

Federal Emergency Management Agency

Washington, D.C. 20472

MEMORANDUM FOR: All FEMA Regional Directors

ATTENTION: DAP Chiefs

FROM: Grant C. Peterson
Associate Director
State and Local Programs and Support

DATE: 07-FEB-92

SUBJECT: Guidance on the Eligibility of Equipment Purchases for Emergency Management Operations Under the Hazard Mitigation Grant Program.

This memorandum clarifies existing policy on funding warning systems, emergency power generators, and other similar equipment purchases under the Hazard Mitigation Grant Program (HMGP), which is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988. This guidance follows a meeting of Headquarters Hazard Mitigation Branch staff with FEMA Region IV representatives, and consultation with representatives of other regional offices who frequently are asked to fund emergency operations equipment. It appears that there is confusion about the types of projects that are intended to be funded under the HMGP. For example, without regard for other mitigation alternatives, FEMA has been asked to fund warning systems and sirens, communications systems including new radio/telephone equipment with battery reserves, enhanced computer hardware, electronic wiring networks, emergency power generators, and the remodeling of emergency operating centers, including the installation of elevators for the handicapped. Many of these projects cannot be funded under the HMGP for reasons discussed in this memorandum.

The funding of such emergency operations equipment does not generally fit within the concept of mitigation as defined within the HMGP. Such projects would therefore not typically be an eligible project under the HMGP. This memorandum discusses the rationale behind the HMGP's approach to emergency operations equipment, and provides guidance on such equipment purchases. The memorandum is divided into three parts. Part One clarifies the meaning of "hazard mitigation" as it is used under the HMGP. Part Two provides guiding principles for project approval based on the intent and purpose of the HMGP. Part Three gives examples of linkages between hazard mitigation projects and equipment purchases. While the scope of this memorandum is limited to the purchase of emergency operations equipment, it also applies in principle to other similar mitigation proposals.

A task force with representatives from the National Emergency Management Association (NEMA) and the Association of State Floodplain Managers (ASFPM) is assisting FEMA to evaluate the HMGP, including issues of project eligibility. That task force is part of a long-range effort to evaluate the HMGP and suggest policy, procedural, or regulatory changes that will improve implementation of the HMGP. While that effort is underway, FEMA will continue to provide guidance and clarification of existing policy. Additional guidance is in the process of being developed on cost-effectiveness and environmental requirements of the HMGP.

Part One: Definition of Hazard Mitigation

The term “hazard mitigation” has a specific meaning within the context of the HMGP. Hazard mitigation is defined as an action intended to reduce repetitive losses from future natural disasters. Repetitive loss refers to life, injury, and property damage where the loss results not only in personal suffering but also in local, State, and Federal government expenditure for disaster preparedness, response and recovery operations. Therefore, a project is a hazard mitigation project if it is directed toward reducing future disaster relief expenditures for the repair or replacement of public and private property, and expenditures for the relief of personal loss, hardship, and suffering.

In one sense, “hazard mitigation” permeates everything the field of emergency management tries to do. For example, a warning system designed to alert people that flooding is imminent is considered a mitigation measure by many emergency managers. However, within the context of the HMGP, mitigation measures are those projects that reduce the risk of repetitive loss and hardship so that the cost of response and recovery will be less in the future. They are not measures that simply prepare individuals or communities to respond to a threat.

This definition of hazard mitigation is consistent with the intent of Congress as found in official records and stated just prior to passage of the Stafford Act in 1988. For example, Congressman Ridge of Pennsylvania explained:

[Section 404 of the Act will provide incentives] to individuals and State and local governments to encourage them to perform hazard mitigation measures. Such measures can help save lives and personal property and will help to protect the Federal disaster fund from being used twice to repair the same damage in future disaster situations. (134 Cong. Rec. H10, 851 (1988) [Emphasis added].

The eligibility criteria of the HMGP, as found in 44 CFR 206, Subpart N, are designed to assure that Congressional objectives are met. Funds are approved under the HMGP only for projects that have the greatest potential for reducing future disaster expenditures in the affected area.

This means that where the preparedness phase of emergency management identifies a need for operations equipment, the HMGP stresses the application of funds for projects that would lessen the need for operations equipment. For example, rather than funding a warning system that might merely alert residents that flooding is imminent (as described above), the HMGP seeks to fund projects that would relocate or elevate buildings within a flood hazard area, provide structural protection from flooding, or adopt and enforce better codes to ensure future protection. Project

proposals must be analyzed to determine their true potential as mitigation projects relative to other projects that might provide a more effective or longer-term solution to the problem.

