



Homeland  
Security

August 24, 2007

MEMORANDUM FOR: Susan Reinertson  
Regional Administrator,  
FEMA Region X

FROM: *Robert J. Lastrico*  
Robert J. Lastrico  
Western Regional Director  
Office of Disaster Assistance Oversight

SUBJECT: *Audit of Federal Emergency Management Agency Public Assistance  
Grant Funding Awarded to the State of Washington's Department  
of General Administration After the Nisqually Earthquake  
Audit Report Number DS-07-01*

Attached for your information and comment is our final audit report, *Audit of Federal Emergency Management Agency Public Assistance Grant Funding Awarded to the State of Washington's Department of General Administration After the Nisqually Earthquake.*

The report contains seven findings and one recommendation to disallow \$4.9 million in costs claimed by the Department of General Administration (Department). We discussed audit results with FEMA Region X, State Emergency Management Division, and Department officials throughout the audit and again with the Emergency Management Division and the Department at our June 2006 exit conference. In September 2006, Department officials provided a written summary and various documents to explain why the questioned costs in our report should not be disallowed. We summarized those responses in the attached report. We analyzed the Department's responses and documentation, modified our results as appropriate, and provided additional comments in the report to clarify our audit conclusions. FEMA Region X officials were also provided with the Department's response but those officials reserved comment until we issued the final report.

Please advise our office within 60 days of the date of this memorandum of FEMA's progress in implementing the recommendation and the date by which the recommendation will be fully implemented. Should you have any questions, please call me, or your staff may contact Humberto Melara, Supervisory Auditor, at (510) 637-1463.

Attachment

**DEPARTMENT OF HOMELAND SECURITY**

**Office of Inspector General**

**Audit of Federal Emergency Management  
Agency Public Assistance Grant Funding  
Awarded to the State of Washington's  
Department of General Administration  
After the Nisqually Earthquake**



**DS-07-01**

**August 2007**

*Office of Inspector General  
Office of Disaster Assistance Oversight*

**U.S. Department of Homeland Security**  
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### Preface

The Department of Homeland Security (DHS) Office of Inspector General (OIG) was established by the Homeland Security Act of 2002 (*Public Law 107-296*) by amendment to the Inspector General Act of 1978. This is one of a series of audit, inspection, and special reports prepared by the OIG as part of its DHS oversight responsibilities to promote economy, effectiveness, and efficiency within the department.

This report assesses the eligibility of work funded under the Federal Emergency Management Agency's Public Assistance Program, and the eligibility of costs claimed by the sub-grant recipient, State of Washington's Department of General Administration. The report is based on interviews with employees and officials of relevant agencies and institutions, direct observations, and a review of applicable documents.

The recommendation herein has been developed to the best knowledge available to our office, and has been discussed with those responsible for implementation. It is our hope that this report will result in more effective, efficient, and economical operations. We express appreciation to all of those who contributed to the preparation of this report.

Robert J. Lastrico  
Western Regional Director

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## Abbreviations and Acronyms

CEF	Cost estimating format
CFR	Code of Federal Regulations (Referenced 44 CFR Revised as of 10/1/2000)
Department	Washington Department of General Administration
DHS	Department of Homeland Security
Emergency Management Division	State of Washington Emergency Management Division
FEMA	Federal Emergency Management Agency
OIG	Office of Inspector General
OMB	Office of Management and Budget
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act

*Department of Homeland Security  
Office of Inspector General*

## Executive Summary

The Office of Inspector General (OIG) audited public assistance grant funds awarded by the Federal Emergency Management Agency (FEMA) to the State of Washington's Department of General Administration, Olympia, Washington (Department) as a result of damages caused by the February 2001 Nisqually earthquake. The objective of the audit was to determine whether the Department expended and accounted for FEMA funds according to federal regulations and FEMA guidelines. Appendix A provides more details concerning the objective, scope, and methodology of the audit.

We reviewed documentation relative to the Department's claim for reimbursement of about \$19.3 million in disaster-related repair costs and questioned \$4,899,578 (FEMA's share is \$3,674,684). Table 1 shows our findings and the associated questioned costs and Appendix B provides a schedule of the projects audited.

**Table 1**

<b>Finding</b>	<b>Title</b>	<b>Questioned costs</b>
A	Improper Use of the Cost Estimating Format Allowed the Department to Claim Excessive Costs	\$3,246,685
B	The Department Claimed Repair Costs That Were Not Earthquake Related	603,165
C	The Department Claimed Hazard Mitigation and Renovation Costs Not Eligible for Public Assistance Funding	526,649
D	Claimed and Reimbursed Amounts Exceeded the Department's Improved Project Cap	415,536
E	The Department Claimed Ineligible Straight Time Labor Costs	35,992
F	The Department Claimed Administrative Allowance Costs as Project Costs	71,101
G	The Department Claimed and Was Reimbursed for Pre-Disaster Damage	450
	Total	\$4,899,578

We provided our results to FEMA, State of Washington's Emergency Management Division, and the Department in December 2005 and June 2006. The Emergency Management Division and the Department did not concur with the findings and recommendations. At our June 2006 exit conference,

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the Department asked for an opportunity to respond in writing and provided written responses on September 11, 2006. We summarized the responses in the Results of Audit section of the report and provided our analysis and additional comments. As appropriate, we modified our results based on additional information provided by the Department. FEMA Region X officials were also provided with the Department's responses but those officials reserved comments until we issued the report.

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## Background

Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act, Public Law 93-288, as amended) authorizes federal grants funding to state and local governments for the repair, restoration, reconstruction, replacement, or hazard mitigation measures for public facilities damaged or destroyed by a major disaster. Title 44 of the Code of Federal Regulations (CFR) implements the Stafford Act and among other things, provides uniform administrative requirements for grants to state and local governments (Part 13), and rules governing federal disaster assistance (Part 206), including public assistance project administration (Subpart G) and public assistance eligibility (Subpart H).

As a result of the Nisqually earthquake that occurred on February 28, 2001 (FEMA Disaster Number 1361-DR-WA), the Department received a public assistance grant award of \$21.7 million from State of Washington's Emergency Management Division, a FEMA grantee, for emergency protective measures, and repairs to road systems, buildings, and equipment. The award provided 75% federal funding for 21 large projects and 16 small projects.<sup>1</sup>

According to 44 CFR § 13.42, grantees and subgrantees are required to retain all financial and programmatic records, supporting documents, statistical records, and other records for at least 3 years after the grantee submits its final expenditure report. Audit report findings and the Department's responses highlight instances where pertinent documentation cannot be located to justify FEMA's acceptance of claimed costs. Although the disaster occurred over 5 years ago, the Emergency Management Division and the Department have not submitted final expenditure reports or a final project completion and certification report; and FEMA has not made a final closeout determination of eligible costs.

The audit covered the period February 28, 2001, to September 14, 2005, and included a detailed review of nine large projects with a total award of \$18 million, and a limited review of four large projects with a total award of \$1.3 million. The bulk of our audit work dealt with repairs and upgrades to the Olympia Campus Legislative Building, two projects with a total award of \$12.5 million. Pertinent background regarding the Legislative Building is provided in Appendix C.

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<sup>1</sup> Federal regulations in effect at time of the disaster set the large project threshold at \$50,600.

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## Results of Audit

### A. Improper Use of the Cost Estimating Format Allowed the Department to Claim Excessive Costs

The Department's methodology for determining eligible costs under improved project 1567 (Legislative Building) resulted in the Department estimating, FEMA approving, and the Department claiming \$3,246,685 in excessive costs. This occurred because the Department did not follow the specific instructions provided in FEMA's cost estimating format (CEF) instructional guide for estimating eligible large project costs.<sup>2</sup>

The CEF is a forward pricing methodology that applies to all types of infrastructure damages resulting from major disasters. The CEF consists of eight parts (Parts A through H). In Part A, the applicant provides estimates of permanent and non-permanent base construction costs by line item including estimates for labor, equipment, and material. The applicant then completes Parts B through H, factors (with recommended percentage ranges) which are applied to the Part A estimate to achieve an estimate of the total project completion costs. This forward-pricing methodology provides an estimate of the total eligible funding at the beginning of the project. The CEF Guide indicates that Parts B through H factors should not be applied in an arbitrary manner and the factors should correlate specifically with the design and construction activities of the project. The estimating process allows users to document the logic, assumptions, and reasoning for applying factors in the "CEF Notes" section of the forms. The intent of the CEF is to minimize any potential underestimation of claimed costs eligible for reimbursement. Appendix D provides a synopsis of CEF guidelines/factors for Parts A through H.

Title 44 CFR § 206.203(d)(1) [October 2000] describes the extent of federal assistance available for large projects and funding limitations for improved projects as follows:

*Improved projects.* If a subgrantee desires to make improvements, but still restore the pre-disaster function of a damaged facility, the Grantee's approval must be obtained. Federal funding for such improved projects shall be limited to the Federal share of the approved estimate of eligible costs.

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<sup>2</sup> CEF – Large Project Instructional Guide, version 2 dated November 1998.



FEMA approved project 1567 as an improved project on March 22, 2002, at which time total funding was capped based on the approved estimate of what was determined to be "eligible" damage repair costs.

To determine eligible costs and disaster funding under this improved project, the Department used FEMA's CEF to estimate construction costs. FEMA funded project 1567 in three phases as shown in Table 2 below:

**Table 2**

<b>Funding Phase</b>	<b>Base Estimate of Construction Costs</b>	<b>CEF Parts B through H increases</b>	<b>Revised Estimate of Construction Costs</b>
Primary	\$2,338,085	\$2,831,319	\$ 5,169,404
First Supplement	2,350,132	2,845,796	5,195,928
Second Supplement	403,001	387,828	790,829
Totals	\$5,091,218	\$6,064,943	\$11,156,161

We identified \$3,246,685 in excessive estimated costs based on the Department's project records that supported the CEF calculations.<sup>3</sup> Because FEMA approved the project as an improved project, funding was capped based on the approved estimate of damage repair costs, and the Department claimed and was reimbursed for excessive costs within the funding cap. The excessive costs include:

- \$1,996,545 resulting from the use of factor percentages that differed from those specified in FEMA's CEF Guide, and
- \$1,235,535 associated with the application of factor percentages to ineligible and excess project costs discussed in other findings in this report.
- \$14,605 resulting from mathematical errors on the CEF forms prepared by the Department. (The questioned costs resulting from these errors were provided to the Department during the audit and are not discussed any further in this finding. Footnote 4 provides an example of the type of errors we found.<sup>4</sup>)

**Use of factor percentages that differed from those specified in FEMA's CEF Guide.** The following bullets discuss the \$1,996,545 we questioned as a result of the Department using factor percentages that differed from those specified in FEMA's CEF Guide for Parts B, C, and E.

<sup>3</sup> Appendix E provides the details that are summarized in this paragraph.

<sup>4</sup> A CEF computation allowed 5% of \$688,479 (the sum of CEF Parts A through F) to determine the allowable amount for Part H.3. The Department's schedule listed the product to be \$39,579 instead of \$34,424 resulting in an overstatement of \$5,155.

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- The Department claimed \$190,007 in duplicative costs by including non-permanent safety costs in Part A.2 as well as Part B.1. The CEF Guide allows applicants to estimate non-permanent safety costs in either Part A or Part B, but not both.

