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United States General Accounting Office

GAO

Report to the Administrator,
Environmental Protection Agency

November 1987

INTERNAL CONTROLS

EPA Needs to Improve Controls Over Change Orders and Claims



134435

**Resources, Community, and
Economic Development Division**

B-216946

November 17, 1987

The Honorable Lee M. Thomas, Administrator
Environmental Protection Agency

Dear Mr. Thomas:

As you are aware, the Federal Managers' Financial Integrity Act requires agencies to assess and report to the President and the Congress on the adequacy of the internal controls in their programs and functions and on whether the controls comply with standards prescribed by the Comptroller General. In accordance with the act, over the past several years, the Environmental Protection Agency (EPA) has evaluated the internal controls in the Construction Grants Program. It has taken actions to correct three grants management weaknesses that it identified in the process of reviewing change orders and settled claims, both of which are agreements to change a construction contract. The weaknesses involved the reviewing agencies' (1) having to request additional information from grantees in order to process the change orders or claims; (2) having difficulty reviewing claims in a timely manner; and (3) not documenting and notifying the grantees of the basis for their decisions on the funding of the change orders or claims. As part of our ongoing evaluation of how agencies improve their internal control systems, we undertook a review of EPA's corrective actions to determine if they have been effective in correcting the weaknesses.

In summary, our preliminary work indicated that EPA had alleviated its three identified grants management weaknesses. EPA's corrective actions included issuance of new and revised guidance and training for reviewing agency personnel. (See app. I.) However, during our work we found an additional serious weakness: Change orders and claims are being approved for federal funding without adequate documentation being submitted to support the need for the work and/or the reasonableness of the costs. The weakness exists because EPA's guidance to the agencies that review and approve change orders and claims (the U.S. Corps of Engineers and various state agencies) is interpreted differently than intended and is not consistently applied. Further, the EPA regions we reviewed were not maintaining oversight of the reviewing agencies' actions. This weakness in the internal controls could result in federal funds being used for unauthorized or improper purposes.

Background

EPA's Construction Grants Program is carried out under the Federal Water Pollution Control Act, as amended. This act and its amendments created the wastewater treatment construction grants program and authorized partial federal financial assistance in constructing municipal wastewater treatment plants.

EPA awards grants—\$47 billion appropriated since fiscal year 1973—to states, municipalities and other eligible units (grantees) for planning, designing, building, altering, and expanding municipal wastewater treatment facilities. As of September 30, 1987, approximately 1,600 treatment facilities were under construction nationwide. This program represented approximately 64 percent of EPA's fiscal year 1986 expenditures.

To receive federal funding for change orders or settled claims, EPA's regulations and policies stipulate that the grantee must show that the work covered by the change order or claim is necessary and reasonably priced. EPA's change orders and claims guidance state that the construction contractor is responsible for preparing and submitting the proposed change order or claim to the grantee. Using the proposal, the grantee negotiates the conditions of change with the construction contractor and then prepares and submits the change order or claim, along with the supporting documentation, including a description of and need for the change and cost and pricing data, to the EPA-designated reviewing agency—the state and/or the U.S. Corps of Engineers. The reviewing agency is responsible for checking the documentation for completeness and adequacy and determining the allowability of costs for federal funding. EPA regional offices have the responsibility for monitoring the program functions as carried out by the reviewing agencies. Change orders and claims require special attention because the proposed work is not subject to competitive bidding.

Objective, Scope, and Methodology

Our initial objective was to determine whether EPA's corrective actions had corrected its three identified grants management weaknesses. Our work indicated that these three weaknesses had been alleviated, but we found an additional weakness in the documentation being submitted by grantees to support change orders and claims. Therefore, we expanded our objective to determine whether the documents in the reviewing agencies' files adequately supported the necessity of the work and the reasonableness of the costs.

To achieve our objective and because data were not readily available on the universe of change orders and claims, we structured our work along the line of EPA's 1984 internal control review of change orders and claims. To obtain a geographical representation, we selected three EPA regions and two states within each region. From these 6 states we randomly selected grants for review, and from these grants picked 51 change orders as follows:

- In order to reflect current practices, we selected a grant's most recent change order for which federal funds had been approved.
- We did not select change orders that involved quantity adjustments, price reductions, or time extensions because these types of changes may not have any additional costs associated with them or the costs are based on a competitive price established in the initial construction contract.

We also reviewed 13 claims that grantees and contractors had settled between July 1985 and October 1986.

In addition, we interviewed personnel at EPA headquarters, in the EPA regions, and at the reviewing agencies in the six states and determined the policies and procedures applicable to the review and processing of change orders and claims. (See app. I for additional details.) We performed our work between April 1986 and June 1987 in accordance with generally accepted government auditing standards.

Documentation Supporting Change Orders and Claims Is Inadequate

Many of the change orders and claims that we reviewed did not have adequate documentation supporting the need for the work and/or the reasonableness of the costs, that is, one or more of the items of documentation identified in EPA's guidance was missing or incomplete. We estimate that at least 1 item of documentation would be inadequate in about 120, or 64 percent, of the 189 cases meeting our criteria. We estimate that such inadequately documented cases, which were all approved for federal funding, amounted to \$1.9 million, or about 46 percent of the total estimated amount of \$4.2 million. (See apps. III, IV, and V for details of our sampling and estimation procedures.)

