



February 2020

NUCLEAR REGULATORY COMMISSION

Fee-Setting, Billing,
and Budgeting
Processes Have
Improved, but
Additional Actions
Could Enhance Efforts

Why GAO Did This Study

NRC regulates the commercial nuclear industry. In that role, the agency provides services for regulated entities that hold licenses—that is, licensees. NRC recovers the majority of costs for these services by setting fee rates and using those rates to bill licensees. In 2017 and 2018, GAO recommended actions to improve NRC’s fee-setting, billing, and budgeting processes, and NRC OIG and internal agency initiatives recommended additional actions. However, industry stakeholders continue to identify challenges with these processes.

GAO was asked to review NRC’s (1) fee-setting, (2) billing, and (3) budgeting processes. This report examines NRC’s progress since 2017 implementing changes to those processes in response to GAO, NRC OIG, and internal agency findings and recommendations.

GAO identified relevant GAO, NRC OIG, and internal agency recommendations and evaluated NRC’s progress implementing those using evidence such as NRC’s fee rules and budget documentation. GAO also spoke with NRC officials and interviewed a non-generalizable sample of NRC licensees, who were selected based on the amount of fees NRC charged them from fiscal years 2014 through 2018.

What GAO Recommends

GAO recommends that NRC (1) develop guidance on when to communicate work progress information to licensees, and (2) ensure costs are clearly defined in its public cost estimates. NRC neither agreed nor disagreed but plans to review these processes. GAO believes its report supports implementation of these recommendations.

View [GAO-20-362](#). For more information, contact Frank Rusco at (202) 512-3841 or ruscof@gao.gov

NUCLEAR REGULATORY COMMISSION

Fee-Setting, Billing, and Budgeting Processes Have Improved, but Additional Actions Could Enhance Efforts

What GAO Found

Since 2017, the Nuclear Regulatory Commission (NRC) has implemented changes to its fee-setting, billing, and budgeting processes in response to GAO, the NRC Office of Inspector General (OIG), and internal agency findings and recommendations:

- **Fee-Setting.** NRC has improved the clarity, consistency, and transparency of its fee-setting process by, among other things, defining key terms used in the calculation of its hourly-fee rate and by developing and meeting performance measures for the transparency and timeliness of the fee-setting process.
- **Billing.** NRC has improved the timeliness and accuracy of its billing process by, for example, implementing an electronic billing system and a standardized process to validate licensee charges. However, the billing information the agency provides licensees is not fully transparent in two areas.

First, multiple licensees that GAO interviewed stated that NRC’s project managers do not always communicate about that status of regulatory actions, which can cause the licensees’ bills for NRC’s oversight to be higher than expected. One of NRC’s program offices has a policy regarding when to communicate information on the progress of work performed on ongoing regulatory actions, but the remaining NRC program offices GAO spoke with do not, nor is there agencywide policy or guidance. NRC’s *Principles of Good Regulation*, which includes guidance on transparency, lists openness as a key principle, including communicating with licensees. By developing guidance about when NRC staff are to communicate information to licensees on the progress of work performed on ongoing regulatory actions, NRC could facilitate planning and budgeting for licensees.

Second, NRC did not clearly define what costs are included across all its public cost estimates for common regulatory actions. NRC created the estimates as a transparency measure to assist stakeholders—including licensees and potential applicants—with planning for the costs of future NRC oversight activities. However, NRC did not specify what costs are included across these cost estimates, such as those related to project management. According to GAO’s analysis of NRC documents, such costs for some NRC actions can account for about two thirds of total hours billed. By clearly defining the costs in its public cost estimates, NRC could enhance transparency and increase the value of the estimates as a budgeting and planning tool for stakeholders, in accordance with NRC’s *Principles of Good Regulation*.

- **Budgeting.** NRC has made some changes to its budgeting process to better enable stakeholders to determine how it spent its appropriation. For example, starting in fiscal year 2018, NRC began presenting actual obligation data and more detailed information on the status of funds it carried over from prior fiscal years in its annual budget justification.

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Abbreviations

CAC	Cost Activity Codes
EPID	Enterprise Project Identifiers
NRC	Nuclear Regulatory Commission
OIG	Office of the Inspector General

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February 28, 2020

The Honorable John Barrasso
Chairman
Committee on Environment and Public Works
United States Senate

The Honorable Greg Walden
Ranking Republican Leader
Committee on Energy and Commerce
House of Representatives

The Honorable Fred Upton
Ranking Republican Leader
Subcommittee on Energy
Committee on Energy and Commerce
House of Representatives

The Honorable Shelley Moore Capito
United States Senate

The Nuclear Regulatory Commission (NRC) is the federal agency responsible for regulating the commercial nuclear industry—which includes nuclear power plants and other civilian uses of radioactive material—through licensing, inspection, and enforcement of its regulations. NRC recovers the cost of inspections and other services provided to companies that hold an NRC license, or licensees, by assessing fees for work performed and billing licensees. As required by the Omnibus Budget Reconciliation Act of 1990, as amended, NRC annually assesses and collects fees totaling about 90 percent of its annual budget authority.¹ To reach this amount, NRC establishes two types of fees:

¹In January 2019, the Nuclear Energy Innovation and Modernization Act was signed into law. Among other things, the act repeals the Omnibus Budget Reconciliation Act of 1990 requirement that NRC collect 90 percent of its annual budget authority (less certain excluded items) through fees assessed to licensees and applicants and replaces that requirement with a new fee recovery framework, effective October 1, 2020. Under the act, NRC will be required to ensure that, to the maximum extent practicable, the amount assessed and collected is equal to an amount that approximates the total budget authority of the Commission for that fiscal year.

-
1. Service fees, which recover the costs of licensing and other services provided by NRC and are charged by applying an hourly fee rate,² and;
 2. Annual fees, which recover the remainder of budgeted costs not covered by service fees.³

To establish these service and annual fee rates, NRC uses an annual rulemaking process. NRC issues a proposed fee rule and final fee rule, both of which are published in the *Federal Register*, and also prepares and makes available on its website work papers that provide more detailed information on the agency's fee calculations. After NRC's fee rates are determined through this annual rulemaking process, NRC uses those rates to bill its licensees.

From fiscal year 2005 through fiscal year 2010, NRC's budget, and hence its regulatory fees, grew as it hired additional staff in anticipation of a substantial increase in NRC's workload due to a projected large number of applications for new nuclear power plants and interest in new reactor designs, among other things. However, the expected growth in the nuclear power sector did not materialize, and instead the commercial nuclear industry decreased in size, with nine operating reactors closing between January 2013 and January 2020 and only one new operating reactor entering service during that time. In this context, NRC undertook several initiatives aimed at streamlining agency processes and better

²Service fees are also assessed through flat fees which are set at a predetermined amount for the review of certain types of license applications, such as new license applications for material users and licenses to import or export nuclear material for civilian uses. NRC calculates flat service fees by multiplying the average number of hours needed to process each licensing action by the hourly fee rate.

³Certain amounts are excluded from fee recovery through annual fees. For fiscal year 2019, provisions of the Omnibus Budget Reconciliation Act of 1990, as amended, and the Energy and Water, Legislative Branch, and Military Construction and Veterans Affairs Appropriation Act, 2019 excluded from fee recovery amounts appropriated (1) for NRC's responsibilities related to Department of Energy waste management activities for certain radioactive material resulting from the reprocessing of spent nuclear fuel, (2) for homeland security activities other than the costs of certain fingerprinting and background checks and the costs of conducting security inspections, (3) to NRC from the Nuclear Waste Fund for the fiscal year, (4) for international activities, (5) for advanced nuclear reactor regulatory infrastructure activities, and (6) for Inspector General services for the Defense Nuclear Facilities Safety Board.

positioning the agency to respond to these changes in external conditions, such as standardizing its billing codes.⁴

In 2017 and 2018 we reported on various actions to improve NRC's fee-setting, billing, and budgeting processes⁵, and NRC's Office of the Inspector General (OIG) recommended additional actions on these topics.⁶ For example, we recommended that NRC clearly present information in NRC's proposed fee rule, final fee rule, and fee work papers by defining and consistently using key terms.⁷ Additionally, we reported that NRC was undertaking an initiative to transition to electronic billing, and we recommended various actions to improve its planning for that transition.⁸

Since we last reported on these issues, NRC's budget authority and regulatory fees have declined. Specifically, the total amount NRC collected in fees from licensees fell to \$776.3 million in fiscal year 2019—a 14.9 percent decrease from fiscal year 2015. Additionally, NRC has undertaken several additional initiatives aimed at improving its fee-setting, billing, and budgeting processes, including a Fees Transformation Initiative that was meant to improve fee transparency through multiple process and policy improvements. However, industry stakeholders—including licensees and industry organizations whose members include

⁴NRC's Business Process Improvement Fee Billing Process Improvement Project, NRC's Mission Support Task Force, and NRC's Cost Accountability Management Project.

⁵GAO, *Nuclear Regulatory Commission: Additional Action Needed to Improve Process for Billing Licensees*, [GAO-18-318](#) (Washington, D.C.: Mar. 8, 2018); GAO, *Nuclear Regulatory Commission: Changes Planned to Budget Structure and Justification*, [GAO-17-294](#) (Washington, D.C.: Mar. 8, 2017); and GAO, *Nuclear Regulatory Commission: Regulatory Fee-Setting Calculations Need Greater Transparency*, [GAO-17-232](#) (Washington, D.C.: Feb. 2, 2017).

