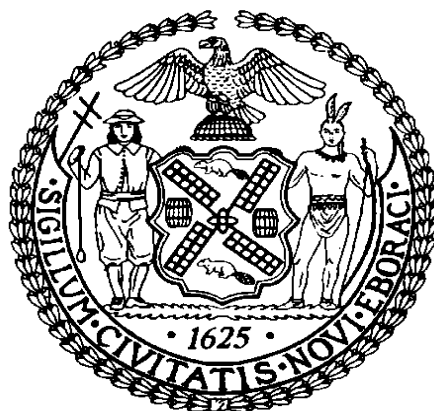


**CITY OF NEW YORK  
OFFICE OF THE COMPTROLLER**

**John C. Liu  
COMPTROLLER**

**FINANCIAL AUDIT**

**Tina Kim  
Deputy Comptroller for Audit**



**Audit Report on the Recoupment of Change  
Order Costs by the Department of  
Design and Construction**

*7E11-063A*

**June 20, 2011**



THE CITY OF NEW YORK  
OFFICE OF THE COMPTROLLER  
1 CENTRE STREET  
NEW YORK, N.Y. 10007-2341

John C. Liu  
COMPTROLLER

June 20, 2011

**To the Residents of the City of New York:**

My office has audited the Department of Design and Construction (DDC) regarding whether it has appropriate standards to reduce consultant design errors and omissions and recoup from consultants the cost of change order work that results from design errors and omissions. We audit agencies such as DDC as a means of ensuring compliance with procedures for recovering City funds.

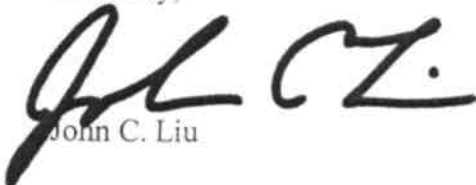
The audit found that DDC did not adhere to the standards for recouping from consultants the cost of change order work that resulted from design errors. Consequently, the Department has foregone an opportunity to recoup from consultants in Fiscal Years 2009 and 2010 up to \$702,580 in costs for change orders that were necessitated by design errors, and possibly \$2.2 million in change order work that was necessitated by design omissions. Furthermore, the Department did not always adhere to standards to preclude design errors and omissions from occurring in the first place. Additionally, the audit identified problems with classifying change orders and with accurately recording information about change order classifications in DDC's Standardized Change Order Record-Contract Overrun Request Entry (SCORE) system.

The audit recommends that DDC should ensure that all applicable change orders necessitated by consultant design errors and omissions be referred to the agency's General Counsel for review; immediately transmit to the General Counsel for its review all existing change orders classified as design errors and omissions; ensure that it carries out all required steps in accordance with its system for reducing design errors and omissions; and implement procedures to ensure that classification information is accurately transcribed and recorded in the SCORE system.

The results of the audit have been discussed with DDC officials, and their comments have been considered in preparing this report. Their complete written response is attached to this report.

If you have any questions concerning this report, please e-mail my audit bureau at [audit@comptroller.nyc.gov](mailto:audit@comptroller.nyc.gov).

Sincerely,

  
John C. Liu

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*The City of New York  
Office of the Comptroller  
Financial Audit*

**Audit Report on the Recoupment of  
Change Order Costs by the  
Department of Design and Construction**

**7E11-063A**

**AUDIT REPORT IN BRIEF**

The Department of Design and Construction (Department) manages the design and construction of new and renovated City facilities that are designed by either Department personnel or architectural and engineering consultants. If a construction contractor executes a design that was done in error by a design consultant, the contractor may remedy the deficient work under a change order. In other cases, a change order may be necessitated to include work that was originally omitted by the design consultant. In these cases, the Department's procedures require that the agency seek recoupment from the design consultant for any additional costs due to the design error or omission. This requirement is intended to ensure that the city is not held liable for these costs. In Fiscal Years 2009 and 2010, the Department issued 1,560 change orders totaling \$230,525,580. Of these, 51 totaling \$980,633 were classified as design errors, and 121 totaling \$5,752,452 were classified as design omissions in the Department's Standardized Change Order Record-Contract Overrun Request Entry (SCORE) system.

**Audit Findings and Conclusions**

The Department of Design and Construction has appropriate standards and procedures to reduce consultant design errors and omissions and recoup from consultants the cost of change order work that results from design errors and omissions. However, the Department did not adhere to the standards for recouping from consultants the cost of change order work that resulted from design errors. Consequently, the Department has foregone an opportunity to recoup from consultants in Fiscal Years 2009 and 2010, up to \$702,580 in costs for change orders that were necessitated by design errors. Moreover—although recovering the costs of design omission change orders may be less likely—the Department did not follow procedures for recouping costs for \$2.2 million in change order work that was necessitated by design omissions. Furthermore, the Department did not always adhere to standards to preclude design errors and omissions from occurring in the first place.

Additionally, we identified problems with classifying change orders and with accurately recording information about change order classifications in the SCORE system.