Another important point relative to project eligibility is that HMGP regulations prohibit the use of grant funds as substitute or replacement financing for projects that are ordinarily provided for by other programs. The reason for this is simple. It was never intended that the HMGP would fund all emergency management needs identified in the wake of a natural disaster. HMGP funds cannot be used to fill the gap that may be created because other programs are not sufficiently funded to meet the total demand. FEMA administers programs that support emergency operating centers, warning and communications systems, maintenance and services, and the Emergency Broadcast System. The HMGP is not designed nor intended to fill funding gaps within those programs.

Part Two: Guiding Principles for Funding Operations Equipment

Funding priority should be accorded those projects that have the greatest potential for reducing future disaster relief expenditures and relief of personal loss, hardship, and suffering. Therefore, the first step in evaluating a proposed mitigation project is to answer these questions:

- (1) Is the project the most practical and promising alternative after consideration of a range of options?
- (2) Is there a direct and clear relationship to reducing damages to public and/or private property?
- (3) Will the project result in lessening expenditures and personal loss, hardship, and suffering?

If the proposed project passes this basic test of eligibility, it must be demonstrated, in addition, that it satisfies the remaining eligibility criteria of the HMGP, as found in 44 CFR 206, Subpart N. These criteria are:

- (1) A project must conform to the State hazard mitigation plan required under Section 409 of the Stafford Act;
- (2) have a beneficial impact upon the designated disaster area;
- (3) conform to floodplain management and environmental considerations;
- (4) solve a problem independently or as a functional part of a solution reasonably guaranteed to be completed; and,
- (5) be cost-effective and substantially reduce the risk of future damages, hardship, loss, and suffering.

Specific guidance on cost-effective evaluation is in the process of being developed. Generally, cost-effective evaluations require an assessment of risk and assigning values to the many factors affecting a project. In addition, whether an individual project is judged cost-effective depends on

the results of comparison to a range of potential mitigation actions that might be taken in the disaster area.

Part Three: Application of Guiding Principles

The following discussion provides examples of eligible and ineligible mitigation measures for emergency operations equipment under the HMGP. In all cases a project application that includes emergency operations equipment must be cleared through other FEMA program offices, e.g., the Regional Emergency Management and National Preparedness Division and/or the Natural and Technological Hazards Division, to obtain appropriate technical review of the application and to prevent the use of HMGP funds as substitute funding for other program funds.

Emergency Operating Centers: The HMGP would fund the relocation or floodproofing, or seismic retrofit, of an emergency operating center in the interest of a comprehensive mitigation strategy adopted by a community. HMGP funds are not appropriately used to increase operational capability or modernize equipment. Hazard mitigation rather than enhanced preparedness capability must be the key objective of a project. For example, a project aimed only at modernizing communications with state-of-the-art equipment and remodeling to gain room space is not an eligible hazard mitigation project under the HMGP.

Emergency Power Generators: For serious funding consideration, a power generator project must constitute, minimally, a cost-effective and important part of a total solution after considering a range of mitigation options. For example, emergency power may be cost-effective for a critical public facility such as the pumping apparatus of a sewer treatment plant because failure of such a facility could endanger health and property. However, a project that offers a total solution to widespread power outages is more likely to meet the criteria for funding under the HMGP. For example, it would be more appropriate to fund emergency generators to critical facilities as a short-term solution to the problem if there is evidence that the community is also cooperating with appropriate State and Federal agencies to install secure utility lines to withstand natural disasters in the area.

The reason for this approach to emergency generators is clear. Emergency generators alone do not solve the problem of reducing the likelihood of repetitive power outages which are the consequence of old or poorly designed and maintained utility systems. The mere funding of an emergency generator in such a setting without a companion effort to improve the utility system by installing secure power lines to critical facilities, for example, is a short-term solution that has no potential for correcting the problem of power outages in a natural disaster.

Warning Systems: The regulations of the HMGP state that warning systems are eligible for funding. It should be understood, however, that such systems must still satisfy all program eligibility criteria to be approved for funding. This means that among other criteria, a warning system must be the best solution after consideration of a range of alternatives. Frequently, warning systems are proposed without considering other solutions, such as property acquisition and relocation, development and redevelopment policies and priorities in the endangered area, or structural measures such as flood walls.

Generally, a warning system would not be selected under the HMGP as the best mitigation alternative because longer-term, more comprehensive mitigation solutions should be sought. If a warning system were to be found eligible, it would have to include reduction of loss to life and property as an essential component of the project. Therefore, equipment purchases alone would not be funded under the HMGP. A warning system must include, in addition to equipment, awareness, evacuation exercise, and maintenance programs. The absence of these mitigation components would mean that the likelihood of damages, hardship, and suffering is not being reduced.