⁶Nuclear Regulatory Commission, Office of the Inspector General, *Audit of NRC's Program Management, Policy Development and Analysis Division (PMDA) and Division of Resource Management and Administration (DRMA) Functions to Identify Program Efficiencies*, [OIG-17-A-18](#) (July 3, 2017); Nuclear Regulatory Commission, Office of the Inspector General, *Audit of NRC's Internal Controls Over Fee Revenue*, [OIG-15-A-12](#) (Mar. 19, 2015); Nuclear Regulatory Commission, Office of the Inspector General, *Audit of NRC's Budget Execution Process*, [OIG-13-A-19](#) (May 7, 2013), and Nuclear Regulatory Commission, Office of the Inspector General, *Audit of NRC's Process for Calculating License Fees*, [OIG-13-A-02](#) (Oct. 24, 2012).

⁷[GAO-17-232](#)

⁸[GAO-18-318](#)

companies with NRC licenses—continue to identify additional challenges they encounter with these three NRC processes.⁹

You asked us to review NRC’s fee-setting, billing, and budgeting processes. This report examines NRC’s progress implementing changes to those three processes since 2017 in response to GAO, NRC OIG, and internal NRC findings and recommendations.

To determine NRC’s progress implementing changes to its fee-setting process, we reviewed: (1) the requirements of the Independent Offices Appropriations Act of 1952 and Omnibus Budget Reconciliation Act of 1990, as amended, (2) NRC’s proposed and final fee rules for fiscal years 2016 through 2019 and associated work papers, and (3) NRC’s policies and guidance related to its fee-setting process. To determine NRC’s progress implementing changes to its billing process, we reviewed NRC policy and guidance related to its billing process and NRC planning documents related to recent actions it has taken to improve billing, including its standardized billing validation process and its electronic billing initiative. To determine NRC’s progress implementing changes to its budgeting process, we reviewed NRC’s budget justifications and budget execution information. Specifically, we analyzed budget request, enacted, obligation, and carryover data from NRC’s budget justifications for fiscal years 2011 through 2020 and budget execution data for fiscal year 2019 that we obtained from NRC. We assessed the reliability of these data by conducting interviews with NRC officials and reviewing the data for obvious errors. We determined these data to be sufficiently reliable for the purposes of our report.

We reviewed the findings and recommendations of relevant GAO¹⁰ and NRC OIG reports,¹¹ as well as NRC internal initiatives, including the agency’s Fees Transformation Initiative, aimed at improving the three processes—fee-setting, billing, and budgeting. We interviewed NRC staff in the Office of the Chief Financial Officer, which has responsibility over these processes, and NRC staff in three program offices with

⁹Industry stakeholders also include potential NRC applicants.

¹⁰[GAO-18-318](#), [GAO-17-294](#), [GAO-17-232](#).

¹¹Nuclear Regulatory Commission, Office of the Inspector General 17-A-18, Nuclear Regulatory Commission, Office of the Inspector General 15-A-12, Nuclear Regulatory Commission, Office of the Inspector General 13-A-18, and Nuclear Regulatory Commission, Office of the Inspector General 13-A-02.

responsibility for developing cost estimates of common NRC oversight activities.¹² We also interviewed a nongeneralizable sample of nonfederal licensees selected from six of NRC's nine fee classes to obtain their views on NRC's fee-setting, billing, and budgeting processes and the changes NRC has made to those processes since 2017.¹³ We selected 11 licensees for our sample using NRC data on service and annual fee collections.¹⁴ For five of NRC's nine fee classes, we selected and interviewed the licensee that was assessed the highest amount of total fees from fiscal year 2014 through 2018—the most recent full year of data at the time of our review. For NRC's operating reactor fee class, we selected and interviewed the four licensees that were assessed the highest amount of fees from fiscal year 2014 through 2018, and two additional operating reactor licensees that we randomly selected. We also excluded three fee classes from our sample—transportation, rare earth, and import/export—because no licensees in these fee classes were assessed service and annual fees from fiscal year 2014 through 2018. Using this process, we selected a sample that included licensees of varying size and scope, as well as licensees with operating reactors in regulated and deregulated markets. We interviewed licensees using a

¹² NRC officials representing the three program offices told us they have responsibility for the majority of NRC's fee-billable licensing activities. These three offices are the Office of Nuclear Reactor Regulation, the Office of New Reactors, and the Office of Nuclear Material Safety and Safeguards. In October 2019, NRC merged the Office of New Reactors into the Office of Nuclear Reactor Regulation. We spoke with personnel in the Office of New Reactors prior to this merger. We did not meet with the following NRC program offices, as they did not have responsibility for creating public cost estimates: Office of Nuclear Regulatory Research, Office of Enforcement, Office of Investigations, Office of Nuclear Security and Incident Response, Office of the Chief Information Officer, Office of Administration, Office of the Chief Human Capital Officer, Office of Small Business and Civil Rights, and NRC's four regional offices.

¹³For the purposes of setting fees, NRC established the following nine fee classes: operating reactors, spent fuel storage/reactor decommissioning, research and test reactors, fuel facilities, uranium recovery, materials users, transportation, rare earth, and import/export. From fiscal year 2014 through 2018, the operating reactor fee class collected the highest amount of fee revenue, about 85 percent of total NRC fees collected over these years. We focused our review on nonfederal licensees because NRC's billing process for federal agencies uses a different payment and collection system.

¹⁴Specifically, we selected six of 23 companies that held operating reactor licenses as of August 2019; together, those six companies held 47 of the 97 operating reactor licenses in effect at that time. We also selected a single licensee from each of the following NRC fee classes: materials users, which had 2,800 active licenses as of August 2019; fuel facilities, which had 10 active licenses as of August 2019; uranium recovery, which had three active licenses as of August 2019; spent fuel storage/reactor decommissioning, which had 80 active licenses for spent fuel storage as of August 2019, and research and test reactors, which had 31 active licenses as of August 2019.

standard set of questions to collect consistent information. We then analyzed licensee responses to identify key themes and grouped their responses into common categories. Views from these licensees cannot be generalized to all nonfederal licensees but provide illustrative information. We also compared NRC's current fee-setting, billing, and budgeting practices against NRC's *Principles of Good Regulation*, NRC's *Organizational Values*, and federal internal control standards related to communicating quality information.¹⁵

We conducted this performance audit from March 2019 to February 2020 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.

Background

NRC's Role and Organizational Structure

NRC was established by the Energy Reorganization Act of 1974 and is headed by five commissioners, collectively referred to as the Commission, with members appointed by the President and confirmed by the Senate. One commissioner is designated by the President to serve as the Chair, who, among other things, serves as the official spokesperson of the Commission. The Commission is responsible for, among other things, revising budget estimates and determining the distribution of appropriated funds according to major programs and purposes. NRC staff from program offices in headquarters and four regional offices implement the agency's programs for developing regulations, licensing, inspection, enforcement, and emergency response, among other responsibilities. In addition, NRC's Office of the Chief Financial Officer establishes, maintains, and oversees the implementation and interpretation of the agency's regulatory user fee policies and regulations and is responsible for assessing annual and service fees to licensees for each license they hold and sending invoices to licensees. The Office of the Chief Financial

¹⁵GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014). Nuclear Regulatory Commission, *NRC Principles of Good Regulation* and *NRC Organizational Values*, accessed January 22, 2020, <https://www.nrc.gov/about-nrc/values.html>.

Officer also leads the agency's budget formulation and execution processes.

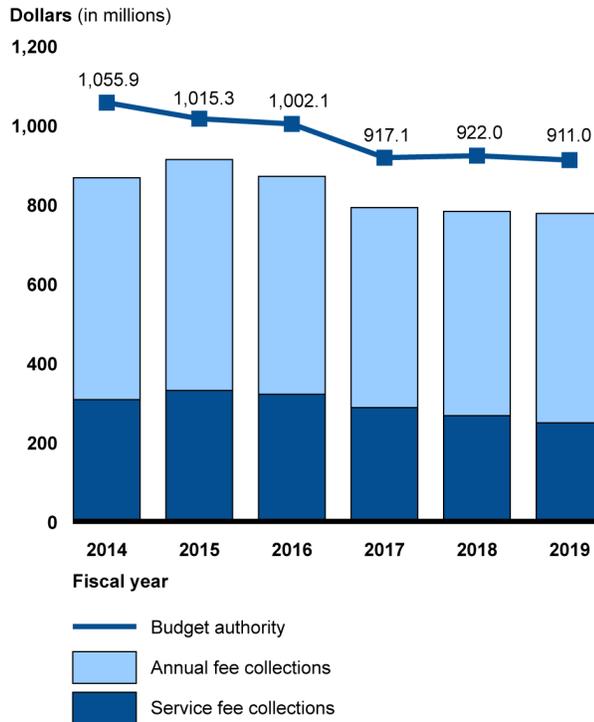
NRC's Fee-Setting Process

NRC's authority to charge service and annual fees is derived from two laws: the Independent Offices Appropriations Act of 1952 and the Omnibus Budget Reconciliation Act of 1990, as amended. The Independent Offices Appropriations Act of 1952 provides broad authority to federal agencies, including NRC, to assess user fees or charges to identifiable beneficiaries through regulation. The Omnibus Budget Reconciliation Act of 1990 requires that NRC recover approximately 90 percent of its annual budget authority through fees assessed to licensees, excluding amounts appropriated for any one of a number of specified purposes.¹⁶ The law requires that NRC first use its authority from the Independent Offices Appropriation Act of 1952 to collect service fees for specific services provided. However, because those fees do not equal 90 percent of NRC's budget authority, NRC also assesses annual fees. To the maximum extent practicable, the annual fees assessed must have a reasonable relationship to the cost of the regulatory services provided and may be based on how NRC allocates resources for regulating licensees or fee classes. The licensees regulated by NRC encompass a broad range of commercial uses of nuclear material such as use in commercial nuclear power reactors; the use of radioactive materials in medical, academic, and industrial settings; and the transport, storage, and disposal of radioactive materials and waste. For the purpose of setting service and annual fees, NRC established nine fee classes.¹⁷ Figure 1 shows NRC's total budget authority and the amounts NRC collected through service and annual fees from licensees for fiscal years 2014 through 2019.