The items of documentation we found to be inadequate most frequently were the engineer's independent cost estimate and the memorandum of negotiations. We estimate that independent cost estimates would be inadequate in 50 percent of the cases and the memorandum of negotiations in 52 percent of the cases. In an estimated 48 percent of the cases,

both of these documents would be inadequate. These two documents are important because they provide a basis for verifying and evaluating the construction contractors' cost estimate and demonstrating that a fair and reasonable price was obtained. (See app. II.)

EPA Guidance Is Being Misinterpreted and Inconsistently Applied

Change orders and claims are being approved without adequate documentation to support the need for the work and/or the reasonableness of the costs because EPA's guidance is being interpreted differently than intended and is not consistently applied.

The intent of EPA's guidance for the Construction Grants Program, according to EPA headquarters officials, is for the grantee to submit adequate documentation to support the need for the work and the reasonableness of the costs. The guidance, according to those officials, identifies the documents and the level of detail needed to support the decision to approve the change order or claim.

Reviewing agencies, however, interpret the guidance permissively, believing that it is left to the discretion of the grantee and reviewing agencies as to what documentation, if any, is needed. In some instances, in their opinion, their personal knowledge of a project is sufficient to determine the need for the work and the reasonableness of the costs. In other instances, if the change order or claim costs are a small amount or involve noncomplex work, the reviewing agencies do not believe documentation is necessary.

In addition, reviewing agencies are not consistently requesting supporting documentation when it is not included by the grantees with their change orders and claims. For example, reviewing agencies approved two change orders—one for \$5,140, the other for \$55,621—without the grantees' submitting or the reviewing agencies' requesting the cost data or evidence of negotiations. Conversely, a reviewing agency refused to approve a \$5,000 claim because the grantee did not submit an itemized cost breakdown as requested.

EPA Not Monitoring Reviewing Agencies

The EPA regions we reviewed were not carrying out their responsibility to maintain oversight of the reviewing agencies. EPA has established two controls—periodic assessment of the agencies' review and approval process and annual reviews of the state program functions. Our review identified instances where neither the periodic nor the annual reviews have recently assessed the change order or claims review function.

In the six states, delegation agreements between the EPA regional offices and the reviewing agencies provide that EPA is to periodically assess the agencies' review and approval of change orders and claims. EPA regional office and state reviewing agency officials told us, however, that EPA has not been performing these assessments.

EPA regional offices are also to monitor the overall performance of the reviewing agencies through annual reviews of how each state is carrying out its program functions. However, according to EPA officials, regions III and V do not have enough staff to review all aspects of the program each year, so they review only the areas of most concern, which have not included change orders and claims recently. Region IX conducted such reviews in 1986 and found no major problems in change orders or claims.

Conclusions

EPA, as part of its Federal Managers' Financial Integrity Act responsibilities, has taken actions to correct weaknesses it identified in the review and approval of change orders and claims. However, EPA needs to take further actions. On the basis of our six-state review, an estimated 64 percent of these states' change orders and claims meeting our criteria have been approved for funding without adequate documentation from the grantees to support the need for the work and/or the reasonableness of the costs.

This condition exists because of two factors. First, EPA's guidance is being interpreted differently than what is intended and is not being consistently applied. EPA headquarters officials stated that documentation is needed for each change order and claim while reviewing agency personnel believe that personal knowledge of a project can suffice in certain cases.

We believe that documentation is necessary to support the basis for decisions that are made to approve change orders and claims for federal funding. Without adequate documentation it is difficult for management or other interested parties to determine if a satisfactory review was performed and all aspects of the requested change order and claim were properly evaluated. Further, in the absence of documentation, management has little assurance that the control objective of supporting the need for the work and the reasonableness of the costs is being met.

Second, EPA is not carrying out its responsibility to maintain oversight of the reviewing agencies. Although controls have been established for the

EPA regional offices to oversee or supervise the reviewing agencies' change orders and claims review process, the controls are not always being implemented. We believe that if the EPA regions had maintained oversight of the reviewing agencies' actions, EPA could have detected the misinterpretation of the change orders and claims guidance and the lack of documentation in the project files.

The Financial Integrity Act requires that the systems of internal control for agencies' programs and operations comply with the standards prescribed by the Comptroller General. Two areas—documentation and monitoring of reviewing agencies—need to be improved. The weakness that currently exists in the controls could result in federal funds being used for unauthorized or improper purposes.

Recommendations

Accordingly, we recommend that you take the following corrective actions:

- Direct the Director, Office of Municipal Pollution Control, to issue a memorandum directive on the change orders and claims guidance to clearly explain what the intent of the guidance is and what documentation is required to support the need for the work and the reasonableness of the costs.
- Direct EPA's regional offices to carry out their monitoring and oversight responsibilities of reviewing agencies' review and processing of change orders and claims.
- Direct the Director, Office of Municipal Pollution Control, to perform follow-up reviews of the corrective actions to ascertain that the internal controls are in place, being implemented, and are effective in providing reasonable assurance that change orders and claims are adequately supported and properly evaluated.

In addition, in view of the significance of the weakness identified in the internal controls over the administration of change orders and claims, and until such time as it is corrected, we recommend that you include the weakness in your annual Financial Integrity Act report to the President and the Congress.