### **Audit Recommendations**

This report makes a total of six recommendations, including that the Department:

- Ensure that all applicable change orders necessitated by consultant design errors and omissions be referred to the agency's General Counsel for review. If the General Counsel believes that recoupment should be sought, the change order should be sent to the Law Department.
- Immediately transmit to the General Counsel for its review all existing change orders classified as design errors and omissions.
- Ensure that it carries out all required steps in accordance with its system for reducing design errors and omissions.
- Implement procedures to ensure that classification information is accurately transcribed and recorded in the SCORE system

### **Department Response**

The Department agreed with four recommendations and partially agreed with two recommendations. The Department noted in its response that “. . . a change order regarding a design omission would have been paid under the contract had the work been included in the original design.” Additionally, the Department stated that, “. . . the dollar threshold of \$3,000 has not been adjusted in more than 19 years to match the realities of the costs of litigation and is no longer an appropriate dollar trigger to require a review by legal counsel for potential referral to the Law Department's Affirmative Litigation Division.”

In regard to the Department's first point, we note that change order costs are often established through negotiations with a contractor without the benefit of price competition. Consequently, although work would have been paid under a contract had it been included in the original design, the City may pay higher prices for omitted work included in change orders.

Regarding the Department's second point, the Department's General Counsel did not receive any of the sampled change orders, regardless of the dollar threshold.

## **INTRODUCTION**

### **Background**

The Department of Design and Construction (Department) manages the design and construction of more than \$6 billion of new and renovated City facilities such as firehouses, libraries, courthouses, sewers, and water mains. The design of these facilities is carried out by either Department personnel or architectural and engineering consultants.

According to the City's Procurement Policy Board Rules (PPB Rules), change orders are "any alteration, change, amendment, or modification to any contract or agreement approved as required by law or rule." Contract changes are classified in various categories that include changes that are brought about by errors and omissions by project designers and consultants. If a construction contractor executes a design that was done in error by a design consultant, the contractor may remedy the deficient work under a change order. In these cases, the Department's procedures require that the agency seek recoupment from the design consultant for any additional costs due to the design error. This requirement is intended to ensure that the City is not held liable for these costs.

In Fiscal Years 2009 and 2010, the Department issued 1,560 change orders totaling \$230,525,580. Of these, the Department classified 51 totaling \$980,633 as design errors, and 121 totaling \$5,752,452 design omissions.

Various Department units are involved in the process of overseeing the work of design consultants and administering change orders. Staff of the Division of Infrastructure and the Division of Structures prepare, review, and classify change orders. The Division of Technical Support is responsible for ensuring the quality of design drawings and specifications. These divisions are also responsible for monitoring the work of consultants and Department design personnel to ensure that change orders are not necessitated by design errors and omissions.

The Engineering Audit Office is responsible for auditing the validity, cost, and classification of change orders. The Agency Chief Contracting Office's role is to ensure that the Department conforms to City regulations for the procurement of goods, services, and construction. The General Counsel provides legal counsel concerning the Department's procurement and business transactions. The Change Order Tracking Section is responsible for ensuring that change order forms are properly completed and records and tracks the status of change order information in the Department's Standardized Change Order Record-Contract Overrun Request Entry (SCORE) system.

### **Objectives**

The objectives of this audit are to determine whether the Department of Design and Construction has appropriate standards and procedures to: 1) reduce consultant design errors and omissions; and 2) recoup from consultants the cost of change order work that results from design errors and omissions.

## **Scope and Methodology**

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. This audit was performed in accordance with the audit responsibilities of the City Comptroller as set forth in Chapter 5, §93, of the New York City Charter. This audit was conducted by staff that included auditors with engineering backgrounds.

The scope of this audit covers change orders issued in Fiscal Years 2009 and 2010 that the Department identified as attributable to consultant design errors or omissions.

To understand the internal controls that are relevant to our audit, we interviewed Department officials and staff of the Divisions of Structures and Infrastructure, Engineering Audit Office, Internal Audit, Agency Chief Contracting Officer, General Counsel, and Change Order Tracking Section.

We conducted walk-throughs with the Department units involved in administering change orders to understand the methods by which change orders were generated, classified, reviewed, approved, and processed. We documented our understanding of these controls and procedures in written memoranda.

We reviewed the following Department policies and procedures: “Construction Change Orders and Overruns Manual” & “Design Consultant Guide” which were used as criteria in conducting this audit.

The Department provided a list of 1,560 change orders totaling \$230,525,580, of which 51 totaling \$980,633 were classified as design errors, and 121 totaling \$5,752,452 were classified as design omissions.<sup>1</sup> (This data came from the Department’s SCORE system.) We evaluated the reliability of the classifications of these 172 change orders by referring to the Comptroller’s Omnibus Automated Image Storage and Information System (OAISIS), which shows executed change orders and by referring to the Department’s hardcopy documentation.

As a further test to assess the accuracy of the change order classifications in the SCORE system we reviewed the classifications of the 80 change orders that were classified in the category of “Other.” We chose to examine the reliability of change order classifications in this category because according to the Department, it consists of change orders that “do not routinely fit into the other classifications.” We evaluated the reliability of the 80 change orders by referring to the OAISIS system and by referring to the Department’s hardcopy documentation.