¹⁶As previously noted the Nuclear Energy Innovation and Modernization Act was signed into law in January 2019. Among other things, the act eliminates the requirement that NRC collect 90 percent of its annual budget authority through fees, replacing it with a new fee recovery framework beginning in fiscal year 2021. We did not evaluate the effectiveness of NRC's efforts related to the Nuclear Energy Innovation and Modernization Act since the law was still being implemented at the time of our audit work.

¹⁷In some of NRC's nine fee classes, NRC established subgroups, such as the fee class for fuel facilities, which consists of subgroups for high-enriched uranium, low-enriched uranium, and others. In addition, NRC has agreements with 39 states under which the states assume regulatory responsibility for the use of certain nuclear materials used or possessed within their borders.

Figure 1: Nuclear Regulatory Commission's (NRC) Service and Annual Fee Collections, Fiscal Years 2014 through 2019



Source: GAO analysis of Nuclear Regulatory Commission's (NRC) data. | GAO-20-362

NRC sets its service fees and annual fees through the federal rulemaking process every year. Under this process, NRC first drafts and then publishes a proposed fee rule in the *Federal Register*, after which interested parties have 30 days to comment. NRC develops the proposed fee rule by allocating its resources for regulating the fee classes and calculating its proposed hourly fee rate, which is the same rate for all fee classes, and annual fees, which vary by fee class. NRC bases its calculations for the proposed fee rule on its appropriation for the current fiscal year, if enacted. If the agency has not received its appropriation by the time it begins calculating fees, it bases these calculations on the President's Budget. As part of this process, NRC generally posts fee work papers providing additional details to support the proposed fee rule. After the 30-day comment period, NRC adjusts its hourly fee rate for service fees and annual fees, as needed, and drafts a final fee rule. Finally, NRC publishes a final fee rule that includes its responses to comments received on the proposed fee rule. The final fee rule becomes effective 60 days after publication.

In recent years, GAO and NRC internal initiatives identified several key findings and made recommendations to improve NRC's fee-setting process, including the following:¹⁸

- In 2016, NRC's Fees Transformation Initiative recommended process improvements related to updating NRC's fee rules and associated work papers.
- In 2017, we recommended that NRC clearly present information in NRC's proposed fee rule, final fee rule, and fee work papers such as by defining and consistently using key terms so that stakeholders could understand fee calculations.¹⁹
- In 2017, we also recommended that NRC develop objective, measurable, and quantifiable performance goals and metrics that would enable NRC to assess its efforts to improve the transparency and timeliness of its fee-setting process.²⁰

NRC's Billing Process

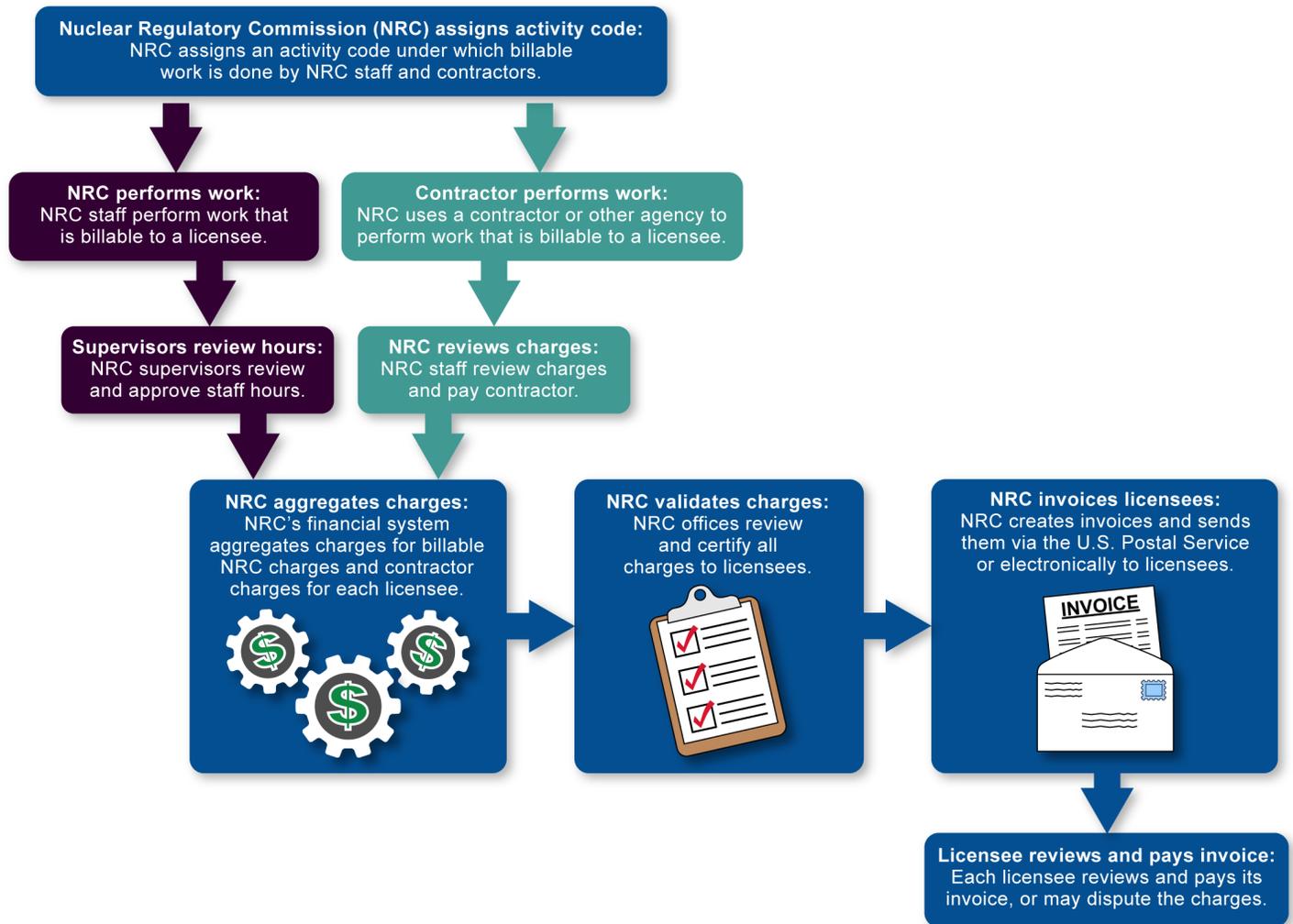
NRC's billing process for annual fees is based solely on the annual fee rate that is set through the rulemaking process. NRC's billing process for service fees begins by identifying work that can be billed to a specific licensee and ends when the licensee pays its invoice for service fees. Once NRC determines that billable work needs to be done, NRC program office staff and contractors perform the work. NRC follows the steps in the billing process shown in figure 2.

¹⁸In 2012, NRC's OIG made four recommendations to improve NRC's fee-setting process. OIG-13-A-02. Three of these recommendations were implemented prior to 2017 and are therefore, outside of the scope of this review. NRC's OIG determined that the remaining recommendation was implemented by December 2018 due to NRC's completion of other fees transparency measures.

¹⁹[GAO-17-232](#).

²⁰[GAO-17-232](#).

Figure 2: Nuclear Regulatory Commission's (NRC) Process for Billing Licensees for Service Fees



Source: GAO analysis of NRC's information. | GAO-20-362

NRC assigns an activity code under which billable work is accomplished. Both NRC staff and contractors can perform work under the same billing codes. Once the hours charged have been reviewed, NRC aggregates the charges in its financial accounting system. Then, NRC staff and supervisors verify the hours billed to that activity code on a monthly basis through a formal, agency-wide billing validation process. On a quarterly basis, NRC will send invoices through the U.S. Postal Service or electronically to licensees, who have 30 days from issuance of the invoice to review and pay the invoice before being assessed late fees. Licensees

may also dispute charges at this point. According to NRC staff, most disputes are handled informally and generally entail explanations of the agency's billing or licensing policies.

NRC provides licensees information on billing through other methods as well. For example, as part of the Fees Transformation Initiative, NRC posted public cost estimates for common regulatory actions to help licensees better plan for the cost of those actions. In addition, during the course of regulatory actions, NRC staff are to communicate with licensees about the status of the work being performed, and NRC can provide licensees biweekly estimates of charges from NRC staff and contractors to supplement its billing invoices.

Over the years, GAO, NRC's OIG, and NRC internal initiatives identified several key findings and made recommendations to improve NRC's billing process, including the following:

- NRC began an initiative aimed at improving its billing codes in 2013, and in 2017, NRC's Cost Accountability and Management Project plan stated that NRC's methods for requesting and managing billing codes place the agency at risk of collecting inaccurate data. In 2018, we found that NRC was working to improve internal controls over the billing codes NRC staff use to record their work hours, which did not describe the work being performed and did not have a consistent naming convention.²¹ Relatedly, in 2015, NRC's OIG recommended that NRC establish policies and procedures to centralize control of its billing code structure, link billing codes to specific tasks, and design and implement controls regarding the billing codes to which staff can charge time.²²
- In 2014, NRC's Fee Billing Process Improvement Project report recommended that NRC standardize and document its fee-billing validation process, along with developing and issuing guidance for the process. In 2018, we found that NRC's billing validation procedures for verifying the accuracy of time charged to licensees was not standardized across the regional and program offices, but NRC was planning to pilot a standardized process.²³ Relatedly, in 2015, NRC's

²¹[GAO-18-318](#).

