

FEMA FACT SHEET

Disaster Recovery Reform Act and Earthquake Early Warning Systems

Fact sheet to explain how Section 1233 of the Disaster Recovery Reform Act of 2018 is implemented under the Hazard Mitigation Assistance grant programs. Additional Hazard Mitigation Assistance grant programs information can be found in the HMA Guidance.¹

Background

On October 5, 2018, the President signed into law the Disaster Recovery Reform Act (DRRA) of 2018 as part of the Federal Aviation Administration Reauthorization Act of 2018. DRRA Section 1233 amends Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), which authorizes funding for earthquake risk reduction activities under the Hazard Mitigation Grant Program (HMGP) and Building Resilient Infrastructure and Communities Program (BRIC).²

Specifically, DRRA Section 1233 revised the Stafford Act by adding a new Section 404(g) to allow recipients of hazard mitigation assistance to leverage such funding to support building capability for earthquake early warning (EEW) systems. EEW systems use seismic instrumentation to monitor seismic activity in real time to detect significant earthquakes near the source and transmit those signals to a seismic monitoring network that can quickly send out a warning to alert people within the region before shaking arrives. Section 404(g) lists three categories of activities that support building capability for EEW: 1) regional seismic networks; 2) geodetic networks; and 3) seismometers, Global Positioning System receivers, and associated infrastructure.³

Activities Available for Hazard Mitigation Assistance Funding

At this time, FEMA will consider proposals to fund the purchase and installation of seismometers, Global Positioning System (GPS) receivers, and the associated infrastructure (i.e., telemetry and signal processing) as needed to build additional capability for existing EEW systems designed as part of the Advanced National Seismic System (ANSS) under both HMGP and BRIC (Figure 1). The HMA programs require mitigation activities to be effective in providing a long-term solution⁴. For seismometers, GPS receivers and associated infrastructure to be effective, they must be part of a system that enables end user notification. FEMA, in consultation with the USGS, determined the ANSS *ShakeAlert* system is the only system which currently enables end user notification. Currently, the ANSS *ShakeAlert* system is

¹ Hazard Mitigation Assistance Guidance (published February 27, 2015)

² Building Resilient Infrastructure and Communities (BRIC) will be replacing PDM in fall 2020. DRRA Section 1234 amended Section 203 of the Stafford Act, authorizing this new program.

³ Section 203 of the Stafford Act (42 U.S.C. § 5133); Section 404 of the Stafford Act (42 U.S.C. § 5170c)

⁴ 44 C.F.R. 206.434(c)(4)



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being cooperatively built as the USGS and State EEW system for California, Oregon, and Washington.⁵ Seismic and geodetic sensors and the infrastructure necessary to transmit the signal to a network funded under HMGP or BRIC must be integrated into an existing operational earthquake monitoring network. Additionally, the data from these sensors must be freely available to the public. Under DRRA Section 1233, FEMA will not fund operations or maintenance costs for support of a network or EEW system operations. Additional earthquake risk reduction activities already eligible under the current Hazard Mitigation Assistance (HMA) Guidance (2015), including seismic retrofits, remain eligible.

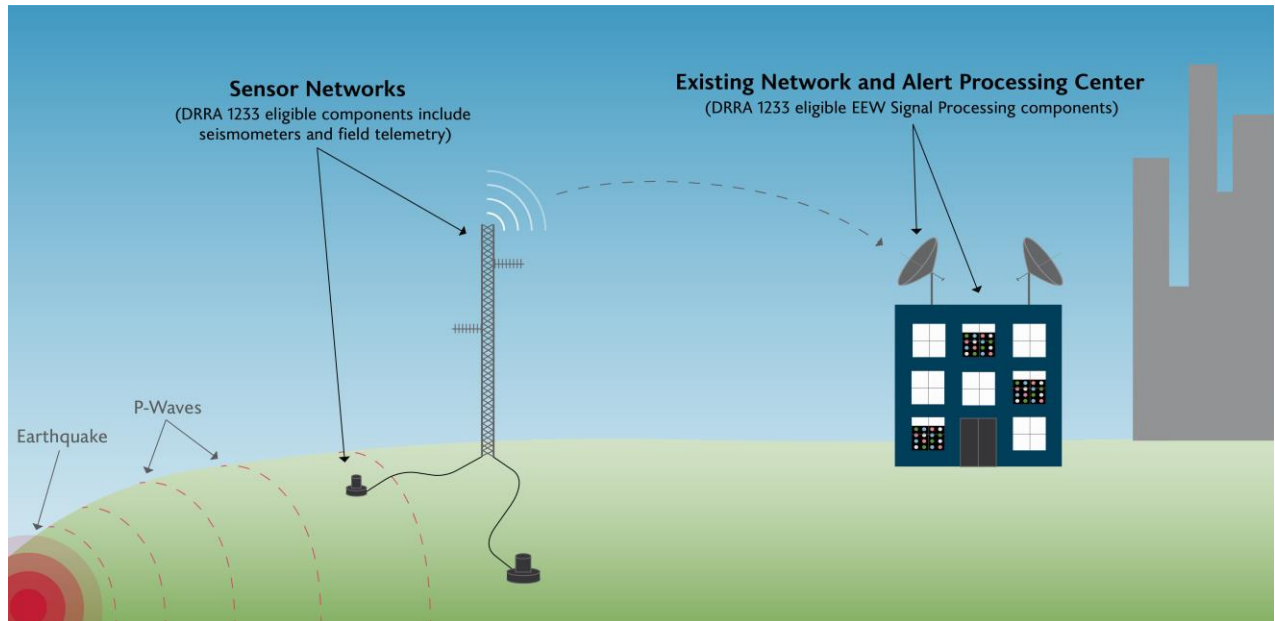


Figure 1. FEMA will fund components, such as sensor networks and existing network and alert processing centers, needed to provide additional capability for existing EEW systems designed as part of the Advanced National Seismic System (ANSS).

Interim Application Guidance

FEMA is coordinating with the US Geological Survey (USGS) and other key stakeholders to determine how to document and evaluate EEW instrumentation projects. In the interim, FEMA is accepting EEW project applications under both HMGP and BRIC, which will be evaluated on a case-by-case basis for technical feasibility, cost-effectiveness and other program requirements. Subapplications will need to clearly demonstrate how the proposed activities will integrate into operational monitoring networks (i.e., ANSS ShakeAlert EEW) to build additional EEW capability and help to reduce risk from earthquakes, and a traditional benefit-cost analysis will not be needed. To ensure the appropriate information is contained in the HMA application, applicants are strongly encouraged to consult with their FEMA Region to determine the appropriate level of data needed to submit an EEW subapplication.

⁵ US Geological Survey *Revised Technical Implementation Plan for the ShakeAlert system—An Earthquake Early Warning System for the West Coast of the United States* (2018). Available at: <https://pubs.er.usgs.gov/publication/ofr20181155>.