



City of New York

OFFICE OF THE COMPTROLLER

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FINANCIAL AUDIT

Tina Kim

Deputy Comptroller for Audit

Audit Report on the Department of
Environmental Protection's
Recoupment of Change Order Costs
for the Bowery Bay Water Pollution
Control Plant Upgrade

7E12-101A

November 19, 2012

<http://comptroller.nyc.gov>



THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
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November 19, 2012

To the Residents of the City of New York:

My office has audited the New York City Department of Environmental Protection (DEP) to determine whether it complied with appropriate standards to recoup the cost of change order work for upgrading the Bowery Bay Water Pollution Control Plant that resulted from design errors and omissions. We audit agencies such as DEP as a means of ensuring compliance with procedures for recovering City funds.

The audit found that DEP did not adhere to procedures for recouping from consultants the cost of change order work that was categorized as a design error or design omission. The audit found that the combined value of change orders that should have been considered for possible recoupment but were not totaled \$6,591,192. Additionally, DEP improperly categorized certain change orders by using multiple classifications that included design error or omission. Consequently, there may be additional change order costs that were attributable to design errors and design omissions that should have been considered for possible recoupment. DEP's compliance problems can be attributed to a lack of written standards and internal controls governing the recoupment of change orders costs necessitated by design errors and omissions.

The audit recommends that DEP ensure that applicable change orders necessitated by consultant design errors and omissions—including those identified in the report—be referred to the agency's recently established Errors and Omissions Panel for review and possible recoupment and avoid multiple change order classifications.

The results of the audit have been discussed with DEP 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.

Sincerely,

A handwritten signature in black ink, appearing to read "JCL".

John C. Liu

TABLE OF CONTENTS

AUDIT REPORT IN BRIEF	1
Audit Findings and Conclusions	2
Audit Recommendations.....	2
Department Response.....	2
INTRODUCTION	3
Background	3
Objective.....	4
Scope and Methodology Statement.....	4
Discussion of Audit Results	5
FINDINGS AND RECOMMENDATIONS	6
Procedures Not Followed for Recouping Costs Related to Design Errors and Omissions.....	6
Lack of Written Standards.....	6
Recoupment Procedures Lack Internal Controls.....	7
Problems with Multiple Classifications	8
Recommendations.....	9
DETAILED SCOPE AND METHODOLOGY	11
APPENDIX I Change orders classified as design error	
APPENDIX II Change orders classified as design omission	
APPENDIX III Change orders with multiple classifications	
ADDENDUM Department of Environmental Protection Response	

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Audit Report on the Department of Environmental Protection's Recoupment of Change Order Costs for the Bowery Bay Water Pollution Control Plant Upgrade

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AUDIT REPORT IN BRIEF

The Department of Environmental Protection (Department) is responsible for operating and managing 14 Citywide water pollution control plants, which treat 1.3 billion gallons of wastewater daily. In September 2000, the Department awarded a \$128.19 million construction contract (No. 20010011921 [BB-57G]) to a joint venture between Frontier-Kemper/Durr/Perini (Frontier JV) to upgrade the Bowery Bay Water Pollution Control Plant (Plant) in Queens. The contract schedule was extended from May 2004 to December 2010. Additionally, the Department awarded associated construction contracts to Lafata Corallo P&H, Inc. (No. 20010009200 [BB-57P]) totaling \$1.5 million, CDE Air Conditioning Co., Inc. (No. 20010008896 [BB-57H]) totaling \$27.45 million, and Lipco Electrical Corp. (No. 20010008879 [BB-57E]) totaling \$56.31 million.¹ Information from the Department indicated that there were 295 change orders associated with the construction contracts of which 222 totaled \$68,323,733: 73 were credit change orders totaling (\$62,834,663).

In connection with the construction contracts, the Department awarded two contracts (Nos. 9571691 totaling \$10.5 million and 20000021900 totaling \$13 million) to Hazen and Sawyer, P.C. to provide engineering design and construction management services.

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, City procedures require that agencies take steps to be reimbursed for the cost of the work by seeking recoupment from the design consultant. This requirement is intended to ensure that the City is not held liable for these costs. Regarding the contracts for the Plant upgrade, the Department classified four change orders

¹ Contract No. 20010008879 was terminated by the Department. The work included in BB-57E was completed by a surety company, XL Specialty Insurance Co., under contract no. 20040021078.

totaling \$89,410 as design errors and 44 change orders totaling \$6,501,782 as design omissions. The combined value of these change orders was \$6,591,192.

Audit Findings and Conclusions

The Department did not adhere to procedures for recouping from consultants the cost of change order work that was categorized as a design error or design omission. Our review found that the combined value of change orders that should have been considered for possible recoupment but were not totaled \$6,591,192. Additionally, the Department improperly categorized certain change orders with multiple classifications that included design error or omission. Consequently, portions of change orders totaling an additional \$9,923,875 that were partly attributable to design errors and design omissions should have been considered for possible recoupment. We attribute the Department's compliance problems to a lack of written standards and internal controls governing the recoupment of change orders costs necessitated by design errors and omissions.

Department officials advised us in August 2012 that they recently established an Errors and Omissions Panel to oversee implementation of a policy to review change orders related to design errors and omissions and the recoupment of associated costs

Audit Recommendations

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

- Ensure that applicable change orders necessitated by consultant design errors and omissions—including those identified in this report—be referred to the agency's Errors and Omissions Panel for review and possible recoupment.
- Avoid multiple change order classifications.

Department Response

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 September 17, 2012, and discussed at an exit conference held on October 2, 2012. On October 5, 2012, we submitted a draft report to Department officials with a request for comments. We received a written response from the Department on October 29, 2012.

In their response, Department officials stated, "In general, the Department does not dispute the findings or the recommendations of the Draft Report." The Department agreed with three recommendations and disagreed with one recommendation.