²²Nuclear Regulatory Commission, Office of the Inspector General 15-A-12.

²³[GAO-18-318](#).

OIG recommended that NRC design and implement a plan to improve its billing validation process.²⁴ Similarly, in 2017, NRC's OIG recommended that NRC implement a streamlined and consistent billing validation process and define the roles and responsibilities for billing validation staff.²⁵

- In 2016, NRC's Fees Transformation Initiative recommended process improvements related to the information NRC provides to licensees through cost estimates and on invoices. In 2017, NRC's OIG recommended that NRC create consistent, well-defined processes and reporting to calculate and explain its cost estimates.²⁶ In 2018, we found that NRC had posted cost estimates for common regulatory activities to its public website.²⁷
- In 2018, we recommended that NRC formally communicate to licensees the availability of supplemental billing information, including biweekly reports and monthly status reports on contractor charges.²⁸ Relatedly, in 2015, NRC's OIG recommended that NRC design and implement a process to provide information regarding contractor charges on invoices that identifies the specific tasks performed and related reimbursable contractor costs.²⁹
- In 2018, we found that NRC intended to transition to electronic billing to address challenges some licensees were experiencing with the format and timeliness of invoices, but did not have planning documents for this transition.³⁰ We recommended that NRC develop a project plan for the transition to electronic billing incorporating plans for schedule and cost, steps that involve soliciting and considering licensee feedback, and steps to assess the results of implementing electronic billing.

²⁴Nuclear Regulatory Commission, Office of the Inspector General 15-A-12.

²⁵Nuclear Regulatory Commission, Office of the Inspector General 17-A-18.

²⁶Nuclear Regulatory Commission, Office of the Inspector General 17-A-18.

²⁷[GAO-18-318](#).

²⁸[GAO-18-318](#).

²⁹Nuclear Regulatory Commission, Office of the Inspector General 15-A-12.

³⁰[GAO-18-318](#).

NRC's Budgeting Process

NRC submits an annual budget justification to Congress with estimates and other information that support the policies and proposed spending decisions represented in the President's Budget. This includes information on what NRC plans to achieve with the resources the agency requested. After Congress enacts appropriations providing NRC's budget authority for the fiscal year, NRC allocates these appropriated funds to its offices, which obligate them to carry out the agency's mission. Though NRC receives its funding from these congressional appropriations, the agency then collects approximately 90 percent of its budget from service and annual fees, and the fees collected are then deposited to the U.S. Treasury.

NRC's budget structure is currently grouped by programs and business lines, among other subsets. For fiscal year 2020, NRC's two major programs are (1) Nuclear Reactor Safety and (2) Nuclear Materials and Waste Safety.³¹ Under these two programs, seven business lines relate to key regulatory groups of licensees as follows:

- The Nuclear Reactor Safety Program
 - Operating Reactors
 - New Reactors (including Advanced Reactors)
- The Nuclear Materials and Waste Safety Program
 - Fuel Facilities
 - Nuclear Materials Users
 - Spent Fuel Storage and Transportation
 - Decommissioning and Low-Level Waste
 - High-Level Waste³²

In addition to these seven programmatic business lines, there is a Corporate Support business line which encompasses agency-wide

³¹The Fiscal Year 2020 Budget Justification also includes two smaller programs within NRC's budget structure: an Integrated University Program and the Office of the Inspector General.

³²In some cases, there is a direct correlation between the seven business lines NRC uses for budget formulation and the nine license fee classes it uses for assessing fees, such as the fuel facilities business line and fee class. In other cases, NRC's business lines encompass multiple licensee fee classes. For example, the operating reactor business line includes the power reactors, research and test reactors, and a portion of the import/export licensee fee class.

support activities, including acquisitions, administrative services, financial management, human resource management, information management, information technology, outreach, policy support, and associated training and travel. The Corporate Support business line supports all of the programmatic business lines, and Corporate Support costs are allocated across the other business lines in NRC's budget.

Over the years, GAO, NRC's OIG, and NRC internal initiatives identified several key findings and made recommendations to improve NRC's budgeting process, including the following:

- NRC's OIG reported in 2013 and we similarly reported in 2017 that NRC's budget justification and related systems did not align with its budget execution.³³ NRC's OIG recommended NRC enforce the consistent use of financial management system codes to help address this issue. Relatedly, in 2016, an NRC internal initiative identified the need to present actual obligation data in its budget justifications. In 2017, we found that NRC did not present actual obligation data in its budget justifications for fiscal years 2010 through 2017, which made it difficult for users of the budget justification—including Congress and licensees—to understand how NRC spent its appropriations.³⁴

NRC Has Improved Its Fee-Setting Process by Using Clear and Consistent Terms and Developing and Meeting Performance Measures

Since 2017, NRC has implemented changes to its fee-setting process in response to GAO and internal NRC findings and recommendations. Those changes have improved the fee-setting process in two main areas: (1) the clarity and consistency of terms used in fee rules, and (2) performance goals and measures for transparency and timeliness of NRC's fee-setting process.

³³Nuclear Regulatory Commission, Office of the Inspector General 13-A-18, [GAO-17-294](#).

³⁴[GAO-17-294](#).

NRC Used Clear and Consistent Terms in Its Fee Rules

NRC began using clear and consistent terms in its fee rules in response to GAO and internal NRC recommendations. Specifically, in 2017 we recommended that NRC clearly present information in NRC's proposed fee rule, final fee rule, and fee work papers by defining and consistently using key terms, providing complete calculations for how fees are determined, and ensuring the accuracy of the fee rules and work papers.³⁵ In addition, NRC's Fees Transformation Initiative identified process improvements related to updating NRC's fee rules and associated work papers.

Beginning with NRC's fiscal year 2017 proposed fee rule, NRC made the following changes:

- NRC provided definitions of key terms used in the calculation of its hourly-fee rate for service fees. After providing these definitions in its fee rules and workpapers for fiscal years 2017 and 2018, NRC codified these definitions in its regulations in June 2018.³⁶
- NRC posted fee-related spreadsheets in electronic format on its public website to supplement the proposed and final fee rules. Specifically, NRC included an additional supplemental spreadsheet with downloadable data comparing budgeted resources from the proposed fee rule to the prior year's amounts to enhance transparency on changes from year to year.

Seven of the 11 licensees we interviewed said that NRC uses clear and consistent information in its fee rule and associated work papers. One licensee said that the language in the fee rule and work papers is difficult to follow given the finance terminology but noted that its organization has not done a thorough review of the fee rule. Another licensee said that the fee rule has a large amount of data that is easy to follow given NRC's detailed work papers, but the licensee would like to see additional narrative information in the fee rule justifying increases or decreases to fee categories. The remaining two licensees had no comment.

Additionally, one of the seven licensees who said NRC uses clear and consistent information in its fee rule also told us that determining what

³⁵[GAO-17-232](#).

³⁶83 Fed. Reg. 29,622, 29,645 (codified at 10 C.F.R. § 170.3).

licensees pay for through NRC's fees at a more detailed level is difficult because NRC does not stipulate which NRC actions are specifically recovered through service fees and which are recovered through annual fees.³⁷ In 2017, we reported that NRC's budgeting system is not designed to provide information on which budget items are recovered specifically through service fees and which are recovered through annual fees.³⁸ At that time, NRC staff told us that the agency was trying to determine if its budget formulation system could be modified to address this concern. According to NRC officials, since we last reported, NRC has modified the system so that, beginning with its fiscal year 2021 budget justification, the agency can provide more detailed information for the operating reactor fee class in accordance with legislative requirements in the Nuclear Energy Innovation and Modernization Act. NRC officials said that this information will include which budgeted activities are proposed to be recovered through service fees versus through annual fees for the operating fee class.³⁹ The agency has not made similar modifications to its budgeting system to provide more detailed information for the other fee classes, according to NRC officials, because NRC has prioritized making system upgrades to address legislative requirements and is only required to provide more detailed information for the operating reactor fee class, as well as because the formulation of NRC's budget is done two years in advance of the fee rule and the information is subject to change.⁴⁰

³⁷According to NRC officials, service fees generally recover resources budgeted in NRC's licensing and oversight product lines, and all other resources are generally included in annual fees for activities such as training, research, and rulemaking.

³⁸[GAO-17-232](#).

³⁹The Nuclear Energy Innovation and Modernization Act caps the annual fee rate for operating reactors beginning in fiscal year 2021; therefore, NRC officials said NRC needed to make system modifications for this fee class. NRC may waive the cap for one year, providing time to seek a remedy through the congressional appropriations process if the cap may compromise the safety and security mission of the agency. Under the act, the annual fee cap for operating reactors is set at \$4.8 million, per operating reactor, in accordance with the fee recovery rule from fiscal year 2015, annually adjusted for inflation.

⁴⁰According to NRC officials, NRC's budget complies with relevant Office of Management and Budget guidance and the agency has received no negative feedback from the Office of Management and Budget or congressional appropriation committees regarding the level of detail it includes in its budget justification. NRC officials also noted that the purpose of NRC's budgeting system is, in part, to assist in the development of its budget justification, and the purpose of the system is not to produce fee rules or detailed fee estimates.

NRC Developed Performance Goals and Measures for Transparency and Timeliness of Its Fee-Setting Process

NRC developed performance goals and measures for the transparency and timeliness of its fee-setting process in response to a GAO recommendation and internal NRC findings and recommendations. Specifically, in 2017 we recommended that NRC develop objective, measurable, and quantifiable performance goals and measures to enhance the transparency and timeliness of NRC's fee-setting process.⁴¹

NRC established three performance goals for its fee-setting process: (1) increased transparency, (2) increased equitability, and (3) increased timeliness. To meet the first two performance goals of increased transparency and equitability, NRC developed several performance measures, including

- implementing 80 percent of identified improvements in NRC's Fees Transformation Initiative,
- holding two public outreach meetings with stakeholders on fee-setting or billing topics, and
- soliciting public comments on improvement activities.