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<sup>1</sup> The other change orders were classified as: 819 field conditions totaling \$83,917,390; 280 administrative changes totaling \$50,279,542; 206 non-material scope changes totaling \$30,064,456; 80 others totaling \$52,955,977; and, 3 “Comptroller dispute determinations” totaling \$6,575,130.

Based on the above testing, we derived an audit population consisting of 149 change orders totaling \$6,228,654 that included: 48 change orders totaling \$1,466,245 that were actually classified as design errors and 101 change orders totaling \$4,762,409 that were actually classified as design omissions.

To determine whether the Department has appropriate standards and procedures to avoid consultant design errors and omissions, we determined whether their policies and procedures were appropriate based upon our walkthroughs and review of their written policies. We then examined the project files to see if they were complying with their policies and procedures. The project files consisted of a sample of 45 change orders that were associated with 12 projects for which designs were prepared by consultants, and three change orders for which designs were prepared by Department staff. We chose to sample projects associated with design error change orders as Department procedures for reducing errors and omissions are similar.

We also conducted tests to determine whether the Department has standards and procedures to recoup from consultants the cost of change order work that resulted from design errors. We requested documentation to ascertain whether change orders had been referred for possible recoupment and whether the Department took appropriate steps to carry out its procedures.

### **Discussion of Audit Results**

The matters covered in this report were discussed with Department officials during and at the conclusion of this audit. A preliminary draft report was sent to Department officials on April 11, 2011 and discussed at an exit conference held on May 2, 2011. On May 10, 2011 we submitted a draft report to Department officials with a request for comments. We received written comments from the Department on May 24, 2011.

In its response, the Department stated that “the auditors refer to change orders classified as design omissions. It should be borne in mind that a change order regarding a design omission would have been paid under the contract had the work been included in the original design.”

The Department also questioned whether the current dollar threshold for referring change orders to General Counsel was appropriate. According to the Department, “the dollar threshold of \$3,000 has not been adjusted in more than 19 years to match the realities of the costs of litigation and is no longer an appropriate dollar trigger to require a review by legal counsel for potential referral to the Law Department’s Affirmative Litigation Division.”

We note that change order costs are often established through negotiations with a contractor without the benefit of price competition. Consequently, although work would have been paid under a contract had it been included in the original design, the City may pay higher prices for omitted work included in change orders. Moreover, design omission change orders led to the extension of the original contract schedule in many of the sampled cases. The change order forms for 22 of 77 design omission change orders contained a checked-off box asking “Is a time extension necessary due to this change order?” In nine of these cases, the contract durations



were extended up to 20 days; in 13 of the cases, the contract durations were extended between 30 to 452 days.

Regardless of the dollar threshold, the Department's General Counsel did not receive any of the sampled change orders as required.

The Department agreed with four recommendations and partially agreed with two recommendations.

## FINDINGS AND RECOMMENDATIONS

The Department of Design and Construction has appropriate standards and procedures to reduce consultant design errors and omissions and recoup from consultants the cost of change order work that results from design errors and omissions. However, the Department did not adhere to these standards because the Department’s General Counsel was not advised about the change orders for which cost recoupment may have been possible. Consequently, the Department has foregone an opportunity to recoup from consultants in Fiscal Years 2009 and 2010, up to \$702,580 in costs for change orders that were necessitated by design errors. Moreover—although recovering the costs of design omission change orders may be less likely—the Department did not follow procedures for recouping costs for \$2.2 million in change order work that was necessitated by design omissions. Furthermore, the Department did not always adhere to standards to preclude design errors and omissions from occurring in the first place.

Additionally, we identified problems with classifying change orders and with accurately recording in the SCORE system information about the classifications of change orders and their amounts.

These matters are discussed in greater detail in the following sections of this report.

### **No Recoupment for Over \$2.9 Million in Change Order Costs**

The Department did not adhere to standards and procedures for recouping from consultants the cost of change order work that resulted from design errors that individually exceeded \$3,000. Consequently, the Department has foregone an opportunity to recoup from consultants in Fiscal Years 2009 and 2010 \$702,580 in costs for 39 change orders that were necessitated by design errors. Moreover—although we understand that recovering the costs of design omission change orders may be less likely—procedures for recouping funds from consultants were not followed for an additional 64 change orders costs, totaling \$2,211,735 that were necessitated by design omissions. (See Table I.) The combined value of the remedial change orders totaled \$2,952,876, of which \$2,914,315 should have been considered for possible recoupment.

**Table I**  
FY 2009 and 2010 Change Orders Necessitated by  
Consultant Design Errors and Omissions

Value	DDC Designated Design Error Change Orders		DDC Designated Design Omission Change Orders		Total
	Count	Amount	Count	Amount	
Under \$3,000	6	\$6,565	20	\$31,996	<b>\$38,561</b>
Over \$3,000	39	\$702,580	64	\$2,211,735	<b>\$2,914,315</b>
<b>Total =</b>	<b>45</b>	<b>\$709,145</b>	<b>84</b>	<b>\$2,243,731</b>	<b>\$2,952,876</b>

“Construction Change Orders & Overruns Manual,” design errors result “from inadequate contract documents requiring the alteration of bid contract work prior to installation or revisions to contract work already installed.” The manual stipulates that the agency should seek recoupment without limitation from the design consultant for any additional costs due to the design error as specified in the change order including the cost of demolition or removal. Additionally, the City’s former Office of the Director of Construction Directive 47, Amendment No. 1 dated September 21, 1992, stipulated that change orders that result from design errors or omissions that individually exceed \$3,000 be referred to the agency’s legal counsel for review.<sup>2</sup> Directive 47 further stipulated that “If the agency counsel believes that recoupment should be sought, the change order along with back-up documentation should be sent to the Law Department by the counsel.”