THE CITY OF NEW YORK OFFICE OF THE COMPTROLLER FINANCIAL AUDIT

Audit Report on the Department of Environmental Protection's Recoupment of Change Order Costs for the Bowery Bay Water Pollution Control Plant Upgrade

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INTRODUCTION

Background

The Department of Environmental Protection (Department) is responsible for operating and managing 14 Citywide water pollution control plants, which treat 1.3 billion gallons of wastewater daily. In September 2000, the Department awarded a \$128.19 million construction contract (No. 20010011921 [BB-57G]) to a joint venture between Frontier-Kemper/Durr/Perini (Frontier JV) to upgrade the Bowery Bay Water Pollution Control Plant (Plant) in Queens. The contract schedule was extended from May 2004 to December 2010. In January 2008, the Frontier JV submitted to the Comptroller's Office a \$28.67 million construction claim for time-related costs pertaining to the Plant's construction. In that claim, the Frontier JV alleged that "the design was woefully incomplete" and that the Department issued "change orders to address its design defects."

Additionally, the Department awarded associated construction contracts to Lafata Corallo P&H, Inc. (No. 20010009200 [BB-57P]) totaling \$1.5 million, CDE Air Conditioning Co., Inc. (No. 20010008896 [BB-57H]) totaling \$27.45 million, and Lipco Electrical Corp. (No. 20010008879 [BB-57E]) totaling \$56.31 million.² Information from the Department indicated that there were 295 change orders associated with the construction contracts of which 222 totaled \$68,323,733; 73 were credit change orders totaling (\$62,834,663).

In connection with the construction contracts, the Department awarded two contracts (Nos. 9571691 totaling \$10.5 million and 20000021900 totaling \$13 million) to Hazen and Sawyer, P.C. to provide engineering design and construction management services.

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

² Contract No. 20010008879 was terminated by the Department. The work included in BB-57E was completed by a surety company, XL Specialty Insurance Co., under contract no. 20040021078.

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, City procedures require that agencies take steps to be reimbursed for the cost of the work by seeking recoupment from the design consultant. This requirement is intended to ensure that the City is not held liable for these costs.

Various Department units are involved in the process of overseeing the work of design consultants and administering change orders. Staff of the Bureau of Engineering Design and Construction are responsible for the design and construction of waste water treatment plants and associated facilities such as pumping stations and combined sewage overflow facilities. Change orders are contained in an internal Department Microsoft Access database, “Contract Change Order Tracking Database.” The database is maintained by the Contracts Support Unit, which is responsible for processing change orders.

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 Bureau of Legal Affairs is responsible for reviewing documentation to ascertain whether recoupment of change order costs is warranted and for subsequently referring the change orders to the City’s Law Department.

Department officials advised us in August 2012 that they recently established an Errors and Omissions Panel to oversee implementation of a policy to review change orders related to design errors and omissions and the recoupment of associated costs.

Regarding the contracts for the Plant upgrade, the Department classified four change orders totaling \$89,410 as design errors and 44 change orders totaling \$6,501,782 as design omissions. The combined value of these change orders was \$6,591,192.

Objective

The objective of this audit was to determine whether the Department of Environmental Protection complied with appropriate standards to recoup the cost of change order work for upgrading the Bowery Bay Water Pollution Control Plant that resulted from design errors and omissions.

Scope and Methodology Statement

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 conducted 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 auditors with engineering backgrounds.

The scope of this audit covered change orders registered between calendar years 2001 and 2011 that were associated with construction contracts (BB-57) to upgrade the Plant and that were attributable to consultant design errors or omissions. Please refer to the Detailed Scope

and Methodology at the end of this report for the specific procedures and tests that were conducted.

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 September 17, 2012, and discussed at an exit conference held on October 2, 2012. On October 5, 2012, we submitted a draft report to Department officials with a request for comments. We received a written response from the Department on October 29, 2012.

In their response, Department officials stated, “In general, the Department does not dispute the findings or the recommendations of the Draft Report.” Additionally, Department officials stated that “as long as ODC Directive No. 47 remained in effect, BLA [i.e., the Department’s Bureau of Legal Affairs] was not required to review the identified design errors and omissions to determine whether to pursue recoupment of costs until the end of the project. The end of the Bowery Bay Water Pollution Control Plant (“BB WPCP”) project is only being reached now . . . Under the standards now set forth in SOP 127, we have now determined that, as part of the recent engineering review that is described in Appendix C to this letter, neither of the two change orders specifically identified on page 7 of the Draft Report as having been the subject of 2006 memoranda from project engineers to BLA warrant further consideration for pursuit of recoupment.” The Department agreed with three recommendations and disagreed with one recommendation. The full text of the written comments from the Department is included as an addendum to this report.

Notwithstanding the Department’s contention that it was not required to conduct a change order review until the project’s conclusion, Department staff failed to follow its internal procedures by not always contacting the Bureau of Legal Affairs if a change order was classified as a design error or omission. As discussed in the audit, Department files for 55 change orders lacked required memoranda from project engineers to the Bureau of Legal Affairs advising that the change orders were necessitated by errors or omissions. Given that the Plant upgrade spanned a period of more than 10 years, it would have been prudent for the Department to timely advise its Bureau of Legal Affairs—as it did in the two cases noted above—about the large number of change orders that were being necessitated by design errors and omissions.

FINDINGS AND RECOMMENDATIONS

The Department did not adhere to procedures for recouping from consultants the cost of change order work that was categorized as a design error or design omission. Our review found that the combined value of change orders that should have been considered for possible recoupment but were not totaled \$6,591,192. Additionally, the Department improperly categorized certain change orders with multiple classifications that included design error or omission. Consequently, portions of change orders totaling an additional \$9,923,875 that were partly attributable to design errors and design omissions should have been considered for possible recoupment. We attribute the Department's compliance problems to a lack of written standards and internal controls governing the recoupment of change orders costs necessitated by design errors and omissions.

Department officials advised us in August 2012 that they recently established an Errors and Omissions Panel to oversee implementation of a policy to review change orders related to design errors and omissions and the recoupment of associated costs.

These matters are discussed in greater detail in the following sections.

Procedures Not Followed for Recouping Costs Related to Design Errors and Omissions

The Department did not adhere to procedures for recouping from consultants the cost of change order work that resulted from design errors or design omissions. Our review found that the Department classified four change orders totaling \$89,410 as design errors and 44 change orders totaling \$6,501,782 as design omissions. (See Appendices I and II.) The combined value of the change orders for which the Department did not attempt to seek recoupment was \$6,591,192.³ As noted below, Department staff failed to follow existing procedures by not always contacting the Bureau of Legal Affairs if a change order was classified as a design error or omission and by staff of the Legal Affairs Bureau not requesting or reviewing supporting documentation and ascertaining whether the recoupment claim was timely, meritorious, and warranted.