Part A.2 (*Non-Permanent, Job Specific Work*) includes costs associated with construction equipment that will not be left in place at the completion of permanent work construction (e.g., construction aids such as scaffolding, cranes, lifting or hoisting equipment, safety equipment, and safety nets). Part B.1 (*Safety and Security*) allows the application of a 4% (applied typically to most construction sites) to 6% (as project complexity increases) factor to base estimate construction costs to cover non-permanent safety costs. However, the general Part B requirements for estimating safety and security costs indicate that an applicant cannot itemize the non-permanent safety costs in Part A.2 and also apply the percentage factor because such an approach represents a duplication of costs.

Department records supporting the calculations for Parts A and B showed that estimates for non-permanent safety costs were included in both Parts. Part A.2 included an itemized cost breakdown of non-permanent safety equipment (scaffolding, large crane with extra boom, jib, and operator; foreman, industrial climber, rope rigger; bosun's chairs, safety harnesses, and ropes) at a total cost of \$725,760 and Part B.1 included a 5% factor for \$116,904. We questioned the full 5% amount because it was already included in the Part A.2. Further, improperly including the Part B.1 estimate in the CEF calculations resulted in an additional \$73,103 in other improper cost increases for CEF Parts C through H (See Appendix F). Total questioned costs resulting from the duplicate safety and security costs equal \$190,007 (\$116,904 plus \$73,103).

- The Department claimed \$981,998 in excessive costs relating to the factors used for Part C.1 (*Design Phase Scope Contingencies*) and Part C.2 (*Facility or Project Constructability*).
  - Part C.1 allows applicants the choice between two design phase factor adjustments to address potential cost increases resulting from the lack of project detail and specificity. A key factor determinant is the level of design work completed when the project cost estimation is prepared. The applicant applies a Preliminary Engineering Analysis (Preliminary) Stage factor where concepts have been developed without a significant level of detailing. Since quantifying the work at this stage is difficult, a contractor would assume a relatively high level of risk in bidding the project, so the recommended range is 15 to 20%.

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The applicant's second factor choice is designated as the Working Drawing Stage factor that recognizes that the design is more advanced, concepts have been determined, and work tasks and quantities have been readily defined. The recommended adjustment range is 2 to 10%.

- The factor applied by the Department did not correlate to the level or state of the completed design work at the time the estimate was prepared:
  - The Department had completed the disaster related preliminary design work when it prepared the CEF estimate for this project. FEMA reimbursed to the Department the design work claimed cost of \$301,368 under project 1855. Our comments to and analysis of the Department's written responses (Appendix I of this report) further describes the preliminary (schematic) design costs paid by the Department for the building's renovations and earthquake repair work.
  - The CEF Notes section for Part C.1 reflects that the Department had completed the Preliminary Stage and had made substantial progress in the Working Drawing Stage with the following comments documenting the status of the design work: "...available Schematic Plan constitutes working plans for all repairs including rehab work. Risk to contractor reduced with decrease in unknowns."

While the Department completed, and FEMA separately funded the Preliminary Stage, the Department estimated Part C.1 costs using a percentage factor within this stage (15%) instead of the lower factor specified for the Working Drawing Stage (2 to 10%). Based on the substantial design completed at the time the cost estimate was developed, we applied the CEF Guide C.1 instructions that "a project in the final working drawing stage should be assigned a factor at the lower end of the range (2 to 10%)." Using the CEF Guide factor for design cost in the final working drawing stage, we re-calculated the eligible cost for Part C.1 using a more reasonable factor of 5%. The application of the 5% factor in lieu of the 15% factor results in a reduction of the Part C.1 estimate by \$530,940 and related Parts D through H estimate by \$179,329 (\$710,269 in total).

- CEF Part C.2 addresses project complexity as it relates to the type of facility and/or repair. The CEF Guide provides examples of what is considered a complex project; such as steep site embankments;

unstable soil conditions, difficult subsurface construction conditions requiring such activities as de-watering, and rock excavation. For historical buildings, the CEF Guide recommends a project complexity range from 1% to 7%. The Guide also provides that when applicants considered complexity issues in Part A.1, the Part C.2 factor cannot be used.

As shown in Appendix G, the Department considered and estimated construction and repair complexities in Part A. The Department also claimed the maximum factor (7%) allowed under Part C.2 for project complexity. The "CEF Notes" section for Part C.2 indicated, "maximum allowance made" without further explanation. Since the Department addressed the many project complexities issues in Part A.1, a more reasonable factor for any additional project complexities unanticipated during actual construction would be the mid-point of the recommended range, or 3.5%. We applied the 3.5% to the total through Part B and questioned \$201,803. We also questioned \$69,926 for associated costs relating to the application of factors under CEF Parts D through H (\$271,729 in total).

Appendix H summarizes and compares the Department's and our computations of Part C.1 and C.2 costs.

- The Department claimed \$824,540 in excessive costs relating to the computation of factors associated with Part E (*Cost Escalation Allowance*).

The Part E formula allows the applicant to adjust the estimated construction costs for inflation during the design and construction stage.<sup>5</sup> Part E.1 uses a computation of the construction timeline mid-point and an escalation factor based on the Construction Cost Index (index). The Department's analysis contained two errors in determining the Project timeline mid-point, and an error in calculating the escalation factor.

**Project Timeline Mid-Point.** To apply the Part E.1 Cost Escalation Allowance, the CEF Guide requires an applicant to establish a construction timeline for FEMA funded eligible repair work only:

- The timeline selected by the Department was not limited to FEMA funded repair work but also included the rehabilitation/seismic work funded by the State of Washington. FEMA project records did not include copies of the construction timeline for disaster-related repairs.

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<sup>5</sup> Escalated cost= (Sum of Parts A through D) times (number of months to the midpoint of uncompleted construction) times (escalation factor).

The Part E.1 CEF Notes section identified the building's 31-month rehabilitation/seismic work schedule as the timeline for their FEMA claimed cost. The comment reads: "...repairs must be complete by the end of 2004 to be ready for the 2005 legislative session, 12 -18 months to midpoint of work."

From general contractor/construction management firm monthly status reports, bid packages, and other pertinent information, we estimated that the timeline for the primary funding phase of FEMA eligible work ran from February 2002 to March 2003, or about 13 months (mid-point rounded up to 7 months) and from February 2003 to March 2003, or about 2 months (mid-point was 1 month) for first funding supplement work.

- The Department used an incorrect methodology to determine the mid-point of construction. Despite the Department's Part E.1 CEF Notes section stating that the 31-month rehabilitation/seismic work schedule timeline would have a mid-point between 12 and 18 months, the Department used 31 months as its mid-point in the CEF escalation computations.

**Escalation factor.** According to the CEF Guide, once a construction timeline is established, the escalation factor is determined using a 3-step process that relies on average cost escalation indices reported in the *Engineering News Record* (in this case, the historical index for the City of Seattle). The Guide describes the process as determining (1) the index change over the 2-year period, (2) the 2-year index average, and (3) the monthly value.

The Department used a 3 year-period instead of a 2-year period to determine the escalation factor. Table 3 shows what we computed as the monthly escalation factor based on a 2-year index average and what the Department computed using a 3-year index average. As indicated, the Department's methodology resulted in a higher monthly escalation value being applied to determine the eligible reimbursable cost.

**Table 3**

Phase	Monthly Value 2 Year Index Average	Monthly Value 3 Year Index Average
Primary funding	.195%	.305%
First funding supplement	.226%	.305%

As discussed above, the Department overstated construction mid-points for FEMA related repair work and incorrectly determined escalation factors that

were used to compute the amounts included in the cost estimate for the improved project cap. Table 4 illustrates the impact of incorrectly determining construction mid-points and the escalation factors when applied to unadjusted Parts A through D totals for the primary funding action (\$4,155,073) and the first supplement (\$4,176,483).<sup>6</sup>

**Table 4**

Funding Phase	The Department's Factors and Cost Estimation			OIG's Determined Factors and Cost Estimation			
	Mid-point	%	Totals	Mid-point	%	Totals	Amount Questioned
Primary funding	31	.305%	\$392,862	7	.195%	\$54,460	\$338,402
First funding supplement	31	.305%	394,886	1	.226%	8,325	386,561
			\$787,748			\$62,785	\$724,963

To determine the actual over funding of the Part E estimate, we (a) adjusted the Parts A, B.1, C.1, and C.2 estimates for the costs we questioned in Findings B, C, and D; and (b) applied the 2-year monthly index average at mid-point of construction to those adjusted estimates. This computation resulted in over funding Part E by \$725,649. Further, over funding Part E impacted claimable for Parts F, G, and H. The additional over funding totaled \$98,891 for a total questioned cost amount of \$824,540 (\$725,649 plus \$98,891).

**Ineligible and Excess Project Costs Included in the CEF Calculations.**

We also question \$1,235,535 in excess costs calculated using CEF factors for project charges related to the following findings in this report.

- The Department Claimed Repair Costs That Were Not Earthquake Related (Finding B).
- The Department Claimed Hazard Mitigation and Renovation Costs Not Eligible for Public Assistance Funding (Finding C).
- Claimed and Reimbursed Amounts Exceeded the Department's Improved Project Cap (Finding D).

The excess costs identified in this finding relate only to Department calculations based on CEF Parts B through H.

<sup>6</sup> The table does not adjust for other costs questioned in this finding (Parts B.1, C.1, and C.2), for costs questioned in other related findings in this report, or for the impact of the escalation factors on Parts F, G, and H.

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**Department comments.** The Department did not agree that the methodology it used to estimate eligible costs for improved project 1567 allowed it to claim ineligible project costs or that its methodology was inconsistent with the CEF Guide. Regarding our discussion of Parts A and B, the Department stated that the CEF Guide does not specifically prohibit estimating non-permanent safety equipment costs in both Parts A and B. The Department also stated that the use of a 15% factor for Part C.1 (*Design Phase Scope Contingencies*) was due to a clerical error caused by its revisions to the applicable CEF schedule. The Department indicated that it justified the factor percentage for Part C.2 although supporting documentation was not available in its files. Additionally, the Department was unaware that FEMA did not document the justification. For Part E, the Department noted using the 31 months was appropriate as the basis for escalating construction costs because design began in May 2001 and the design period could be included in determining the cost escalation allowance.

For the over funding of CEF calculations applied to the ineligible and excess costs we questioned elsewhere in this report, the Department indicated that it could not comment without detailed examination of the audit work supporting our conclusions.

**OIG comments and analysis.** Subsequent to our exit conference and as detailed in Appendix I, the Department provided us written explanations on its use of the CEF to calculate the estimate of eligible costs. We evaluated the Department's assertions in conjunction with information we obtained from project records. The Department's assertions were 1) not supported, 2) inconsistent with available documentation we identified in project records, and 3) inconsistent with the CEF Guide. Therefore, we have not changed our conclusion that by not following the CEF Guide for CEF Part B through H calculations, the Department over estimated eligible costs, FEMA over funded the improved project, and the Department claimed \$3,246,685 in excessive costs. Appendix I to this report summarizes additional comments provided by the Department and provides additional OIG comments and analysis.

