Project Cornerstone Investigation

Narrative Report

July 27, 2023

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EXECUTIVE SUMMARY

Project Cornerstone was a multi-year, complex implementation of billing and other software at Washington Suburban Sanitary Commission (WSSC). Most of the project was completed between 2016 and 2019. WSSC needed to replace its billing software because the existing mainframe-based system was severely outdated and because it could not accommodate a new rate structure for customers. Although the first contract for work on the new billing system was approved in late-2016 for $15 million, the total spend grew to approximately $121 million as of the date of this report. The project imposed significant demands on the organization during these years and cost far more than expected. However, the project ultimately succeeded in implementing a working billing system today.

WSSC implemented billing software from Oracle known as Customer-to-Meter or C2M. At the time WSSC selected this software solution, it was brand new and had not yet been successfully implemented at any other utility. Project Cornerstone also sought to implement other Oracle software solutions, including one called Work and Asset Management or WAM.

Beginning at the end of 2021 and continuing into early 2022, the Commission raised questions about Project Cornerstone's costs, management, and oversight. WSSC retained the law firm Kropf Moseley PLLC and Investigative Group International Inc. in May 2022 to conduct an independent investigation with a defined scope. The investigation lasted approximately one year. The investigative team collected approximately 16 million emails and reviewed tens of thousands of relevant documents. In addition, the investigative team conducted more than 70 interviews of current and former WSSC employees, Commissioners, and outside consultants. The investigation team's findings were presented to the Commission in a closed session on May 17, 2023.

The investigation team made findings in five areas: compliance with the procurement process; management of the project; transparency with the Commissioners; cost of the project; and potential conflicts of interest and ethics violations. This report summarizes the first four categories. The investigative team presented its findings on conflicts of interest and ethics violations to the Commission during the May 2023 closed session meeting. The Commission will refer the conflict of interest and ethics matters to the appropriate governing bodies for action.

1. *Compliance with Procurement Process*

WSSC's procurement regulations govern the method by which the organization identifies and contracts with vendors for goods and services. Like any public entity, WSSC favors competitive bidding for contracts as it is understood to lead to the choice of a qualified bidder at the lowest cost and introduces a significant level of transparency to the selection process.

In March 2017, the Maryland Public Service Commission (PSC) ordered WSSC to "develop reasonable rates" after finding that its existing rate structure was "discriminatory." The PSC did not set a deadline for compliance, but the WSSC General Counsel's Office (GCO) informed the organization management that the new rate structure should be implemented within two years to mitigate litigation risk. Evidence suggests that this time pressure led to several failures in the procurement process for Cornerstone contracts, including (a) the use of improper exemptions to the competitive bidding process; (b) pressure on the Procurement department to approve the use of these exemptions; and (c) lack of appropriate review of Cornerstone contracts by the GCO and other departments.

In addition to challenges arising from the time pressure, there were other failures in the procurement process related to Cornerstone. For example, one large Cornerstone contract was structured to allow 32 pre-qualified vendors to be awarded task orders by the IT department without Procurement oversight. Only a handful of these 32 vendors received awards under this $75 million contract, and the vast majority of the contract dollars were allocated to only two vendors.

2. *Project Management Issues*

Although parts of Project Cornerstone were successfully implemented, there were several project management failures that led to delays, increased costs, and the abandonment of parts of the implementation entirely.

First, WSSC, instead of a qualified outside consultant, assumed the role of the "system integrator" or SI. A system integrator is usually an independent person or company that identifies and compiles the components of a complex IT integration and ensures that those components work harmoniously for the sake of efficiency, cost, and objectives. This work is often completed on a fixed-fee basis with defined project deliverables and set deadlines. WSSC did not have the personnel qualified to act as the SI, given the complexity of this implementation and the fact that C2M was a new software solution.

Second, WSSC permitted Oracle to dominate key elements of Project Cornerstone. Oracle provided both the software solutions and professional services. In part, because the C2M solution was so new, WSSC awarded Oracle approximately $30 million in exempted contracts to help implement it. Behind the scenes, Oracle pushed WSSC to adopt C2M. Cornerstone project managers permitted Oracle to draft a key presentation to the project's Executive Steering Committee (ESC) to encourage it to select C2M over potentially workable and less costly alternatives such as older versions of the software. Oracle, and other consultant representatives, were privy to the deliberations of and attended portions of ESC meetings and reportedly dominated them. Oracle drafted the key agreements and made a late change to the scope of work to effectively remove Oracle's responsibility to provide well-defined deliverables. The Oracle professional services contracts were not fixed-fee contracts.