Upgrading the Bowery Bay Water Pollution Control Plant was a costly and lengthy process, which involved a large number of change orders that the Department classified as design errors or omissions. Although we understand that recovering the costs of design omission change orders may be less likely than for change orders that are necessitated by design errors, the Department should nevertheless have complied with recoupment procedures, especially as the quantity and amount of these types of change orders was significant.

Lack of Written Standards

Although the Department had established procedures for the recoupment of design error and omission costs, it lacked written standards to ensure adherence to those procedures.⁴ In cases

³ Additionally, as discussed in another section of this report, there were 27 change orders totaling more than \$9 million that contained multiple classifications, including design error and design omission.

⁴ The Department advised us in August 2012 that it had revised its procedures and promulgated a written standard (SOP 127 dated April 2012).

in which a change order was classified as a design error or design omission, Department policy required the respective engineering bureau to contact the Bureau of Legal Affairs by telephone or in writing if a change order was classified as a design error or omission. Legal Affairs was to request written supporting documentation, including a description of the design error/omission, how it came about, the reason a change order was required, and the associated costs. Legal Affairs would review the documentation and, if it agreed that the recoupment claim was timely, meritorious, and warranted, would refer the matter to the City Law Department's Affirmative Litigation Division.

These procedures were consistent with the City's former Office of the Director of Construction Directive 47, Amendment No. 1 dated September 21, 1992, which 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. Directive 47 further stated, "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." Although the Mayor's Office of Contract Services has advised us that Directive 47 has not been updated and is not in active use, the directive has never been rescinded.

Directive 47 notwithstanding, Department procedures required project engineers to attach a routing form to each change order, which contained a "check-off" box to indicate whether a change order was classified as a design error or omission. According to the routing form, project engineers were to prepare and submit memoranda to the Bureau of Legal Affairs for change orders that were classified as errors or omissions. Finally, for change orders that were classified as design errors or omissions, the Department's engineering audit officer was to verify that the change order classification box was checked and that the project engineer's memorandum to the Bureau of Legal Affairs was attached. Despite these procedures, we found that files for 55 change orders lacked required memoranda from project engineers to the Bureau of Legal Affairs advising that the change orders were necessitated by errors or omissions.

Recoupment Procedures Lack Internal Controls

Problems with the Department's procedures for recouping costs necessitated by design errors and omissions can also be attributed to a lack of internal controls that could have ensured that Department staff carried out all steps in the recoupment process.

There was no evidence that the Department carried out reviews in cases in which project engineers transmitted memoranda to legal counsel advising that a change order was necessitated by errors or omissions. For example, for a \$60,494 change order (No. BB-57G-147) for explosion proof pumps (No. 2 in Appendix 1), a May 8, 2006, memorandum from the Department's Bureau of Engineering Design and Construction to the General Counsel stated, "In accordance with ODC directive No. 47, the attached Change Order includes work deemed to be a design error. We have reviewed the Change Order and provide for your review the following information and recommendations." As another example, for a \$137,100 change order (No. BB-57E-13) to replace safety lighting (No. 32 in Appendix II), a September 2006 memorandum from the Department's Bureau of Engineering Design and Construction to the General Counsel stated, "In accordance with ODC directive No. 47, the attached Change Order includes work deemed to be a design omission. We have reviewed the Change Order and provide for your review the following information and recommendations."

Based on our review, on July 20, 2012, we submitted to the Department a list of 62 change orders that were classified by Department staff as design errors, design omissions, or had multiple classifications and asked the Department to advise us of any actions it took regarding

these change orders.⁵ In cases where action was taken, we asked the Department to provide us with supporting documentation.

On August 3, 2012, the Department responded to our request by stating that the Department's:

“Bureau of Legal Affairs did not find any information relevant to this audit. The attorney to whom change order correspondence would have been forwarded has since retired; a review of his records did not yield documentation related to the referenced change orders. Therefore, we are unable to determine what action, if any, was taken.”

In its response, the Department announced that it:

“recently adopted a policy, which establishes that the Bureau of Engineering, Design, and Construction (“BEDC”) has responsibility for review of change orders related to design errors and omissions and the recoupment of associated costs. BEDC has set forth clear procedures for the tracking and oversight of design errors and omissions costs which will ensure efficient review of these issues in the future.”

The Department's policy (SOP 127—Cost Reimbursement Associated with Error or Omission Change Orders) was issued on April 16, 2012. According to SOP 127, “In cases where it has determined that a standard of care was not exercised, the Agency will also seek compensation for additional construction costs resulting from correction of the design error or omission.” Furthermore, the Department “has established an Errors and Omissions Panel with a Panel Chair, to oversee implementation of this policy across the capital program.”

The Department's response indicates that it has established new written procedures for recouping the cost of change orders necessitated by design errors and omissions. However, given the problems identified in this report with its policies governing recoupment, the Department must ensure that its staff comply with the new procedures.

Problems with Multiple Classifications

Our review identified 27 change orders totaling \$9,923,875 (see Appendix III) that were categorized with multiple classifications. The Department's “Project Delivery SOP 224 (Change Order Process)” states, “Only one change order category should be chosen that best describes the primary driver of the needed change to the contract.” Categorizing change orders with multiple classifications impedes the Department from 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 have referred all applicable change orders to the Bureau of Legal Affairs for possible recoupment if the total population of change orders could not be reliably ascertained.

⁵ After submitting the list of 62 change orders to the Department, we identified an additional nine change orders that were classified as design omissions and four change orders that had multiple classifications that included either design error or design omission.

Recommendations

The Department should:

1. Ensure that applicable change orders necessitated by consultant design errors and omissions be referred to the agency's Errors and Omissions Panel for review and possible recoupment.

Department Response: "The Department agrees with this recommendation and believes that SOP 127 is consistent with this recommendation."

2. Ensure that staff comply with SOP 127.

Department Response: "The Department has instituted a number of practices for communicating with staff regarding compliance with SOP 127. These include electronic notification of policies, SharePoint intranet access, personal e-mail announcements, inter-Bureau communication of procedures, Bureau-wide training programs and monthly governance programs that include design errors and omissions as key project performance indicators."

3. Immediately transmit to the Errors and Omissions Panel for its review all applicable change orders identified in this report that were classified as design errors and omissions.