For NRC's performance goal of increasing timeliness, its performance measure is to meet NRC's planned date for issuance of the proposed and final fee rules. NRC's goal is to issue its proposed fee rules in January and final fee rules in May of a given fiscal year. However, NRC finalizes its fee rule after it receives its annual appropriations, and according to NRC officials, NRC's publication of the final fee rule may be delayed depending on when NRC receives its annual appropriations.

Based on our review of NRC documents and interviews with agency officials, we have determined that NRC has met these performance measures. Specifically, NRC closed as implemented about 93 percent of improvements—37 of 40—NRC identified as a part of its Fees Transformation Initiative. Further, NRC has held numerous public outreach meetings on these topics since 2017 and solicited public comments, with the most recent public meeting occurring on February 13, 2019, to discuss key features of NRC's fiscal year 2019 fee rule. For fiscal years 2017 through 2019, NRC issued its proposed fee rule in

⁴¹[GAO-17-232](#).

January. NRC published its final fee rules for fiscal years 2017 and 2018 in June, and published its fiscal year 2019 final fee rule in May.⁴²

NRC Has Taken Action to Improve the Transparency, Accuracy, and Timeliness of Its Billing Process, but Some Information Is Still Not Transparent

Since 2017, NRC has implemented changes to its billing process in response to GAO, NRC OIG, and internal NRC findings and recommendations to improve the transparency, accuracy, and timeliness of the process, but some billing information NRC provides licensees is still not transparent. NRC improved transparency by standardizing its billing codes, updating its invoices, formally communicating some supplemental billing information, and creating public cost estimates, but it has not ensured the estimates clearly define what costs are included or provided work progress information throughout the course of ongoing regulatory activities. NRC also implemented a standardized process to validate charges to licensees to improve accuracy. In addition, NRC enhanced the timeliness of its billing process by implementing an electronic billing system.

NRC Improved Billing Transparency but Has Not Provided Work Progress Information on Its Invoices or Clearly Defined Costs Across Its Estimates

NRC implemented changes to increase the transparency of its billing process in response to GAO, NRC OIG, and internal NRC findings and recommendations, in four main areas: (1) standardized billing codes, (2) updated invoices, (3) supplemental billing information, and (4) public cost estimates.

Standardized Billing Codes

NRC improved its standardized billing codes—codes that NRC staff use to record their work hours on time cards—in response to GAO findings and NRC OIG recommendations as well as NRC internal initiatives. Specifically, in 2018 we reported that NRC’s billing codes did not adequately describe work performed and did not have a consistent naming convention, which increased the risk of staff charging their time to the wrong billing codes.⁴³ We reported that this, in turn, could lead to

⁴²According to NRC officials, NRC was able to publish its fiscal year 2019 final fee rule in May 2019 since its annual appropriations were enacted in September 2018. Pub. L. No. 115-244, 132 Stat. 2897. In contrast, NRC’s appropriations for fiscal years 2017 and 2018 were not enacted until May 2017, Pub. L. No. 115-31, 131 Stat. 135, and March 2018, Pub. L. No. 115-141, 132 Stat. 348, respectively. Thus, according to NRC officials, NRC was not able to meet its May target for publishing its final fee rules for fiscal years 2017 and 2018.

⁴³[GAO-18-318](#).

billing errors.⁴⁴ In addition, in 2015 NRC's OIG recommended, among other things, that NRC establish policies and procedures to centralize control of billing codes.⁴⁵ Moreover, NRC began an initiative aimed at improving its billing process in 2013, and in 2017, NRC's Cost Accountability and Management Project plan stated that NRC's methods for requesting and managing billing codes place the agency at risk of collecting inaccurate data.

Based on our review of NRC's updated billing codes, the agency's Enterprise Project Identifiers, (EPID)—umbrella codes for regulatory actions such as inspections, licensing actions, and licensing renewals—now have a consistent naming structure, and NRC has centralized control of billing codes. In particular, the EPID alpha-numerical naming structure denotes the type of regulatory work, the calendar year the work began, and includes a 4-digit number to make the code unique, among other elements. NRC also created and implemented Cost Activity Codes (CAC), which are numerical codes that capture the ways in which NRC staff spend billable time working on an EPID, including the time spent preparing and documenting an action as well as performing the direct work. In addition, NRC added controls to ensure staff charge the correct billing codes. For example, NRC management must now grant staff permission before they are able to charge these codes.

Eight of the 11 licensees we interviewed said that NRC has consistently used both EPIDs and CACs after NRC revised the accounting structure. The remaining three licensees we interviewed had no comment on the revised EPIDs and CACs. NRC officials stated that while they have completed standardizing the billing codes, they are continuously working on refining them to respond to stakeholder feedback, and NRC started a working group in November 2019 to further review the codes.

Updated Invoices

NRC updated the service fee invoices it sends to licensees in response to internal NRC initiatives, but it has not implemented an internal NRC recommendation to provide licensees with information on the progress of work performed on ongoing regulatory actions.

As part of our prior review of NRC's billing process, we found that NRC expected to issue updated invoices to licensees. We were unable to

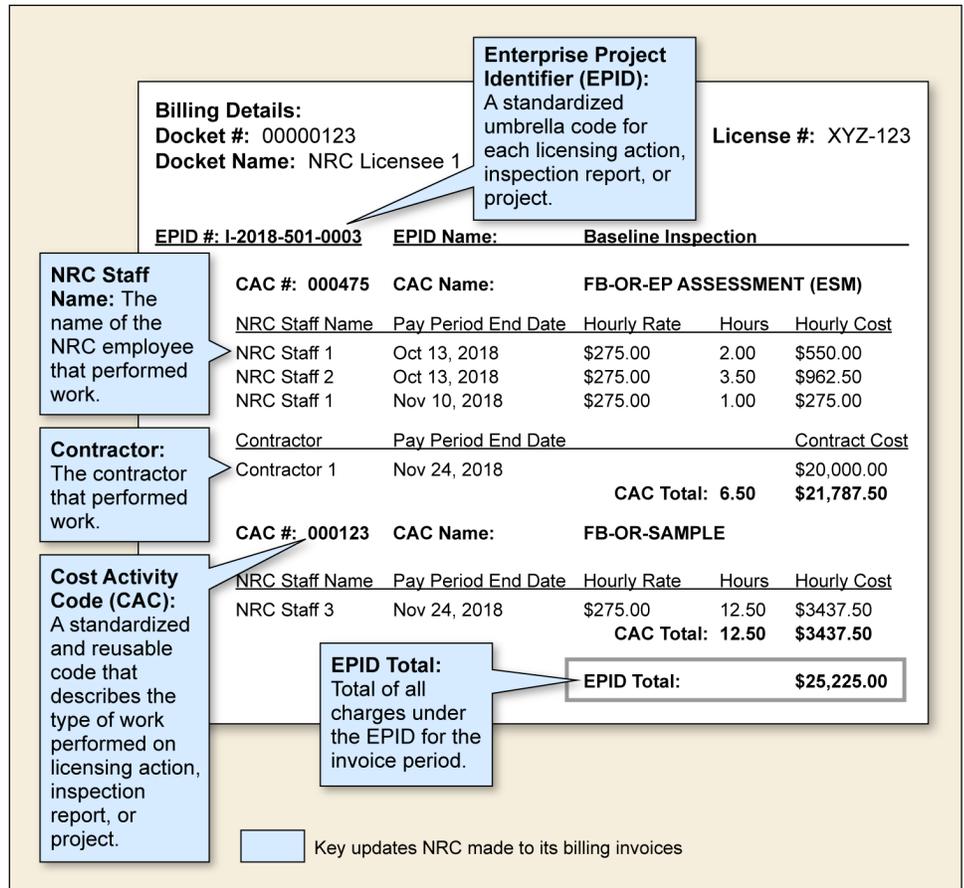
⁴⁴[GAO-18-318](#).

⁴⁵Nuclear Regulatory Commission, Office of the Inspector General 15-A-12.

assess licensees' satisfaction with the updated invoices because NRC issued them after we had completed our review.⁴⁶ In January 2018, NRC updated the service fee invoices it sends to licensees, in response to NRC internal initiatives, to include the names of NRC staff and of contractors billing time, along with the updated EPIDs and CACs. According to our analysis of a sample of invoices from before and after January 2018, NRC has consistently made these changes to invoices. As shown in figure 3, NRC's updated invoices provide the quarterly total of all charges for a given regulatory action as an EPID total. CACs are no longer specific to a project or site and can now be reused to represent the same type of work for different EPIDs. NRC staff and contractors can charge multiple CACs to the same EPID during a given quarter.

⁴⁶[GAO-18-318](#).

Figure 3: Summary of New Information the Nuclear Regulatory Commission (NRC) Included on Its Billing Invoices Beginning in January 2018



Source: GAO analysis of NRC's billing invoices. | GAO-20-362

All 11 licensees we interviewed stated that the changes NRC made to the invoices were positive. Seven licensees stated that the inclusion of staff names made it easier to understand what they were being billed for, and five licensees stated that the inclusion of CACs improved NRC's billing process.