Department procedures require the Agency Chief Contracting Officer to refer to the Department’s General Counsel all change orders resulting from design errors or omissions that individually exceed \$3,000. In fact, for 114 of 119 change orders that fulfilled this criteria, the change order form contained a checked-off box certifying that the Agency Chief Contracting Officer referred the change orders to the agency’s legal counsel.<sup>3</sup> However, the General Counsel did not receive any change order referrals for review and possible recoupment in Fiscal Years 2009 and 2010. In fact, the General Counsel has not received any such referrals since 2002, except for one case that resulted in the recoupment of \$76,000 from a consultant in 2004.

One of the change orders that was necessitated by a design error and that was not referred to the General Counsel (No. 3-009 totaling \$80,239 for Contract No. 20090032085) was to undertake changes to combination, smoke, and motor dampers for the modernization and preservation of the Museum of the City of New York. According to the agency justification that was attached to the change order form, “it was discovered that fire rated walls and floor slabs were missing fire smoke dampers,” and “13 dampers were incorrectly specified . . .” Although the change order contained a certification that the Agency Chief Contracting Officer had notified the General Counsel about the change order, there was no evidence of the change order’s referral.

In another example, a change order that was necessitated by a design error (No. 003 totaling \$73,497 for Contract No. 20080023259) was to provide labor and material to install 1,500 lineal feet of electrical metallic tubing (EMT) instead of metal-clad (MC) cable for the interior renovation of the Central Harlem Clinic. According to the agency justification that was attached to the change order form, “Due to the nature of the clinic and for added safety of the electrical system, the contractor was directed to install EMT in lieu of MC cable as called for in the specifications.” Although the change order contained a certification that the Agency Chief Contracting Officer had notified the General Counsel about the change order, there was no evidence of the change order’s referral.

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<sup>2</sup> According to the Mayor’s Office of Contract Services, Directive 47 has not been in active use although it has never been rescinded.

<sup>3</sup> Of the 119 change orders, 16 were actually necessitated by design work that was prepared by Department staff, for which cost recoupment would not have been feasible.

In a third example, change order no. 016 totaling \$29,717 (for Contract No.20080029492) was to demolish 4-inch glazed block, doors, and plaster walls and reframe the walls with sheetrock and insulation for the interior renovation of the Kings Highway Branch Library. According to the agency justification that was attached to the change order form, “The area by the book-lift in the cellar is in code violation as per original design.” Although the change order contained a certification that the Agency Chief Contracting Officer had notified the General Counsel about the change order, there was no evidence of the change order’s referral.

We attribute deficiencies in the process for recouping design error and omission costs to weaknesses in the Department’s written procedures. The Department’s internal audit division pointed out this problem in a July 8, 2005, internal audit of “DDC’s Change Order Process” that concluded:

“DDC is entitled to recover costs relating to change orders necessitated by design errors or omissions but does not aggressively pursue action. DDC should formulate procedures relating to recovering funds from design consultants who are determined to be at fault for change orders relating to error or omissions.”

Moreover, the audit stated that “The Law Department contends that no information has ever been received from DDC and therefore no funds have ever been recovered for design errors or omissions.”

### **Recommendations**

The Department should:

1. Ensure that all change orders necessitated by consultant design errors and omissions that individually exceed \$3,000 be referred to the agency’s General Counsel for review and possible recoupment. In that regard, the Department should strengthen the policies and procedures that govern the process of referring change orders to the General Counsel. If the General Counsel believes that recoupment should be sought, the change order should be sent to the Law Department.

**Department Response:** “Included in #2 below.”

2. Immediately transmit to the General Counsel for its review all applicable change orders identified in this report that were classified as design errors and omissions.

**Department Response:** “DDC believes that these recommendations do not fully consider all the expense that would be incurred by the City of New York that are associated with the legal recoupment of potential damages caused by design consultants . . . Thus, DDC believes that a \$3,000 threshold is not practical.

DDC is in the process of updating internal guidelines and procedures for the review of design error and omission change orders. Once established, a committee will be formed which reviews design error and omission change orders that are of a substantial dollar

amount. Based on this review, our General Counsel will then determine if a more detailed investigation (by a private expert) is appropriate. Based on the opinion of the outside expert, our General Counsel will then determine if the case warrants transfer to the Law Department.”

**Auditor Comment:** We audited the Department’s compliance with its internal guidelines that required the referral of design errors and omissions change orders to its General Counsel. Accordingly, the subject of the Counsel’s legal review of the change orders was beyond the scope of the audit. In any case, as none of the sampled change orders were in fact received by Counsel, the results of any legal review and possible litigation on the part of the City’s Law Department are speculative.