Department Response: "Based on a review conducted after the Department's exit conference (Appendix C), the Department does not believe that transmission to the Errors and Omissions Panel is appropriate. The general guideline established in SOP 127 is that Panel review will only be sought where design errors and omissions ("DE/DO") change orders exceed a threshold of 5% of the cumulative value of the original construction contracts, or if review shows that the applicable standard of care has not been met. Our review shows that this threshold was not exceeded for this project. The total original construction contract value for the BB WPCP is \$213,458,982; the Department has calculated the total design errors and omissions change orders to be \$9,182,730, or approximately 4.3% of the total value. The Department has also concluded that no individual DE/DO change orders revealed a substantial departure from the appropriate standard of care by the design consultant on the project."

We wish to emphasize that it was always the Department's policy not to pay for engineering design costs associated with any change order necessitated by design errors. Based on the recent review, we intend to recoup the sum of \$16,688 by deduction from the next payment to the engineer, for services that were performed in connection with change orders necessitated by design errors. Because existing records do not allow us to determine with specificity the amount that was paid for these services, this sum represents a default of 10% of the construction costs associated with those change orders."

Auditor Comment: The Department acknowledges that the total amount of change orders necessitated by design errors and omissions for the Bowery Bay Plant upgrade is \$9,182,730. The Department calculates that this amount represents 4.3 percent of the project's total value—a sum apparently too insignificant to trigger a review by the Department's Errors and Omissions Panel because it falls short of the

5 percent threshold by a mere 0.7 percent. Accordingly, we question whether the Department's threshold is applicable in this case, given that a significant magnitude of design error and omission change orders—more than \$9 million—were issued for this one project.

Furthermore, the Department's statement that it has "concluded that no individual DE/DO change orders revealed a substantial departure from the appropriate standard of care by the design consultant on the project" appears inconsistent with Appendix C of the Department's response, which contends that "The EOR [Engineer of Record] delayed coordination at the Lower Level Pump resulted in the issuance of 57E CO #051, a \$3,024,145 change order (design omission) to the 57E Contractor. The issue began with the EOR's inability to identify the responsibility of point-to-point wiring diagrams and then ultimately their inability to deliver accurate Conduit and Cable schedules."

Moreover, the Department's claim that it will recoup from the engineering design consultant \$16,688 "for services that were performed in connection with change orders necessitated by design errors" is also inconsistent with the Department's position that "no individual DE/DO change orders revealed a substantial departure from the appropriate standard of care by the design consultant."

The adverse financial impact of design errors and omissions is not only reflected in the cost of remedial change orders, which in the case of the Bowery Bay Plant upgrade exceeded \$9 million. According to the Department's Appendix C response, the project's consultant engineer "contributed a total of 231 days of delay" to the upgrade. Project delays can result in a significant financial loss to the City because construction management consultants may need to be retained and paid for a longer period and contractors may submit monetary claims against the City. Additionally, the City cannot attain beneficial use of the facility as originally planned.

4. Avoid multiple change order classifications by complying with SOP 224, which requires that change orders be categorized with a single classification.

Department Response: "This recommendation is our current practice, and is consistent with the guidance in SOP 127 and SOP 224. SOP 127 includes detailed guidance on the classification of change orders and sets forth the policy that Accountable Managers should make 'every effort to assign a single code to each change order . . . ' Since the adoption of SOP 127, each change order is subject to numerous reviews, and if there is more than a single classification, the multiple categorization must be either justified or revised."

DETAILED 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 conducted 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 auditors with engineering backgrounds.

The scope of this audit covered change orders registered between calendar years 2001 and 2011 that were associated with construction contracts (BB-57) to upgrade the Plant and that were 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 Bureau of Engineering Design and Construction, the Contracts Support Unit, the Engineering Audit Office, the Agency Chief Contracting Officer, and the Bureau of Legal Affairs.

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 obtained and reviewed the Department's organization charts, flowcharts, and the following Department policies and procedures:

- "Project Delivery SOPS—Change Order Process SOP 224 Rev. 3 dated November 10, 2011"
- "Project Delivery SOPS—Cost Reimbursement Associated with Error or Omission Change Orders SOP 127 dated April 16, 2012"
- "Office of Engineering Audit—Guidelines for Review of Change Orders" and
- Directive 47 Amendment No. 1 (Additional Work—Recoupment for Errors and Omissions) dated September 21, 1992

To determine whether the Department had appropriate standards and procedures to recoup from consultants the cost of change order work that resulted from design errors and omissions, we reviewed documents and interviewed Department officials about procedures and the respective responsibilities of various Department bureaus. We determined whether the Department followed its guidelines for identifying and classifying change orders.

To develop the overall population of change orders and to ascertain the number of change orders that were necessitated by design errors and omissions, we obtained from the Department a "Database Record for the Bowery Bay 57 Projects" and "Contract Change Order

Logs,” which contained information about change orders that were associated with contract numbers BB-57E, BB-57H, BB-57P, and BB-57G.⁶

In order to ascertain the reliability and reconcile the information in the Department’s Database Record and Change Order Logs, we reviewed the actual files for the change orders associated with contract nos. BB-57E (Nos. 20010008879 and 20040021078), BB-57H (No. 20010008896), BB-57P (No. 20010009200), and BB-57G (No. 20010011921). We asked Department officials to provide us with all hard copy change orders associated with these contract numbers. We examined 273 change orders and compared the information contained in the Database Record for each change order’s registration number, contract number, negotiated cost, and classification with the information contained in the actual change order files.

In addition, we reviewed the change order files to ascertain whether change orders contained the following documentation and information:

- Routing forms, which contain a box that Department project engineers must check off if the change order was classified as a design error or omission requiring that a letter be sent to the Department’s Legal Counsel.
- Classification, which indicates the reason for the change order (e.g., design error, design omission, field condition, administrative change, etc.).
- Change order justification memorandum.
- Letter advising the Department’s Bureau of Legal Affairs that a change order was classified as a design error or omission.
- Time extension necessitated by the change order work

⁶ The Database did not have information about change orders associated with one contract (No. BB-57E/ 20010008879) for Lipco Electrical Corp. that was terminated by DEP. This information, however, was contained in the Change Order Logs.