For guidance on developing or improving a warning system, for example, see the Federal Insurance Administration's guidance on the Community Rating System (CRS), Section 610, Flood Warning Program (Attachment A). At a minimum, flood warning systems should meet these criteria when reviewing proposed equipment purchases for warning systems. The CRS guidance incorporates four components: (1) A flood threat recognition system to detect impending floods; (2) a system to tell people that a flood is coming; (3) regular maintenance and testing of equipment and practice drills; and (4) a public information program to advise people about the warning system and what to do when a flood comes. Warning systems must be carefully evaluated on a case-by-case basis to ensure that they are the most cost-effective and appropriate solution to the problem at hand. FEMA's Civil Preparedness Guides (CPG series) also offer general guidance on warning systems.

Summary

The HMGP was designed to provide a new and independent means of funding post-disaster mitigation measures. But, by law, this program was carefully crafted to support the comprehensive State and local mitigation plans and programs required under Section 409 of the Stafford Act. Therefore, State and local governments should strive to evaluate the full range of mitigation measures available, and to select the best and most cost-effective mitigation measures within the context of these comprehensive plans and programs. FEMA encourages States and local governments to establish and actively utilize mitigation teams, comprised of key agencies involved in planning, development, and emergency management, to assist in the identification of these measures and alternatives. FEMA's goal is to provide guidance and technical assistance necessary to help State and local governments achieve this end.

I trust that this memorandum will help to clarify existing policy on the eligibility of emergency operations equipment under the Hazard Mitigation Grant Program. If you should have questions about this guidance, please contact Gary L. Sepulvado of the Hazard Mitigation Branch at (202) 646-3355.

Attachment

FLOOD PREPAREDNESS

610 FLOOD WARNING PROGRAM:

Credit is provided for a program which provides timely identification of impending flood threats, disseminates warnings to appropriate floodplain occupants, and coordinates flood response activities.

Background: With sufficient warning of a flood and a plan of action to minimize its impact, floodplain occupants can take protective measures such as moving furniture, cars and people out of harm's way. When a flood threat recognition system is combined with an emergency response plan designated for floods, a great deal of flood damage can often be prevented.

The National Weather Service issues flood warnings for specific locations along major rivers. A small, but growing number of communities have flood threat recognition systems that can provide advance notice of flooding on small rivers. Even fewer have effective plans for disseminating warnings and taking emergency response actions. Other flood damage reduction activities, such as retrofitting projects which require human intervention, need timely and accurate flood forecasts.

Activity Description: The community must be able to issue a flood warning at least one-half hour before floodwaters isolate buildings. National Weather Service review and comment on the flood warning program is required.

A flood warning program has the following components:

1. A flood threat recognition system to perceive impending flooding;
2. A system to tell people that a flood is coming;
3. Regular maintenance and testing of equipment and practice drills; and
4. A public information program to advise people about the warning system and what to do when a flood comes.

Under this activity there is no separate credit for each component. In order for a flood warning program to work, a community must demonstrate that all four components are implemented in accordance with the criteria listed in Sections 611 and 612.

The warning program must include a system to disseminate the flood warning to floodplain residents. At least once each year the system must be tested, those involved must participate in drills, and the public must be informed of the warning signals and what to do when a warning is issued. A report which describes the operation of the system and estimates total damages and damages prevented by the warning system must be prepared after each flood.

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Credit is based on the amount of warning time provided to the public. The flood threat recognition system may be in the form of flood forecasts provided by the National Weather Service, a locally operated ALERT system, or other appropriate flood recognition system. Which agency provides the flood notice to the community is irrelevant. What counts is that the system will provide a flood warning at least one-half hour before floodwaters isolate insurable buildings.

Credit is provided for preparing flood response plans to prevent or reduce damages from the impending flood. Annual drills must be made to test the emergency response plan and keep it updated.

While a warning of a flood will lead to reduced flood damages, a workable flood response plan can do much more. Under the best of circumstances, a community has great difficulty responding to a major flood. The public demands normal operation of many community activities and the staff of various agencies may have their own ideas of what they should be doing. A detailed response plan can overcome most of these problems.

Credit is also available for local flood warning systems that maintain and share the weather and flood data collected.

While a community is not given additional credit points for operating its own data collection and/or analysis system, there is credit if locally collected data are kept and shared with others.

