



OFFICE OF
INSPECTOR GENERAL

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

May 23, 2019

TO: Kenneth Johnson, Chief Operating Officer

FROM: Carl W. Hoecker, Inspector General 

SUBJECT: *Final Management Letter: Update on the SEC's Progress Toward Redesigning the Electronic Data Gathering, Analysis, and Retrieval System*

In September 2017, the U.S. Securities and Exchange Commission (SEC or agency) Office of Inspector General (OIG) reported observations about controls over the SEC's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system enhancements and redesign efforts.¹ We noted that the SEC's EDGAR Redesign (ERD) program is a multi-year, cross-agency initiative and, since 2014, the SEC had taken steps to develop and implement a new electronic disclosure system that meets agency needs. We made one recommendation to strengthen the agency's ERD program.² Since issuing our September 2017 report, we have continued to monitor the SEC's progress toward redesigning the EDGAR system. We have not conducted an audit or evaluation in conformance with generally accepted government auditing standards or the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*. However, based on the work performed, we are reporting concerns that warrant management's attention. We are also requesting that the SEC provide information about its plans to redesign the EDGAR system and, in the interim, (b) (7)(E)  in the existing EDGAR system. This letter contains non-public information about the agency's efforts to redesign the EDGAR system. We redacted the non-public information to create this public version.

Executive Summary

Since 2015, the U.S. Government Accountability Office (GAO) has reported that the management of information technology (IT) acquisitions and operations is a high-risk area needing attention by the executive branch and Congress. According to GAO, "Federal IT

¹ U.S. Securities and Exchange Commission, Office of Inspector General, *Audit of the SEC's Progress in Enhancing and Redesigning the Electronic Data Gathering, Analysis, and Retrieval System*, Report No. 544; September 28, 2017.

² To improve the effectiveness of the ERD program, we recommended that the agency address constraints impacting the timely completion, review, and approval of contractor deliverables, commensurate with the ERD program's strategic significance and importance to the SEC. After verifying completion of corrective action taken, on September 27, 2018, we closed the recommendation for reporting purposes.

investments too frequently fail or incur cost overruns and schedule slippages while contributing little to mission-related outcomes.”³ Moreover, in an April 2017 report, GAO noted that, in reports issued between fiscal years 2010 and 2015, GAO made 803 recommendations to the Office of Management and Budget and Federal agencies to address shortcomings in IT acquisitions and operations.⁴

To maintain visibility into this high-risk area with respect to the SEC, we continued to monitor the agency’s progress toward redesigning the EDGAR system, which is at the heart of the agency’s mission of protecting investors; maintaining fair, orderly, and efficient markets; and facilitating capital formation. In 2014, the SEC formally began efforts to redesign the system and, since that time, has taken several steps to develop a new electronic disclosure system, including spending about \$10.6 million on related contracts. However, we determined that:

- The agency’s approach to redesigning the EDGAR system is unclear;
- ERD program cost and schedule estimates presented to agency decision makers and senior officials were not based on best practices; and
- The EDGAR Business Office (EBO) created a Grand Functional Requirements Document (Grand FRD) for the redesigned EDGAR system, but did not include sufficient detail about the system’s security requirements.

As we reported in September 2018,⁵ the existing EDGAR system continues to operate (b) (7)(E). Over the last two years, the EBO and the SEC’s Office of Information Technology (OIT) initiated a multi-phase “EDGAR Security Uplift” (b) (7)(E). This effort is ongoing.

To help us determine whether further action by the OIG is warranted, we are requesting that the SEC clarify and provide to the OIG its approach to redesigning the EDGAR system. We are also requesting that the SEC describe planned or ongoing actions to:

- a. manage the ERD program using reliable cost and schedule estimates based on established methods and valid data;
- b. integrate “functional requirements” with “non-functional requirements,” including those for security, recoverability, testability, and maintainability, with sufficient detail that future offerors can propose viable solutions and designs as part of a future competitive procurement; and
- c. further manage (b) (7)(E) in the existing EDGAR system.

