducing their earthquake risk and supporting overall community resilience.**

**NETAP is not a grant or cooperative agreement program, but rather a contract managed by FEMA to rapidly deploy specific assistance to organizations and communities.**

NETAP is designed to help State, local, and tribal governments and non-profit and private sector organizations obtain the knowledge, tools, and technical assistance to effectively implement local earthquake risk reduction initiatives. NETAP provides several different types of assistance, described on page 3.

## HOW TO GET NETAP ASSISTANCE

The process for obtaining NETAP assistance is described in the following steps:



### 1. Identify Need and Request Assistance.

Applicants are required to complete the NETAP Assistance Request form (pdf) with the type of assistance needed, the purpose or objectives, scope (e.g., timing, location, estimated cost), anticipated number of participants, and the primary point(s) of contact. A list of available assistance is provided [here](#). Requests should be prepared in consultation with the [FEMA Regional Earthquake Program Manager](#) or other State official with responsibility for earthquake risk reduction.



### 2. Communicate Request.

The [FEMA Regional Earthquake Program Manager](#) works closely with the [NETAP Manager at FEMA Headquarters](#). Because NETAP is a national contract, immediate coordination with FEMA Headquarters is necessary to ensure timely planning and approval of the request.



### 3. Review and Coordination.

The [FEMA NETAP Manager](#), in collaboration with the [FEMA Regional Earthquake Program Manager](#), reviews the training request. Further discussion may be needed with the requestor to clarify anything that is unclear, and to provide guidance on technical information about the available trainings.



### 4. Approval.

Based on the review and coordination process, a final decision is made by the [FEMA NETAP Manager](#) based on program funding and priorities, target outcomes and benefits of the request, and other relevant factors such as local earthquake risk, capacity of the requesting organization to execute the proposal in partnership with FEMA, and how well the assistance aligns with local hazard mitigation plans.



Training  
Conducted

#### 5. Delivery.

If approved, the [FEMA NETAP Manager](#), through the NETAP Contractor, the Applied Technology Council (ATC), deploys approved contract resources in collaboration with the [FEMA Regional](#) and [State Earthquake Program](#) Managers (and the requesting organization, if it is not the State).



Training  
Evaluation

#### 6. Performance Reporting.

Immediately after the implementation of the NETAP training or other type of assistance, the [FEMA Regional](#) or [State Earthquake Program Manager](#) (or requesting organization) submits a written report on progress or final accomplishments. If NETAP assistance provided was in-person training, the contracted instructor will collect completed evaluation forms from participants.



Certificate of  
Participation

#### 7. Certificate of Participation.

Upon request, the primary point(s) of contact, or the [FEMA Regional](#) or [State Earthquake Program Manager](#) or other State official, may request Certificates of Participation for training participants. In order to prepare certificates, the primary point(s) of contact must provide a database of participants in Microsoft Word or Excel format to the NETAP Contractor. Webinar participants may request a Certificate of Participation via e-mail to the primary point of contact.

## WHAT IS INCLUDED IN NETAP ASSISTANCE?

NETAP program provides [in-person and webinar trainings](#), [technical assistance](#), [tools development](#), and [special project support](#).

### Training

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NETAP provides trainings and associated materials, available for in-person presentation, webinar, or independent study. Topics pertain to a variety of earthquake risk reduction activities and stakeholders.

When the assistance consists of trainings presented to local groups, NETAP typically pays for the salary and travel expenses of an approved instructor and for any educational materials used

by the students and instructor. The State or local government requesting the training, in cooperation with any partnering organizations, is responsible for local logistical requirements (e.g., meeting space, audio/visual equipment, refreshments, recruitment and registration of students).

Some training programs are conducted in webinar format, in an effort to maximize the number of participants at a lower cost. Webinars presented by NETAP are free of charge. A copy of the webinar speaker's presentation will be available for download by participants at the webinar site.

### **Technical Assistance**

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NETAP provides technical advice and shared expertise that help local communities design, develop, and implement earthquake risk reduction projects.

### **Tools Development**

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NETAP provides assistance in developing job aids and other tools that facilitate efficient and effective implementation of earthquake risk reduction efforts.