PRELIMINARY DRAFT

APPENDIX I

Page 1 of 1

Change Orders Classified as Design Error

	Contract No.	Contract Registration No.	Change Order No.	Change Order Amount	Classification
1	57H	20010008896	17	\$3,516	DE
2	57G	20010011921	147	\$60,494	DE
3	57G	20010011921	93	\$9,890	DE
4	57E	20040021078	49	\$15,510	DE
			Total =	\$89,410	

PRELIMINARY DRAFT

APPENDIX II

Change Orders Classified as Design Omission

	Contract No.	Contract Registration No.	Change Order No.	Change Order Amount	Classification
1	57H	20010008896	28	\$129,435	DO
2	57H	20010008896	5	\$11,236	DO
3	57H	20010008896	19	\$12,715	DO
4	BB-57G	20010011921	31	\$5,194	DO
5	57G	20010011921	123	\$79,520	DO
6	BB-57G	20010011921	55	\$234,485	DO
7	57G	20010011921	99	\$89,710	DO
8	57G	20010011921	84	\$7,448	DO
9	57G	20010011921	119	\$24,037	DO
10	BB-57G	20010011921	48	\$28,497	DO
11	BB-57G	20010011921	51	\$112,308	DO
12	BB-57G	20010011921	12	\$66,725	DO
13	BB-57G	20010011921	21	\$19,156	DO
14	BB-57G	20010011921	25	\$20,575	DO
15	BB-57G	20010011921	27	\$12,458	DO
16	BB-57G	20010011921	28	\$174,637	DO
17	BB-57G	20010011921	29	\$15,200	DO
18	BB-57G	20010011921	30	\$40,604	DO
19	BB-57G	20010011921	32	\$2,746	DO
20	BB-57G	20010011921	40	\$22,098	DO
21	BB-57G	20010011921	43	\$18,113	DO
22	BB-57G	20010011921	46	\$71,725	DO
23	57G	20010011921	67	\$2,913	DO
24	57G	20010011921	68	\$49,028	DO
25	57G	20010011921	87	-\$1,000	DO
26	57G	20010011921	135	\$5,521	DO
27	57G	20010011921	164	\$49,669	DO
28	BB-57G	20010011921	16 (I)	\$201,814	DO
29	57G	20010011921	94F	\$4,454	DO
30	57E	20040021078	14	-\$18,654	DO
31	57E	20040021078	32	\$108,510	DO
32	57E	20040021078	13	\$137,100	DO
33	57E	20040021078	26	\$367,777	DO
34	57E	20040021078	54	-\$70,781	DO
35	57E	20040021078	51R	\$3,024,145	DO
36	BB-57G	20010011921	94	\$57,419	DO
37	57G	20010011921	163	\$95,975	DO
38	57E	20040021078	22F	\$28,953	DO
39	57E	20010008879	2	\$59,739	DO
40	57E	20010008879	3	\$86,520	DO
41	57E	20010008879	12	\$73,000	DO
42	57E	20010008879	15	\$1,061,588	DO
43	57E	20010008879	21I	\$73,920	DO
44	57E	20010008879	21R	-\$94,451	DO
Total =				\$6,501,782	

PRELIMINARY DRAFT

APPENDIX III

Change Orders With Multiple Classifications

	Contract No.	Contract Registration No.	Change Order No.	Change Order Amount	Classification
1	57G	20010011921	5	\$145,976	DO/ADM
2	57G	20010011921	97	-\$41,510	DO/DI/FC
3	57G	20010011921	133	\$177,055	DO/DI/FC/DE
4	57G	20010011921	152	\$236,303	DO/FC/ADM
5	57G	20010011921	82	\$306,882	DO/DI
6	57G	20010011921	90	\$199,630	DO/DI/FC
7	57G	20010011921	108	\$792,273	DO/DI
8	57G	20010011921	111	\$68,351	DI/DO
9	57G	20010011921	124	\$126,023	DO/DI
10	57G	20010011921	127	\$339,055	DO/DI
11	57G	20010011921	124R	\$73,622	DO/DI
12	57G	20010011921	77	\$1,108,847	DO/DI/FC
13	57G	20010011921	113	\$26,514	DO/DI
14	57G	20010011921	OR2	\$227,445	DO/FC
15	57G	20010011921	OR4	\$268,750	DO/FC
16	57G	20010011921	126	\$115,769	DO/FC
17	57E	20040021078	71	\$132,817	DO/DI/ADM/DE
18	57E	20040021078	44	\$41,190	DO/DI
19	57E	20040021078	46	\$328,716	DO/DI
20	57E	20040021078	61	\$47,350	DO/DI
21	57E	20040021078	58	\$17,174	DO/DI
22	57E	20040021078	71F	\$66,762	DO/DI/AC
23	57E	20040021078	35	\$124,133	FC/DO
24	57G	20010011921	OR1-R	\$4,559,375	DO/AC
25	57G	20010011921	37	\$346,328	DO/AC
26	57G	20010011921	37I	\$53,739	DO/AC
27	57G	20010011921	85	\$35,306	DO/DI
			Total =	\$9,923,875	



**Environmental
Protection**

October 29, 2012

Carter H. Strickland, Jr.
Commissioner

John Rousakis
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Ms. Tina Kim
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City of New York
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Re: Audit Report on the Department of Environmental Protection's
Recoupment of Change Order Costs for the
Bowery Bay Water Pollution Control Plant Upgrade

Dear Deputy Comptroller Kim:

The New York City Department of Environmental Protection (the "Department") has reviewed the draft audit report referenced above (the "Draft Report") and offers the following comments.

In general, the Department does not dispute the findings or the recommendations of the Draft Report. Well in advance of the Comptroller's audit, the Department became aware of a lack of clear guidance on the handling of design errors and omissions and took steps to address the issue. A key result of those efforts was the issuance of Standard Operating Procedure ("SOP") 127 (attached as Appendix A) on April 16, 2012, as noted in the Draft Report. SOP 127 was put in place to address the Department's concerns about the need for a consistent, more formal approach within the Department's capital construction program to engineering and construction cost recovery resulting from design errors and omissions.

Since the Draft Report was issued, the Department has located correspondence that clarifies the role of the Bureau of Legal Affairs ("BLA") in reviewing design errors and omissions. The findings and recommendations correctly state that the BLA was initially unable to locate records indicating what action was taken in response to two specified change orders that were the subject of referrals from project engineers. However, BLA has since located internal correspondence (attached as Appendix B) that indicates that BLA attorneys conferred with the Mayor's Office of Contract Services in September of 2007 and confirmed that office's guidance that, as long as ODC Directive No. 47 remained in effect, BLA was not required to review the identified design errors and omissions to determine whether to pursue recoupment of costs until the end of the project.