³ U.S. Government Accountability Office, *High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas*, GAO-19-157SP; March 6, 2019.

⁴ U.S. Government Accountability Office, *INFORMATION TECHNOLOGY Opportunities for Improving Acquisitions and Operations*, GAO-17-251SP; April 11, 2017.

⁵ U.S. Securities and Exchange Commission, Office of Inspector General, *Evaluation of the EDGAR System’s Governance and Incident Handling Processes*, Report No. 550; September 21, 2018.

Background

Federal securities laws require public companies to disclose information on an ongoing basis, and EDGAR is the database of disclosure documents that public companies are required to file with the SEC. EDGAR's purpose is to increase the efficiency and fairness of the securities markets for the benefit of investors, corporations, and the economy by accelerating the receipt, acceptance, dissemination, and analysis of time-sensitive corporate information filed with the SEC. The SEC implemented the EDGAR system in 1992, although development of an "electronic library" began almost a decade earlier.⁶

Although the SEC continues to enhance the EDGAR system to accommodate changes in technology and address the increasing complexity and volume of filings submitted to the agency, in September 2014, the agency launched a "multi-year initiative to develop the next generation electronic disclosure system," called the ERD program. The intent of the ERD program is to create a new, modernized system that will, among other things:

- meet requirements for real-time system updates,
- reduce filer burden by providing simplified search and filing options based on filer experience,
- improve data capture by moving to structured formats for various SEC forms that will reduce the burden of producing and consuming the data, and
- limit the long-term costs of operating and maintaining the system.

To accomplish these goals, the SEC took several steps, including awarding multiple contracts at a total cost of about \$10.6 million. These contracts have included efforts to (1) review and analyze the current disclosure environment (at a cost of about \$4.4 million), (2) identify EDGAR system stakeholder needs and prepare a request for proposal (at a cost of \$122,500), and (3) gather functional and non-functional requirements for the new system (at a cost of about \$6.1 million). In addition, as discussed further below, several organizations within the SEC have shared responsibility for redesigning the EDGAR system.

OIT. OIT supports the Commission and SEC staff in all aspects of IT, including application development, infrastructure operations and engineering, IT program management, capital planning, security, and enterprise architecture. OIT operates the EDGAR system and hosts the EDGAR database for free public access, and (b) (7)(E) serves as the information system owner. In addition, OIT's information security organization provides engineering expertise to help identify strategies for developing and deploying technology in a secure manner. Security personnel also evaluate controls for

⁶ According to a May 2016 speech by then SEC Commissioner Kara Stein, the SEC began building an "electronic library" in 1984. The agency awarded the first contract to build the EDGAR system, as a source of information for investors, in 1989.

storing, processing, and transmitting sensitive information, and regularly detect and respond to security incidents affecting SEC systems, including EDGAR.

EBO. The EBO, which includes the EDGAR Program Office, provides direct executive-level oversight for the ongoing transformation of specific functions and programs, including business ownership of the EDGAR system and the ERD program. The EBO Director serves as the business owner for the EDGAR system. The EDGAR Program Office provides operational support to the EBO and coordinates between SEC divisions and offices to resolve EDGAR-related issues. The EDGAR Program Office also serves as a business partner to OIT and represents the business interests of SEC divisions and offices in the EDGAR software development lifecycle.

ERD Oversight Board, Cyber Initiative Working Group, and IT Investment Boards. The ERD Oversight Board provides oversight, including input and support for addressing material issues or risks, and approves the overall strategic direction of the ERD program. In addition, although not a formal committee, in 2017, the agency established a Cyber Initiative Working Group composed of senior officials to centralize and enhance decision-making for information security agency-wide and to oversee and lead a number of priority cyber initiatives, including those related to the EDGAR system. Finally, the SEC's IT investment boards are responsible for selecting, overseeing, and evaluating IT investments within their purview, including those related to the ERD program. Such boards include the Information Officers' Council, which is responsible for determining which IT investments best meet the needs of the agency, among other things.