## **B. The Department Claimed Repair Costs That Were Not Earthquake Related**

The Department claimed \$603,165 in project repair costs that were not related to the Nisqually earthquake (project 1567). The costs included \$269,008 to align columns supporting the Legislative Building's dome, pin the dome to those columns, and secure the ornamental stone at the dome gutter; \$289,478 for scaffolding; and \$44,679 for an 8.00% sales tax (\$21,521 for the columns and \$23,158 for the scaffolding). We question those costs because project

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records did not include documented evidence proving that the damage occurred as a result of the earthquake.

The Legislative Building features a dome that rests on the central section of the building independent of the columns. An engineering firm retained by the Department prior to the disaster noted that the Legislative Building's 16 external columns could be removed and the dome would remain standing.

After the earthquake, the Department reported to FEMA that the building's columns were out of alignment and provided damage photos dated July 12, 2001, and alignment drawings dated March 14, 2001, as support for that conclusion. However, FEMA noted in the initial project worksheet that the damages could not be verified and in a subsequent project worksheet, noted that the Department had not provided documentation showing the pre-disaster alignment of the columns or the allowable alignment tolerances.<sup>7</sup> FEMA requested the Department to provide such documentation. However, in the minutes of a July 31, 2001, meeting between the Department and FEMA, the Department informed FEMA that no such documentation existed.<sup>8</sup>

As discussed below, we reviewed documents the Department provided to FEMA to prove that the work was eligible for federal funding, and concluded that the Department's records lacked convincing evidence that the dome, columns, or the gutter ornamental stone were damaged by the disaster.

- Post-disaster surveyor/photo analysis reports dated July 31, 2001, and September 12, 2001, note that the "analysis assumes" that columns had been affected by the earthquake. However, the reports do not provide any basis for the surveyor's assumption or include documentation showing that any technical analysis had been performed. The reports only establish that displacement of the columns existed as of the surveyor's observation date.
- A memorandum to the Department from their retained structural engineering firm dated February 20, 2002, stated the engineer's "belief" that the earthquake moved the columns because a contractor's inspection of the stone in the area of the gutter, conducted during the Summer of 2000, did not note any movement in the columns. The same memorandum

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<sup>7</sup> Project worksheets identify the eligible scope of work and serve as the obligating document for the award of grant funds.

<sup>8</sup> FEMA requested the meeting to determine if (1) the stress on the columns as a result of being misaligned presented a danger of a future failure and (2) the Department obtained a professional opinion, supported with calculations, to substantiate repairs were disaster-related and eligible for federal funding. The Department communicated FEMA's concerns to the state's Property Management staff, the general contractor/construction management firm, and to members of the Legislative Building Rehabilitation Project on August 1, 2001.



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noted that uncontrolled movement of the columns could lead to localized collapse of the stone at the gutter, which is considered a life-safety hazard. We determined the following regarding the engineer's comments:

1. The purpose of the inspection accomplished in 2000 was to determine the condition of the stone in the area of the gutter and not to determine specific alignment of the columns. Further, the engineer failed to consider a more current inspection of the columns and report issued by the same contractor 5 weeks prior to the earthquake. The inspection report findings were compiled and included with the contractor's back-up documentation to the January 22, 2001, report titled, *Space Use Study & Rehabilitation Options*. That report noted damage (such as extensive cracks) consistent with column movement. The contractor attributed the damage to prior events and noted that earlier repair efforts (e.g., epoxy injections) proved to be unsuccessful and that some cracks were not repaired.
2. While we agree that uncontrolled movement of the columns could lead to localized collapse of the stone at the gutter, the documentation we reviewed showed no evidence of any significant disaster damage to the stone at the gutter -- an item of work the Department asserts was integral to pinning the dome to the columns. Further, the building seismic work planned prior to the disaster included securing the "ornamental stone at the dome gutter."

According to 44 CFR § 206.223 to be eligible for financial assistance, an item of work must be required as the result of the major disaster event. Since the Department's records on the project lacked documented evidence to support that the repairs (anchor the dome to the columns) were necessitated by the Nisqually earthquake, we question the \$603,165.

**Department comments.** In its September 2006 response to this finding, the Department questioned the OIG's right to second-guess a decision by FEMA as to whether or not the damage was caused by the major disaster or by some other event. The Department questioned our audit conclusions and used as a precedent, a FEMA second appeal determination that set aside the results of an OIG audit of another local government. The Department disagreed that the claimed costs for pinning the dome to columns were not eligible for federal funding. Department officials provided us pictures and explanatory comments in an effort to convince us that the earthquake caused the dome to shift.

Department officials reiterated their position that the stone columns at the colonnade were part of the structural system that supports the gutter at the base of the dome as well as a portion of the gravity loads from the structure

above. The Department could not provide an explanation why FEMA continued to question the eligibility of the work in subsequent project worksheets, but offered the following additional reasons why the work performed was related to the earthquake and therefore eligible for public assistance funding:

Summary List of Key Evidence Supporting the Earthquake Damage to the Dome Colonnades Column System, dated August 26, 2006, (the Department's Exhibit B20)

- Earthquake Cracks Were Found In the Free Standing Columns and Capitals: After the 1965 earthquake, the visible cracks in the lantern and the dome colonnade columns and capitals were filled with epoxy and grout. As noted in Exhibit B13,<sup>9</sup> the Department, the Emergency Management Division, and FEMA inspectors found significant new cracks in their inspections following the Nisqually earthquake.
- The Post-Earthquake Survey Verified that the Free Standing Columns Were Out of Alignment: An engineering photo survey analysis dated September 12, 2001, reported that the columns were misaligned from 0.3 to 4.2 inches verifying that the misalignment occurred recently (i.e., not from prior earthquakes). Department officials said the survey data should not be used to draw conclusions about the cause of movement. They said that the "analysis assumes" that the movement was caused by the earthquake because they did not want the reader to conclude from the survey alone that the disaster caused the documented movement.

Department officials also pointed out that the scaffolding used to pin the dome to the columns was also used for other FEMA approved earthquake repairs, including most exterior items funded by this project worksheet. They indicated that the total estimated cost of the exterior capital dome scaffolding was \$289,478, rather than the \$400,000 originally stated in our report.

**OIG comments and analysis.** The Stafford Act and its implementing regulations provide "clear statutory authority for FEMA and its Inspector General<sup>10</sup> to conduct post-award audits of federal disaster relief grants." Public Utility Dist. No. 1 v. FEMA.<sup>11</sup> The administrative closeout of a grant does not

<sup>9</sup> A December 3, 2002 memorandum with the stated purpose "Meet to confirm total crack quantities for Capital Dome".

<sup>10</sup> In March 2003, FEMA was transferred to the Department of Homeland Security (DHS). The DHS Inspector General has oversight of FEMA operations and activities, including its public assistance programs. See Homeland Security Act of 2002, Pub. L. 107-296, §§ 103(b) and 503, as amended.

<sup>11</sup> 371 F.3d 701, 707 (9<sup>th</sup> Cir. 2004).

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affect FEMA's right to "disallow costs and recover funds on the basis of a later audit or other review.

We reviewed the comments, exhibits, and documents the Department provided us in September 2006 and have not altered our conclusion that misalignment of the columns and the cracking noted in some columns existed prior to the earthquake of February 2001.

Department officials used a contractor's Summer 2000 gutter inspection, March 2001 column alignment drawings, July 2001 damage photos, and the Emergency Management Division and FEMA inspection of the columns (inspection dates unknown but referenced in documents provided to us by the Department) as the bases for identifying column misalignment and significant new cracks that occurred following the Nisqually earthquake. These officials did not comment on the pre-disaster inspection report of January 2001 in which the same contractor observed "cracking of three of the freestanding columns..." and noted that such cracking was consistent with column movement. Regarding column cracking, the contractor noted that an unsuccessful attempt was made in 1999 to repair one of the cracks by epoxy injection and that the two remaining cracked columns were not injected. The January 2001 report noted, "At one column the cracked column drum panel was not strapped, indicating that the crack had occurred since the work was completed in 1999." Therefore, the misalignment of the columns and the existence of cracks noted after the earthquake, were insufficient bases to request public assistance funding.

The Department's response explained that the total estimated cost of scaffolding applicable to the exterior capital dome was \$289,478 rather than what we originally reported. As such, the report now reflects the Department's estimated amount plus the appropriate sales tax. Based on the Department's responses, we also deleted \$3,847 for lantern repair costs previously questioned but now adequately supported as disaster-related repairs.

After considering all information made available by FEMA, the Emergency Management Division, and the Department, we continue to question \$603,165 in public assistance funding expended by the Department because of insufficient evidence of disaster-related damages.

### **C. The Department Claimed Hazard Mitigation and Renovation Costs Not Eligible for Public Assistance Funding**

The Department's claim included \$526,649 in hazard mitigation and renovation costs for components of the Legislative Building not damaged by

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the disaster (project 1567). The ineligible costs included \$506,218 in ineligible hazard mitigation work and \$20,431 in grout work required as a result of deterioration. Section 406(a)(1) of the Stafford Act authorizes federal assistance for repair, restoration, reconstruction, replacement, or hazard mitigation measures for facilities damaged or destroyed by a major disaster. The mitigation measures must be related to eligible disaster-related damages and must directly reduce the potential of future, similar disaster damages to the eligible facility. These opportunities usually present themselves during the repair/replacement efforts. 44 CFR § 206.226(c) notes that hazard mitigation efforts represent measures beyond applicable standards.

Details regarding the work and claimed costs we questioned, the Department's comments to our findings, and additional OIG comments and analysis are provided below:

**Ineligible hazard mitigation costs.** The Department claimed \$506,218 for hazard mitigation work that consisted of (1) placing additional fin walls<sup>12</sup> that became part of the Legislative Building's dome structure/system, and (2) attaching steel angles, plates, and anchors along the buttress<sup>13</sup> and facing columns of the dome structure/system. FEMA and the Department project records did not include evidence that the fin wall or columns had suffered any disaster damage or that buttresses (other than buttress #7) had sustained any damage.

The Department and an architectural firm entered into a contract on August 24, 2000, to assess the condition and attachment of exterior stone, and to provide professional services for the seismic upgrade to the dome, preservation of the lantern, and exterior stone repairs and cleaning. The firm made its recommendations in November 2000, and prior to the disaster, the Department had planned the work and had identified a bond issuance financed with timber revenue as the source of funding. We also reviewed records that showed that the Department planned and budgeted \$7.2 million in seismic upgrade work to the building in the area of the fin wall construction prior to the earthquake. As of the date of the disaster, the Department (1) planned to finance the work with bond debt to be serviced by timber revenues, (2) developed a repayment plan and a schedule for meeting cash flow needs and (3) entered into the general contractor/construction management contract (see Appendix J).

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<sup>12</sup> Fin walls are walls connecting the interior concentric masonry walls to the drum wall; thereby allowing the "additional concrete fin walls to increase the lateral strength of the masonry walls."

<sup>13</sup> The buttresses are the portions of the Legislative Building that support the dome at the dome colonnade level. The eight buttresses separate the colonnade into eight bays in which the freestanding columns are located.