If the Department believes that the \$3,000 threshold is not practical, it should have, at the very least, referred to counsel those change orders whose dollar threshold was higher. In that regard, we note that 22 of the change orders necessitated by consultant design errors were each valued at more than \$10,000—the overall cost of those 22 change orders totaled \$611,279. Similarly, there were 39 change orders that were necessitated by consultant design omissions that were each valued at more than \$10,000—the overall cost of those 39 change orders totaled \$2,056,531. However, none of the sampled change orders were received by General Counsel, despite the Department’s attestation that most of the change orders had been referred to General Counsel.

### **Problems with Keeping Procedures for Reducing Design Errors and Omissions**

The Department does not always comply with standards and procedures to reduce the likelihood of paying for change order costs to remedy design errors and omissions. The Department has an effective system of standards and procedures to reduce design errors and omissions that includes:

- Ensuring that design work is properly reviewed and authorized.
- Conducting periodic meetings with consultants and staff designers.
- Procedures to ensure that consultants carry out preliminary surveys of sites.
- Performing a review to ascertain the “constructability” of the design.
- Evaluating the performance of consultants.

However, our review of records indicated that the Department did not always take these steps to preclude consultant design flaws that could necessitate remedial work. The Department properly conducted constructability reviews in all but one of the 12 sampled projects. Nevertheless, we found that Department files lacked evidence to show that in 20 percent of cases the Department reviewed design work, conducted periodic meetings, and ensured that surveys were carried out; 67 percent of cases lacked evidence that performance evaluations were conducted.

We understand that design flaws may be difficult to eliminate entirely. However, given that the Department was compelled to authorize over \$2.9 million in change orders to remediate design errors and omissions in Fiscal Years 2009 and 2010, the Department should seek to reduce these costs by carrying out appropriate measures and strengthening its oversight of consultant design work.

After the exit conference, the Department provided for our review files for two of the three projects that were designed by the Department’s staff of architects and engineers. The files lacked evidence to substantiate that the Department conducted constructability reviews, reviewed design work, carried out surveys, and held periodic meetings.<sup>4</sup> There were three change orders totaling \$757,100 that were necessitated to resolve errors associated with design work carried out by Department architects and engineers, and 17 change orders totaling \$2,518,679 that were necessitated to resolve design omissions. (See Table 2.) Given that the Department has no recourse in these cases to recoup any costs necessitated by its own design errors or omissions, the Department should be particularly careful in monitoring the work of its design staff.

**Table 2**  
FY 2009 and 2010 Change Orders Necessitated by  
Department Staff Design Errors and Omissions

Value	DDC Designated Design Error Change Orders		DDC Designated Design Omission Change Orders		Total
	Count	Amount	Count	Amount	
Under \$3,000	0	\$0	4	\$3,279	<b>\$3,279</b>
Over \$3,000	3	\$757,100	13	\$2,515,400	<b>\$3,272,500</b>

**Total =            3                    \$757,100            17            \$2,518,679            \$3,275,779**

**Recommendation**

3. The Department should ensure that it carries out all required steps in accordance with its system for reducing design errors and omissions. In that regard, the Department should:
  - ensure that design work is properly reviewed and authorized.
  - conduct periodic meetings with consultants and staff designers.
  - ensure that consultants carry out preliminary surveys of sites.

<sup>4</sup> For one of the two reviewed projects, the only evidence was of a meeting to discuss the completion of the preliminary design.

- perform reviews to ascertain the “constructability” of a design.
- evaluate the performance of consultants.

*Department Response:* “DDC agrees with the Comptroller’s Office that at a minimum the above steps must be conducted to ensure the quality and accuracy of our designs . . .”

**Other Issue**

**Change Orders Misclassified**

**Problems with Classifications in the SCORE System**

According to the Department’s “Guidelines for Construction Change Orders & Overruns,” Section III, project managers are to “Classify the contract change in one of the classifications listed.” The Guidelines contain seven categories of classifications: “Field Condition,” “Administrative Change,” “Design Error,” “Design Omission,” “Scope Change,” “Other,” and “No Cost Change Order.” Our review of 252 sampled change orders (consisting of 51 change orders classified as design errors, 121 change orders classified as design omissions, and 80 change order classified as “Other”) indicated that in Fiscal Years 2009 and 2010, information contained in the Department’s SCORE system about their classifications was inaccurate in 93 cases (37 percent). Specifically:

- Seven of 51 (14 percent) change orders were misclassified as design errors
- 22 of 121 (18 percent) change orders were misclassified as design omissions; and
- 64 of 80 (80 percent) change orders were misclassified in the category of “Other.”

(See Appendix for a list of the misclassified change orders).

We attribute the lack of accurate classifications to problems with properly transcribing and recording actual classification information in SCORE.<sup>5</sup> Of the 93 misclassified change orders, five were actually design errors totaling \$744,129. Five other change orders totaling \$97,905 were actually design omissions. The remaining misclassified change orders were actually classified as “field condition,” “non-material scope change,” or “administrative change.”

As the Department relies on the SCORE system to track information about change orders, accurate recording of change order classifications and amounts is critical. However, given the problems we identified with properly recording classifications, the system is not a reliable source of this information. Accordingly, the Department must ensure that classification information is accurately recorded in the SCORE system.