Scope and Methodology

Between October 2018 and May 2019, we continued to monitor the SEC's progress toward redesigning the EDGAR system. We interviewed SEC officials, including OIT and EBO personnel, ERD Oversight Board members, and Cyber Initiative Working Group members. We also reviewed presentations, meeting minutes, budget submissions, and functional requirements. Although the work performed did not constitute an audit or evaluation in conformance with generally accepted government auditing standards or *Quality Standards for Inspection and Evaluation*, the observations noted warrant management's attention and response.

Results

Agency's Approach to Redesigning the EDGAR System Is Unclear. Over time, the SEC's approach to redesigning the EDGAR system has evolved. For example, from the beginning of the ERD program in September 2014 until around February 2017, officials described the preferred approach as a "complete redesign," "new greenfield solution," and "completely clean slate," noting that the ERD program was "not aimed to identify the issues with current EDGAR and resolved [sic] them." Furthermore, in his June 28, 2016, project request before the Information Officers' Council, the former EBO Director stated that the SEC was "embarking on the delivery of a new greenfield electronic disclosure environment" and, therefore, would require funding to gather and document functional and non-functional requirements. Having received the Council's approval, in September 2016, the SEC awarded to Sapien Government

Services, Inc. (Sapient) a contract to gather and document requirements “to build the new electronic disclosure solution.”

Then, around July 2017, ERD officials began describing the focus of the ERD program as “limiting the risk of a big-bang approach and identifying specific areas which can be improved to address needs of EDGAR [sic] in the short-term with the ability to live beyond the new electronic filing solution environment.” In September 2017, the ERD Oversight Board agreed that the existing EDGAR system would require significant changes to meet new challenges, including security vulnerabilities that resulted in individuals gaining unauthorized access to non-public information stored in the system.⁷ Due at least in part to the intense focus on the system’s security posture following the intrusion, the ERD Oversight Board began revisiting the plan to build an entirely new electronic disclosure solution. During this period, the EBO and OIT initiated a multi-phase EDGAR Security Uplift (b) (7)(E). This effort has included (b) (7)(E)

among other things.

Nevertheless, EBO presentations to the ERD Oversight Board and the Cyber Initiative Working Group in September and October 2018 continued to describe the following “Two Approach Options” for the ERD program:

1. Big-Bang: The agency would build a new system separate from the existing EDGAR system and both systems would run parallel for a period of time.
2. Transformative: The agency would (b) (7)(E) followed by iterative enhancements focused on business capabilities.

It is unclear whether both approaches are still under consideration. In the Chairman’s December 11, 2018, congressional testimony, he stated that staff continued to explore alternatives “including the possibility of implementing a new electronic disclosure solution.”⁹ Yet, with the approval of Phase V of the agency’s ongoing EDGAR Security Uplift on March 29, 2019, it would appear that the SEC has effectively selected the Transformative approach. Specifically, Phase V involves (b) (7)(E) at an estimated cost of about (b) (5). However, the week before, on March 18, 2019, the agency released its *Fiscal Year 2020 Budget Request By Program*, which stated:

⁷ In a September 20, 2017, *Statement on Cybersecurity*, the SEC Chairman publicly disclosed that an incident—specifically, a software vulnerability in an EDGAR system component—previously detected in 2016 resulted in unauthorized access to non-public information.

⁸ (b) (7)(E)

⁹ SEC Chairman, Jay Clayton, testimony on “Oversight of the U.S. Securities and Exchange Commission” before the U.S. Senate Committee on Banking, Housing, and Urban Affairs; December 11, 2018.