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The Department reported to FEMA that the seismic upgrades were estimated at \$1.6 million and explained that the upgrades were planned prior to the disaster but were not funded.<sup>14</sup> This was inconsistent with information the Department provided to the governor and legislature in a July 2001 report titled *Legislative Building Rehabilitation Project*. In that report, the Department identified that the seismic upgrade work was planned and budgeted for prior to the disaster. Specifically, the report stated:

“The rehabilitation budget is \$90.781 million including \$7.2 million for seismic upgrades planned prior to the earthquake. The \$88.781 million appropriation in 2001-03 includes \$81.681 million from bonds repaid by timber revenues. Additional cash appropriations of \$2 million from the Thurston County Construction Account are planned in 2003-05. Following the Nisqually Earthquake, the department applied to FEMA for an estimated \$20.94 million of earthquake related repairs and upgrades including the \$7.2 million previously planned in the rehabilitation budget.”

**The Department Comments on Hazard Mitigation Costs.** The Department disagreed with this part of the audit finding and stated that the referenced concrete fin walls were erected in the repair process and did not exist prior to the earthquake. However, the Department indicated that there were masonry buttresses that suffered disaster damage. In its response to the finding, the Department provided us engineering-related studies, evaluations, and analyses dating back to 1998. The documentation provided by the Department regarding the fin walls included the following:

- A December 23, 1998, seismic evaluation suggested surface reinforcements to the inner and outer dome walls as well as fastening a 1965 cylindrical wall to the lower ring beam and the arches. There was no recommendation to erect additional fin walls prior to the earthquake.
- An updated seismic analysis draft dated December 31, 2001, noted that the drum wall [part of the dome structure/system] was “laterally displaced up to 0.75 inches at the arches and numerous cracks were observed in the radial walls at the base of the drum.” The analysis concluded that a new upgrade was required and suggested constructing 16 concrete fin walls to provide the required increase in strength to the drum structure. In addition, the analysis recommended that the cylindrical wall added in 1965 be attached to both the arches and the upper ring beam in order to provide overturning stability to the Upper

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<sup>14</sup> Appendix C provides a synopsis of the Department’s pre-disaster planning for renovation, preservation, and seismic upgrade of the Olympia Campus Legislative Building.

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Rotunda. Structural reinforcements included concrete at the base of the wall, steel brackets at the top of the wall, and new pins between the cylindrical wall and the adjacent masonry wall.

The Department also disagreed with our conclusions regarding the steel angles, plates, and anchors attached along the buttress and facing columns of the dome structure/system. The Department provided us the following information in September 2006:

- In March 2001, FEMA noted that there was pre-disaster damage to buttress # 7 but there was additional damage caused by the February 28, 2001, earthquake.
- In February 2002, a contractor reported to the Department a 25-step repair procedure with an estimated cost of \$318,000 to perform crack repairs and properly anchor buttress #7. The contractor included a detailed schedule that estimated an additional \$3.9 million cost if the other buttresses stones were re-set and anchored in the same manner at buttress #7.
- A Department engineering and architectural firm reported in February 2002 that based on its inspections and investigations, the Nisqually earthquake caused movement and distressed conditions in the Legislative Building dome and the eight buttresses, which provide its main support. The report concludes that all 16 pilasters<sup>15</sup> moved or were displaced. The letter provides the surveyor's measurements for the four pilasters that moved the most, ranging from 0.24 inch to 1.68 inches. The report recommended pinning the pilasters with stainless steel anchors to prevent future earthquake movement, which could lead to their failure.

**OIG comments and analysis.** We agree with the Department that the dome structure/system sustained eligible disaster related damages. However, the Department applied Section 406 hazard mitigation criteria to a broader area of work in the Legislative Building including mitigation of undamaged portions of the dome structure/system.

Regarding the fin walls, the December 31, 2001, draft of the updated seismic analysis explained that the new fin walls and new pins connect the cylindrical wall to the drum wall and provide overturning stability to the Upper Rotunda. A letter dated July 18, 2002, from the Project Director for the rehabilitation project stated the placement of concrete fin walls and anchoring the 1965

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<sup>15</sup> The pilasters are located on the sides of the buttresses. There are 16 pilasters, one on each side of the eight buttresses.

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shear wall to the building structure will stabilize lateral movement, stiffen the structure, and mitigate future cracking in this area. From all the documentation reviewed, we concluded that the work performed extended beyond reinforcement of the damaged sections of the existing drum wall.

We agree with the Department regarding eligible damage repairs to buttress #7 and one of its pilasters, which was out of plumb 1.68 inches according to the February 2002 report. FEMA reimbursed the Department's claimed cost of \$374,930 for the removal, repair, and reinstallation of buttress #7 (inclusive of the pilaster) in project 1567 and therefore, funded the mitigation costs associated with this damaged buttress. However, the other 15 pilasters did not sustain disaster damage and thus, were not eligible for Section 406 mitigation funding. In fact, the February 2002 report determined through survey, that excluding buttress #7, pilasters evidenced movement on only three buttresses; and each out of plumb condition represented less than one inch. Additionally, because the out of plumb state of the pilasters had been repaired after previous earthquakes by pumping mortar or grout between the stone and the brick backup, the out of alignment condition after the Nisqually earthquake could not be solely attributed to that earthquake. Therefore, the Department could not justify its claim for FEMA funding of the costly solution (pinning in position) when previous repairs for the minor misalignment consisted of placing mortar and grout in the opening. While the Department's contractor indicated it could cost as much as \$3.9 million to reposition and repair all buttresses and the pilasters to their pre-disaster condition, FEMA did not fund any meaningful repairs to the other 7 buttresses or 15 pilasters so as to qualify them for Section 406 hazard mitigation funding.

FEMA regulations, policy, and guidelines regarding public assistance funding for hazard mitigation work are clear.

- 44 CFR §206.223(a) requires that an item of work be required as a result of the disaster; 44 CFR § 206.226 allows work to restore eligible facilities on the basis of the design of such facilities as they existed immediately prior to the disaster; and 44 CFR § 206.226(c) adds that such work can include cost effective hazard mitigation measures not required by applicable standards.
- FEMA Policy 9526.1, *Hazard Mitigation Funding Under Section 406 (Stafford Act)*, indicates that proposals for measures not directly related to the damaged elements for which restoration work on a facility is performed are candidates for funding under Section 404 (Hazard Mitigation Grant Program). Section 406 funding is more appropriately viewed as stemming from, and related directly to, the repair work required as a result of the disaster.

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- FEMA's Public Assistance Policy Digest, FEMA 321 (October 1998) and Public Assistance Guide, FEMA 322 (October 1999) - Hazard mitigation is defined as cost-effective action taken to prevent or reduce the threat of future damage to a facility. These measures can only be applied to the damaged element of a facility. This is particularly important when conducting repairs to a portion of a system.

Appendix K to this report shows that repair costs to return the drum wall portion of the dome structure/system to its pre-disaster condition totaled only \$66,995. The mitigation cost of \$313,723 to construct fin walls may beneficially serve to stabilize the Upper Rotunda, however the expenditure is not a cost-effective or a prudent use of public assistance funding to mitigate potential cracks in the drum wall that may result from a future earthquake. Similarly, the \$192,495 claimed by the Department to attach steel angles, plates, and anchors along the undamaged buttresses and facing columns of the dome structure/system was not eligible under this grant.

**Ineligible renovation costs.** FEMA funded a \$20,431 item of work specified in project 1567 that did not appear to be disaster related. The scope of work identified that deteriorated, loose grout had to be removed from marble panels and the joints refilled with appropriate grout matching composition, color, and tooling of historical joints. Project records we reviewed did not include any convincing evidence that the deterioration of the grout was caused by the earthquake.

**Department Comments Regarding Renovation Costs.** The Department asserted that since FEMA approved the item of work in the project worksheet as "RegROUT Marble panels" and later added more descriptive language including "Remove deteriorated, loose grout and refill joint..." the work was eligible, properly funded, and reimbursed by FEMA.

**OIG comments and analysis.** Unless FEMA or the Department can provide evidence that the earthquake caused the damage to the grout, the \$20,431 claimed by the Department should be disallowed because an item of work must be required as the result of the major disaster event to be eligible for financial assistance [44 CFR § 206.223(a)].

**Conclusion.** After considering all the information provided by FEMA and the Department, we continue to question \$526,649 in hazard mitigation and renovation costs for components of the Legislative Building not damaged by the disaster. The hazard mitigation costs questioned totaled \$506,218 because the work performed and the costs claimed did not pertain to damaged elements of the building. The remaining \$20,431 represented grout work that



FEMA described as deteriorated, loose grout – not necessarily work required as a result of the earthquake. In total, this finding questions \$526,649.

### D. Claimed and Reimbursed Amounts Exceeded the Department's Improved Project Cap

The Department claimed and was reimbursed \$415,536 more than the improved project cap of \$828,919 for five items of work (project 1567). The \$415,536 consisted of \$377,291 in excess construction costs, \$30,785 in associated sales taxes, and \$7,460 for testing costs that the Department claimed twice.

Table 5 below shows amounts claimed in excess of the eligible disaster related work capped by FEMA when it approved the improved project. While some of the Department adjustments may have reflected a better assessment of costs with the passage of time, such cost re-assessments are not allowed for grant assistance designated as an improved project.

**Table 5**

Item Claimed	Approved Costs	Amount Claimed	Excess Claimed	Excess Tax Claimed*	Total Costs Claimed in Excess
Walls and Ceilings	\$783,505	\$ 969,642	\$186,137	\$14,965	\$201,102
Molding/ Cracks	45,414	111,186	65,772	5,288	71,060
Grout Work	0	92,500	92,500	7,770	100,270
Delaminated Plaster Repair	0	32,882	32,882	2,762	35,644
Subtotal	\$828,919	\$1,206,210	\$377,291	\$30,785	\$408,076
Testing	7,460	14,920	7,460	0	7,460
Total	\$836,379	\$1,221,130	\$384,751	\$30,785	\$415,536

\*The Department claimed 8.04% in sales tax for all project costs.

The following bullets provide details regarding the costs in excess of the improved project cap.

- Walls and ceilings. This item of work was approved August 7, 2002, and consisted of repairing 22,284 square feet of walls and ceilings at an estimated cost of \$783,505. However, the Department claimed 27,578 square feet of walls and ceilings that increased the CEF Part A estimate (February 7, 2003) to \$969,642. The 5,294 square feet not approved by FEMA resulted in the Department exceeding the improved project estimate by \$186,137 (\$969,642 - \$783,505), plus \$14,965 in related sales tax.

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- Molding/cracks. This item of work was approved August 7, 2002, and consisted of repairing 1,566 square feet of molding and building cracks. The Detail Damage Description and Quantities report of August 8, 2002, estimated the cost at \$45,414. However, the Department claimed \$111,186 and therefore increased the CEF Part A estimate (February 7, 2003) by \$65,772 (\$111,186 - \$45,414), plus \$5,288 in related sales tax.
  - Grout work. The Department's claim included \$92,500 in repair costs and \$7,770 in related sales tax for grout work not originally included in the August 2002 project worksheet but subsequently reflected in the CEF Part A estimate (December 11, 2003). While not included in the approved improved project, the Department asserted that the costs were incurred to repair the building to pre-disaster condition.
  - Delaminated Plaster Repair. The Department's claim included \$32,882 in delaminated plaster repair costs and \$2,762 in related sales tax not originally included in the August 2002 project worksheet. The increased cost pertained to the contractor erecting scaffolding in the building's elevator shafts in the spring of 2003 and discovering an additional 603 square feet delaminated plaster damage. The work was identified nearly 2 years after the disaster and 1 year after the improved project designation.
  - Testing. The Department claimed \$7,460 twice for contractual testing services (hollow-clay tile flexural test) included in the improved project. The Department included the completed project cost as a separate line item in the Completed Project Summary for version 1 that totaled \$5,203,387, subsequently added the \$7,460 on the project worksheet report, and received total funding of \$5,210,867.