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<sup>5</sup> Furthermore, the amounts for four of the 252 change orders were inaccurately recorded in the SCORE system. The change orders actually totaled \$366,152, but were recorded as \$49,285.

## **Multiple Classifications**

The Department “Guidelines for Construction Change Orders & Overruns,” Section X states that “Only one classification can be selected for each change order or overrun. If you need to check off more than one classification, you need to write more than one change order or overrun!” Despite this stipulation, 23 of the 252 sampled change orders contained multiple classifications that included “Administrative Change,” “Field Condition,” “Non Material Scope Change,” “Design Error,” and “Design Omission.” Categorizing change orders with multiple classifications impedes the Department’s means of effectively tracking the primary cause of a change order. Moreover, commingling with other classifications those that pertain to design errors and omissions complicates efforts to ascertain the total population of error and omission change orders. Consequently, the Department may not be referring all applicable change orders to the General Counsel for possible recoupment if the total population of change orders cannot be reliably ascertained.

## **Problems in Classifying “Umbrella” Change Orders**

Despite the prohibition against multiple classifications, Section IX of the “Guidelines for Construction Change Orders & Overruns” permits the use of “umbrella” change orders for construction managers.<sup>6</sup> Department policy permits an umbrella change order to be classified in the category of “Other.” As noted above, 23 sampled change orders improperly contained multiple classifications, of which five totaling \$14,817,669 were umbrella change orders. Although Department regulations permitted the classification of these change orders in the “Other” category, it is our opinion that the Department should cease this practice. Our review indicated that three of the five umbrella change orders were composed of underlying change orders that were necessitated by design errors or omissions. Consequently, classifying an umbrella change order as “Other” complicates efforts to ascertain the total population of error and omission change orders. Furthermore, the practice of using umbrella change orders that contain multiple underlying change orders may hinder Department project managers and engineering audit officers in effectively reviewing the actual cost of the change orders.

## **Recommendations**

The Department should:

4. Implement procedures to ensure that change order classification and amount information is accurately transcribed and recorded in the SCORE system.

***Department Response:*** “DDC is still in the process of reviewing our SCORE system to determine and to correct the reporting with respect to these discrepancies.”

***Auditor Comment:*** We expect the Department to use the results of its review once completed to implement procedures for accurately transcribing and recording information.

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<sup>6</sup> An umbrella change order consists of underlying change orders to subcontractors that may have multiple classifications.



5. Comply with guidelines that proscribe the use of multiple classifications.

***Department Response:*** “Included in #6 below.”

6. Consider revising the guidelines to proscribe the practice of classifying umbrella change orders in the category of “Other.”

***Department Response:*** “DDC agrees with the Comptroller that the use of multiple classifications and/or the use of the category ‘Other’ for change orders does not allow for a clear picture of the overall causes of change orders. A clear and accurate picture for change orders is needed so that DDC can best determine ways to minimize change orders. Consequently, DDC will review our procedures and policy for classifying change orders and re-instruct our staff and management on the most accurate and clearest way of classifying change orders.”

Change Orders Misclassified as Design Errors

No.	Change Order Classification According to SCORE	Contract Registration No.	Change Order No.	Change Order Classification According to OASIS or Hard Copy Files
1	Design Error	20070039453	CO0004	Design Omission
2	Design Error	20040024954	CO0026	Non Material Scope Change
3	Design Error	20090028884	CO0013	Design Omission
4	Design Error	20070038850	CO0031	Design Omission
5	Design Error	20070038850	CO0011	Design Omission
6	Design Error	20090028711	CO0015	Design Omission
7	Design Error	20070040689	CO0003	Design Omission

Change Orders Misclassified as Design Omissions

No.	Change Order Classification According to SCORE	Contract Registration No.	Change Order No.	Change Order Classification According to OASIS or Hard Copy Files
1	Design Omission	20060004728	CO0003	Design Error
2	Design Omission	20060043485	OR0003	Design Error, Design Omission, Field Condition
3	Design Omission	20060043485	CO0030	Administrative Change
4	Design Omission	20080043140	CO0019	Field Condition
5	Design Omission	20090013918	CO0001	Design Error
6	Design Omission	20080032515	CO0001	Administrative Change
7	Design Omission	20090013918	CO0002	Design Error, Design Omission
8	Design Omission	20080043140	CO0010	Field Condition
9	Design Omission	20070035444	CO0002	Field Condition, Design Omission
10	Design Omission	20090032085	CO0006	Field Condition
11	Design Omission	20080020259	CO0017	Field Condition
12	Design Omission	20080035602	CO0009	Field Condition
13	Design Omission	20070038850	CO0005	Design Error
14	Design Omission	20080035602	CO0010	Field Condition
15	Design Omission	20080030563	CO0005	Field Condition
16	Design Omission	20080029492	CO0039	Design Error
17	Design Omission	20080028823	CO0004	Field Condition
18	Design Omission	20060039526	CO0003	Field Condition
19	Design Omission	20080020259	CO0014	Field Condition
20	Design Omission	20040026548	CO0114	Non Material Scope Change
21	Design Omission	20050040823	CO0001	Administrative Change, Design Omission
22	Design Omission	20060043454	CO0010	Design Omission, Field Condition