The end of the Bowery Bay Water Pollution Control Plant ("BB WPCP") project is only being reached now. Substantial completion on the last of the construction contracts was achieved in January, 2011, but three of those contracts remain open. The design contract with the consulting engineer of record is not yet complete, as some services remain to be performed. Under the standards now set forth in SOP 127, we have now determined that, as part of the recent engineering review that is described in Appendix C to this letter, neither of the two change orders specifically identified on page 7 of the Draft Report as having been the subject of 2006 memoranda from project engineers to BLA warrant further consideration for pursuit of recoupment.

In response to the specific recommendations in the Draft Report, the Department offers the following:

1. ***Ensure that applicable change orders necessitated by consultant design errors and omissions be referred to the agency's Errors and Omissions Panel for review and possible recoupment.***

The Department agrees with this recommendation and believes that SOP 127 is consistent with this recommendation.

2. ***Ensure that staff comply with SOP 127.***

The Department has instituted a number of practices for communicating with staff regarding compliance with SOP 127. These include electronic notification of policies, SharePoint intranet access, personal e-mail announcements, inter-Bureau communication of procedures, Bureau-wide training programs and monthly governance programs that include design errors and omissions as key project performance indicators.

3. ***Immediately transmit to the Errors and Omissions Panel for its review all applicable change orders identified in this report that were classified as design errors and omissions.***

Based on a review conducted after the Department's exit conference (Appendix C), the Department does not believe that transmission to the Errors and Omissions Panel is appropriate. The general guideline established in SOP 127 is that Panel review will only be sought where design errors and omissions ("DE/DO") change orders exceed a threshold of 5% of the cumulative value of the original construction contracts, or if review shows that the applicable standard of care has not been met. Our review shows that this threshold was not exceeded for this project. The total original construction contract value for the BB WPCP is \$213,458,982; the Department has calculated the total design errors and omissions change orders to be \$9,182,730, or approximately 4.3% of the total value. The Department has also concluded that no individual DE/DO change orders revealed a substantial departure from the appropriate standard of care by the design consultant on the project.

We wish to emphasize that it was always the Department's policy not to pay for engineering design costs associated with any change order necessitated by design errors. Based on the recent review, we intend to recoup the sum of \$16,688 by deduction from the next payment to the

engineer, for services that were performed in connection with change orders necessitated by design errors. Because existing records do not allow us to determine with specificity the amount that was paid for these services, this sum represents a default value of 10% of the construction costs associated with those change orders.

4. *Avoid multiple change order classifications by complying with SOP 224, which requires that change orders be categorized with a single classification.*

This recommendation is our current practice, and is consistent with the guidance in SOP 127 and SOP 224. SOP 127 includes detailed guidance on the classification of change orders and sets forth the policy that Accountable Managers should make “every effort to assign a single code to each change order” Since the adoption of SOP 127, each change order is subject to numerous reviews, and if there is more than a single classification, the multiple categorization must be either justified or revised.

Sincerely,



John Rousakis

Attachments

c: Carter H. Strickland, Jr., Commissioner
Kathryn Mallon, Deputy Commissioner
John Lento

Appendix A

	PROJECT DELIVERY SOPS	SOP applicable in: <input type="checkbox"/> Facility Planning <input type="checkbox"/> Design <input checked="" type="checkbox"/> Construction	Revision: 0 Issued: 4/16/12 Approved By: KM
SOP 127	COST REIMBURSEMENT ASSOCIATED WITH ERROR OR OMISSION CHANGE ORDERS		
PART I - OBJECTIVE			
<p>The objective of this SOP is to establish standardized guidance and procedures for seeking compensation from the Engineer of Record (EOR) for costs incurred by the agency as a result of error or omission construction change orders.</p>			
PART II - BACKGROUND			
<p>Engineering consultants are expected to exercise a professional standard of care in the services provided to DEP. It is understood that construction contract documents may not be perfect and construction change orders resulting from either errors or omissions in the contract documents are inevitable. It is DEP's policy to seek reimbursement from the engineer (or to not allow billing) for additional services required to correct design errors in the contract documents. In general, DEP will also seek reimbursement for the additional services to correct design omissions where the aggregate of design errors and omissions exceed a threshold of 5% of the original construction costs. Further, in cases where it has determined that a standard of care was not exercised, the Agency will also seek compensation for additional construction costs resulting from correction of the design error or omission.</p>			
<p>A design omission is defined as work that was inadvertently omitted during the design phase that is necessary for a functioning system and which may be added at limited (de minimums) additional cost to DEP beyond what it would have incurred for the work if it had been performed during the design phase. All other designed corrective work required after the contract bid opening may be considered a design error.</p>			
<p>BEDC has established an Errors and Omissions Panel with a Panel Chair, to oversee implementation of this policy across the capital program.</p>			
PART IIIA – EOR SERVICES ASSOCIATED WITH DESIGN ERROR OR OMISSIONS			
<p>This section describes the procedures for tracking the consultant service costs of work associated with the preparation, estimating and negotiation of change orders associated with either design errors or design omissions including the cost accounting and invoicing procedures.</p>			
<ol style="list-style-type: none"> 1. When a change order is identified, the consultant responsible for preparing the change order scope shall open up a separate cost code to track the costs for preparing the change order. All associated costs including project management, quality review, engineering services and other direct costs associated with the development of this change order shall be charged against this cost code. 2. The DEP Accountable Manager (AM) is responsible for ensuring that all construction change orders are properly coded. Definitions of change order classifications are attached to this SOP (see Change Order Classification Definitions). At the time that the AM reviews and signs off on the Change Order package for scope approval, the AM shall make a final determination on the classification of the change order. Any feedback needed to make a determination shall be solicited prior to sign-off on the Change Order form. The AM should make every effort to assign a single code to each change order where possible. Furthermore, the change order process should proceed, unimpeded by the classification process. 3. If the Change Order classification is identified as either a Design Error or Design Omission, the EOR must be notified and is allowed 30 days to contest the classification in writing to the Program Manager. 4. The Program Manager will respond to the EOR within 30 days. The final determination of the Change Order classification remains with the Department. 			