According to 44 CFR § 206.203(d)(1) and CEF Guidelines, federal funding for improved projects is limited to the federal share of the approved estimate of eligible costs. Also, 44 CFR § 206.202 places the responsibility on the applicant to identify all eligible work and notes that in a joint effort (applicant, the state, and FEMA), the project worksheet is developed, identifying the eligible scope of work and a quantitative estimate for the eligible work.

Since federal regulations cap funding for improved projects, the Department did not have a basis to claim and FEMA did not have the authority to fund additional public assistance for disaster costs not identified in the March 2002 FEMA award for project 1567. Therefore, we question the \$415,536.

**Department comments**. The Department disagreed with this finding and noted that the damage quantities and cost increases did not represent "better"

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cost estimates as we concluded but were attributable to significant hidden damage that was inaccessible for assessment and quantification due to the size and configuration of the building. In a meeting between FEMA, the Emergency Management Division, and the Department on February 1, 2002, FEMA affirmed that hidden damage was eligible in an improved project subject to FEMA verification. Overall, the Department asserted that FEMA Region X officials (1) were aware of claimed costs changes referenced as hidden damages and (2) in fact, were processing these increases on the appropriate CEF forms.

Department officials stated that FEMA did not approve the state's request for the improved project until March 22, 2002. As of April 27, 2001, the Department believed that the work would be an improved project when the governor and legislature made their decision about the Legislative Building rehabilitation project and approved the budget and debt financing. Further, the Legislature directed that the project be completed before the Legislature reconvened in January 2005 (2001 Wash. Advance Legis. Serv 8, §157). Therefore, in order to complete the project before January 2005, the Department could not delay starting the work pending identification of the hidden damage and including it in the approved improved project estimate.

**OIG comments and analysis.** We agree with the Department's comments regarding FEMA's agreement in principle that damage to hollow clay tile behind plaster cracks and damage behind the wainscot would be treated as potential hidden damage. In fact, we communicated our agreement to the Department during the audit and accepted \$122,111 in claimed cost for Item 5.1a – delaminated plaster in the second funding supplement to the project worksheet. However, the Department did not provide us any additional documentation that the costs we questioned were attributable to hidden crack damage behind the wall coverings or wainscot.

In our view, an August 2002 letter from the Legislative Building Rehabilitation Project Director to the Emergency Management Division expanded the Department's interpretation of hidden damage to include any additional damage (or rehabilitation work) that contractors identified. For example, the letter states that actual quantities of delaminated plaster that exceed the 22,284 square feet amount proposed in project worksheet Version 1 would be considered hidden damage. The Department noted in December 2002 that repair quantities changed from 22,284 square feet in CEF Part A item 5.1 to 27,578 square feet while Version 1 of the project worksheet was being reviewed. However, the Department did not provide us documentation that the increase in square footage was attributed to hidden earthquake damages as defined by FEMA in their February 1, 2002 meeting.

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The CEF is part of the large project formulation process to develop cost estimates for projects, and the estimates are used as the basis for obligating funds. CEF guidelines generally require reconciliation of final eligible costs for large projects resulting in a supplemental Project Worksheet adjusting the approved award up or down. For improved projects, the guidelines allow the CEF to be applied to the base cost to calculate the "capped" final estimate and indicate that any expenditure in excess of that amount will be borne by the applicant because the work actually accomplished normally differs significantly from the eligible, disaster related work described in the project worksheet.

While FEMA agreed that hidden damages were an eligible item of work and changes to original estimates of disaster damage would be acceptable, the Department did not provide us convincing evidence that met the definition of "hidden damages" as explained by FEMA to the Department in the minutes of their February 1, 2002 meeting. FEMA agreed to treat damages to hollow clay tiles behind plaster cracks and damage behind the wainscot as potential hidden damage. To qualify the additional damages had to be earthquake related; identified exposed damages had to lead to covered areas; and the newly discovered damages had to be located behind historically sensitive materials (such as a particular area of wainscot). Further, 44 CFR § 206.203(d)(1) and CEF guidelines, are clear that federal funding for improved projects is limited to the federal share of the approved estimate of eligible costs. Therefore, we continue to question the \$415,536 (\$408,076 plus \$7,460).

### **E. The Department Claimed Ineligible Straight Time Labor Costs**

The Department claimed \$35,992 in force account labor costs not eligible for federal reimbursement. The Department's records supporting the claim showed that the costs related to straight-time hours applied to emergency work that was erroneously identified as permanent work. The Department's staff explained that sometime following the completion of the emergency work, accounting staff re-classified the labor costs as permanent work and submitted the charges for FEMA reimbursement. Table 6 identifies the 11 projects and the emergency work costs that were not related to the scopes of work for these projects.

According to 44 CFR § 13.20 (b)(5), subgrantees are required to follow Office of Management and Budget (OMB) cost principles, agency program regulations, and terms of grant and subgrant agreements in determining reasonable and allocable costs. OMB Circular A-87, 2 CFR Part 225, Cost Principles for State, Local, and Indian Tribal Governments, Appendix A,

**Table 6**

Section C provides that for an item of cost to be allowed it must be reasonable and allocable to a particular cost objective. Further, 44 CFR § 206.228(a)(4) indicates that the straight or regular-time salaries and benefits of a subgrantee's permanently employed personnel are not eligible in calculating the cost of eligible work when performing emergency protective measures.

Project Number	Cost Not Related to The Project Scope
64	\$ 2,671
193	472
907	635
931	1,356
1362	1,218
1363	5,436
1364	3,587
1505	194
1565	6,881
1567	11,126
1718	2,416
Total	\$35,992

**Department comments.** Department officials disagreed with this finding but did not provide any further clarification as to why the emergency work was included in the permanent work project worksheet. These officials said they stood behind their claim for reimbursement, and FEMA's approval and payment of the claim.

**OIG comments and analysis.** Since the Department's claim included straight time labor costs not related to the 11 projects' scopes of work, the costs were not properly allocable to the objectives of these project and therefore should not have been included with the Department's claim for permanent work reimbursement. Thus, we continue to question the \$35,992 as an unallowable project cost.

## **F. The Department Claimed Administrative Allowance Costs as Project Costs**

The Department claimed \$71,101 in expenditures covered by FEMA's statutory administrative allowance. According to 44 CFR § 206.228(a)(2)(ii), the Department is reimbursed for the direct and indirect costs associated with requesting, obtaining, and administering public assistance based on a statutory percentage allowance. FEMA's Response and Recovery Directorate Policy # 9525.6 of April 22, 2001, says that administrative allowance activities are often considered by subgrantees to be project specific but are actually grant administration activities that are not eligible as a direct project supervision and management cost.

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Based on direct project costs claimed, FEMA paid the Department an administrative allowance of \$144,735. However, the Department also claimed direct project costs for the following administrative allowance type activities:

- For project 1855, the Department claimed \$61,325 in contractor costs associated with attending meetings with FEMA's representatives; analyzing earthquake damages for the purpose of preparing project worksheets, assisting the Department in negotiating reimbursements with FEMA; and developing the Department's strategy for pursuing FEMA mitigation projects.
- For project 1368, the Department claimed \$8,176 in contractor costs to evaluate FEMA's project quantities and values and to draft discussion points (scope of work issues) to be reviewed with FEMA based on either the project worksheet or FEMA's initial damage assessment.
- For projects 193 and 1565, the Department claimed \$1,600 (\$800 each) for a contractor's efforts to develop a method to document earthquake repair work and building conditions so as to ensure future FEMA reimbursement for earthquake damage repairs.

Since the regulations limit administrative costs to the percentage allowance, such costs claimed as direct project costs are not eligible for FEMA reimbursement. Therefore, we question the \$71,101 in direct costs claimed by the Department for the above administrative type activities.

**Department comments.** The Department officials disagreed with this finding and believe that the costs were project specific as evidenced by the fact that FEMA reimbursed them for costs claimed.

**OIG comments and analysis.** The Department did not provide documentation or support to show that the costs were project specific and not subject to the regulatory administrative allowance paid by FEMA. The fact that FEMA paid the costs claimed does not validate the eligibility of the work as a direct project cost.

## **G. The Department Claimed and was Reimbursed for Pre-Disaster Damage**

The Department improperly claimed \$450 for tunnel repairs under project 1363. FEMA had previously determined the work to be ineligible because the damage existed before the earthquake. According to 44 CFR § 206.223 (a)(1) to be eligible for financial assistance, an item of work must be required as the result of the major disaster event.

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**Department comments.** The Department officials disagreed with this finding and believe that the costs were proper because FEMA reimbursed them for the claimed amount.

**OIG comments and analysis.** The Department did not provide documentation or support to show that the earthquake caused the damage. The fact that FEMA paid the costs claimed does not validate the eligibility of the work as a direct project cost.

### **Recommendation**

We recommend that the Regional Administrator, FEMA Region X, in coordination with the Emergency Management Division disallow \$4,899,578 in costs claimed by the Department

The objective of the audit was to determine whether the Washington Department of General Administration (Department) expended and accounted for Federal Emergency Management Agency (FEMA) funds according to federal regulations and FEMA guidelines.

The Department received a public assistance grant award of \$21.7 million from Washington's Emergency Management Division, a FEMA grantee, for projects related to debris removal, emergency protective measures, and repairs to road systems, water control facilities, buildings and equipment, and public utility systems damaged by the February 28, 2001, Nisqually earthquake. The award provided 75% federal funding for 21 large projects and 16 small projects. The audit covered the period February 28, 2001, to September 14, 2005, and included a review of nine large projects with a total award of \$18 million, and a limited scope review of four large projects with a total award of \$1.3 million. The bulk of our audit work dealt with repairs and upgrades to the Olympia Campus Legislative Building, two projects with a total award of \$12.5 million. Appendix B provides a schedule of the individual projects we audited.

We performed the audit under the authority of the Inspector General Act of 1978, as amended, and according to *Government Auditing Standards* issued by the Comptroller General of the United States. The audit included a review of FEMA, Emergency Management Division, and Department records, a judgmental sample of project expenditures, and other auditing procedures considered necessary under the circumstances.

We discussed audit results with officials from FEMA, Emergency Management Division, and the Department throughout the audit and again at our June 2006 exit conference with the Department and the Emergency Management Division. In September 2006, Department officials provided a written summary and various documents to explain why the questioned costs in our report should not be disallowed. We reviewed the information provided by the Department, and as appropriate, amended our findings. We summarized the Department's written comments in the body of this report and included our analysis and comments regarding the Department's position on the findings. In September 2006, FEMA Region X officials were also provided with the Department's responses. Those officials indicated they would comment on our report after it is issued.

Major contributors to the audit are identified in Appendix L.