Change Orders Misclassified as “Other”

No.	Change Order Classification According to SCORE	Contract Registration No.	Change Order No.	Change Order Classification According to OASIS or Hard Copy Files
1	Other	20040018658	CO0022	Administrative Change, Design Omission, Field Condition
2	Other	20050016107	CO0005	Design Omission, Field Condition, Non-Material Scope Change
3	Other	20040015248	CO0005	Administrative Change, Field Condition
4	Other	20040018658	CO0020	Administrative Change, Design Omission, Field Condition
5	Other	20040018658	CO0021	Administrative Change, Design Omission, Field Condition
6	Other	20060019633	CO0005	Field Condition, Non-Material Scope Change
7	Other	20050016107	CO0006	Design Omission, Field Condition, Non-Material Scope Change
8	Other	20040015248	CO0007	Administrative Change Field Condition
9	Other	20040018821	CO0003	Field Conditions
10	Other	20050025924	CO0020	Administrative Change
11	Other	20040018658	CO0018	Administrative Change, Design Omission, Field Condition
12	Other	20040018658	CO0023	Administrative Change, Design Omission, Field Condition
13	Other	20050025924	CO0019	Administrative Change
14	Other	20040021067	OR0030	Field Conditions
15	Other	20050025924	CO0021	Administrative Change
16	Other	20050025924	CO0018	Administrative Change
17	Other	20040018658	CO0019	Administrative Change, Design Omission, Field Condition
18	Other	20050025925	CO0019	Non Material Scope Change
19	Other	20010011958	CO0004	Field Conditions
20	Other	20050025924	CO0016	Administrative Change
21	Other	20050030156	CO0011	Administrative Change
22	Other	20050025925	CO0014	Administrative Change
23	Other	20050015424	CO0009	Field Conditions
24	Other	20050015455	CO0008	Administrative Change
25	Other	20050025925	CO0015	Non Material Scope Change
26	Other	20080010159	CO0001	Administrative Change
27	Other	20050025923	CO0011	Administrative Change
28	Other	20070041770	CO0004	Administrative Change, Design Error, Design Omission, Field Condition
29	Other	20070018787	CO0001	Administrative Change
30	Other	20050030156	CO0008	Administrative Change

Change Orders Misclassified as “Other”

<b>No.</b>	<b>Change Order Classification According to SCORE</b>	<b>Contract Registration No.</b>	<b>Change Order No.</b>	<b>Change Order Classification According to OASIS or Hard Copy Files</b>
31	Other	20050030156	CO0010	Administrative Change
32	Other	20010013878	CO0005	Field Conditions
33	Other	20050030156	CO0014	Administrative Change
34	Other	20050015466	CO0017	Non Material Scope Change
35	Other	20050025925	CO0020	Non Material Scope Change
36	Other	20050025923	CO0009	Administrative Change
37	Other	20050030156	CO0012	Administrative Change
38	Other	20040021067	CO0025	Field Condition
39	Other	20040021067	CO0041	Field Condition
40	Other	20060033773	CO0003	Non Material Scope Change
41	Other	20050030156	CO0015	Administrative Change
42	Other	20050030156	CO0002	Administrative Change
43	Other	20040021067	CO0029	Design Error
44	Other	20050030156	CO0016	Administrative Change
45	Other	20040021067	CO0044	Field Condition
46	Other	20040021067	CO0040	Field Condition
47	Other	20040021067	CO0028	Field Condition
48	Other	20040021067	CO0031	Field Condition
49	Other	20040021067	CO0027	Field Condition
50	Other	9913918	CO0034	Non Material Scope Change
51	Other	20050015466	CO0015	Administrative Change
52	Other	20050025924	CO0014	Non Material Scope Change
53	Other	20020004731	CO0023	Non Material Scope Change
54	Other	20050025924	CO0017	Non Material Scope Change
55	Other	20030024591	CO0002	Administrative Change
56	Other	20050039349	CO0016	Administrative Change Other
57	Other	20050039349	CO0016	Administrative Change Other
58	Other	20050025923	CO0010	Administrative Change
59	Other	20070027560	CO0001	Non Material Scope Change
60	Other	20090017456	CO0002	Field Condition
61	Other	20070043109	CO0001	Administrative Change
62	Other	20100013920	CO0001	Administrative Change
63	Other	20090028434	CO0001	Administrative Change
64	Other	20090034130	CO0001	Administrative Change



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

DAVID J. BURNEY, FAIA  
Commissioner

May 24, 2011

H. Tina Kim  
Deputy Comptroller  
NYC Office of the Comptroller  
1 Centre Street  
New York, NY 10007

Re: NYC Comptroller's Draft Audit Report on the Recoupment of Change Order Costs by the  
Department of Design and Construction 7E11-063A

Dear Ms. Kim:

The Department of Design and Construction (DDC) appreciates the City Comptroller's efforts with respect to this audit of DDC's controls over design error and design omission change orders.