In 2016, NRC's Fees Transformation Initiative recommended a process improvement to include information on the progress of work performed on inspection reports, but NRC ended this initiative in 2018 without making updates to the inspection reports. NRC determined that the updated information on invoices, described previously, resulted in sufficient improvements to transparency. However, two licensees we interviewed

told us that including information on the progress of work performed would assist licensees with their planning and budgeting. According to our analysis of NRC documents and a licensee we interviewed, some NRC regulatory oversight actions can take several years to complete, with charges to licensees from a single action spanning multiple quarterly invoices. One licensee explained that, as a result, not having information on the progress of work performed on ongoing regulatory actions can make it more difficult to budget. This is because the licensee does not know how far NRC is in completing an activity, and NRC may invoice for a large amount of additional costs that the licensee did not anticipate.

One of NRC's program offices has a policy regarding when to communicate information on the progress of work performed on ongoing regulatory actions, but the remaining NRC program offices we spoke with do not.⁴⁷ Specifically, the Office of Nuclear Reactor Regulation has a policy to communicate with operating reactor licensees if it anticipates significant changes to the forecasted completion date or hours billed to complete the action. Furthermore, officials in this office said that it has a practice to notify the licensee when it estimates that NRC will expend over 125 percent of the initial estimate of hours for a given regulatory action.⁴⁸ These officials said that the office created this policy and practice to improve its communication with licensees, in support of NRC's *Principles of Good Regulation*, which includes guidance on transparency. They further stated that this policy and practice benefit licensees by allowing them to better budget and plan for NRC's work. Additionally, they benefit NRC by helping the agency to better manage its resources and workload, according to these officials.

In contrast, officials from the Office of New Reactors and the Office of Nuclear Material Safety and Safeguards stated that they do not have a policy regarding communicating with licensees about the progress of work performed on ongoing regulatory actions.⁴⁹ Furthermore, there is no agencywide policy or guidance regarding this communication. Officials

⁴⁷We spoke with NRC officials representing the three program offices that, according to NRC officials, have responsibility for the majority of NRC's fee-billable licensing activities. These three offices are the Office of Nuclear Reactor Regulation, the Office of New Reactors, and the Office of Nuclear Material Safety and Safeguards.

⁴⁸According to Office of Nuclear Reactor Regulation officials, this practice is for actions estimated at 200 hours or more.

⁴⁹In October 2019, NRC merged the Office of New Reactors into the Office of Nuclear Reactor Regulation. We spoke with personnel in the Office of New Reactors prior to this merger.

from the Office of New Reactors stated that the office tracks percent completion as an internal metric, but does not communicate this information to licensees. The Office of Nuclear Material Safety and Safeguards does not track regulatory actions by percent completion. NRC officials told us that it is difficult to provide accurate estimates of work progress to licensees because NRC's ability to meet anticipated cost and schedule estimates depends on the complexity of the NRC action. NRC's *Principles of Good Regulation* and NRC's *Organizational Values* list openness as a key principle and value, respectively. According to those documents, being open—that is, transparent and forthright—should guide every action NRC takes, how it performs administrative tasks, and how it interacts with stakeholders, such as licensees. Additionally, *Standards for Internal Control in the Federal Government* state that management should externally communicate the necessary quality information to achieve the entity's objectives.⁵⁰

According to NRC officials, NRC generally provides licensees with an estimate of the number of hours and length of time NRC anticipates it will take to complete certain regulatory actions upon beginning the action. NRC officials said that NRC project managers are in regular contact with licensees about the status of ongoing NRC activities; however, three licensees we interviewed stated that NRC's project managers do not always communicate about the status of the regulatory action, which can make planning and budgeting more difficult. This is in part because the program offices do not each have a policy regarding when NRC should provide updates on cost and schedule. Formalizing when NRC staff are to communicate information to licensees on the progress of work performed could enhance transparency and make planning and budgeting easier for licensees, as they would have more information about when an action is expected to be completed or when it will cost more than NRC's initial estimate.

Supplemental Billing Information

NRC formally communicated to licensees that supplemental billing information about contractor charges is available and developed guidance on how that information should be provided in response to two GAO recommendations. Specifically, we reported in 2018 that, upon request, NRC can provide information on contractor charges to licensees through a summary of work performed or a biweekly summary of charges that lists all billable activities charged during a 2-week period.⁵¹ NRC officials

⁵⁰[GAO-14-704G](#).

⁵¹[GAO-18-318](#).

stated that the purpose of the biweekly summaries is to provide licensees with information on costs that accrued in that particular period to help licensees estimate their quarterly bill amount. We recommended that NRC formally communicate to all licensees that these two supplemental billing reports were available and how to request them, as we found that not all licensees were aware this information was available.⁵² We also recommended that NRC develop policy and guidance on what billing information related to contractor charges NRC staff could provide to licensees and how it should be provided.⁵³

In January 2019, NRC formally communicated to licensees that supplemental billing information about contractor charges is available, but it has yet to formally communicate to licensees that biweekly summaries of charges are also available. Specifically, NRC created a process for licensees to request narrative information on contractor charges through a standard form, and formally communicates that process to licensees through a reference to the form on agency invoices. NRC also developed guidance on what billing information related to contractor charges NRC staff can provide to licensees, along with a process map for how to respond to licensee requests for contractor information.

In contrast, while NRC has continued to provide biweekly summaries to licensees upon licensee request, the agency has not formally communicated the existence of these reports to licensees.⁵⁴ Seven of the 11 licensees we interviewed receive the biweekly reports, and five of these licensees said the reports allow them to better track billable activity through the quarter. The remaining four licensees we interviewed were unaware that NRC can provide these reports. Agency officials stated that they do not have the capacity to provide these biweekly reports to all licensees, as the current process is manual and labor-intensive. However, NRC officials stated that they plan to create an automated process to provide these biweekly summaries as an enhancement to the agency's

⁵²[GAO-18-318](#).

⁵³[GAO-18-318](#).

⁵⁴In [GAO-18-318](#), we recommended that NRC formally communicate to all licensees that supplemental billing information, including biweekly reports, was available and how to request it. NRC agreed with our recommendation. As of December 2019, NRC had not fully implemented this recommendation as it had not yet formally communicated about these reports.

electronic billing initiative. NRC plans to implement this enhancement by March 2020, according to NRC officials.

Public Cost Estimates

NRC created and posted public cost estimates for common oversight activities to its website in response to an internal NRC recommendation, but it has not consistently updated those estimates or ensured the estimates clearly defined what costs were included. Specifically, in 2017, NRC's Fees Transformation Steering Committee, chaired by a representative in the Office of the Chief Financial Officer, tasked NRC program officials with creating public cost estimates for common regulatory actions to increase transparency and enhance stakeholder awareness of the costs associated with activities such as site permitting, design certifications, inspections, license amendments, and license renewals.⁵⁵ We have previously reported that licensees had identified challenges with planning for future work and budgeting to pay future costs because NRC had not provided certain information about the agency's billable work, such as cost estimates.⁵⁶

Beginning in September 2017, staff from several NRC program offices posted public cost estimates relating to six types of regulated entities: operating reactors, new reactors, fuel facilities, spent fuel storage and transportation, decommissioning, and uranium recovery.⁵⁷ The cost estimates, which are based on historical expenses and are calculated using a sample of licensing and oversight actions, include the low, high, and average number of NRC staff hours billed for each action, as well as some estimates for contractor charges for certain tasks. According to agency officials, NRC does not use these estimates as part of its budgeting and fee-setting processes since these public cost estimates are a resource for identifying possible costs, but are not tailored to a site-specific NRC action. Instead, the estimates assist stakeholders with planning for the costs of future NRC work.

⁵⁵The Fees Transformation Steering Committee included representatives from the Office of Nuclear Reactor Regulation, the Office of New Reactors, and the Office of Nuclear Material Safety and Safeguards. Each office created public cost estimates. Stakeholders include licensees, potential applicants, and industry organizations whose members include companies with NRC licenses.

⁵⁶[GAO-18-318](#).

⁵⁷The Office of Nuclear Reactor Regulation created estimates for operating reactors, the Office of New Reactors created estimates for new reactors, and the Office of Nuclear Material Safety and Safeguards created estimates for fuel facilities, spent fuel storage and transportation, decommissioning, and uranium recovery.

The Fees Transformation Steering Committee created guidance that the program offices should update the estimates periodically, and NRC also posted on its public website that these estimates would be updated biennially. However, we found that, as of December 2019, NRC's program offices had updated only two of the six estimates. When we discussed this with NRC officials at that time, the Office of the Chief Financial Officer sent out a reminder to the program offices to update their estimates by January 31, 2020.

Additionally, we found that NRC program offices did not clearly define what costs—such as project management—are included across the six public cost estimates, which may limit stakeholders' ability to understand them. For example, the cost estimate for operating reactors included "inspection support" activities and defined what types of costs are included in this category. In contrast, the cost estimate for fuel facilities included a category for "project management activities," but did not define what types of costs are included in this category. The remaining four cost estimates did not mention project management costs, so it is unclear whether the estimates include these types of costs. According to our analysis of NRC documents and licensees we spoke with, project management costs for some NRC actions can account for about two thirds of total hours billed. Thus, increased transparency of these costs could help stakeholders—such as NRC licensees or potential applicants—better understand the full cost of NRC's regulatory actions.

The Fees Transformation Steering Committee provided high-level guidance to the program offices for developing cost estimates, but the guidance did not specify what costs to include when creating these estimates. According to NRC officials, the Committee did not provide specific guidance regarding cost estimates because activities in the cost estimates may vary based on the specific activities conducted by the program offices and it wanted the program offices to have flexibility when creating the estimates. We recognize that some activities in the cost estimates will vary based on the different activities conducted by the program office. However, certain costs, such as project management, are relevant across all cost estimates, and it is not always clear whether these costs are included.