Agency Comments and Our Evaluation

In commenting on a draft of this report, EPA stated that it generally concurred with our findings and proposed recommendations and that, with the exception of the first recommendation, it would implement the suggested corrective actions. With respect to the first recommendation, in

the draft report we proposed that EPA should revise and clarify the change orders and claims guidance to clearly explain what the intent of the guidance is and what documentation is required to support the need for the work and the reasonableness of the costs. EPA advised us that they thought the intent of this recommendation could be carried out more easily and efficiently by issuance of a directive memorandum, which would be incorporated into the guidance, rather than a complete revision of the guidance. On the basis of our discussions with EPA on this matter, we believe the corrective action suggested by EPA should accomplish the intent of our proposal and we have revised our recommendation accordingly.

EPA also advised us that it would consider including this weakness in its fiscal year 1987 Financial Integrity Act report.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs no later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen of the above Committees and the Director, Office of Management and Budget.

This work was performed under the direction of Sarah Frazier Jaggar, Associate Director. Other major contributors are listed in appendix VI.

Sincerely yours,

A handwritten signature in black ink that reads "J. Dexter Peach". The signature is written in a cursive, flowing style.

J. Dexter Peach
Assistant Comptroller General

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Abbreviations

EPA	Environmental Protection Agency
FIA	Federal Managers' Financial Integrity Act
GAO	General Accounting Office

EPA's Evaluation of Internal Controls

As part of its fiscal year 1984 Financial Integrity Act (FIA) work, EPA performed an internal control review of the Construction Grants Program and reported a material weakness in the program. The weakness consisted of seven areas of the program needing improvements in the system of internal controls. EPA indicated that significant potential for mismanagement of federal, state, and local funds existed in these areas. One of the seven areas identified involved the management of change orders and claims.¹

EPA's FIA Review Work

The purpose of EPA's review of the change orders and claims management area was to determine the effectiveness of the various control techniques (regulations, policies, and guidance) that are used in the Construction Grants Program to review, process, and approve change orders and claims. The objective of these control techniques is to ensure that the work covered by the change orders and claims is necessary and that the cost of the work is reasonable. Change orders and claims require special attention since the proposed work is not subject to competitive bidding. Consequently, each step in the review process becomes critical to ensure that the additional work is necessary, reasonably priced, and allowable for grant participation.

The review and approval of change orders and claims submitted by grantees for federal funding is performed for EPA by individual states and/or the U.S. Corps of Engineers. These reviewing agencies check the submitted documentation for completeness and adequacy and the allowability of costs for federal funding.

EPA's work included a review of 72 change orders and claims in 3 selected geographical regions and focused on answering certain questions, including the following:

- Are change orders and claims properly documented by the grantee?
- Are change orders and claims processed in a timely manner by state agencies and the Corps of Engineers?

¹A change order is a written order by the grantee to the contractor amending the construction contract to authorize an addition, deletion, or revision in the work to be done and/or the time of its completion. A claim is a request by the contractor for funds to cover additional costs and/or time that has been initially rejected by the grantee, typically because some action or inaction by the grantee or a misrepresentation in the contract documents is alleged to have caused an involuntary change in the cost or time of performing the contract. A claim may become a change order if the grantee and the contractor reach a final agreement on the disputed amounts and/or time either through negotiation, litigation, or arbitration. Throughout this report we use the term "claim" to mean a change order resulting from the resolution of a claim.

- Are state and Corps of Engineers reviews of change orders and claims thorough enough to determine the need for the work, the reasonableness of the costs, and the allowability for federal funding?

Reported Weaknesses in Change Orders and Claims Management

EPA identified the following three weaknesses for the change orders and claims reviewed:

1. For 40 to 50 percent of the change orders reviewed and for 60 to 70 percent of the claims reviewed, the reviewing agencies had to request additional information from the grantee to process the change order or claim because the initial documentation submitted was inadequate.
2. The reviewing agencies were having difficulty reviewing claims in a timely manner because of their complexity and the lack of national guidance on claims.
3. The reviewing agencies were not documenting, in many project files, the bases for allowing or not allowing the funding of change orders and claims. Nor were they always notifying the grantees of the basis for their decisions.

EPA's corrective actions included issuance of claims management guidance, revision and issuance of a project management conferences manual, and training of reviewing agencies on documentation requirements. EPA reported in 1985 that the corrective actions, together with the 1983 change order guidance which EPA felt was adequate, had alleviated the weaknesses in the area of change orders and claims management.

Objective, Scope, and Methodology

As part of our efforts to evaluate how agencies are strengthening and improving their systems of internal control, we selected EPA's review and approval of change orders and claims under the Construction Grants Program to test its corrective actions. Our objective was to determine whether EPA had corrected the three weaknesses that it had identified. As a result of our preliminary work, which is discussed later in appendix I, we expanded our objective to ascertain whether the documents in the reviewing agencies' files adequately supported the necessity of the work and the reasonableness of the costs. Our review focused on the adequacy of the internal controls at the reviewing agencies. This is an important control point in the review process because it is the point at which the decision is made to approve or disapprove a change order or claim for federal funding. We did not perform any audit work at the

grantees to determine the validity of the project costs. The EPA Inspector General performs final audits of construction grants projects.