In [fiscal year] 2020 and beyond, EBO will continue its direct executive-level oversight for the EDGAR system to provide greater control, accountability, and transparency of the system's business operations **to include the ongoing EDGAR Redesign Program for the delivery of a new electronic filing environment** [emphasis added].¹⁰

The EDGAR system is at the heart of the SEC's mission, and redesigning it is a substantial undertaking that involves significant risk and resources. Clarifying the agency's approach to redesigning the system would ensure that internal and external stakeholders are informed and responsible officials are able to manage the risk and resources to achieve the agency's goals and objectives.

ERD Program Cost and Schedule Estimates Presented to Agency Decision Makers and Senior Officials Were Not Based On Best Practices. As shown in the table below, between June 2015 and September 2018, ERD officials developed various, wide-ranging cost estimates and proposed completion dates for the redesign approaches being considered. In June 2015, the ERD program's baseline estimate for requirements development and solutions delivery totaled between (b) (5) and (b) (5) with completion planned for June 2019. Then, in the SEC's November 2017 (b) (7)(E) the agency's then Chief Information Officer reported an EDGAR redesign estimate of about (b) (5) based on benchmarks of similar programs.¹¹ About 7 months later, in June 2018, estimates changed again with ERD officials reporting that, between 2018 and the project's new completion date of 2023, ERD program costs would total about (b) (5). Then, in September 2018, after revisiting redesign approaches, ERD officials estimated the total cost for the Big-Bang approach as (b) (5) with an estimated completion date of 2025, and the total cost for the Transformative approach as (b) (5) with an estimated completion date of 2023.¹²

¹⁰ U.S. Securities and Exchange Commission, *Fiscal Year 2020 Congressional Budget Justification and Annual Performance Plan; Fiscal Year 2018 Annual Performance Report*; March 18, 2019.

¹¹ This estimate has since been removed from the (b) (7)(E).

¹² These two cost estimates were inclusive of both ongoing operations and maintenance costs for the EDGAR system, as well as development, modernization and enhancement costs for the ERD program. According to an (b) (7)(E), the estimated project completion dates for the Big-Bang approach and Transformative approach were six and four years, respectively, from 2019.

Table. Evolution of ERD Program Cost and Schedule Estimates

Date	Cost Estimate	Estimated Completion Date
June 2015	Between (b) (5) and (b) (5)	June 2019
November 2017	(b) (5)	Not Specified
June 2018	(b) (5)	2023
September 2018	Big-Bang: (b) (5)	2025
	Transformative: (b) (5)	2023

Source: OIG-generated based on ERD Oversight Board documents and the SEC's November 2017 (b) (7)(E).

To help the SEC determine an approach, strategy, and funding needs for redesigning the EDGAR system, EBO officials presented the September 2018 estimates to agency decision makers and senior officials, including the ERD Oversight Board and the Cyber Initiative Working Group. When asked about the substance and origin of the estimates, EDGAR's then business owner stated that the estimates were based on a "guess" and not best practices such as those established in GAO's *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*¹³ (GAO's Cost Guide). More recently, on February 5, 2019, an ERD official stated that, because "there was no clear definition on scope, [they had not] come up with the budget amount yet." On March 18, 2019, the same ERD official confirmed that the EBO was still working on high-level cost and schedule estimates for senior management's consideration. We are unaware of the basis for the cost and schedule estimates used to approve Phase V of the EDGAR Security Uplift on March 29, 2019.

According to GAO's Cost Guide, the ability to generate reliable cost estimates is a critical function, necessary to support capital programming processes. The Cost Guide notes that, without this ability, agencies are at risk of experiencing cost overruns, missed deadlines, and performance shortfalls, as cost estimates "predict, analyze, and evaluate a program's cost and schedule and serve as a critical program control planning tool." Because the SEC did not use GAO's cost estimating methodology or other best practices to develop ERD program cost and schedule estimates, agency decision makers and senior officials are at risk of relying on inaccurate information to make strategic and budgetary decisions, which could negatively affect the ERD program as well as other planned agency IT priorities and investments.