### **Special Project Support**

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Local earthquake mitigation projects or other original, unique, or replicable earthquake risk reduction initiatives may be funded under NETAP as a special project. Support is dependent on funding availability and the benefits and outcomes of the proposed project. A special project shall not only provide local benefits, but also potentially contribute or support national level National Earthquake Hazards Reduction Program (NEHRP) efforts, such as guidance development, standards. Further, such special projects also need to demonstrate a local commitment and contribution towards the end goal of reducing future losses. For example, FEMA has funded the rapid visual screening of a specific population of buildings, such as emergency response facilities. Following the screening, the local government has committed to funding the retrofit of those buildings found to be seismically hazardous.

When developing tools or providing special project or technical assistance, NETAP normally delivers or funds the delivery of some portion of the expertise or support required. The respective contributions of FEMA, State or local governments, and other involved organizations are established through ad hoc negotiations.

## AVAILABLE NETAP COURSES

Table 1 below provides an overview of available training courses and their duration. Some trainings are available both in-person and webinar format, and some trainings are only available in one, as indicated in the table. Please note that at least one webinar will be conducted on each course when it is indicated available. Depending on attendance and requests, additional occurrences of webinars may be scheduled.

**Table 1 List of NETAP Training Courses**

Course Number	Course Title	In Person Training Duration	Webinar Duration
FEMA E-74	Reducing the Risks of Nonstructural Earthquake Damage	Close to 6 hrs. with class exercise	1.5 hrs.
FEMA E-74 and FEMA P-909	Reducing the Risks of Nonstructural Earthquake Damage and Train the Trainer: Home and Business Earthquake Safety and Mitigation	8 hours	N/A
FEMA 232	Homebuilders' Guide to Earthquake-Resistant Design and Construction	6 hours	N/A
FEMA 395	Earthquake Safety and Mitigation for Schools	Up to 4 hours	1.5 hrs.
FEMA P-50 and FEMA P-50-1	Simplified Seismic Assessment of Detached, Single-Family, Wood-Frame Dwellings	6 hrs.	N/A
FEMA P-58	Seismic Performance Assessment of Buildings	N/A	Two 1.5-hr sessions
FEMA P-154 and ATC-20	Rapid Visual Screening of Buildings for Potential Seismic Hazards (Third Edition) and Postearthquake Safety Evaluation of Buildings	8 hours	N/A
FEMA P-154 and ROVER	Rapid Visual Screening of Buildings for Potential Seismic Hazards (Third Edition), and Rapid Observation of Vulnerability and Estimation of Risk	6 hours	N/A
FEMA P-154, ATC-20, and ROVER	Rapid Visual Screening of Buildings for Potential Seismic Hazards (Third Edition), Postearthquake Safety Evaluation of Buildings, and Rapid Observation of Vulnerability and Estimation of Risk	2 days	N/A
FEMA P-593	Seismic Rehabilitation Training for One- and Two-Family Wood-Frame Dwellings	6 hours	N/A
FEMA P-646	Guidelines for Design of Structures for Vertical Evacuation from Tsunamis	N/A	1.5 hrs.
FEMA P-749	Earthquake-Resistant Design Concepts: An Introduction to the NEHRP Recommended Seismic Provisions for New Buildings and Other Structures	8 hours	N/A
FEMA P-767	Earthquake Mitigation for Hospitals	8 hours	N/A
FEMA P-807	Seismic Evaluation and Retrofit of Multi-Unit Wood-Frame Buildings with Weak First Stories	N/A	1.5 hrs.
FEMA P-909	Train the Trainer: Home and Business Earthquake Safety and Mitigation	4 hours	N/A
FEMA P-1019	Emergency Power Systems for Critical Facilities	N/A	1.5 hrs.



Table 2 below provides information on the target audience for each course. The information in the table is not meant to limit participation, but is provided for guidance purposes only.

**Table 2 Matrix of User Interest**

Training	Architects	Building Officials	Building Owners	Business Owners	Contractors	Emergency Managers	Engineers	Facility Managers	Home/Property Owners	Risk Analysts	School Administrators	Volunteers / General Public
FEMA E-74	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
FEMA E-74 and FEMA P-909			✓	✓		✓			✓			✓
FEMA 232	✓	✓	✓		✓		✓		✓			
FEMA 395							✓	✓			✓	
FEMA P-50 and FEMA P-50-1	✓	✓	✓	✓	✓		✓		✓			
FEMA P-58							✓			✓		
FEMA P-154 and ATC-20	✓	✓	✓			✓	✓	✓	✓		✓	✓
FEMA P-154 and ROVER	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓
FEMA P-154, ATC-20, and ROVER	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓
FEMA P-593	✓	✓		✓	✓	✓	✓					✓
FEMA P-646		✓				✓	✓					✓
FEMA P-749	✓	✓					✓	✓				
FEMA P-767	✓	✓	✓			✓	✓	✓		✓		
FEMA P-807		✓					✓					
FEMA P-909			✓	✓		✓			✓			✓