Third, non-Oracle consultants evaluated whether WSSC should choose C2M over earlier versions of the software. Early in the process, this "Pivot Analysis" concluded that the cost and delay risks of choosing C2M outweighed its benefits and instead recommended the older Oracle software with the option to upgrade to C2M later. However, the entire ESC never reviewed the Pivot Analysis, nor was it shared with all relevant senior management or the Commission.

Fourth, WSSC ignored several early red flags regarding project management. For example, early in the project, a contractor sent repeated communications that identified some of these issues, including that WSSC was not qualified to act as the system integrator. In addition, the project team had decided to simultaneously implement two new, untested "beta product" software packages (C2M and Work & Asset Management or WAM). This dual implementation led to unmanageable workload burdens on the organization.

Fifth, WSSC incurred growing travel expenses from out of town consultants traveling weekly to work onsite. The total travel expenses were approximately $5.7 million. One example of the shortcomings in management's supervision over consultants is that WSSC permitted an outside consultant to draft the project's policy governing travel expenses, even though the consultant would later submit expenses under that policy.

3. Transparency to Commissioners

WSSC's governing body is made up of six part-time Commissioners. The Commission has only one full-time employee as staff support. Because of the complexity and breadth of issues they must address, the Commissioners rely on management to provide information relevant to their votes and to answer their questions accurately and completely.

Relevant here, the Commission voted on several contracts related to Project Cornerstone, following presentations by management. The investigation revealed that, at times, management was not entirely transparent with the Commissioners on key issues which led to votes that were not informed by all of the material facts and relevant context.

For example, management presented the costs of Project Cornerstone to the Commissioners in a piecemeal fashion, rather than providing the Commissioners with an overall ongoing budget for the project. In August 2017, management requested Commission approval of a $9 million exempted contract to Oracle for professional services but did not tell the Commissioners that the project would need approximately $16 million more in funding over the next month or two.

There are other examples of this lack of transparency:

- Management did not inform the Commission about a recommendation based upon a study (the Pivot Analysis) to choose the earlier version of the software, and not C2M. Likewise, management did not fully inform the Commission about the potential cost, delay, and other implementation challenges and risks of choosing C2M.
- Management did not inform the Commissioners that the budget presented to them did not include post-implementation costs, which totaled approximately $51 million.
- Management informed the Commission that the implementation of WAM was necessary for the C2M implementation. Even when this turned out to be untrue, management did not correct this fact with the Commission. WSSC ultimately canceled the WAM implementation in late 2019, after spending approximately $15.8 million on it.
- When asked by a Commissioner why a contractor had left the project, management informed the Commission that the contractor had pulled its resources to work on a different project but management did not disclose the real reason behind removal of the contractor from the project: the contractor had identified serious project management failures that had reportedly impeded its work on the project.
- Management informed the Commission that it used a "best of breed" approach for software solutions and was not locked into using Oracle products; but the IT department had never evaluated any billing software solutions by companies other than Oracle.

4. Costs of Project Cornerstone

The approximate final cost of Project Cornerstone is $121 million. This cost includes not only the implementation costs of C2M and WAM, but also post-implementation costs and salary costs for internal WSSC employees who worked on the project. This number includes costs forecasted through fiscal year 2023 as well.

TIMELINE OF INVESTIGATION

In December 2021, the Commission received several allegations related to the implementation and cost of Project Cornerstone (hereinafter "PC"). Several months later, the Commission voted to engage an outside firm to conduct an independent investigation. Kropf Moseley PLLC (KM) and Investigative Group International, Inc. (IGI) were formally engaged in May 2022.

The investigation lasted approximately one year. During this time, KM and IGI forensically collected more than 16 million emails and documents from 45 accounts comprising Commissioners, managers, staffers, and contractors, totaling more than 5.4 terabytes of data. The investigative team narrowed the data set to 50,000 relevant documents by conducting targeted searches using a forensic review platform.

In total, KM and IGI approached 83 individual witnesses with a request for a voluntary interview. The team ultimately conducted 73 interviews, which included several witnesses interviewed on more than one occasion. Several firms, contractors, multiple Commissioners, and several former WSSC employees declined to be interviewed or did not respond to the interview requests.

KM and IGI met with the Commission in closed session on May 17, 2023, and May 30, 2023, to present the investigative team's findings. On June 21, 2023, this report was shared with WSSC's General Counsel Office for legal review. The final report was submitted to the Commission on July 27, 2023.

SUMMARY OF PROJECT CORNERSTONE[1]

Project Cornerstone was a substantial information technology implementation project to replace WSSC's outdated billing system and related software. While it formally began in September 2017, the project's roots date back to at least 2015 when WSSC first purchased licenses from Oracle to upgrade its metering and billing system. From 2015 until mid-2019, the project's "Go-Live" date, Cornerstone underwent numerous changes in scope, budget, and staffing. Over its multi-year history, the project was beset with cost overruns, personnel issues, lack of transparency and oversight, critical staff turnover, governance issues, and other challenges. Despite these problems, however, the Commission completed the implementation of the new billing software in 2019 and uses it today to manage its 475,000 customer accounts.