As previously discussed, NRC's *Principles of Good Regulation* and NRC's *Organizational Values* list openness—that is, being transparent and forthright—as a key principle and value, and it is applicable to the agency's cost estimates. Additionally, *Standards for Internal Control in the Federal Government* state that management is to externally communicate

the necessary quality information to achieve the entity's objectives.⁵⁸ By clearly defining what costs are included in its public cost estimates, NRC could enhance transparency and increase the value of these estimates as a budgeting and planning tool for stakeholders.

NRC Implemented a Standardized Process to Validate Charges to Licensees to Improve Accuracy

In response to internal NRC and NRC OIG recommendations, NRC implemented a standardized process to validate charges to licensees to improve accuracy. Specifically, in 2014 NRC's License Fee Billing Business Process Improvement report recommended that NRC standardize and document its fee-billing validation process, along with developing and issuing guidance for the process.⁵⁹ Furthermore, in 2017 NRC's OIG recommended that NRC implement a streamlined and consistent billing validation process and define the roles and responsibilities for billing validation staff.⁶⁰ Reinforcing these recommendations, we reported in 2018 that NRC did not have formal guidance on validating charges and that the process varied among NRC's program offices.⁶¹ At the time of our review, NRC was planning to standardize the process and establish clear roles and responsibilities for staff participating in the process.

In August 2019, NRC implemented a revised process for validating time charged to licensees in order to improve the accuracy of invoices, identify billing errors in a timelier manner, and standardize billing validation throughout the agency. This revised process came out of the work of NRC's Fee-Billing Validation Working Group, which began work in December 2017. NRC implemented several changes to standardize the process agency-wide, including creating formalized roles throughout the process, a handbook outlining the steps of the process, and an internal controls checklist for management to complete in order to certify fee-billing validation. In addition, NRC changed the frequency of the billing validation process from a quarterly to a monthly basis. NRC officials we interviewed stated that the biggest changes in the new process are the

⁵⁸[GAO-14-704G](#).

⁵⁹Additionally, in 2016 NRC's Mission Support Task Force Report recommended that the agency implement a streamlined and consistent fee-billing validation process and define the roles and responsibilities for this process.

⁶⁰Nuclear Regulatory Commission, Office of the Inspector General 17-A-18.

⁶¹[GAO-18-318](#).

increased role of management-level personnel throughout the process and the increased frequency of the reviews.

NRC Enhanced the Timeliness of Its Billing Process by Implementing an Electronic Billing System

NRC enhanced the timeliness of its billing process by implementing an electronic billing system in line with a project plan the agency developed in response to a GAO recommendation. Specifically, in 2018 we reported that NRC was undertaking an initiative to transition to an electronic billing system known as eBilling, but it had not developed planning documents for the initiative.⁶² We recommended that NRC develop a project plan for eBilling that would (1) establish plans for schedule and cost, 2) involve licensees in developing system capabilities, and (3) include steps to assess the results of implementing eBilling.⁶³

Based on our review of NRC's eBilling documents, NRC implemented these recommendations as part of its planning process. For example, NRC solicited feedback about eBilling usability, organization, content, and functionality from nine licensees it selected for an eBilling pilot. NRC also established plans for schedule and cost and included metrics assessing eBilling on the timeliness of invoices, licensee participation rates, and the accuracy of invoices in its eBilling project plan. As a result, in September 2019, NRC was able to begin distributing electronic invoices through eBilling and sent all licensees receiving service fee invoices an informational brochure giving instructions for how to enroll in the program in October 2019. Six of the 11 licensees we interviewed stated that they anticipated eBilling would improve the timeliness of NRC's billing process. Figure 4 summarizes some of the key features now available to licensees through eBilling.

⁶²[GAO-18-318](#).

⁶³[GAO-18-318](#).

Figure 4: Summary of Key NRC eBilling Features Available to Licensees

View details for current and past invoices, beginning from enrollment in eBilling.

View the status of outstanding invoices and associated details.

Export billing data for one or multiple invoices to Excel for data analysis.

Access Treasury system payment methods to pay invoice.

Invoice Number	Invoice Date	Docket Number	Docket Name	Type	Due Date	Status	Amount Due	Action
19-9996	07/10/2019	05000000	Fairfax Nuclear Energy 2	171	08/10/2019	Current	\$1,180,467.09	Pay Invoice
19-9997	07/22/2019	05000001	Fairfax Nuclear Energy	170	08/22/2019	Past Due	\$18,367.09	Pay Invoice

Source: GAO analysis of Nuclear Regulatory Commission (NRC) documents. | GAO-20-362

NRC Began Presenting Additional Information in Its Annual Budget Justification

Since 2017, NRC has implemented changes to its budgeting process that address some but not all of its internal initiatives, prior GAO, and NRC OIG findings and recommendations in two main areas: (1) NRC’s annual budget justification, and (2) NRC’s budget formulation and budget execution systems.

Annual budget justification. In 2017, we reported that NRC did not present actual obligation data in its annual budget justifications for fiscal years 2010 through 2017, and without this information, it was difficult for users of the budget justification—including Congress and licensees—to understand how NRC used its appropriations.⁶⁴ We also reported that, in spite of an agency initiative to decrease overhead costs, NRC’s

⁶⁴GAO-17-294.

obligations for overhead—currently named Corporate Support—increased each year from fiscal year 2011 to 2015 due to increases in rent, utilities, and information technology investments, among other things.⁶⁵ As a part of its Fees Transformation Initiative, NRC planned to include additional information on actual obligation data to better enable stakeholders to determine how NRC spent its appropriation.

Starting with fiscal year 2018, NRC began presenting actual obligation data in its annual budget justification. NRC data show that the agency had about a 4 percent decrease in actual obligations for Corporate Support from fiscal year 2016 to fiscal year 2019, from \$302.9 million to \$291.2 million, as shown in table 1. These reductions were a result of NRC’s corporate workload reductions to reflect efficiencies as well as current and projected declines in agency workload, among other things. However, actual obligations for Corporate Support as a percentage of NRC’s total agency-wide obligations increased by about 2.3 percent during this same time period. Specifically, in fiscal year 2016, Corporate Support was about 30.4 percent of total NRC obligations (\$302.9 million of \$996.6 million), whereas in fiscal year 2019, Corporate Support was about 32.7 percent of total NRC obligations (\$291.2 million of \$891.5 million). In some years, reductions in Corporate Support were offset by pay increases consistent with federal government-wide guidance and investments in information technology, among other items.⁶⁶ In addition, NRC officials said that Corporate Support as a percentage of NRC’s total obligations increased because program resources decreased as NRC’s projected workload declined.

⁶⁵[GAO-17-294](#).

⁶⁶The Nuclear Energy Innovation and Modernization Act requires NRC to limit its request for Corporate Support to no more than 30 percent of its total requested budget authority in fiscal years 2021 and 2022, declining thereafter to no more than 28 percent for fiscal year 2025 and beyond. NRC was developing its fiscal year 2021 budget justification at the time of our audit work, so it was too early for us to evaluate the changes NRC is making to address this requirement.

Table 1: Nuclear Regulatory Commission (NRC) Reported Actual Obligations by Business Line (Dollars in Millions), Fiscal Years 2016 through 2019

	2016	2017	2018	2019
Operating Reactors	408.4	364.0	367.0	362.9
New Reactors	109.6	96.1	95.7	80.5
Fuel Facilities	28.7	24.5	24.6	20.8
Nuclear Materials Users	64.8	64.4	62.3	58.2
Spent Fuel Storage and Transportation	25.0	24.8	26.0	27.1
Decommissioning and Low-Level Waste	28.2	26.8	27.1	23.7
High-Level Waste ^a	1.8	0.9	0.1	0.0
Corporate Support	302.9	306.7	296.4	291.2
Integrated University Program	15.1	15.0	15.5	14.8
Office of the Inspector General ^b	12.1	12.2	13.3	12.3
Total	996.6	935.3	928.1	891.5

Source: GAO analysis of NRC data. | GAO-20-362

Note: These numbers are not adjusted for inflation. Totals may not sum due to rounding.

^aIn fiscal year 2019, NRC obligated \$28,000 towards high-level waste, which rounds to zero in table 1.

^bThe Office of the Inspector General business line carries out audit activities for NRC and the Defense Nuclear Facilities Safety Board.

In addition to presenting actual obligation data in its annual budget justification, NRC began presenting more detailed information on the status of funds it carried over from previous fiscal years starting in its fiscal year 2018 budget justification.⁶⁷ Specifically, NRC began reporting the amounts of carryover funds that were allocated in a given fiscal year and the amounts of these funds available for obligation at the beginning of a fiscal year, as shown in table 2. According to NRC officials, the agency generally allocates carryover funds based on (1) congressional

⁶⁷NRC's licensing fees, inspection services, and other services and collections are generally available to obligate until expended. This designation enables NRC to (1) obligate money that was appropriated in the current year, and (2) allocate and obligate funds carried over from prior years.

direction to use carryover funds to supplement annual appropriations, and (2) the agency’s discretion in order to address urgent mission needs.⁶⁸

Table 2: Nuclear Regulatory Commission (NRC) Balance of Carryover Funds from Fiscal Years 2016 through 2019, in thousands

Fiscal year	2016	2017	2018	2019
Carryover balance at the beginning of the fiscal year	20,118	34,267	30,142	34,319

Source: GAO analysis of NRC data. | GAO-20-362

Note: These numbers are not adjusted for inflation.

In its fiscal year 2018 and 2019 budget justifications, NRC presented this carryover data by appropriation funding category, while it presented the rest of the information in its budget justification by the agency’s business lines. According to NRC officials, the difference in presentation limited the ability of users of the budget justification to understand where these carryover funds were being allocated. In response, in its fiscal year 2020 budget justification, NRC began presenting data on its congressionally-directed carryover funds using the same business lines it used to present the rest of the information in its budget justification. However, NRC did not present its discretionary use of carryover using those business lines. NRC officials told us that they started an initiative to enhance NRC’s carryover tracking process, and that NRC will continue to refine how the agency presents carryover data in future budget justifications.