## **DESCRIPTION OF IN-PERSON NETAP COURSES**

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### **FEMA E-74, *Reducing the Risks of Nonstructural Earthquake Damage* (In-Person And Live Webinar Training)**

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The training on FEMA E-74, *Reducing the Risks of Nonstructural Earthquake Damage*, describes the sources of nonstructural earthquake damage and effective methods of reducing such damage. Nonstructural failures have accounted for the majority of damage in several recent U.S. earthquakes. It is critical to raise awareness of potential nonstructural hazards, the costly consequences of nonstructural failures, and the opportunities that exist to limit future losses. Nonstructural components of buildings include all elements that are not part of the structural system; that is, the architectural, mechanical, electrical, and plumbing systems, as well as furniture, fixtures, equipment, and other contents.

Materials provided for the training include:

- FEMA E-74 report, *Reducing the Risks of Nonstructural Earthquake Damage*, (pdf format electronic copy, on CD-ROM)

The FEMA E-74 report may be accessed at no cost at the following link:

<http://www.fema.gov/plan/prevent/earthquake/fema74/index.shtm>

### **FEMA 232, *Homebuilders' Guide to Earthquake-Resistant Design and Construction***

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The training on FEMA 232, *Homebuilders' Guide to Earthquake-Resistant Design and Construction*, presents seismic design and construction guidance for one- and two-family light-frame residential structures, including information that supplements the 2003 edition of the *International Residential Code*. The FEMA 232 report may be used by homebuilders, homeowners, and other non-engineers.

The FEMA 232 report may be downloaded at the following link:

<http://www.fema.gov/library/viewRecord.do?id=2103>

### **FEMA 395, *Earthquake Safety and Mitigation for Schools* (Live And Pre-Recorded Webinar Training)**

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The FEMA 395 training on *Earthquake Safety and Mitigation for Schools* is for school officials, teachers, facility managers, and other stakeholders interested in reducing earthquake risks in local schools. Numerous school buildings located in multiple States and U.S. territories are vulnerable to earthquake damage that threatens safety and continued operations. In this



training, participants learn how to: (1) assess and analyze seismic risks; (2) develop actionable plans for reducing and managing these risks; (3) secure nonstructural elements of school facilities; and (4) use “incremental seismic rehabilitation” as an affordable approach for protecting existing buildings and ensuring occupant safety. This training is typically offered in webinar format, but could be combined with other in-person trainings.

The FEMA 395 report may be downloaded from the following link:

<https://www.fema.gov/library/viewRecord.do?id=1980>

A pre-recorded webinar of the FEMA 395 training may be viewed at the following link:

<https://fema.connectsolutions.com/p13135639/?launcher=false&fcsContent=true&pbMode=normal>

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### **FEMA P-50, Simplified Seismic Assessment of Detached, Single-Family, Wood-Frame Dwellings, and FEMA P-50-1, Seismic Retrofit Guidelines for Single-Family, Wood-Frame Dwellings**

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The training on the FEMA P-50 report, *Simplified Seismic Assessment of Detached, Single-Family, Wood-Frame Dwellings*, provides instruction on inspection procedures and use of a four-page Simplified Seismic Assessment Form to evaluate detached single-family wood-framed dwellings and to assign to each a seismic performance grade. The procedure takes into consideration the potential for damage or collapse in a manner that is consistent and useful to owners, purchasers, insurers, lenders, contractors, design professionals, and regulatory officials. The training on the FEMA P-50-1 report, *Seismic Retrofit Guidelines for Single-Family, Wood-Frame Dwellings*, provides specific guidance for retrofitting a dwelling’s seismic deficiencies, as identified using the FEMA P-50 procedure.

Materials provided for the training include:

- FEMA P-50 report, *Simplified Seismic Assessment of Detached, Single-Family, Wood-Frame Dwellings*
- FEMA P-50-1 report, *Seismic Retrofit Guidelines for Single-Family, Wood-Frame Dwellings*

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### **FEMA P-154, Rapid Visual Screening of Buildings for Potential Seismic Hazards**

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In this course, participants learn how to identify potentially hazardous buildings before earthquakes occur, according to the methodology set forth in the Third Edition of FEMA P-154, *Rapid Visual Screening of Buildings for Potential Seismic Hazards*. The training covers methods and processes that enable personnel to rapidly screen buildings for their expected safety and usability during and after earthquakes. Local officials can use these data to plan and prioritize

further engineering and vulnerability analysis, emergency–response needs, and mitigation projects. Please note that the Third Edition document will be completed by October 2014, and includes an additional level of screening form, as well as many other enhancements.