611 Credit Documentation:

The community must submit the following documentation with its application to participate in the CRS:

- a. A document that describes the community's flood warning program. The following must be covered:
 1. The flood hazard
 2. The flood threat recognition system
 3. Flood warning times
 4. How the flood warnings are disseminated and to whom
 5. Equipment that is needed to operate the program and when and how it is maintained and tested.
 6. Procedures for conducting drills that involve organizations such as radio stations and other emergency response agencies
 7. Staff responsibilities

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If a flood response plan has been developed, this documentation may already be in the documentation for item 611e. Otherwise, it should be a short (5-10 pages) description of the community's program.

For this activity, there must be at least one-half hour from the time a warning is issued to the time water isolates an insurable building. The warnings for the general public should be disseminated through as many media as possible, including sirens, radio, television and, if time allows, newspapers and telephone calling trees. Areas which have been slated for evacuation should be clearly identified and explicit directions to occupants of those areas should be included.

Testing the emergency response plans and warning dissemination system is critical to effective emergency operation. Each agency and person needs to be aware of their responsibilities during an actual emergency and the lead agency for flood warning needs to know that all of the communications systems will work when needed. Drills also identify where procedures need to be changed or updated.

- b. Documentation that the program has been formally adopted by the community's governing board.
- c. Comments on the community's program from appropriate agencies. At a minimum, comments must be submitted from the National Weather Service. Other agencies could include the U.S. Army Corps of Engineers and the state's emergency management agency.

Review agencies' comments should include a discussion of the flood threat recognition system (regardless of who operates it), the warning dissemination system, and the response plan, if one is available.

- d. Application for credit under activity 330 - Outreach Projects. The community's outreach project to the community (OPC) or to floodplain residents (OPF) must include a description of the flood warning procedures and appropriate response measures that people should take (e.g., evacuation routes and flood safety considerations).

Education of floodplain residents is especially important in flood warning. Such a project can give specific information to the people who need it most on how to prepare for and respond to a flood. See the sample notice, "Brochure #2" on page 330-11.

Outreach projects for the community's flood warning system should be timed, if possible, to have maximum impact just before the most probable time of flooding. This might be prior to the spring thaw, summer thunderstorm, or fall hurricane season.

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The community must have the following documentation available to verify implementation of this activity:

- e. [Required if the community is applying for credit under Section 612c] The flood response plan.

The plan should not be a copy of the community’s emergency preparedness plan. It must specifically relate to the flood hazard and identify response activities appropriate for successive flood levels. Other items to be included are noted under the credit criteria in Section 612c beginning on page 610-6.

- f. [Required if the community is applying for credit under Section 612d] Documentation that the locally operated data collection system is maintained and calibrated to provide reliable and accurate data and that the data collected are available for use by others.

This may be a certification by the community or it may be in the form of a letter from a state or federal agency that is using the data. The letter may come from several different agencies, e.g. the National Weather Service or state climatologist for rainfall data and the U.S. Geological Survey, U.S. Army Corps of Engineers, or state water resources department for stream gages.

The community must submit the following documentation with its annual CRS recertification (see Section 214):

- g. An evaluation report that describes the performance of the warning program. The report must cover any floods that occurred during the previous year which damaged more than ten buildings, caused more than \$50,000 in property damage, or caused the death of one or more persons. It must describe how the program operated in response to the floods and any improvements that may be needed.

If there has been a flood that meets the above criteria, submission of the report with the annual recertification is necessary for continued credit under this activity. The report should include a discussion of the:

- Storm and resulting flood;
- Operation of the flood threat recognition system;
- Dissemination of warnings and people’s response to the warnings;
- Community response activities, such as evacuation or flood fighting;
- Flood’s impact on lives, public health and safety, and property;

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- Damages prevented by the flood warning system; and
- Lessons learned and changes needed in the warning program.

Example: “As a result of a forecast of a flood crest within 24 hours on Big River, the City of Riverview, the State Department of Transportation and floodplain residents removed ten mobile homes which would have otherwise been flooded to a depth of two feet. It is estimated that this action reduced damages by \$150,000.

“Other residents removed or otherwise protected contents in most of the buildings. At a conservative estimate of \$2,000 per structure, this is estimated to have prevented \$150,000 in damages. As a direct result of the flood warning that was issued, all but five inoperable vehicles were removed from the flooded area, reducing damages by an unknown amount.”

If the preparation of the post-flood evaluation report determines shortcomings in the flood warning system or failures in its operation, the report must identify remedial actions which should be taken to improve its future operation.

Example: The flood warning system for Big River does not include the possible impact of ice jam flooding. As a result, forecast flood elevations were three feet lower than the actual flood event. The City of Riverview is working with the National Weather Service, the U.S. Army Corps of Engineers and the State University to improve its ability to monitor ice and provide warning of ice jams.