EBO Grand FRD Did Not Contain Sufficient Detail About Security Requirements. As previously stated, in September 2016, the SEC awarded to Sapien a contract to gather and document functional and non-functional requirements for a new electronic disclosure solution. Although the SEC accepted Sapien's November 2018 Grand FRD for the redesigned EDGAR system and related technical documents, the Grand FRD did not include sufficient detail about the system's requirements for security, recoverability, testability, and maintainability, as further described below.

¹³ U.S. Government Accountability Office, *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP; March 2, 2009.

According to the SEC's contract with Sapient, the contractor was to document functional and non-functional requirements "in enough detail so that the future Offerors could propose viable solutions and designs as part of a competitive procurement." The contract defined "functional requirements" as "a thorough and precise articulation of all of the capabilities, functions, components and associated processes required to effectively describe a comprehensive system." The contract defined "non-functional requirements" as "characteristics, attributes, or constraints of a system" including security, recoverability, testability, and maintainability.

Between 2016 and 2018, at a cost to the SEC of about \$6.1 million, Sapient gathered, documented, and vetted requirements for the redesigned EDGAR system during 172 meetings with 161 representatives from 12 SEC divisions and offices, including OIT. However, contractor personnel met with OIT security personnel only once to gather security-specific requirements for the redesigned system.¹⁴ Furthermore, the Grand FRD did not include all of the potential requirements discussed during that meeting with OIT security personnel, such as (b) (7)(E)

On November 7, 2018, Sapient delivered to the SEC (and the SEC accepted) the Grand FRD for the redesigned EDGAR system. Sapient provided nine SEC business stakeholders with a draft of the Grand FRD and gave them an opportunity to comment on it. However, this vetting process did not include the SEC Chief Information Security Officer as a stakeholder. Although the Grand FRD included some security requirements, such as access controls and controls over identification and authentication of users, the document did not address security requirements related to recoverability, testability, and maintainability, including requirements for configuration management, contingency planning, and data encryption.

Sapient also provided the agency with a separate (b) (7)(E)

Although this document included requirements for configuration management, contingency planning, and data encryption, Sapient did not integrate or incorporate these items into the Grand FRD. Similar to the process for the Grand FRD, Sapient did not give OIT security personnel the opportunity to comment on this document. The document was marked "Review waived by SEC, due to the technical nature of the cycle."¹⁵

The National Institute of Standards and Technology Special Publication 800-64, *Security Considerations in the System Development Life Cycle* (Revision 2, October 2008), states that early planning and awareness will result in cost and timesaving through proper risk management planning. Moreover, the Special Publication makes clear that security discussions should be performed as part of (not separately from) the development project to

¹⁴ The SEC's Chief Information Security Officer served on the Cyber Initiative Working Group and received periodic updates regarding the ERD program.

¹⁵ Sapient also provided the agency with a separate (b) (7)(E)

. Similarly, Sapient did not integrate or incorporate this document into the Grand FRD and marked it "Review waived by SEC, due to the technical nature of the cycle."

ensure solid understandings among project personnel of business decisions and their risk implications to the overall development project. Similarly, the SEC's (b) (7)(E) system development lifecycle process, and (b) (7)(E) collectively establish that IT security requirements must be integrated into all phases of the SEC's system and services development and acquisition processes. Finally, the SEC's contract with Sapien clearly states that the contractor was to provide non-functional requirements for system security, recoverability, testability, and maintainability.¹⁶ Early integration of security controls into the ERD program could assist the SEC in early identification and mitigation of vulnerabilities, as well as prevent the need for costly reconfiguring or customizing of the system later to ensure adequate controls and to meet mandatory security requirements.

Conclusion

Although the SEC has taken steps and expended considerable funds since 2014 to develop a new electronic disclosure system, additional management attention is needed to address our observations and help the EBO mitigate recognized IT acquisition and operation risks that can lead to cost overruns, unrealistic or missed deadlines, and performance shortfalls.