Because data were not readily available on the universe of change orders and claims, we paralleled our work to EPA's 1984 assessment. In this respect, in order to get a geographical representation, we selected three EPA regions—Region III in the East, Region V in the Midwest, and Region IX in the West—and two states within each region—Pennsylvania, Maryland, Michigan, Ohio, California, and Nevada. These regions and states had the largest number of construction grants in their respective areas. From the grants in those six states, we selected a sample of claims and grants that contained change orders that had been completed after June 1985, at least 3 months after EPA had determined its corrective actions to be complete. We estimated that a 3-month time period was a reasonable period for EPA's corrective actions to have taken effect. In addition, we randomly selected grants that had been under construction more than 3 months to increase the probability that a change order had occurred. We then deleted those grants that did not contain change orders.

After selecting the grant, we reviewed the most recent change order in the file. We eliminated those change orders that involved quantity adjustments, price reductions, or time extensions because these types of changes may not have any additional costs associated with them or the costs are based on a competitive price established in the initial construction contract. If we dropped the most recent change order for one of the above reasons, we reviewed the next most recent change order in the same grant file, until we found one that met our criteria. Finally, we eliminated those change orders that met our criteria but were ineligible for federal funding.

The locations at which we performed our work, the universe of grants, the estimated number of grants containing a change order that met our criteria, and the sample of change orders reviewed, are shown in table I.1.

Table I.1: The Locations, Total Grants, Grants Meeting Criteria, and Change Orders Reviewed

Location	Grants		Change orders reviewed
	Total	Estimated number meeting GAO criteria ^a	
EPA Region III			
Pennsylvania	229	38	10
Maryland	240	16	8
EPA Region V			
Michigan	112	34	11
Ohio	109	37	11
EPA Region IX			
California	90	42	6
Nevada	17	8	5
Total	797	175	51

^aSee app. III for details on estimating method.

From reviewing agencies' claims reports, we selected claims for our review that were noted as settled between the grantee and contractor between July 1985 and October 1986. Using our same criteria as for change orders, we identified and reviewed four claims in California, two in Ohio, and one in Pennsylvania. We identified no claims in Maryland. In Michigan we reviewed six of an estimated seven claims meeting our criteria. However, we reviewed none in Nevada because the reviewing agency had not distributed the new claims guidance to grantees. In addition to the 13 claims meeting our criteria, we reviewed a Pennsylvania claim that had been disapproved for lack of adequate documentation. This claim had no federal funds authorized and was not included in our analysis. However, it does illustrate the reviewing agencies' inconsistent application of EPA guidance. (See app. II.) Further details on the selection of change orders and claims are shown in appendixes III and IV.

Since we reviewed different proportions of grants for change orders meeting our criteria and different proportions of claims in each state, our estimates for the six states combined are weighted to account for differences in the universe sizes among the states. Because we reviewed statistical samples of grants with change orders and claims, each estimate developed from the sample has a measurable precision, or sampling error. The sampling error is the maximum amount by which the estimate obtained from a statistical sample can be expected to differ from the true universe value we are estimating. Sampling errors are stated at a certain confidence level—in this case 95 percent. This means that if we reviewed all grants with change orders meeting our criteria or

all claims in the 6 states, the chances are 19 out of 20 that the results of such a review would differ from the estimates obtained from our samples by less than the sampling errors of such estimates. Sampling errors associated with estimates made from the samples are given in appendixes II through V.

We interviewed personnel at EPA headquarters; EPA regions III, V, and IX; and the reviewing agencies in the six states. We determined the policies and procedures applicable to the review and processing of change orders and claims; and we reviewed documentation and reports, as well as the 64 cases (51 change orders and 13 claims).

GAO Preliminary Work

With respect to one weakness reported by EPA, our preliminary work in EPA Region V indicated that claims are being reviewed in a timely manner. EPA had previously reported that the review of claims was taking a long time, in some cases years. For five claims cases randomly selected and reviewed, we found that the agencies had taken from 2 to 6 months to review the cases and determine their allowability for federal funding.

Our work also indicated that a second weakness—not notifying the grantee of the basis of the reviewing agency decision—had been substantially corrected. In four of six change orders and claims in which any portion of the requested amount had not been allowed, the basis for the unallowability determination had been documented and communicated to the grantee.

For the third weakness, the need for reviewing agencies to frequently request additional information from grantees, our preliminary work indicated that in 11 of 15 cases, the reviewing agencies had not requested additional documentation. However, in examining the project files, we found an additional serious weakness. In this respect, our review indicated that the documentation in the files did not always adequately support the need for the work and/or the reasonableness of the costs. Nevertheless, the change orders and claims had been approved for federal funding. We discussed two cases with an EPA Region V official and he agreed that the documentation was not adequate. Since this problem seemed to be another serious weakness, we expanded our objective to include an examination of the adequacy of the documentation in the project files to support the need for the work and the reasonableness of the costs in our sample of 64 change orders and claims. The results of our examination of the adequacy of the documentation supporting change orders and claims is discussed in appendix II.

More Action Needed to Improve Controls Over the Review and Approval of Change Orders and Claims

Reviewing agencies are approving change orders and claims for federal funding without adequate documentation from grantees to support the need for the work and/or the reasonableness of the costs. This condition exists because the guidance issued by EPA for reviewing agencies to follow in reviewing and approving or disapproving change orders and claims is being interpreted differently than what is intended and is not being consistently applied. In addition, EPA is not maintaining oversight of the reviewing agencies' review and processing of grantees' change orders and claims. This internal control weakness could result in the unauthorized or improper use of federal funds.