Materials provided for the training include:

- FEMA P–154 report, *Rapid Visual Screening of Buildings for Potential Seismic Hazards* (pdf format electronic copy, on CD–ROM)

The link to download the free FEMA P–154 report will be provided at a later time.

### ***ATC–20, Postearthquake Safety Evaluation of Buildings***

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In this course, participants learn how to evaluate the safety of buildings following earthquakes. Trainees learn how to perform seismic inspections and safety evaluations of buildings, and to post appropriate safety–status placards. These evaluations and placards can be used in planning and executing evacuation, re–entry, and rebuilding strategies. Please note that the ATC–20 training course can only be obtained under NETAP in conjunction with FEMA 154 or ROVER.

Materials provided for the training include:

- ATC–20–1 *Field Manual: Postearthquake Safety Evaluation of Buildings (Second Edition)* (hard copy). Additional copies of the ATC–20–1 *Field Manual: Postearthquake Safety Evaluation of Buildings (Second Edition)* may be ordered at the following link:  
<https://www.atcouncil.org/onlinestore.html>

### ***Rapid Observation of Vulnerability and Estimation of Risk (ROVER)***

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In this course, participants learn how to utilize *Rapid Observation of Vulnerability and Estimation of Risk* (ROVER). ROVER is open–source software that automates the paper–based screening procedures documented in the Second Edition of FEMA 154, *Rapid Visual Screening of Buildings for Potential Seismic Hazards*, published in 2002. Building–specific data are entered into ROVER in the field via smartphones and other devices that have GPS capability, and are aggregated in a PC–based data server. ROVER includes many productivity–enhancing features, such as automated geolocation, integrated digital photography and sketching capabilities, and automated retrieval of site–specific soil and hazard data from U.S. Geological Survey maps.

Materials provided for the training include:

- ROVER CD, *Rapid Observation of Vulnerability and Estimation of Risk* (ROVER) software (electronic copy, on CD-ROM)

Additional information about ROVER may be downloaded at no cost at the following link:

<http://www.fema.gov/plan/prevent/earthquake/rover.shtm>

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### **FEMA P-593, *Seismic Rehabilitation Training for One- and Two-Family Wood-Frame Dwellings***

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The training on FEMA P-593, *Seismic Rehabilitation Training for One- and Two-Family Wood-Frame Dwellings*, promotes seismic retrofitting of one- and two-family homes to reduce earthquake damage and increase postearthquake habitability. Participants are introduced to the effects of earthquakes on wood-frame dwellings, common seismic vulnerabilities in these structures, retrofitting approaches, and available retrofitting guidelines.

Materials provided for the training include:

- FEMA P-593 report, *Seismic Rehabilitation Training for One- and Two-Family Wood-Frame Dwellings* (electronic pdf format, on CD-ROM)
- The FEMA P-593 report may be downloaded at no cost at the following link:  
<http://www.fema.gov/library/viewRecord.do?id=4554>

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### **FEMA P-749, *Earthquake-Resistant Design Concepts: An Introduction to the NEHRP Recommended Seismic Provisions for New Buildings and Other Structures***

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Training on the FEMA P-749 report, *Earthquake-Resistant Design Concepts: An Introduction to the NEHRP Recommended Seismic Provisions for New Buildings and Other Structures* (a companion guide to the 2009 edition of the NEHRP Recommended Seismic Provisions for New Buildings and Other Structures (FEMA P-750)), has been designed to encourage design and construction practices that address earthquake hazard and minimize the resulting risk to life and property. Understanding the basis for the seismic regulations in the nation's building codes and standards is important to those outside the technical community including elected officials, decision-makers in the insurance and financial communities, and individual building or business owners and other concerned citizens. The intent of this training is to provide interested individuals with an easily understandable explanation of the intent and requirements of seismic design in general and the Provisions in particular.