On May 7, 2019, we provided SEC management with a draft of our management letter for review and comment. In its May 17, 2019, response, management concurred with our overall observations and stated that it remains committed to modernizing and improving the security, functionality, and maintainability of the EDGAR system. Although management did not use cost and schedule estimates based on best practices for its deliberations about the appropriate high-level strategy for the EDGAR system, management anticipates preparing more detailed estimates, based on best practices, later in the process. Also, although the Grand FRD did not describe in detail security requirements for redesigning EDGAR, management anticipates it will obtain detailed security requirements in a future phase of the project. Finally, management expects that completed and ongoing work will modernize much of the EDGAR system, achieve many of the goals of the original EDGAR redesign project, and position the system for further modernization. Management's comments are included as an attachment to this final management letter.

To help us determine whether further action by the OIG is warranted, we request that, no later than June 6, 2019, management provide to the OIG the SEC's approach to redesigning the EDGAR system. Please also describe planned or ongoing actions to:

- a. manage the ERD program using reliable cost and schedule estimates based on established methods and valid data;
- b. integrate "functional requirements" with "non-functional requirements," including those for security, recoverability, testability, and maintainability, with sufficient detail that future

¹⁶ The contract's period of performance ended on November 16, 2018, and Sapien's final invoice was dated November 28, 2018.

offerors can propose viable solutions and designs as part of a future competitive procurement; and

- c. further manage (b) (7)(E) in the existing EDGAR system

We appreciate management's cooperation and look forward to receiving the information requested above. If you have questions, please contact Rebecca L. Sharek, Deputy Inspector General for Audits, Evaluations, and Special Projects.

Attachment

cc: Jay Clayton, Chairman
Lucas Moskowitz, Chief of Staff, Office of Chairman Clayton
Sean Memon, Deputy Chief of Staff, Office of Chairman Clayton
Peter Uhlmann, Managing Executive, Office of Chairman Clayton
Robert J. Jackson Jr., Commissioner
Prashant Yerramalli, Counsel, Office of Commissioner Jackson
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Elad Roisman, Commissioner
Matthew Estabrook, Counsel, Office of Commissioner Roisman
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Jeffrey Hickman, Acting Director, EDGAR Business Office
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OFFICE OF THE
CHIEF OPERATING OFFICER

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

May 17, 2019

Rebecca L. Sharek, Deputy Inspector General for Audits, Evaluations, and Special Projects
Office of Inspector General
U.S. Securities and Exchange Commission
Washington, D.C. 20549

Dear Ms. Sharek:

Thank you for the opportunity to respond to the Office of Inspector General's "Draft Management Letter: Update on the SEC's Progress Toward Redesigning the Electronic Data Gathering, Analysis, and Retrieval System," dated May 7, 2019.

The SEC remains committed to modernizing the EDGAR system and improving its security, functionality, and maintainability. We greatly value our partnership with OIG and welcome the benefit of your observations and the opportunity to provide additional information that may help in understanding the agency's efforts to improve the EDGAR system.

Observation #1: Agency's Approach to Redesigning the EDGAR System Is Unclear

We concur that the SEC's approach to redesigning the EDGAR system has evolved over the past five years. A primary driver behind this evolution was our focus on the security of the EDGAR system. In particular, following the discovery in August 2017 of an intrusion into the test filing component of the EDGAR system, the agency began work on a multi-phase EDGAR security uplift effort. Since that time, the SEC has expended significant time and resources to strengthen the security of the EDGAR system, to include collaborating with third-party cybersecurity firms to conduct multiple assessments of system security (b) (7)(E); implementing numerous new security controls; and reducing the sensitivity of the data taken in by the system. The first four phases of the EDGAR security uplift were completed in 2017 and 2018, resulting in enhanced protections for (b) (7)(E) proactive (b) (7)(E) (b) (7)(E) additional (b) (7)(E) and improvements made to the system's (b) (7) (b) (7)(E)