Adequacy of Documentation to Support Change Orders and Claims

On the basis of the sample of 64 cases, we estimate that, in the 6 states reviewed, about 64 percent of the change orders and claims meeting our criteria do not contain adequate documentation to support the need for the work and/or the reasonableness of the costs. However, reviewing agencies had reviewed the change orders and claims and approved them for federal funding.

EPA's change orders and claims guidance identify the following items as documentation needed to support the change order or claim and demonstrate the need for the work and the reasonableness of the costs.

1. Need for the change—includes a clear statement of the merits of the change and why it was not in the original contract.
2. Clear description of the change—including revised plan and specification sheets.
3. Cost and pricing data—includes the construction contractor's cost breakdown, the grantee engineer's independent cost estimate, and in some cases, the grantee's cost/price analysis.
4. Memorandum of negotiations.
5. In the case of claims, information showing that the claim did not result from the grantee's or contractor's mismanagement.

The guidance points out that EPA regulations intend that the level of detail in the documentation required to support a change order or claim depends on the dollar amount and complexity of the change. For change orders and claims for amounts of \$10,000 or less, the guidance states that abbreviated documentation should be used, such as a telephone

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memorandum to serve as a memorandum of negotiation or sales slips, quotations, catalogs, and price lists to support the price paid.

We randomly selected 51 change orders and 13 claims, meeting our criteria, that had been submitted by grantees to the reviewing agencies for federal funding. For each change order and claim, we reviewed the project files to ascertain if the documentation submitted by the grantee supported the need for the work and the reasonableness of the costs. In those cases where the documentation was questionable, we held discussions with the reviewing agency and EPA regional office personnel to obtain their views on the adequacy of the documentation. Our estimates for the 6 states are based on our review of the 64 change orders and claims. We project that in the six states, \$4.2 million had been approved—\$2.9 million for change orders and \$1.3 million for claims that would meet our criteria.

With respect to the 64 cases in our review, we found that many of the change orders and claims did not have adequate documentation supporting the need for the work and/or the reasonableness of the costs. We estimate that at least one item of documentation would be inadequate in about 64 percent of the cases that met our criteria in the six states reviewed. We estimate that such inadequately documented cases amounted to \$1.9 million, or about 46 percent, of the estimated amount approved. Table II.1 summarizes the results of our review.

Table II.1: Adequacy of Documentation in Six States Reviewed for Cases Meeting GAO Criteria^a

Type of case	Cases reviewed	Estimated cases that would meet GAO criteria		Estimated percent of change orders/claims inadequately documented	
		Number	Amount of approved funding	Percent of cases	Percent of approved funding
Change orders ^b	51	175	\$2.9	64	51
Claims	13	14	1.3	55	33
Total	64	189	\$4.2	64	46

^aSampling errors of the estimates are given in appendix V

^bChange orders for which estimates are made are limited to the most recent change order meeting GAO criteria in a grant

The reviewed cases that contained inadequate documentation included change orders and claims for both over and under \$10,000. One case was a March 1986 change order for \$18,284, submitted by a grantee in Ohio. The change order was for materials and labor for an addition to the

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underdrain system in the sludge disposal area to facilitate the hauling and distribution of sludge during wet periods of the year. The reviewing agency approved this change order; however, the required cost/price analysis was not in the file.

In another case, in July 1986, a grantee in Michigan submitted a change order for \$9,990. The change order covered miscellaneous electrical work, additional small pieces of equipment, installation of a floor drain, and concrete work needed to lower a storage tank grade beam. The reviewing agency approved this change order; however, the project file contained no engineer's independent cost estimate and no memorandum of negotiation.

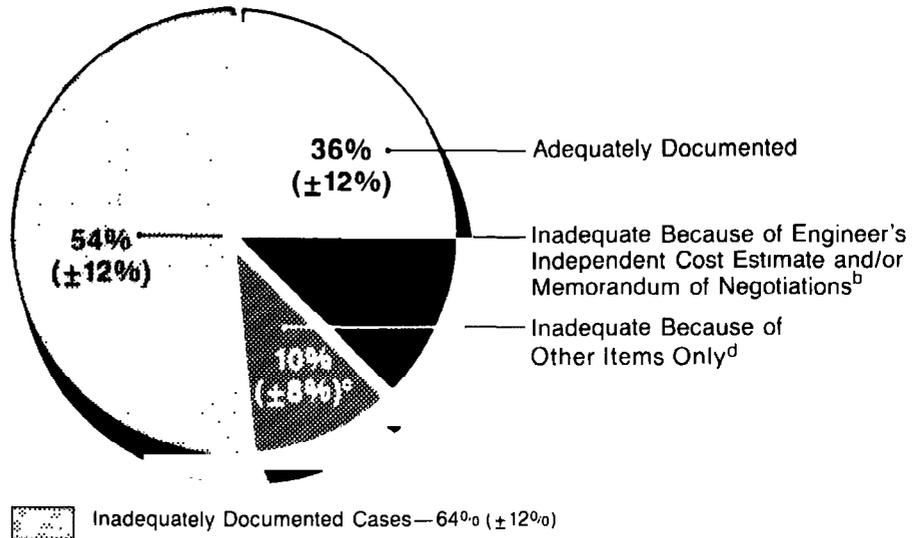
The percentage of change orders we found to be lacking documentation was similar to that for claims. Thus, we estimate that, in the six review states, 64 percent of the change orders and 55 percent of the claims that would meet our criteria would not have adequate documentation. The estimated amounts for these cases would be \$1.5 million for change orders and \$0.4 million for claims. (See app. V.)

