Department of Homeland Security
Office of Inspector General

FEMA Improperly Applied the 50 Percent Rule in Its Decision To Pay the Alaska Department of Natural Resources To Replace a Damaged Bridge

DS-13-06

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OFFICE OF INSPECTOR GENERAL
Department of Homeland Security

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MEMORANDUM FOR: Kenneth Murphy
Regional Administrator, Region X
Federal Emergency Management Agency

FROM: D. Michael Beard
Assistant Inspector General
Office of Emergency Management Oversight

SUBJECT: *FEMA Improperly Applied the 50 Percent Rule in Its Decision To Pay the Alaska Department of Natural Resources To Replace a Damaged Bridge*
FEMA Disaster Number 1669-DR-AK
Audit Report Number DS-13-06

We audited Public Assistance (PA) grant funds awarded to Alaska Department of Natural Resources, Anchorage, Alaska (Department), Public Assistance Identification Number 000-U0421-00. Our audit objective was to determine whether the Department accounted for and expended Federal Emergency Management Agency (FEMA) grant funds according to Federal regulations and FEMA guidelines.

The Alaska Division of Homeland Security and Emergency Management (ADHSEM), a FEMA grantee, awarded the Department $1,273,176, primarily related to damages resulting from severe storms, flooding, mudslides, and rockslides during the period from October 8 through 13, 2006. The award provided 75 percent FEMA funding for four large projects and one small project.[1] Our audit covered the period from October 8, 2006, to January 9, 2013. We audited four of the five projects with charges totaling $958,288. As of January 2013, the Department had not submitted a final costs claim for one large project (see exhibit).

We conducted this performance audit between July 10, 2012, and January 9, 2013, pursuant to the *Inspector General Act of 1978*, as amended, and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based upon our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based upon our audit objective. We conducted this audit applying the statutes, regulations, and FEMA policies and guidelines in effect at the time of the disaster.

[1] Federal regulations in effect at the time of the disaster set the large project threshold at $59,700.

We interviewed FEMA, ADHSEM, and Department officials; reviewed judgmentally selected project costs (generally based on dollar value); and performed other procedures considered necessary to accomplish our objective. We did not assess the adequacy of the Department's internal controls applicable to grant activities because it was not necessary to accomplish our audit objective. However, we did gain an understanding of the Department's methods of accounting for disaster-related costs and its procurement policies and procedures.

RESULTS OF AUDIT

Of the $958,288 in project charges we reviewed, the Department generally managed FEMA's PA grant funds according to Federal regulations and FEMA guidelines. However, FEMA incorrectly applied the 50 Percent Rule to determine whether to repair or replace a damaged bridge, and reimbursed the Department $398,186 in ineligible costs.

Erroneous Repair versus Replacement Decision

FEMA officials incorrectly applied the 50 Percent Rule when deciding to replace the Liberty Falls Bridge. As a result, FEMA reimbursed the Department $398,186 in ineligible replacement costs under Project 118.

Federal requirements (under the Code of Federal Regulations [CFR]) and FEMA guidelines pertaining to the 50 Percent Rule stipulate the following:

- A facility is considered repairable when the disaster damages do not exceed 50 percent of the cost of replacing the facility to its pre-disaster condition, and it is feasible to repair the facility so that it can perform the function for which it was being used as well as it did immediately prior to the disaster. If a damaged facility is not repairable, approved restorative work may include replacement of the facility. (44 CFR 206.226(f)(1)-(2)).

- FEMA DAP 9524.4 states that a facility is eligible for replacement when the repair cost exceeds 50 percent of the replacement cost. The comparison of repair costs with replacement costs results in a fraction that expresses repair as a percentage of replacement. The calculation shall not include soft cost such as design associated with upgrades, demolition, and site work (FEMA, *Repair versus*

Replacement of a Facility (The 50 Percent Rule), FEMA DAP 9524.4 (1998), Section VII).[2]

- In cases where repairs are deemed eligible, allowed cost shall include all the work necessary to return the facility to its pre-disaster condition utilizing modern materials and methods for the repairs. If replacement is deemed eligible, replacement of the facility shall be of the same size or designed capacity and function, built to all applicable codes (FEMA, *The 50 Percent Rule: The Eligibility of a Facility for Replacement*, FEMA Guidance No. 4511.61 E (1995)).

FEMA officials did not properly apply these Federal criteria and incorrectly arrived at its 50 Percent Rule decision. In calculating the repair versus replacement percentage for the bridge, FEMA used total estimated repair costs of $211,939 and total estimated replacement costs of $414,059. Thus, the estimated repair and replacement costs produced a 51 percent ($211,939/$414,059) ratio, and FEMA authorized replacing the bridge rather than repairing it.