5. If a change order is classified as a Design Error, the cost of services associated with preparation of this change order will be included in the invoice to DEP under Non-Billable Direct Project Costs. The item shall include the name of the staff, associated hours, fully loaded costs, ODCs and the CO number in the invoice. Fees associated with this work will NOT be paid by DEP. If work related to a Design Error Change Order is invoiced to DEP, the AM shall prepare a Line H deduction and take a permanent Line A deduction when a final determination is reached.
6. If a change order is classified as a Design Omission, the cost of the services associated with this change order will be included in the invoice to DEP under the Change Order subtask. If the AM believes that the Design Omission was caused by a lack of standard of care, the AM may prepare a Line H and deduct the cost of these services from the invoice. A permanent Line A can be taken when a final determination is reached.
7. The decision to withhold invoiced engineering service costs related to errors or omissions shall be promptly communicated to the EOR as soon as the decision is made by the AM.
8. Once the total value of Design Error or Design Omission change orders reaches 5% of the original construction value, DEP shall require that all professional services associated with preparation of these change orders be assigned to a non-billable direct project cost account. Professional service costs associated with these change orders are not reimbursable by the Agency.
 - 8.1 If the consultant believes that there are extenuating circumstances that have caused the aggregate of errors and omissions to exceed 5% of the original construction value, they may request a hearing with the Panel. The Panel will make a final determination on whether the engineering service fees necessary to prepare omission change orders should be reimbursable above the 5% threshold.

PART III B – PROCEDURE – CONSULTANT REIMBURSEMENT OF CONSTRUCTION COSTS

This section describes the procedures for determining whether or not DEP should seek compensation for the cost of construction resulting from correction of a design error or omission. The Error and Omission Panel shall be responsible for determining which change order to seek compensation. Construction compensation will be solicited judiciously and will be reserved to incidents where the Agency clearly believes that a reasonable standard of care was not achieved and that this negligence resulted in unnecessary additional costs to the Agency. In general, cumulative design error and omissions above 5% of construction are indicative of design quality issues and will trigger an initial assessment by the Panel of the standard of care and potential for restitution. Construction compensation may also be sought where an accumulation of design error and/or design omissions are reflective of a lack of care.

1. If a review of one of more construction Design Error or Omission change orders clearly indicates the likelihood that the EOR has not met an industry standard of care or if the accumulation of design errors and omissions exceeds 5% of the original construction value, the AM shall prepare a submission to the Panel Chair for review of potential construction cost reimbursement. Only change orders with substantive cost to the City should be pursued.
2. The packet shall contain the following information:
 - 2.1 Complete Change Order package
 - 2.2 A Findings Memorandum clearly identifying what the expected industry standard of care should have been and why this standard of care was not achieved. If additional technical expertise is needed to support preparation of the Findings Memo, the AM should contact the Panel Chair to seek technical support.
 - 2.3 An assessment of the direct and delay cost to the City as a result of the change order. Direct costs include contract construction costs to remedy the mistake as well as the agency's costs of supervising that work through construction managers and in-house staffing. Delay costs are associated with any open delay claims for extended contractor overhead as a result of owner-caused delays. The impact costs shall exclude any costs that would have been required had the design been correct in the original contract documents.

- 2.4 In the case of an accumulation of errors and omissions, a summary table of all error and omission change orders including title, brief description, construction value, Agency impact costs, and schedule impact shall be submitted.
3. The Panel Chair will evaluate whether the package is complete and if not, will request further information from the AM.
4. Once the package is determined to be complete, the Chair will notify the Portfolio Manager that a hearing will be conducted and schedule a hearing with the E&O Panel
5. The Portfolio Manager will notify the EOR in a formal letter that the Agency believes that a reasonable standard of care was not exercised and that the Agency is initiating a procedure to determine how much compensation for construction costs is warranted.
6. The Panel will be selected by the chair and shall be comprised of a BEDC Program Manager, two DEP Portfolio Managers, and up to two in-house experts with relevant technical experience. The BEDC Panel members will be comprised of staff not currently involved with the project under review.
 - 6.1 The AM and Portfolio Manager will be expected to explain to the Panel why compensation is justified and how much compensation is justifiable based on an apportionment of responsibility.
 - 6.2 The EOR will have an opportunity to present their view of the change order, including extenuating circumstances, and other issues that may have contributed to the error or omission or accumulation of errors or omissions.
 - 6.3 The EOR may also make written submission to the panel at least 2 weeks in advance of the meeting, and have in attendance, any agents of its choosing.
7. Immediately after the hearing, the Panel will make a finding on the apportioning of fault to the EOR and recommend the amount of recovery of construction cost that should be due based upon the circumstances. The Panel Chair will prepare a Determination Memorandum to the BEDC Deputy Commissioner (DC) and the Bureau of Legal Affairs (BLA) summarizing the DRAFT findings of the Panel and the recommended amount of compensation due.
8. The Portfolio Manager will schedule a meeting with the Agency's BLA and the DC, approximately 2 weeks after the DRAFT Memorandum has been prepared, to review the findings and collect any final comments to the determination memorandum. The Panel Chair will finalize the Determination Memorandum and send to the EOR.
9. The Program Manager will be responsible for meeting with the EOR to discuss the findings and request compensation. If the EOR is agreeable to paying the costs as determined by the Panel, the issue will be considered closed.
10. If the EOR is not agreeable to paying such costs, the Portfolio Manager will take the following actions:
 - 10.1 If the recommended compensation is > \$50,000, the Portfolio Manager will notify BLA and BLA will formally notify the EOR and their Insurance carrier of the claim. BLA will attempt to settle the claim with the EOR legal representative with support from BEDC as requested.
 - 10.2 If Agency BLA cannot settle the claim, BLA will assess the strengths and weaknesses of the case and refer the case to City Law, as appropriate.

PART IV - REFERENCES

- Change Order Classification Definitions

PART V - RELATED PROCEDURES

- SOP 224 – Change Order Process

Appendix B

Brooks, Ayana

From: Resnick, Risa
Sent: Wednesday, September 05, 2007 4:15 PM
To: Mueller, James; Grob, Shauna; Ferone, Alice; Fenves, Carol; Schiano, Frank
Subject: Design Error/Omission Change Orders

Importance: High

Good afternoon all – Carol and I just spoke with Louise Worhle and Julian Opera at MOCs.