The fifth phase of the project – Phase V – is designed to (b) (7)(E) (b) (7)(E) (b) (7)(E) Phase V planning began in early 2018, and an intensive eight-week technical feasibility assessment focused on the (b) (7)(E) (b) (7)(E) was conducted in the summer of 2018, with final delivery of the assessment in September 2018. After considering the feasibility assessment and a

preliminary cost estimate to complete that work, agency management asked the vendor supporting the EDGAR system to craft a more detailed proposal for Phase V, with specific estimated timelines and a more detailed implementation strategy. That proposal was reviewed by management and subsequently approved by the Chief Operating Officer on March 29, 2019. Work on Phase V is currently proceeding.

Phase V is designed to dramatically improve the EDGAR system and provide the agency with a platform on which to continue to build and enhance functionality for years to come. As a result of Phase V, it is expected that the EDGAR system will, among other benefits:

1. Incorporate enhanced security
 - EDGAR will (b) (7)(E)
2. Be (b) (7)(E)
 - EDGAR will (b) (7)(E)
 - EDGAR will (b) (7)(E)
3. Be (b) (7)(E)
 - EDGAR will (b) (7)(E)
4. Have (b) (7)(E)
 - EDGAR will (b) (7)(E)
5. Possess (b) (7)(E)
 - EDGAR will (b) (7)(E)

It is expected that the improvements to EDGAR resulting from Phase V will satisfy many of the goals of EDGAR redesign, as set forth at Page 3 of your letter. For example, once Phase V is completed in (b) (7)(E) it is expected to enable (b) (7)(E) and limit the long-term costs of operating and maintaining the EDGAR system. As Phase V is proceeding, the SEC is planning and prioritizing additional improvements to EDGAR, leveraging the functional requirements gathered to date.

Observation #2: ERD Program Cost and Schedule Estimates Presented to Agency Decision Makers and Senior Officials Were Not Based on Best Practices

We concur that the EDGAR redesign program cost and schedule estimates discussed in your letter were not based on best practices. However, we should note these were preliminary estimates, and that we had anticipated preparing more detailed estimates, based on best practices, later in the process. Typically, planning for information technology

projects contemplates that business functional requirements will be finalized prior to preparation of formalized cost and schedule estimates. The estimates that are the subject of your letter – referenced in the table on page 6, from June 2015 to September 2018 – were for discussion purposes in conjunction with management’s deliberations about the appropriate high-level strategy for EDGAR. The agency did not receive final functional business requirements until Sapient delivered the Grand FRD in November 2018.

With regard to Phase V, we spent significant time estimating the cost and schedule for this project, requiring the contractor to provide more detailed estimates as well as preparing our own internal estimates. It was upon those more detailed cost and schedule estimates that management approved Phase V. You noted that you are unaware of the basis of the cost and schedule estimates used to approve Phase V. We would be happy to provide you the materials supporting these estimates.

Observation #3: EBO Grand FRD Did Not Contain Sufficient Detail About Security Requirements

We concur that the Grand FRD did not describe in detail security requirements for a redesign of EDGAR. The EDGAR Business Office anticipated that it would obtain detailed security requirements in a future phase of the project. As noted above, Phases I-V prioritized security improvements and the SEC will continue to integrate security considerations and requirements into its future planning for the system.

Conclusion

The agency’s first priority for the EDGAR system is to improve its security. Accordingly, we have focused our energies on completing four phases of security improvements and recently approved the initiation of Phase V. This phase is designed to

(b) (7)(E)

(b) (7)(E)

It is expected that this work will modernize much of EDGAR, achieve many goals of the original EDGAR redesign project, and position the system for further modernization. We would be happy to keep your office abreast of our progress in implementing Phase V and in finalizing our strategy for additional improvements.

Thank you for your helpful perspectives and suggestions on this important system, and we look forward to continuing to work with you and your staff as the agency continues its efforts to improve the EDGAR system.

Sincerely,



Kenneth A. Johnson
Chief Operating Officer