In addition to presenting data in its annual budget justification, NRC included additional information in its budget justifications to increase transparency, in response to NRC’s Fees Transformation Initiative. For example, in its fiscal year 2018 budget justification, NRC included a crosswalk of business lines’ allocation to NRC’s nine fee classes with the

⁶⁸For example, in fiscal year 2019, NRC was directed to use \$20 million in carryover funds in the explanatory statement accompanying the agency’s fiscal year 2019 appropriations. NRC allocated an additional \$2.8 million in carryover funds in fiscal year 2019 using NRC’s general discretionary authority. According to agency officials, when determining how to allocate carryover funds based on congressional direction, NRC uses its appropriation funding categories—or control points—and allocates the carryover funds according to the percentage of total enacted funding. For example, the nuclear reactor safety control point accounted for about 50 percent of total appropriations in fiscal year 2019, excluding certain items, and NRC allocated about \$10 million of the \$20 million in congressionally-directed carryover funding towards that control point.

goal of helping licensees understand how NRC's planned workload in its budget formulation impacts licensees' fees.

Budget formulation and execution system. NRC's OIG reported in 2013 that NRC's budget formulation process did not align with its budget execution process, and we similarly reported in 2017 that these processes were not aligned from fiscal years 2010 through 2015. NRC used two different systems—one to formulate its budget and another to execute its budget through obligation of funds.⁶⁹ The two systems differed in that they used different account structures for NRC's personnel and other costs.⁷⁰ Specifically in 2013, NRC's OIG found that NRC's budget formulation and execution processes were not aligned, recommending NRC enforce the use of financial management system codes. In 2017, we reported that there were no specific requirements for an agency's budget formulation process to align with its execution process, but without this information, it was difficult to track how NRC used its funds in relation to its budget authority.

According to NRC officials, the agency has prioritized making system upgrades to address new legislative requirements in the Nuclear Energy Innovation and Modernization Act before fully addressing other challenges with the systems. However, as of December 2019, officials told us that NRC recently began the planning phase of work to address these system challenges, and that NRC plans to implement system upgrades in fiscal year 2020, with a tentative completion date in fiscal year 2021. Furthermore, in a 2017 letter to NRC's OIG, NRC noted that it had begun updating its systems to address NRC OIG's 2013 recommendation on financial management system codes. However, the system modifications did not accomplish the entire task, and NRC has established a monthly process to manually reconcile the codes between the two systems while NRC further updates its systems to meet NRC OIG's recommendation.

Conclusions

Since 2017, NRC has made a number of changes to its fee-setting, billing, and budgeting processes in response to GAO, NRC OIG, and

⁶⁹Nuclear Regulatory Commission, Office of the Inspector General 13-A-19 and [GAO-17-294](#).

⁷⁰NRC officials told us that NRC's budget formulation system coding structure has always matched the budget execution system coding structure to the extent necessary for NRC's budget formulation process, and that NRC modified its formulation system in fiscal year 2019 to account for more detailed information. However, our prior work in 2017 noted different account structures for NRC's personnel and other costs.

internal NRC findings and recommendations, and those changes have improved those processes and addressed some challenges previously raised by licensees. However, additional steps could further enhance NRC's efforts to improve its billing process. First, NRC program offices do not consistently provide information on the progress of work performed on ongoing regulatory actions. By developing guidance about when NRC staff are to communicate information to licensees on the progress of work performed, NRC could enhance transparency and facilitate planning and budgeting, as licensees would have more information about when an action is expected to be completed or will cost more than NRC's initial estimate. Second, NRC program offices do not clearly define what costs are included across their public cost estimates for common oversight activities. By doing so, NRC could enhance transparency and increase the value of these estimates as a budgeting and planning tool for stakeholders, consistent with NRC's *Principles of Good Regulation*.

Recommendations for Executive Action

We are making the following two recommendations to NRC:

- The Executive Director for Operations of NRC should ensure relevant NRC program offices develop policy and guidance for when to communicate information on work progress to licensees, such as through communications to licensees at specified timeframes or thresholds. (Recommendation 1)
- The Chief Financial Officer of NRC should, in consultation with NRC program offices, develop guidance to ensure NRC staff clearly define what costs—such as project management—are included in its public cost estimates. (Recommendation 2)

Agency Comments and Our Evaluation

We provided a draft of this report to NRC for review and comment. In its comments, reproduced in appendix I, NRC neither agreed nor disagreed with our recommendations but did describe actions that it intends to take in response to our recommendations. NRC stated that it will review its current practice of providing information on work progress to licensees and develop or revise any policy and guidance where necessary. NRC also stated that it will review its current web-based cost estimates to determine if changes are necessary and implement those changes as appropriate.

Although further review of NRC's practices on providing work progress information to licensees and cost estimates could be worthwhile, we believe our review sufficiently demonstrated that by taking additional

steps, NRC could further enhance transparency and facilitate planning and budgeting for licensees. As a result, we continue to believe that implementing our recommendations on work progress and cost estimates could further improve NRC's processes.

NRC also provided technical comments, which we incorporated as appropriate.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the appropriate congressional committees, the Chairman of NRC, and other interested parties. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-3841 or ruscof@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix II.



Frank Rusco
Director, Natural Resources and Environment

Appendix I: Comments from the Nuclear Regulatory Commission



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 19, 2020

Mr. Frank Rusco, Director
Natural Resources and Environment
U.S. Government Accountability Office
441 G. Street, NW
Washington, DC 20228

Dear Mr. Rusco:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to the U.S. Government Accountability Office (GAO) e-mail dated January 30, 2020, which provided the NRC an opportunity to review and comment on the GAO draft report GAO-20-362, "*Nuclear Regulatory Commission: Fee Setting, Billing, and Budgeting Processes have Improved, but Additional Actions Could Enhance Efforts*," engagement code 103408. The NRC staff appreciates the opportunity to review the draft report, and we appreciate the GAO staff's professionalism and many constructive interactions during the GAO engagement. Our comments on the report are followed by our response to the two recommendations.

Comments on the Report

Footnote 65 mistakenly indicates that the Nuclear Energy Innovation and Modernization Act (NEIMA), "requires NRC to limit its request for Corporate Support to no more than 30 percent of its total obligations . . ." to the extent practical. The corporate support limitation is not based upon total obligations but is instead based upon the total budget authority requested. Specifically, section 102(a)(3) provides:

(3) LIMITATION ON CORPORATE SUPPORT COSTS.—With respect to the annual budget justification submitted to Congress, corporate support costs, to the maximum extent practicable, shall not exceed the following percentages of the total budget authority of the Commission requested in the annual budget justification:

- (A) 30 percent for each of fiscal years 2021 and 2022.
- (B) 29 percent for each of fiscal years 2023 and 2024.
- (C) 28 percent for fiscal year 2025 and each fiscal year thereafter.

In the section entitled, "*Supplemental Billing Information*," we would like to clarify that it is not accurate to say the NRC can provide more detailed information on contractor charges to licensees through a "biweekly summary of charges." The purpose of the biweekly summary of charges is to provide licensees with information on costs that accrued in that particular period to help them estimate their quarterly bill amount. Biweekly summary of charges is not used for obtaining more detailed information on contractor charges.

**Appendix I: Comments from the Nuclear
Regulatory Commission**

F. Rusco

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In the section entitled, "*Budget Formulation and Execution Systems*," we would like to clarify that the NRC budget formulation system coding structure has always matched the budget execution system coding structure to the extent necessary to cover the NRC budgetary formulation levels of Fund, Program, Business Line, Product Line, and Product. Actual budget execution data from the execution system is used to inform budget formulation for the coming formulation year. The final budget as authorized by the appropriation and spending plan is used to limit and control obligations in execution to ensure spending does not exceed established limits. However, the execution system captured data at even lower levels of cost center and budget object class. During fiscal year 2019, the budget formulation system was modified to allow formulation at these lower levels of cost center and budget object class.

The section entitled, "*NRC's Budgeting Process*," under the bullet "*The Nuclear Reactor Safety Program*," should list Advanced Reactors separately, or should be rephrased as "New Reactors (including Advanced Reactors)."

Recommendation 1: The EDO of NRC should ensure relevant NRC program offices develop policy and guidance for when to communicate information on work progress to licensees, such as through communications to licensees at specified timeframes or thresholds.

Response: The NRC will review its current practice of providing work progress to licensees and develop or revise any policy and guidance where necessary.

Recommendation 2: The CFO of NRC should, in consultation with NRC program offices, develop guidance to ensure NRC staff clearly define what costs – such as project management – are included in its public cost estimates.

Response: The NRC will review its current public, web-based cost estimates to determine if changes are necessary and implement those changes as appropriate to meet the purpose of these estimates, which is to provide general information on total cost of activities at average, high, and low levels of effort.

Thank you again for the opportunity to provide comments on the GAO report. Please feel free to contact Mr. Jessie Quichocho at (301) 415-0209 or Jessie.Quichocho@nrc.gov if you have questions or need additional information.

Sincerely,



Margaret M. Doane
Executive Director
for Operations

Appendix II: GAO Contacts and Staff Acknowledgments

GAO Contact

Frank Rusco, (202) 512-3841 or ruscof@gao.gov

Staff Acknowledgments

In addition to the contact named above, David Marroni (Assistant Director), Margaret Childs (Analyst-in-Charge), and Jon Muchin made key contributions to this report. Kevin Bray, Cindy Gilbert, Jessica Lemke, Susan Murphy, Dan Royer, Sheryl Stein, and Doris Yanger made additional contributions.

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