While ODC Directive 47 remains in effect, they advised us that it is sufficient for the Bureau to submit the Memo written to the GC's office advising that it is a design error/omission, but that nothing further is needed from Counsel's office. As we all agreed, a disposition from Counsel's Office would take place after review of all design errors at the end of the job, when necessary.

Julian reiterated that there is NO NEED for Counsel to sign off when submitted these Change Orders to the Comptroller's Office, but the memo from the Project Manager to General Counsel must be included.

Julian can be reached at 212-788-0023 and he has no problem with us passing his contact info along to the Engineer(s) at the Comptroller's office who are now asking for this GC Memo.

Carol, please correct me if I've misstated or missed anything.

Thanks, Risa

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Appendix C



**Environmental
Protection**

Carter H. Strickland, Jr.
Commissioner

Matthew Osit, P.E.
Portfolio Manager
Bureau of Engineering
Design & Construction
mosit@dep.nyc.gov

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MEMORANDUM

TO: Distribution
FROM: Matthew Osit, P.E. *MO*
DATE: October 19, 2012
RE: BB-57 Bowery Bay Plant Upgrading
SOP-127: Cost Reimbursement Associated with Errors or
Omission Change Orders

Background:

The total bid cost for the BB-57 contract series was \$213.5 million. There were 222 change orders which added \$68.3 million, and 73 credit change orders for \$62.8 million which reduced the total contract value to \$219 million. BB-57 is currently in the close-out stage and no further change orders are anticipated. Hazen and Sawyer, the Engineer of Record ("EOR") billed and was paid for all services related to the preparation of these change orders.

Assessment:

There are three identified types of change orders for this assessment: Design Errors ("DE"), Design Omissions ("DO"), and multi-classification change orders that included DE/DOs. There are other classifications such as Field Conditions ("FC") that are not considered indicative of EOR performance. The total cost of the DO and DE change orders is:

Design Omission: \$6,501,782
Design Error: \$89,410
Multiple Classification (Partial DO/DE): \$9,923,875

For those change orders that had more than one classification, the allocation of costs was done linearly based on the number of classifications. For example, a DO/FC change order would be allocated equally to the DO and FC categories. Overrun 1 (BB-57G-OR1) was removed from the summary since there were no project cost impacts of the soil classification related overrun.

Adding the multi-classification change orders to the total results in the following amounts:

Design Omission: \$8,839,659 (4.0%)
Design Error: \$166,878 (0.07%)

In addition to the development of the percentages, the DO/DE change orders have been individually reviewed, and it is our determination that no change order was indicative of an egregious failure to meet the standard of care. As a result, no specific change orders are planned to be presented to the Errors and Omissions Panel for cost recovery.

In addition to the technical assessment, we have also reviewed the project schedule analysis performed by New York City Law Department to determine if any of the DE or DO change orders had a significant schedule impact.

Change Orders tied to the Delay Analysis

The Delay Analysis separated the project into approximately one dozen schedule periods and then assessed the delay in terms of events. Each event was then classified by responsible party. Only three events were classified as being caused by the EOR. There were two major project events, neither of which was the responsibility of the DEP or the EOR, which greatly impacted the schedule. First, the electrical contractor (57E) was found in default of the contract and was terminated in February 2004. Upon termination, Lipco's bonding company, XL Specialty Insurance, took over the contract and retained EJ Electric to complete the balance of the 57E contract. The change in electrical contractors contributed to the delay. The second event was a small fire in the main building caused by the 57H contractor. As a result of the fire, contaminants were spread throughout the building preventing the contractors from performing any work while the remediation was in progress. Access was impacted for more than two years. DEP determined that Hazen and Sawyer contributed a total of 231 days of delay. The total project delay was 2097 days.

The following are the identified Hazen and Sawyer-caused delays:

Event 5.3: Hazen and Sawyer's Delayed Main Building Electrical Wing Structure Construction: 95 days.

Issues with closing in the Main Building's Electrical Wing masonry work by the 57G contractor prevented the 57E contractor from installing his electrical equipment. The multiple issues included sequencing of the masonry leave-outs and requests for information regarding the building's parapet.

These issues were addressed in the June 2003 progress meeting where it was noted that the "57G contractor is still waiting for information on the back-up brick, parapet, and copingstone" while the EOR "acknowledged that this is a critical area" and stated that it is working on resolving the issues. Since this delay was outside the contractor's control and was caused by the engineer, this period is attributable to the EOR.

No change orders were identified as part of this delay period.

Event 6.4: DEP's Delayed Coordination of Lower Level Pump Station: 49 days.

The EOR delayed coordination at the Lower Level Pump resulted in the issuance of 57E CO #051, a \$3,024,145 change order (design omission) to the 57E Contractor. The issue began with the EOR's inability to identify the responsibility of point-to-point wiring diagrams and then ultimately their inability to deliver accurate Conduit and Cable schedules.

BB-57E	051R	DO	Modifications to Cable & conduit Schedule	\$3,024,145
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Event 11: Event 11 spans the period of 153 days between February 15, 2008 and July 17, 2008. The critical work that was scheduled to take place in this window primarily dealt with work relating to change order CO 57G164 (design omission), including removal of existing fixtures and wall in the MCC Room M141, and repair of roof slabs and openings. In this window, the project experienced 87 days of critical delay due to the delayed registration of CO 57G164-Modifications to VFD Room. This delay is entirely attributed to the EOR.

BB-57G	164	DO	Modifications to VFD Room in the main building.	\$49,669
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Recommendation:

The Portfolio and Accountable Manager have reviewed the documentation related to Design Omission and Design Error change orders and make the following determinations:

1. The percentages for Design Omission and Design Error change orders are/were(?) within the acceptable range of performance for this project;
2. There are no specific change orders that demonstrate a failure to provide adequate quality control or which do not meet the standard of care;
3. No individual change order had a major schedule impact that would support presentation to the Errors and Omissions Panel;
4. DEP will recover all costs associated with the preparation of Design Error change orders. Using 10% of the construction cost as a basis would result in a permanent deduction (Line A) of \$16,688. This amount will be deducted from the next payment request.

cc: K. Mallon, Deputy Commissioner, BEDC
K. Donnelly, Assistant Commissioner, BEDC