The items of documentation most frequently inadequate were the engineer's independent cost estimate and the memorandum of negotiations. Independent cost estimates would be inadequate in an estimated 50 percent of the cases. The memorandum of negotiations would be inadequate in an estimated 52 percent. We estimate that in 48 percent of the cases, both of these documents would be inadequate. Because they provide a basis for verifying and evaluating the construction contractor's cost estimate and demonstrating that a fair and reasonable price was obtained, these two are important documents for reviewing agencies. Figure II.1 shows the estimated percentages of cases for which selected items of documentation would be inadequate.

In contrast to the cases with inadequate documentation, some of the cases in our sample contained documentation that supported the need for the work and the reasonableness of the costs. Cases with adequate documentation included one in Pennsylvania where, in October 1985, a grantee submitted a change order for \$1,933 for alteration of piping in the aeration tanks. The reviewing agency reviewed and approved the change order. The supporting documentation submitted by the grantee showed that the work was necessary to improve tank operation. To support the reasonableness of the costs, the contractor had initially submitted to the grantee a cost breakdown totaling \$2,204 for the work. The grantee's engineer prepared an independent cost estimate that indicated

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**Figure II.1: Estimated Percent of Cases
With Inadequate Documentation^a**



^aThe numbers in parentheses are the sampling errors of the estimates at the 95-percent level of confidence, that is, 95 times out of 100, the true value will differ from the estimated value by no more than the amount shown as the sampling error.

^bAlthough cases in this category may contain additional inadequate items, an estimated 50 percent (±12%) were inadequately documented because of the Engineer's Independent Cost Estimate; 52 percent (±12%), because of the Memorandum of Negotiations; and 48 percent (±12%), because of both items.

^cSampling error may be understated because we observed no change order cases in the Md. or the Pa. sample that were both (1) adequate because of the Engineer's Independent Cost Estimate and the Memorandum of Negotiations and (2) inadequate because of other items.

^dOther items include a clear statement of need or merit, a clear description of the change, etc.

that the contractor's labor hours were too high and that the total cost should be about \$1,933. As a result of negotiations, the contractor agreed to adjust the labor hours and accepted the engineer's cost estimate as a fair and reasonable price.

In another case, a grantee in Ohio submitted a change order in April 1986 for \$7,800. Because the documentation initially submitted by the grantee was not adequate, the reviewing agency requested a clearer description of the work, the engineer's independent cost estimate, and the record of negotiations. Upon receipt of this additional documentation, the change order was approved.

Misinterpretation and Inconsistent Application of EPA Guidance

Change orders and claims are being approved with inadequate documentation because reviewing agencies interpret EPA's guidance differently than intended and do not consistently apply that guidance.

EPA Guidance Being Interpreted Differently

According to EPA headquarters officials responsible for the Construction Grants Program, the intent of EPA's guidance is that the grantee is to submit either full or abbreviated documentation to support change orders and claims. They explained that the guidance identifies the documents and the level of detail needed to support the decision to approve the change order or claim and meet the control objective of supporting the need for the work and the reasonableness of the costs.

Reviewing agencies, however, are interpreting the guidance as being permissive in nature and believe that it is left to the discretion of the grantee and the reviewing agency as to what documentation is needed. They believe that documentation is not always necessary. In some instances, they believe their personal knowledge of the project allows them to make a judgment on the need for the work and the reasonableness of the costs. In other instances, the reviewing agencies believe it is not necessary to request documentation from the grantee when the change order or claim is for a small amount or the work is not complex.

With respect to the reviewers' personal knowledge, in California we were advised that reviewers visit the project sites, some on a weekly basis, where they communicate with the grantees, review the grantees' files, and thereby gain knowledge of the project and the changes taking place. However, according to our review of the project files, the reviewers do not routinely prepare written explanations as to the rationale used to arrive at their decisions to approve change orders and claims for funding. At the conclusion of our work in California, reviewing agency officials advised us that they would implement a procedure for reviewers to include written explanations of their decisions in the project files.

We noted this same condition in our review of the project files in Michigan. Upon completion of our work there, a reviewing agency official said that because of the number of questions we had concerning the lack of documentation, they would require reviewers to execute a memorandum to the file to document verbal follow-ups with grantees and decisions

made on the basis of personal knowledge. In May 1987 he advised us that this requirement will be incorporated into their revised procedures.

With respect to change orders and claims of a small amount—\$10,000 or less—a grantee in Ohio submitted a change order for \$1,167 for materials and labor to install electrical power to the automatic oiler for the sludge pumps. The reviewing agency reviewed and approved this change order. However, the grantee had not submitted an engineer's independent cost estimate or a memorandum of negotiation. The reviewer told us that the small dollar value was a reason why he approved the change order without the supporting documentation.

As previously discussed, the change order guidance states that EPA regulations intend that the level of detail required to support a change order or claim depends on the dollar amount and complexity of the change. It states that for change orders and claims with a price of \$10,000 or less, abbreviated documentation should be obtained and gives examples of what this documentation can be. The guidance does not say that no documentation is needed.