Before DDC responds to each individual recommendation, DDC would like to make three (3) general comments on the overall findings of this audit. First, the auditors reviewed activity during fiscal years 2009 and 2010 and concluded that all design error change orders from consultants totaled \$709,145 for this two (2) year period. It should be noted that within this two (2) year period DDC had active on-going construction and design work that totaled in the billions of dollars. It should be further noted that DDC's construction projects can involve the removal, replacement or improvement to structures and infrastructures that are centuries old and built in confined spaces. Thus, DDC is working in a construction environment that is extremely old and complex. DDC is committed to ensuring that the design work performed on behalf of DDC meets the highest standards, and takes great care in reviewing this work. Moreover, DDC believes that the comparatively low dollar amount of consultant design errors for such a complex portfolio of projects demonstrates our dedication to quality work and that DDC continues to build upon our accomplishments and will not be satisfied until consultant design errors reach zero.

Second, it should also be noted that throughout the audit report, the auditors refer to change orders classified as design omissions. It should be borne in mind that a change order regarding a design omission would have been paid under the contract had the work been included in the original design.

Finally, DDC consulted with the City Chief Procurement Officer (CCPO), the legal successor to the position of the Director of the Office of Construction (ODC), pursuant to Section 2a of Executive Order 121, regarding its policy related to the \$3,000 threshold for General Counsel review. The CCPO advised that the Directive, while still in effect since it has not been repealed yet, should be viewed by capital agencies as guidance only due to the fact that the dollar threshold of \$3,000 has not been adjusted in more than 19 years to match the realities of the costs of litigation and is no longer an appropriate dollar trigger to require a review by legal counsel for potential referral to the Law Department's Affirmative Litigation Division. Accordingly, the Office that maintains this old Directive considers DDC's actions to be immaterial. Moreover, the CCPO is currently revisiting this





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old Directive to formalize a practice that includes a more appropriate financial benchmark with appropriate indexing features in order to avoid significant litigation costs that sometimes may be greater than the funds that could be potentially recouped if there was success in the litigation at the trial level and any later appeal. The new practice and guidelines will be consistent with the approach followed by DDC herein.

Below are our responses to the draft follow-up audit recommendations:

"The Department should..."

1. "Ensure that all change orders necessitated by consultant design errors and omissions that individually exceed \$3,000 be referred to the agency's General Counsel for review and possible recoupment. In that regard, the Department should strengthen the policies and procedures that govern the process of referring change orders to the General Counsel. If the General Counsel believes that recoupment should be sought, the change order should be sent to the Law Department."

*Agency Response to Recommendation to #1: Included in #2 below.*

2. "Immediately transmit to the General Counsel for its review all applicable change orders identified in this report that were classified as design errors and omissions."

*Agency Response to Recommendations # 1 & 2:* DDC believes that these recommendations do not fully consider all the expense that would be incurred by the City of New York that are associated with the legal recoupment of potential damages caused by design consultants. Such expenses would include the cost and time associated with burdening the City's legal resources. In addition, these expenses would include the hiring of an outside design/engineering firm that would be used to establish and provide an expert independent opinion as to cause and responsibility of the change order. Thus, DDC believes that a \$3,000 threshold is not practical.

DDC is in the process of updating internal guidelines and procedures for the review of design error and omission change orders. Once established, a committee will be formed which reviews design error and omission change orders that are of a substantial dollar amount. Based on this review, our General Counsel will then determine if a more detailed investigation (by a private expert) is appropriate. Based on the opinion of the outside expert, our General Counsel will then determine if the case warrants transfer to the Law Department.

3. "Ensure that it carries out all required steps in accordance with its system for reducing design errors and omissions. In that regard the Department should:

\* ensure that design work is properly reviewed and authorized





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- \* conduct periodic meetings with consultants and staff designers
- \* ensure that consultants carry out preliminary surveys of sites
- \* perform reviews to ascertain the "constructability" of a design
- \* evaluate the performance of consultants.

Agency Response to Recommendation # 3: DDC agrees with the Comptroller's Office that at a minimum the above steps must be conducted to ensure the quality and accuracy of our designs. DDC does and continues to carry out all of the above steps. However, DDC acknowledges the need to further strengthen documentation activities and will ensure that such steps are adequately documented (i.e. minutes of meetings with consultants) and the records properly maintained.

4. "Implement procedures to ensure that change order classification and amount information is accurately transcribed and recorded in the SCORE system."

Agency Response to Recommendation # 4: DDC is still in the process of reviewing our SCORE system to determine and to correct the reporting with respect to these discrepancies.

5. "Comply with guidelines that proscribe the use of multiple classifications."

Agency Response to Recommendation # 5: Included in #6 below.

6. "Consider revising the guidelines to proscribe the practice of classifying umbrella change orders in the category of "Other."

Agency Response to Recommendations # 5 & 6: DDC agrees with the Comptroller that the use of multiple classifications and/or the use of the category "Other" for change orders does not allow for a clear picture of the overall causes of change orders. A clear and accurate picture for change orders is needed so that DDC can best determine ways to minimize change orders. Consequently, DDC will review our procedures and policy for classifying change orders and re-instruct our staff and management on the most accurate and clearest way of classifying change orders.

Sincerely,

David J. Burney