Appendix B  
 Schedule of Projects Audited and Questioned Costs

Project Number	Amount Awarded	Amount Questioned	Finding Reference
64	\$ 480,065	\$ 2,671	E
193	862,386	1,272	E, F
1362	531,947	1,218	E
1363	747,462	5,886	E, G
1364	381,811	3,587	E
1368	723,286	8,176	F
1565	1,749,965	7,681	E, F
1567	11,171,098	4,803,161	A, B, C, D, E
1855	1,350,386	61,325	F
907*	110,952	635	E
931*	436,927	1,356	E
1505*	217,244	194	E
1718*	531,397	2,416	E
Totals	\$19,294,926	\$4,899,578	

Finding Legend:

- A. Improper Use of the Cost Estimating Format Allowed the Department to Claim Excessive Costs
- B. The Department Claimed Repair Costs That Were Not Earthquake Related
- C. The Department Claimed Hazard Mitigation and Renovation Costs Not Eligible for Public Assistance Funding
- D. Claimed and Reimbursed Amounts Exceeded the Department's Improved Project Cap
- E. The Department Claimed Ineligible Straight Time Labor Costs
- F. The Department Claimed Administrative Allowance Costs as Project Costs
- G. The Department Claimed and was Reimbursed for Pre-Disaster Damage

\* The scope of our review was limited to sampling of claimed force account labor amounts. The FEMA award for these four projects was \$1,296,520.

Construction began in 1920 and the governor and legislature first occupied the building in 1928. Over a 72-year period, the building increased in occupancy from 144 people in 1928 to 555 in 2000.<sup>16</sup> In April 1999, the legislature established the Commission on Legislative Building Preservation & Renovation. Prior to the February 2001 earthquake, the Commission set out to determine the estimated costs and the resources to fund (1) the renovation and preservation of the building to address aging plumbing, heating, ventilation, electrical systems; pervasive water leakage; and deterioration of the stone; and (2) seismic upgrades to mitigate future earthquake damage.<sup>17</sup>

*Space Use Study & Rehabilitation Plan Options* issued by the Commission in November 2000 estimated that basic renovation and preservation work would cost about \$85.8 million and seismic upgrade work would cost between \$20 million and \$30 million. Seismic upgrades consisted of attaching exterior sandstone in selected areas such as the ornamental stone at the dome gutter, the cornice above both new and proposed exits, and the soffits of the north and south porticos.

The Commission's enabling resolution directed them to first consider using trust revenues dedicated as the state's funding source for capital improvements to governmental buildings. As such, the Commission developed a financing plan to pay for the majority of the \$105.8 million project using bonds repaid with timber revenues dedicated to supporting state capital buildings.<sup>18</sup>

The general contractor/construction management firm engaged to do the renovation, preservation, and seismic work signed contract documents on the morning of February 28, 2001; virtually minutes before the Nisqually earthquake occurred. The selection process for awarding the contract is chronicled in Appendix J.

Subsequent to completing the renovation, preservation, and seismic upgrade projects, the Washington State Senate noted in Resolution 8672 that the project was massive in scope, costing \$120 million raised mostly from the sale of timber on state trust lands.

In response to our review of, and comments on the pre-disaster planning undertaken to renovate, preserve, and seismically upgrade the building, the Department acknowledged that, the Commission and the Department were developing proposals for rehabilitating the Legislative Building, including some semi-detailed concepts of options to provide to the decision makers. However, at the time of the earthquake, no authoritative decisions or legal commitments had been made to proceed with any of the work. The Department indicated that no detailed design work had been completed prior to the earthquake. Rather, the Department/state architect were developing or proposing concepts and gathering information that could be used in developing plans. Although the governor and legislature had approved and funded pre-design services, neither had authorized or funded the proposed Legislative Building rehabilitation construction project prior to the disaster. The Commission's rough project cost estimates merely provided information necessary for the decision makers to make an informed decision.

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<sup>16</sup> Reports note that the Legislative Building was originally designed for 155 people.

<sup>17</sup> Major earthquakes occurred in 1949 and 1965 requiring substantial repairs to the Legislative Building.

<sup>18</sup> Section 12 of the State Enabling Act of 1889, ch. 180, 25 Stat. 676 (Feb. 22, 1889) authorized the use of public lands for construction of capitol buildings. The timber revenues were used in the 1920s to construct the Legislative Building.

Appendix D  
Summary of CEF Guidelines

CEF Part	Part Title	Description	Factor Percentage <sup>19</sup>
<b>PART A "Base Costs" for Construction Work in Trades</b>			
A.1	Permanent Work	Necessary work items to repair or replace damaged elements of a facility.	
A.2	Non-Permanent Job Specific Work	Job-specific work activities or equipment needed to complete the permanent work, but removed with project completion.	
<b>PART B General Requirements and General Conditions</b>			
B.1	General Requirements	General requirements of construction specifications for permanent work estimated in Part A.1 (Skip if the same costs are included in Part A.2).	4
B.2	General Conditions	Prime contractor's on-site project management costs	4.25
<b>PART C Construction Cost Contingencies (Design and Construction)</b>			
C.1	Design Phase Scope Contingencies	Preliminary Engineering Analysis Stage <sup>20</sup>	15 - 20
		Working Drawing Stage	2 - 10
C.2	Facility or Project Constructability	Premiums based on site conditions or construction process complexities (If addressed in Part A, Part C.2 factors are not to be used).	1 - 7
C.3	Access, Staging, and Storage Contingencies	Varying degrees of difficulty in mounting the particular job at a specific site.	1 - 4
C.4	Economies of Scale	Increases or decreases in cost resulting from task or project size.	Varies
<b>PART D General Contractor's Overhead and Profit</b>			
D.1	Home Office Overhead Costs	Main office expenses for all personnel plus all other operational expenses associated with working out of the main office.	7.7
D.2	Insurance, Payment and Performance Bonds	Allowance for the specified payments by the contractor.	3.3
D.3	Contractor's Profit	Profit based on a formulation shown in Table D.3.	Varies <sup>21</sup>

<sup>19</sup> Recommended percentage ranges applied to Part A estimates are provided in the CEF for Large Project Instructional Guide.

<sup>20</sup> When concepts have been developed without a significant level of detail, it is difficult to accurately quantify work and contractors assume a relatively high level of risk in bidding a project. In this scenario, the factor percentage range is 15 to 20%. However, when design is more advanced, concepts have been determined, detailing is more complete, and work tasks and quantities have been readily defined, the factor percentage range is between 2 and 10%.

<sup>21</sup> The set percentage is applied to the sum of Parts A, B, C, D.1 and D.2.

Appendix D  
Summary of CEF Guidelines

<b>CEF Part</b>	<b>Part Title</b>	<b>Description</b>	<b>Factor Percentage</b>
<b>PART E Cost Escalation Allowance</b>			
	Cost Escalation Allowance	Adjusts the estimated construction costs to account for inflation during the design and construction period.	Calculated
<b>PART F Plan Review and Construction Permit Costs</b>			
F.1	Plan Review Fees	Fees charged by state and local agencies for plan reviews.	Calculated
F.2	Construction Permit Fees	Fees charged by state and local agencies for construction permits.	Calculated
<b>PART G Applicant's Reserve for Construction</b>			
	Applicant's Reserve for Construction	When appropriate and selected, this Part is used to estimate approved change orders to eligible work.	If applicable 3 - 7
<b>PART H Applicant's Project Management and Design Costs</b>			
H.1	Applicant's Project Management - Design Phase	Cost includes managing architectural and engineering contracts for final design, managing the permitting and special review process, and interfacing with other agencies.	1
H.2	Architectural and Engineering Design Contract Costs	Cost of basic design and inspection services.	Calculated
H.3	Project Management – Construction Phase	Project management cost incurred during the construction phase (advertising and awarding the construction contracts; decisions on construction problems, and requests for information, etc.).	3 – 6

Appendix E

Summary of Ineligible Project Costs Resulting from the Improper Use of the CEF

The Department applied Parts B through H factor percentages to Part A funding estimates for each funding phase of project worksheet 1567 (primary funding - \$2,338,085; first funding supplement - \$2,350,132, and second funding supplement - \$403,001). We adjusted each funding phase amount by the costs we questioned in other findings in the report, thus determining the following revised funding estimates of eligible disaster repair cost upon which the CEF factor percentages should have been applied to Part A: primary funding - \$1,714,489; first funding supplement - \$1,571,751; and second funding supplement - \$267,087.

Table E-1 below identifies the questioned costs for Parts B through H attributable to the factor percentages that differed from those specified in FEMA's CEF Guide (\$1,996,545), those associated with the application to ineligible and excess costs discussed in other findings in the report (\$1,235,535), and those resulting from mathematical error on the CEF forms prepared by the Department (\$14,605).

Table E-1

CEF Item	Description of CEF Item	CEF Line Item Questioned Cost		
		Primary Funding	First Funding Supplement	Second Funding Supplement
B.1	<b>Safety &amp; Security</b> – When items such as scaffolding, harnesses, rope riggers, and safety fencing are items included as non-permanent work in Part A, they cannot be duplicated in B.1 (CEF for Large Project Instructional Guide page 30). Applicable to Primary Funding Only.	\$ 116,904		
B.1	<b>Safety &amp; Security; Temporary services; Quality control; Submittals</b> (Primary funding includes only Temporary Services, Quality Control; Submittals) – Adjustments for CEF factor claimed costs for ineligible claimed project costs.	24,944	\$ 70,054	\$12,232
B.2	<b>General Conditions</b> - Adjustments for CEF factor claimed costs for ineligible claimed project costs.	26,503	33,081	5,776
C.1	<b>Standard Design/Phase Scope Contingencies.</b> - The project should be evaluated to determine the design phase at the time the estimate is prepared. The range for this Part is from 2 to 20% based on the level of working drawings. Projects in the final working drawing stage should be assigned a factor at the lower end of the range. (CEF Guide page 32) While the Department noted that available schematic plan constitutes working plans for all repairs including rehab work and that the risk to contractor is reduced with the decrease in unknowns, it assigned a 15% factor. We used a 5% factor as a reasonable determination of the design contingency.	304,385	310,228	4,005

Appendix E

Summary of Ineligible Project Costs Resulting from the Improper Use of the CEF

Table E-1 (continued)

CEF Item	Description of CEF Item	CEF Line Item Questioned Cost		
		Primary Funding	First Funding Supplement	Second Funding Supplement
C.2 C.3	<b>Facility or Project Constructability; and Access, Storage, and Staging Contingencies</b> - The constructability factor represents site conditions or construction process complexities such as steep site embankments; unstable soil conditions, difficult subsurface construction conditions requiring activities such as de-watering and rock excavation. The factor percentage ranges from 1 to 7%, but if all complexities are considered in Part A, the C.2 factor should not be used. (CEF Guide page 33). The Department used a 7% factor without explanation. We used a 3.5% factor, which we determined was more reasonable and consistent with the CEF Guide, because the Department: (1) lacked supporting documentation for its 7% factor percentage and (2) the Department included project complexities in Part A.	215,428	229,788	39,832
D.1 D.2 D.3	<b>General Contractor's Home Office Overhead Costs; General Contractor's Insurance, Payment, and Performance Bonds; and Contractor's Profit</b> - Adjustments for CEF factor claimed costs for ineligible claimed project costs.	224,377	243,153	41,510
E	<b>Cost Escalation Allowance</b> - the formula uses the mid-point of construction for eligible disaster repairs (CEF for Large Project Instructional Guide pg 36). The Department incorrectly used 31 months in its calculation and miscalculated monthly escalation factors.	357,088	389,218	10,780
F.2	<b>FEMA Standard 2% for Repairs</b> - Adjustments for CEF factor claimed costs for ineligible claimed project costs.	37,864	41,078	5,001
H.1, H.2, H.3	<b>Applicant's Project Management - Design Phase; A/E Design Contract Cost; Project Management - Construction Phase</b> - Adjustments for CEF factor claimed costs for ineligible claimed project costs.	221,819	240,400	41,236
	Total Questioned Cost by Versions	\$1,529,312	\$1,557,001	\$160,372
	Sum of all Questioned Costs	\$3,246,685		

Appendix E.