Further, the benefit of a reviewing agency's obtaining the necessary supporting documentation to verify the reasonableness of the costs, even for small change orders, is aptly demonstrated by the previously discussed change order for \$1,933. In that case, the grantee provided the supporting documentation illustrating that because the grantee's engineer prepared an independent cost estimate, the grantee was able to negotiate a reduction in the labor hours and costs. This documentation enabled the reviewing agency to make an informed decision on the reasonableness of the costs.

EPA Guidance Being Inconsistently Applied

Our review also indicated that because of the different interpretations that are being made of the guidance, reviewing agencies are applying it inconsistently. The agencies are not consistent in their requests for supporting documentation missing from grantees' submitted change orders and claims.

As previously stated, we reviewed one unfunded case, involving a claim for \$5,000 submitted by a Pennsylvania grantee in May 1986. The claim was for additional costs to the contractor because of changes to wiring drawings for the interface of pump station control panels, pump drive units, and the emergency generator. The reviewing agency refused to approve the claim for funding, citing the lack of a requested itemized

cost breakdown. Our review of the project file found no contractor's cost breakdown and no engineer's independent cost estimate.

In contrast, another Pennsylvania grantee's submission of a change order for \$5,140, which did not include an engineer's independent cost estimate or a memorandum of negotiations, was funded. The reviewing agency approved this change order without requesting the missing documentation.

In another case for a change order for \$55,621, a Michigan grantee did not submit a cost/price analysis, an engineer's independent cost estimate, or a memorandum of negotiations. The reviewing agency nevertheless approved the change order without requesting the supporting documentation.

Two reviewing agencies'—Michigan and Ohio—documentation requirements further illustrate that EPA's guidance is being interpreted and applied differently than what is intended. EPA's guidance calls for an engineer's independent cost estimate; a memorandum of negotiations; and if the change order amount exceeds \$10,000 and the grant was awarded on or after May 12, 1982, a cost/price analysis. The Michigan reviewing agency, however, requires these items only if the change order amount exceeds \$100,000. The Ohio reviewing agency considers the engineer's independent cost estimate mandatory but allows flexibility for the memorandum of negotiations and the cost/price analysis.

The Financial Integrity Act requires that agencies' systems of internal control for their programs and operations comply with the Standards For Internal Controls In the Federal Government specified by the Comptroller General. The standard for documentation requires written evidence of all pertinent aspects of transactions. The documentation must be easily accessible for examination. In addition, it should be complete and accurate and should facilitate tracing the transaction from inception to completion. Such documentation should also be purposeful and useful to managers in controlling their operations and to others involved in analyzing operations. The reviewing agencies' approval of change orders and claims without adequate supporting documentation does not meet this standard.

Inadequate Monitoring of Reviewing Agencies

When EPA identified weaknesses in 1984 in the internal controls for the review and processing of change orders and claims, it took several corrective actions and, on the basis of the actions, thought the problem had

**Appendix II
More Action Needed to Improve Controls
Over the Review and Approval of Change
Orders and Claims**

been alleviated. However, EPA did not perform any follow-up and testing of its corrective actions. Our review indicated that because EPA did not perform any follow-up and was not monitoring the reviewing agencies' actions, it was not aware that a more serious problem existed than it had identified.

EPA regional offices have responsibility for monitoring the program functions being carried out by the reviewing agencies. For the six states included in our review, delegation agreements between the EPA regional offices and the reviewing agencies provide for EPA to perform oversight of the agencies' review and approval of change orders and claims. However, this is not always being done. For example, the delegation agreements between EPA's Region III and the states of Pennsylvania and Maryland each provide for EPA to periodically review approximately 10 percent of the reviewing agencies' change order approval/disapproval actions. The agreement with Pennsylvania states that these reviews will be made once each quarter. EPA regional office and state reviewing agency officials told us, however, that EPA has not been performing these reviews.

Another way that EPA regional offices are to monitor the performance of the reviewing agencies is through annual reviews of how each state is carrying out its functions for the construction grants program. EPA headquarters officials told us that the regional offices do not have enough staff to review all aspects of the program each year, so they review only the areas of most concern. The most recent reviews that addressed change order documentation were made in 1982 for Pennsylvania and in 1984 for Ohio and Michigan. The reports for the Pennsylvania and Michigan reviews concluded that the change order processing was satisfactory while the report for Ohio indicated some problems with the adequacy of the documentation.

EPA's Region IX conducted reviews of California's and Nevada's construction grants programs in 1986. According to Region IX officials, the results of the California review, which focused on the change order process, were never formalized into a report. However, these officials recalled that the files were adequately maintained and in generally good order. The report on the Nevada review had findings dealing with change orders. Specifically, EPA noted that some supporting documentation lacked detail or clarity in the three change orders reviewed.

EPA headquarters is responsible for monitoring the work of the EPA regional offices and makes annual reviews of each office. During these

reviews it looks at how the regional office monitors each state's construction grants program operations and addresses any problem areas. According to headquarters program officials, because of limited resources, generally only areas of primary concern are addressed in these reviews, and documentation of change orders and claims is an area that has not been covered recently.

Another Comptroller General standard stipulates that qualified and continuous supervision is necessary to ensure that internal control objectives are achieved. EPA's lack of monitoring of its reviewing agencies does not adhere to this standard.