FEMA's calculation, however, included costs not allowed under the 50 Percent Rule—specifically costs for design, demolition, and site work. If FEMA had properly applied the 50 Percent Rule and excluded unallowable cost elements from the calculation, the ratio reaches only 31 percent. Based on that ratio, FEMA should have authorized repairing the bridge, not replacing it (see the following table). Because FEMA incorrectly calculated the ratio, the Department replaced the Liberty Falls Bridge that ultimately cost $610,125.

[2] Various Federal policies and publications clarify 44 CFR 206.226(f)(1). These include FEMA 322 Public Assistance Guide (June 2007), p. 36; Public Assistance Policy Digest (January 2008), p. 113; and Disaster Assistance Policy DAP9524.4 (September 24, 1998). FEMA updated DAP9524.4 on March 25, 2009.

Table. The 50 Percent Rule Comparisons

Type of Cost	FEMA-included Costs	Incorrect Percent	Correct Percent	Allowable 50 Percent Rule Costs
50 *Percent Rule* Calculation (Total Estimated Repair Costs/Total Estimated Replacement Costs)				
Repair Costs				
Design	$ 8,000			$ -
Site Work	93,939			-
"W" beam guardrail section	30,000			30,000
Abutment replacement	50,000			50,000
Repair two-lane bridge	30,000			30,000
Total Estimated Repair	**$ 211,939**			**$ 110,000**
Replacement Costs				
Design	$ 15,000			$ -
Site Work	40,059			-
"W" beam guardrail section	36,000	51%	31%	36,000
Abutment replacement	78,000			78,000
Replace two-lane bridge	245,000			245,000
Total Estimated Replacement	**$ 414,059**			**$ 359,000**

FEMA agreed to research the issue and noted that its decision to replace the bridge was not based solely on the 50 Percent Rule and that there were other mitigating circumstances. FEMA, however, did not provide documented evidence to support this assertion. Department officials noted that FEMA had completed the 50 Percent Rule calculations and did not comment on the issue.

Because using the allowable estimated repair and replacement costs does not exceed the 50 percent threshold, FEMA should have only authorized repairing the bridge at an estimated cost of $211,939. Therefore, we question $398,186 as ineligible replacement costs. We calculated the $398,186 in questioned cost as the difference between the $610,125 it cost to replace the bridge and the $211,939 in estimated costs to repair the bridge.

RECOMMENDATION

We recommend that the FEMA Region X Administrator:

Recommendation: Disallow $398,186 (FEMA share $298,640) in ineligible replacement costs charged to Project 118.

DISCUSSION WITH MANAGEMENT AND AUDIT FOLLOWUP

We discussed the results of our audit with Department officials during our audit, and included their comments in this report, as appropriate. We also provided a draft report to FEMA on January 8, 2013, and to ADHSEM and Department officials on February 8, 2013. We discussed the draft report at an exit conference held with FEMA officials on January 9, 2013, and they generally agreed with our finding and recommendation. ADHSEM and Department officials did not request an exit conference.

Within 90 days of the date of this memorandum, please provide our office with a written response that includes your (1) agreement or disagreement, (2) corrective action plan, and (3) target completion date for the recommendation. Also, please include responsible parties and any other supporting documentation necessary to inform us about the current status of the recommendation. The recommendation will be considered open and unresolved until we receive and evaluate your response. Consistent with our responsibility under the *Inspector General Act*, we are providing copies of our report to appropriate congressional committees with oversight and appropriation responsibility over the Department of Homeland Security. We will post the report on our website for public dissemination.

Major contributors to this report are Humberto Melara, Western Regional Office Director; Louis Ochoa, Audit Manager; Connie Tan, Auditor-in-Charge; and Paul Sibal, Auditor.

Please call me with any questions, or your staff may contact Humberto Melara, Western Region Audit Director at (510) 637-1463.

EXHIBIT

Schedule of Projects Audited
October 8, 2006, to January 9, 2013
Alaska Department of Natural Resources, Anchorage
FEMA Disaster Number 1669-DR-AK

Project Number	Categories of Work[1]	Project Award Amount	Project Chargers Reviewed	Costs Questioned (Erroneous Replacement versus Repair Decision)
77	G	$82,380	$82,380	
78[2]	G	314,888		
118	C	610,125	610,125	$398,186
120	G	213,768	213,768	
122	A	52,015	52,015	
Total		$1,273,176	$958,288	$398,186

[1] Categories of Work: A – Debris Removal, C – Roads and Bridges, G – Parks, Recreational, and Other.

[2] As of the end of audit fieldwork, the Department did not have costs records available for our audit. As a result, we limited our review for Project 78 primarily to evaluating the project's eligibility.

APPENDIX

Report Distribution
FEMA Disaster Number 1669-DR-AK

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