Summary of Ineligible Project Costs Resulting from the Improper Use of the CEF

Table E-2 below identifies the costs we questioned as ineligible or excess in Findings B, C, and D of this report. Because these costs were included in the Part A estimates of construction costs, the application of Parts B through H factor percentages resulted in excess CEF costs that were included in the improved project cap for project 1567. The excess CEF costs of \$1,235,536 shown below are included in Table E-1 and shown in Table E-2 to match excess CEF costs with claimed costs questioned in other audit findings.

**Table E-2**

Description of Questionable Claimed Cost	Costs Questioned in Findings B through D	Excess CEF Costs
<b>Costs Not Earthquake Related (Finding B)</b>		
Column Pinning	\$269,008	
Related Scaffolding Cost	289,478	
Sales Taxes for Claimed Cost	44,679	
Totals	\$603,165	\$458,864
<b>Ineligible Hazard Mitigation Hazard Mitigation Costs (Finding C)</b>		
Additional Fin Walls to the Dome Structure	\$289,413	
Anchors Along Buttress and Facing Columns	177,578	
Sales Taxes for Hazard Mitigation	39,227	
Re-Grout of Marble Panel C	20,431	
Totals	\$526,649.00	\$445,921
<b>Costs Exceeding the Improved Project Cap (Finding D)</b>		
Grout Work	100,270	
Molding & Cracks Repairs	71,060	
Scaffolding in Elevator Shafts (Spring 2003)	35,644	
Walls & Ceiling Repairs	201,102	
Hollow Clay Tile Flexural Test Claimed Twice	7,460	N/A
Totals	\$415,536	330,751
Grand Totals	\$1,545,350	\$1,235,536

**Table E-3**

<b>Summary of Questionable Claimed Cost</b>	
Description	Total per Finding
Finding A – CEF Excess Cost – Table E - 1	\$3,246,685
Findings B through D – Questioned Cost not Earthquake Related; Ineligible Hazard Mitigation Costs; and Cost Exceeding the Improved Project Cap – Table E - 2	1,545,350
Finding E – Ineligible Straight Time Labor Costs	35,992
Finding F – Claimed Administrative Allowance Costs as Project Costs	71,101
Finding G – Claimed and Reimbursed Pre-Disaster Damage	450
Total Questionable Claimed Costs	\$4,899,578

Appendix F  
Residual Effects Caused by CEF Errors

There are residual effects on other Parts of the CEF estimate when one Part contains duplicated costs or when factor percentages are in error or misapplied. The example below shows the effect on Parts C through H estimates caused by the duplicate estimate we identified in Part B. The example illustrates the methodology we used to adjust the Department's estimate of eligible disaster repair costs. Because project 1567 was an improved project and capped at the estimate of eligible disaster repair costs, over-estimating CEF costs resulted in over payments to the Department. For other large projects, FEMA reimburses the subgrantee for actual eligible costs incurred.

CEF	Residual Effect	Accumulated Total
<b>Part B General Requirements and General Conditions</b>		
B.1 General Requirement Questioned (Costs duplicated in Part A)		\$116,904
<b>Part C Construction Cost Contingencies (Design &amp; Construction)</b>		
C.1 through C.3 Working Drawings; Facility or Project Type; Various	\$23,965	
Total through Part C		140,870
<b>Part D General Contractor's Overhead and Profit</b>		
D.1 through D.3 GC's Home Office Overhead, Insurance, Profit	24,096	
Total through Part D		164,965
<b>Part E Cost Escalation Factor</b>		
E Cost Escalation	2,253	
Total through Part E		167,219
<b>Part F Plan Review and Construction Permit Costs</b>		
F.2 Permit Fees	3,344	
Total through Part F		170,563
<b>Part H Applicant's Project Management and Design Costs</b>		
H.1 through H.3 Design Phase, Architecture & Engineering Design Contract Costs, Construction Phase	19,445	
Total through Part H		\$190,007
Net Cost Increase to Part B from other CEF factors	\$73,103	



Appendix G  
Examples of the Department's Analysis of Project Complexity

Item	Damage Description/Scope of Work	Department's Comment	Additional Details by Department	Estimated Amount
<b>Exterior Repair Work</b>				
1.2	Buttress #7 - Reinstall seven stones previously removed	The stones were removed for safety reasons		\$91,400
1.3	Ornate Carving at Buttress #7 - Reattach the flower petal	The ornate carving was removed to facilitate the removal of stones		100
1.5	Spalled stone at colonnade column base - Plastic repair - 18"x 6"x 3" deep stone to match the original in quality, color, and texture	The determination was based on a photo shown by applicant	Also, \$60 for three each 8" long stainless pins, epoxy, and matching mortar & one stone mason @ \$59.99 per hour for 5 hours	393
1.6	Column/braces - Remove previously installed collar and braces	Column collar/braces were previously installed as protective measures	2 skilled @ \$59.99 per hr & 2 laborers @ \$55.51 per hr for 3 hours per column brace	8,682
1.7	Buttress stone braces - Remove previously installed braces	The buttress braces were previously installed as protective measures	2 skilled @ \$59.99 per hr & 2 laborers @ \$55.51 per hr for 3 hours per row of braces	3,617
2.2	Spalled stone at Lantern - Dutchman repair	The applicant reported the lantern suffered no damage aside from the spalling of one small stone and other minor spalls	Bosun's chair, safety harness, & ropes in non-perm. Work, 1 foreman, climber, & rigger for 1.5 days, crane/operator in non-perm. Work	3,562
<b>Interior Repair Work</b>				
1.1	Interior dome colonnade - Plaster repair around circumference of both top and bottom of decoratively finished columns - Plaster repair in-kind around circumference of both top and bottom of columns	The quantity was based on field measurement. The plaster finish on the 32 columns supporting the inner masonry dome cracked around the circumference at the top and bottom of all the columns	The Department Cost Sheet dated 4/30/01 - Ornate plaster price given since much of the work involves curved, irregular surfaces.	12,775
7.1	Damaged marble - repair cracks in place	Schedule had the comment "see attached comments regarding marble"	Quote from Wood & Stone for resin, colorants, fine stone or dust & shipping, 1 skilled @ \$59.99/hr & 1 laborer @ \$55.51/hr for 2 days each	5,017
8.4	Repair Cast Iron Steam Radiators by re-installing wall brackets Reinstall wall brackets	This quantity is in addition to 60% of 43 radiators wall brackets already repaired by Force Account Labor	2 skilled for 3 hours per radiator to reinstall wall brackets. MEANS 16 <sup>th</sup> edition, 2001 page 1072	8,106

Appendix H  
 Comparison of Department and OIG CEF Calculations for Part C

The sum of CEF Parts A and B is multiplied by the factor percentage for Part C to obtain the respective values (**the Department's Factors and Cost Estimation**). The base estimated costs (Part A) increased by Part B produced adjusted bases for each funding phase: \$2,647,881 for primary funding, \$2,661,524 for first funding supplement, and \$456,398 for the second funding supplement. The tables below illustrate the impact of the Department's use of excessive factor percentages. Our calculations are applied to base costs that have been adjusted by the ineligible or excessive work included in Department's base amounts for the three funding phases.

Project	The Department's Factors and Cost Estimation				OIG's Determined Factors and Cost Estimation			
	C.1 %	C.1 Totals	C.2 %	C.2 Totals	C.1 %	C.1 Totals	C.2 %	C.2 Totals
Primary	15%	\$397,182	7%	\$185,352	5%	\$132,395	3.5%	\$ 92,676
First Supplemental	15%	399,229	7%	186,307	5%	133,076	3.5%	93,153
Second Supplemental			7%	31,948				15,974
Totals		\$796,411		\$403,607		\$265,471		\$201,803

Questioned Cost Summary			
	C.1 Amounts	C. 2 Amounts	Totals
Department Totals	\$796,411	\$403,607	\$1,200,018
Less: OIG Totals	(265,471)	(201,803)	(467,274)
Factor Amount Questioned	\$530,940	\$201,804	\$732,744
Plus: Effect of Over Estimate of Part C Costs on Parts D through H	179,329	69,925	249,254
Total Questioned Costs	\$710,269	\$271,729	\$981,998

- The Department claimed \$190,007 in duplicative costs by including non-permanent safety costs in Part A.2 as well as Part B.1.

**Department comments.** Department officials disagreed with us and stated that CEF instructions do not prohibit estimating non-permanent safety equipment costs in both Parts A.2 and B.1. They explained that the costs included in Part A.2 were not the same as those included in Part B.1. Part A.2 itemized the extraordinary large cost items (e.g., scaffolding, cranes, man-rigs; and “construction aid” tools) directly required to perform earthquake repairs and mitigation. Part B.1 was designed to provide an expedient allowance for the smaller normal general construction project requirements, rather than spending time compiling and negotiating all of these minor costs, which are incidental to construction projects. They explained that cranes and dumpsters were not safety or security items and thus, would not be duplicated in the safety and security allowance included in Part B.1. They also stated that a senior estimator working for the contractor indicated that typical projects included minor safety and security items in a small tool allowance that was generally based on 3.5% of a project’s cost.

**OIG comments and analysis.** While we understand the Department’s logic regarding Part A.2 and B.1 estimates, the Department provided no documentation supporting that costs estimated for Part B.1 were needed for smaller normal general construction project requirements. In December 2005 and June 2006, we requested proof of the costs incurred for eligible non-permanent work or equipment that was included in Part B.1 (the project was completed at the time of our review). We were not provided with any supporting records for Part B.1 costs, and we determined from our review of contractor invoices that the contractor generally combined safety costs with the costs of material and equipment—a cost we would expect to see included in the Part A.1 estimate.

Lastly, the CEF Guide not only provides the requirements for completing Parts A.2 and B.1 but also provides examples of case scenarios in Appendix B, *Examples of Completed CEF Spreadsheet*. *Example 3 – Union High School District Building* shows the treatment of non-permanent costs such as scaffolding; and notes scaffolding included in the list for part A.2 and nothing (0%) allowed for B.1.

- The Department claimed \$981,998 in excessive costs relating to the factors used for Part C.1 (*Design Phase Scope Contingencies*) and Part C.2 (*Facility or Project Constructability*).

**Department comments regarding Part C.1.** Department officials did not agree with this part of the finding and explained that we identified a clerical error caused by revisions to the CEF form [an earlier draft of the CEF form had a range of 15% to 20% (not a 2% to 10%)]. They stated that the estimated costs for the Part were consistent with the status of the project, i.e., “Preliminary Engineering Analysis” phase. They explained that while schematic design work was completed in September 2001, this was only the first step in completing the “Preliminary Engineering Analysis” phase. Department officials said that when the CEF forms for the

primary funding action and the first funding supplement were finalized, extensive design development was ongoing and working drawings had not been prepared.