Effects of Approving Change Orders and Claims Without Adequate Documentation

Without adequate documentation to support the change order or claim, it is difficult for management or other interested parties to determine if a satisfactory review was performed and all aspects of the requested change order or claim were properly evaluated. The lack of documentation can also result in federal funds being wasted or misused and can have adverse effects on EPA, the reviewing agencies, and the grantees. Federal funds may be wasted or misused when reviewing agencies approve change orders and claims without adequate documentation because the work for which the change is being made may not be needed or reasonably priced. Further, all change orders and claims may not receive a final audit by the EPA Office of the Inspector General because, to maximize the use of its resources, it audits grants on a very selective basis. Thus the waste or misuse of federal funds may not be identified and the funds may not be recovered.

The Number of Grants and Change Orders Selected, With an Estimated Number of Change Orders Meeting GAO Criteria

Location	Number of grants	Grants sampled ^b	Change orders reviewed	Estimated ^a	
				Number of change orders meeting GAO criteria ^c	Percent of change orders meeting GAO criteria ^d
EPA Region III					
Pennsylvania	229	60	10	38 (± 19)	17 (± 8)
Maryland	240	120	8	16 (± 8)	7 (± 3)
EPA Region V					
Michigan	112	36	11	34 (± 14)	31 (± 13)
Ohio	109	32	11	37 (± 15)	34 (± 14)
EPA Region IX					
California	90	13	6	42 (± 23)	46 (± 26)
Nevada	17	11	5	8 (± 3)	45 (± 18)
Total	797	272	51	175 (± 37)	

^aThe numbers in parentheses are the sampling errors of the estimates at the 95-percent level of confidence, that is, 95 times out of 100, the true value will differ from the estimated value by no more than the amount shown as the sampling error

^bNumber of grants sampled to obtain the number of "Change orders reviewed"

^c"Estimated number of change orders meeting GAO criteria" is, more fully, the estimated number of grants that contain at least one change order meeting GAO criteria ("Percent of change orders meeting GAO criteria" times "Number of grants")

^d"Estimated percent of change orders meeting GAO criteria" is, more fully, the estimated percent of grants that contain at least one change order meeting GAO criteria ("Change orders reviewed" divided by "Grants sampled")

The Number of Claims Reviewed, With an Estimated Number of Claims Meeting GAO Criteria

Location	Number of claims ^b	Claims sampled ^c	Claims reviewed	Estimated ^a	
				Number of claims meeting GAO criteria ^d	Percent of claims meeting GAO criteria ^e
EPA Region III					
Pennsylvania	9	9	1	1	11
Maryland	6	6	0	0	0
EPA Region V					
Michigan	18	15	6	7 (±2) ^f	40 (±10)
Ohio	10	10	2	2	20
EPA Region IX					
California	7	7	4	4	57
Nevada ^g	•	•	•	•	•
Total	50	47	13	14 (± 2)	

^aThe numbers in parentheses are the sampling errors of the estimates at the 95-percent level of confidence, that is, 95 times out of 100, the true value will differ from the estimated value by no more than the amount shown as the sampling error. Where no sampling errors are shown, we examined the universe of claims.

^bNumber of claims from claims reports noted as settled between the grantee and contractor from June 1985 to October 1986

^cNumber of claims sampled to get the number of "Claims reviewed"

^dEstimated number of claims that would meet GAO criteria ("Percent of claims meeting GAO criteria" times "Number of claims.")

^e"Claims reviewed" divided by "Claims sampled"

^fThe lower bound of the confidence interval formed using the estimated sampling error is low because of the small universe and sample sizes. For example, according to the estimate, the lower bound is $7-2=5$ —but since we reviewed 6 claims meeting GAO criteria, the lower bound is at least 6

^gNevada claims were not reviewed because the reviewing agency had not distributed the new claims guidance to grantees

Adequacy of Documentation in Six States Reviewed for Cases Meeting GAO Criteria^a

Dollars in millions

Type of Case	Number of cases GAO reviewed	Estimated number of cases			Estimated dollar amount allowed on cases		Percent of dollars inadequately documented
		Inadequately documented	Total cases meeting criteria	Percent of cases inadequately documented	Inadequately documented	Total allowed	
Change orders ^b	51	113 (± 32)	175 (± 37)	64 (± 12) ^c	\$1.5 (± 0.7)	\$2.9 (± 1.3)	51 (± 22)
Claims	13	8 (± 2) ^d	14 (± 2) ^d	55 (± 8)	0.4 (± 0.1) ^e	1.3 (± 0.3) ^e	33 (± 9)
Total	64	120 (± 32)	189 (± 37)	64 (± 12)	\$1.9 (± 0.7)	\$4.2 (± 1.3)	46 (± 15)

Note: Totals and percents may not compute because of rounding.

^aThe numbers in parentheses are the sampling errors of the estimates at the 95-percent level of confidence, that is, 95 times out of 100, the true value will differ from the estimated value by no more than the amount shown as the sampling error.

^bChange orders reviewed and for which estimates are made are limited to the most recent change order meeting GAO criteria on a grant.

^cThe sampling error may be somewhat understated because 100% of the change orders in the Michigan sample were found to be inadequate. The computed sampling error for Michigan was zero and therefore is understated.

^dThe lower bound of the confidence interval formed using the estimated sampling error is low because of the small universe and sample sizes. We reviewed 13 cases meeting our criteria and found 7 to be inadequately documented. For example, according to the estimate, the lower bound is $8 - 2 = 6$ —but since we found 7 in the review, the lower bound is at least 7.

^eThe lower bound of the confidence interval formed using the estimated sampling error is low because of the small universe and sample sizes. See example in note d.

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