- The FEMA P-749 report may be downloaded at the following link:  
<http://www.fema.gov/library/viewRecord.do?id=4711>

## **FEMA P-767, *Earthquake Mitigation for Hospitals***

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The FEMA P-767, *Earthquake Mitigation for Hospitals*, training introduces participants to earthquake hazards in healthcare settings and methods that can be used to analyze and reduce risks of damage in hospitals and other medical buildings. Such facilities have unique nonstructural components, including equipment and infrastructure systems that can become sources of injury or damage even during smaller earthquakes. By implementing sound, cost-effective mitigation measures, healthcare facilities can reduce seismic risks and ensure that, in the event of an earthquake, they can remain in operation to serve their communities.

Materials provided for the FEMA P-767 training include:

- FEMA P-767 training PowerPoint presentation report (hard copy)
- FEMA 396 report, *Incremental Seismic Rehabilitation of Hospital Buildings* (electronic pdf format, on CD-ROM)

The FEMA P-396 report may be downloaded at the following link: <http://www.fema.gov/media-library/assets/documents/5167?id=1981>

In conjunction with the FEMA P-767 materials, the FEMA E-74 report is also provided, and is available at the following link:

<http://www.fema.gov/plan/prevent/earthquake/fema74/index.shtm>

## **FEMA P-909, *Train the Trainer: Home and Business Earthquake Safety and Mitigation***

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The goal of the FEMA P-909, *Train the Trainer: Home and Business Earthquake Safety*, course is creating a cadre of trainers with the ability to provide citizens with basic knowledge on earthquakes and simple steps toward safety and mitigation in their homes and businesses with the goal to reduce the loss of life and property from an earthquake. This course includes a demonstration how seismic mitigation of a water heater and other vulnerable components.

Materials provided for the training include:

- FEMA P-909 CD-ROM, *Train the Trainer: Home and Business Earthquake Safety*

## **DESCRIPTION OF NETAP WEBINAR COURSES**

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### **FEMA P-58, Seismic Performance Assessment of Buildings**

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This webinar series provides an overview of the FEMA P-58, *Seismic Performance Assessment of Buildings* methodology and demonstrates an implementation of the Performance Assessment Calculation Tool (PACT) that was developed under the ATC-58-1 project. Both webinars in the series must be attended in order to obtain PDH credit)

The following materials will be provided for download:

- Webinar presentation slides (PDF format)
- FEMA P-58 CD-ROM, *Seismic Performance Assessment of Buildings*

### **FEMA P-646, Guidelines for Design of Structures for Vertical Evacuation from Tsunamis**

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This webinar provides an overview of the design guidance provided in FEMA P-646, *Guidelines for Design of Structures for Vertical Evacuation from Tsunamis*, which includes procedures for siting of a vertical evacuation structure. The webinar also includes an informative session about the first tsunami vertical evacuation structure currently under construction in Washington State.

The following materials will be provided for download:

- Webinar presentation slides (PDF format)
- FEMA P-646 report (PDF format)

### **FEMA P-807, Seismic Evaluation and Retrofit of Multi-Unit Wood-Frame Buildings with Weak First Stories**

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This webinar provides an overview of the methodology for design provided in FEMA P-807, *Seismic Evaluation and Retrofit of Multi-Unit Wood-Frame Buildings with Weak First Stories*, and a demonstration of the design aid Weak Story Tool (WST) provided with FEMA P-807. The following materials will be provided for download:

- Webinar presentation slides (PDF format)
- FEMA P-807 report (PDF format)

## **FEMA P-1019, Emergency Power Systems for Critical Facilities**

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This webinar provides an overview of the FEMA P-1019, *Emergency Power Systems for Critical Facilities*, report that contains guidance on the design and operation of emergency power systems in critical facilities that will be relied upon for extended periods.

The following materials will be provided for download:

- Webinar presentation slides (PDF format)

## **INDEPENDENT STUDY COURSES**

FEMA also provides an Independent Study Program. A complete list of courses is available at the following link: <http://training.fema.gov/IS/crslist.aspx?all=true>

Training materials sought for independent study can be obtained free of charge through the online FEMA Library unless otherwise indicated within the training listings. The FEMA Library website is available at the following link: <http://www.fema.gov/plan/prevent/earthquake/publications.shtm>

## **OTHER FEMA EARTHQUAKE-RELATED TRAINING**

Earthquake training resources funded under NETAP are listed on pages 23-27 of the FEMA P-736A, *Catalog of FEMA Earthquake Resources*, and may be viewed and downloaded from the following link: <http://www.fema.gov/library/viewRecord.do?id=3538>