**OIG comments and analysis.** The Department's argument was inconsistent with pertinent information we identified in project records. The \$710,269 questioned in the report was determined irrespective of what version of the CEF form the Department used. The disaster related design phase had progressed beyond the Preliminary Engineering Analysis Stage and FEMA had reimbursed all those eligible claimed costs under project 1855. We confirmed the total schematic design costs claimed for the building (FEMA funded earthquake damages, renovations, and the state funded seismic upgrades). Project records showed that as of December 2005, schematic design costs totaled \$2.2 million for building renovations and earthquake repair work. The contractor records we reviewed supported \$1,347,211 in pre-design and schematic design costs of which \$1,045,843 had been billed by the contractor through December 2000 (pre-disaster). The remaining \$301,368 was funded and reimbursed by FEMA under large project 1855 for "Earthquake Damage Assessment and Repair Design Services". The Department records we reviewed did not include documentation explaining how, based on the percentage claimed by the Department, the remaining \$852,789 in schematic design costs consisted of \$796,411 for FEMA funded earthquake damage repairs and only \$56,378 in additional schematic design costs for the Department to perform a \$100 million plus renovation project. Thus Department records did not support FEMA funding any further Preliminary Engineering Analysis Stage costs.

In June 2006, we requested the Department to provide documentation, such as additional contractor billings related to the working drawing design phase, to support their use of a 15% factor. The Department provided no additional information. Therefore, based on the FEMA's prior reimbursement of the Preliminary Engineering Analysis Stage design work claimed costs, Part C.1 Notes on the progress of the Working Drawing Stage, and the CEF Guide's instruction to apply factor at the lower end of the range as a project progresses to the final working drawing stage, the re-calculation of Part C.1 at 5% is appropriate.

**Department comments regarding Part C.2.** The Department disagreed and stated that it was not aware that FEMA had not documented project complexity so as to support using a 7% factor percentage. The Department explained that the work deserved the higher percentage because:

1. The building is a unique monumental structure, one of the few grand domed structures in the world. Its grandiose features are magnificent to view, but create extreme constructability challenges.
2. The building has many complex and ornate features that required very "skilled craft labor" (e.g. stone carvers, masons, faux painters, etc...).
3. The project required very specific and scarce building materials – a constructability criterion to be considered during project formulation.

4. The CEF Guide identifies “steep site embankments” as another assessment criterion that the Department likened to working at great heights. This work complicates and reduces the efficiency of all construction activities from staging of tools and materials, transporting workers, making inspections, etc.

**OIG comments and analysis.** The Legislative Building is a unique monumental structure requiring skilled craft labor and specific building materials and presented constructability challenges. However, as noted in the finding, the Department addressed many of the work complexities in Detail Damage Description and Quantities Reports and in its Base Costs for Construction Work (Part A). Appendix G provides examples of the complexities identified and the associated costs of accomplishing this work.

In April 2001, the Department discussed and documented the possibility of using the higher percentages provided in the CEF for project contingencies (Parts B through H). Also, the Department’s Legislative Building Meeting Minutes of February 1, 2002, noted

FEMA agreed to look into increasing the CEF factors. The Department would like the maximum percentage used in all cases. The Department is requesting that FEMA increase the C1 factor from 18% to 20% for the design phase. The Department is also requesting the contingency for C2 be increased from 0% to 7%.”

The CEF Guide notes that the format for addressing non-construction costs is allowable under Part 13 of 44 CFR; and that the factors represent costs that an applicant could reasonably expect to incur to repair disaster related damages during construction. The CEF Guide further provides that excessive mark-ups for possible contingencies are not allowable under the provisions of 44 CFR Part 13. Under normal large project formulation procedures, estimates are determined but only actual costs are reimbursed. However, because this project was an improved project, the Department agreed to be reimbursed for the estimate of disaster related repairs. By estimating non-construction costs for facility or project constructability without sufficient support or justification, the estimate of disaster related repairs was overstated. In our judgment, a mid range factor percentage of 3.5% for any additional complexities not previously identified by the Department was more reasonable.

- The Department claimed \$824,540 in excessive costs relating to the computation of cost escalation factors (CEF Part E).

**Department comments regarding CEF Part E.** The Department disagreed that cost escalation factor used for Part E was erroneous. The Department explained that neither the Department nor FEMA could locate a project timeline for use in the factor calculation, but believed that FEMA’s use of the 31 months in the calculation was proper. The Department stated that it did not disagree with the OIG’s use of readily available data to provide the basis for calculating the

escalation estimate, but noted that it was more appropriate to calculate the cost using the “improved project” timeline rather than the timeline for completing FEMA eligible disaster repairs.

The Department stated that the CEF Guide (page 36) allows for cost escalation to account for inflation during the design and construction period. The Department said that the design process began in May of 2001 after project approval thus marking the beginning of the inflation period. The Department referenced an October 2002 report in its project files that indicated that the improved project construction would start in October 2002 and be completed by October 31, 2004. Using this 25-month construction period and the 18-month design and bidding period yielded a total inflation period of 31 months. The Department noted that Example 3 in Appendix B of the CEF Guide supported its methodology.

**OIG comments and analysis.** The Department’s methodology for preparing the CEF Part E estimate was inconsistent with the CEF Guide. The CEF Guide states:

- The construction timeline must be referenced to the eligible scope of uncompleted work only, and the criterion also applies to improved and alternate projects as well.
- The escalated cost of construction is equal to: Escalated cost = (sum of Parts A through D) x (number of months to the midpoint of uncompleted construction) x (escalation factor).

Irrespective of the example used by the Department, the CEF guide is clear on determining the construction mid-point for eligible disaster repairs only. Further, we confirmed with the FEMA officials responsible for the CEF Guide, that the methodology noted in Example 3 in Appendix B would not be appropriate for a project under construction. Details in the finding provide the basis for our determination of the mid-point used in determining the escalation factor.

The Department did not justify or address the impact of using a 3-year index average rather than a 2-year average. While summarized in the finding, the table below depicts the calculations we used to determine the 2 and 3-year averages and the associated monthly cost values for the primary funding phase shown previously in Table 3.

Engineering News Record Construction Cost Index - City of Seattle		Index changes, Index Percentage Escalations, and Monthly Cost Values			
January/ YR	Cost Index	CEF Guide 2-Year Computation		Department 3-Year Computation	
2001	6281				
2000	6130				
1999	6000	281	<u>1/</u>		
1998	5852			429	<u>4/</u>
<b>Index Percentage Escalation</b>		0.04683	<u>2/</u>	0.073308	<u>5/</u>
<b>Monthly Cost Value</b>		0.001951	<u>3/</u>	0.003054	<u>6/</u>

## Appendix I

### Additional Department and OIG Comments on the Use of the CEF

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- <sup>1/</sup> Base year value - 2001 (6,281) minus 1999 value (6,000) equals the index change over a 2-year period (281).
- <sup>2/</sup> [Index change over 2-year period (281) divided by 1999 value (6,000)] times 100 equals the percentage escalation of the index over the 2-year period (.04683 or 4.683%).
- <sup>3/</sup> Escalation of the index over the 2-year period (.04683) divided by 24 months equals the monthly cost value (.001951).
- <sup>4/</sup> Base year value - 2001 (6,281) minus 1998 value (5,852) equals the index change over a 3-year period (429).
- <sup>5/</sup> [Index change over 2-year period (429) divided by 1998 value (5,852)] times 100 equals the percentage escalation of the index over the 3-year period (.073308 or 7.3308%).
- <sup>6/</sup> Escalation of the index over the 3-year period (.073308) divided by 24 months equals the monthly cost value (.003054).

As indicated, the Department's methodology resulted in a higher monthly cost value that, when multiplied with the Department's excessive construction mid-point and applied to the sum of Parts A through D resulted in an excessive computation of escalation cost included in the improved project cap.

The following events occurred in the selection and award process for a general contractor/construction management firm for the Washington State Legislative Building Renovation and Preservation project.

- A committee of 16 individuals comprised of engineers, architects, legislators, and academicians was formed to serve as the general contractor/construction management firm selection panel for Project Number 2000 -224, Legislative Building Rehabilitation and Capital Addition.
- General contractor/construction management firm solicitations required proposals submittals by January 25, 2001. The multi-phased project had an initial budget of \$76,290,000 for rehabilitation of the heating, ventilating, cooling, plumbing, and structural systems; seismic anchorage of exterior sandstone; and other site improvements.
- The selection panel considered information on how to score contractor proposals on January 26, 2001, and agreed to complete the scoring of proposals by February 1, 2001. The selection panel met on February 6, 2001, to interview the two finalists.
- On February 21, 2001, a letter was sent to a general contractor/construction management firm notifying them of their selection to perform the project. Another letter sent on February 27, 2001, identified and requested documents needed from them as the selected general contractor/construction management firm.
- A contract with a guaranteed contract cost clause was signed on February 28, 2001, for \$216,000. The contract anticipated that the renovation and seismic upgrades work on the Legislative Building was to be funded in four phases:
  - (a) 99-01 Biennium Part (A) for \$216,000 (based on the Legislature's appropriation and/or authorization of funding, and the satisfactory performance of the work as determined and approved by the state);
  - (b) 01-03 Biennium Parts (B) through (E) for \$22,080,050;
  - (c) 03-05 Biennium Parts (F) through (I) for \$50,343,232;and
  - (d) 05-07 Biennium Parts (J) through (L) for \$10,936,900.



Appendix K  
Actual Drum Wall Repair Costs

The following table shows the description, scope, and cost of work identified in project records that we determined was necessary to return the Drum wall to its pre-disaster condition.

Description	Scope of Work	Qty in Units	Comment	Estimate
"Pink" wall – elev. 218'-10" to 236'	Repair plaster in-kind	94 SF	This area was verified through close inspection of the wall. The area of damage is calculated as 3% of 3,129 SF the total pink wall area	\$ 6,937.50
Moldings – elev. 207'-9" to 218'-10"	Repair chips/cracks in-kind	101 SF	The area of damage is calculated as 5% of 2,019 SF	7,500.00
Moldings – elev. 236' to 241'-10"	Repair chips/cracks in-kind	91 SF	The area of damage is calculated as 10% of 911 SF	3,000.00
Moldings – elev. 269'-6" to 279'-2"	Repair chips/cracks in-kind	88 SF	The area of damage is calculated as 5% of 1,762 SF	6,000.00
Soffit/Bulkhead at top of inner colonnade columns – elev. 269'-6"	Repair chips/cracks in-kind	121 SF	The area of damage is calculated as 15% of 804 SF	3,025.00
Drum wall cracks in plaster – "blue" wall elev. 241' to 271'	Repair Plaster in-kind	2,200 SF	This area was verified through close inspection of the wall. The quantity is based on approx. 29% of 7,540 SF	22,500.00
Paint – "blue" wall – elev. 241' to 271'	Paint all "blue wall"	7,540 SF	Entire blue wall area	6,590.16
Paint – Ornamental finish Cost estimate shown as \$6,732.20; Actual estimate used in the CEF was 11,441.85 thus that is the reportable amount	Paint to match all repair areas included in initial funding	644 SF	Paint to match in line with historical consideration Section 9.04	11,441.85
Total cost of eligible damage repair to achieve pre-disaster condition				\$66,994.51

Appendix L  
Major Contributors to this Report

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Robert Lastrico, Western Regional Director  
Humberto Melara, Supervisory Auditor  
Curtis Johnson, Auditor

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