Below is a history of Project Cornerstone – progressing from its conceptual origins to practical inception, through implementation, the aftermath, and up to the project's current status. This report details various challenges faced by WSSC in completing the project and numerous allegations that emerged before and after the investigation. Finally, the report provides investigative findings.

[1] A few words about references in this report. It uses "WSSC" to refer to the organization as a whole, and "Commission" to refer to the governing body of Commissioners. The report does not identify any specific individuals by name or title and uses gender-neutral pronouns to refer to participants. The names of departments, such as Procurement, are capitalized.

Selection of Oracle Software

By 2015, WSSC desperately needed an upgrade to its billing system: its "legacy" IBM-mainframe system was built in the late-1980s and put into service in 1990. The billing software was likewise behind the times. Fewer and fewer programmers were proficient in programming and patching the rate structure software because it used COBOL, an outdated programming language.

On February 10, 2015, WSSC's IT department ordered Oracle licenses for Customer Care and Billing (CC&B) software to upgrade WSSC's billing system. The purchase was relatively modest, totaling $1,099,370.51. WSSC selected Oracle because of a widely held perception that WSSC was an "Oracle shop," meaning that the utility already used various Oracle-based software, including for Work & Asset Management (WAM), Human Resources, and other enterprise applications. Several interviewees reported that IT leadership bought "one of everything" from Oracle, including hardware, software, and licenses.

Corroborating the perception that WSSC purchased extensively from Oracle, a former sales representative of the company stated that the IT department had a strong relationship with an Oracle sales manager, explaining that this particular sales manager maintained a "brag book" portfolio of all of their sales to WSSC.

While interviewees reported that WSSC may have considered other alternatives to Oracle's CC&B, it does not appear that WSSC received demonstrations or sought proposals from other software vendors.

Rate Structure Challenge

In July 2015, a Montgomery County resident filed a formal complaint with the Maryland Public Service Commission (PSC) regarding WSSC's rate structure. Under that structure, WSSC charged per-gallon water rates on a graduated sliding scale of average daily consumption per household. The scale consisted of 16 "blocks" of increasing size ranging from fewer than 50 gallons per day to 9,000 or more gallons per day. That is, the more water a household used, the more it was billed for each gallon. The per-gallon rate WSSC charged for usage at the high end of the scale was more than twice as much as the per-gallon rate at the low end of the scale. According to the complainant, this resulted in larger households being charged more per gallon even if they used less water per person.

In September 2016, the PSC Chief Public Utility Law Judge found that WSSC's rate structure was unreasonable. In March 2017, the PSC upheld this finding and ordered WSSC to develop a reasonable rate structure. When the PSC issued its March 2017 ruling, it did not specify a timeframe in which WSSC had to implement reasonable rates. However, in July 2018, the complainant and another individual sent a letter to the PSC, asserting that WSSC's failure to implement a new rate structure by that time meant that it was noncompliant with the order.

In July 2018, WSSC responded to the complainant's letter, by asserting that it was in compliance with the PSC's order and that it had "already developed and selected a new 4-tiered, increasing block rate structure for implementation on July 1, 2019." WSSC also noted that the "PSC Order appropriately did not set a deadline for the adoption of a new structure and rates" but that WSSC nevertheless had "moved expeditiously within its constraints as a public entity, to develop and select a new structure."

Despite the lack of a PSC-imposed deadline, WSSC was concerned that if it did not act swiftly to implement new rates, it could face further legal exposure, as the complainants' July 2018 letter implied. Indeed, WSSC attorneys stated that there was "anxiety" within the General Counsel's Office (GCO) that if the Commission waited too long to implement a new rate structure, it could face "litigation risks." Additionally, interviewees noted that it had been approximately 20 years since WSSC conducted a "cost of service" study to inform rate structure updates, and as such, the GCO was "working with no guidelines" and faced an increasing risk of potential legal challenges prior to the implementation of a new rate structure.

Approval of BOA for Project that would become Cornerstone

On December 16, 2015, the Commission voted 4-0 to approve Basic Ordering Agreement (BOA) 1111, a $15 million contract to engage consulting firms for the implementation of "core ORACLE CC&B functionality." Under BOA 1111, the utility hired Sure Power, Black & Veatch, Origin, Blue Heron and others. The Commission did not consider BOA 1111 as a separate agenda item, but instead approved it as part of its "consent calendar," which is a procedural device to allow the Commission to vote for a blanket approval of multiple agenda items at one time.

New Leadership

As WSSC navigated the early stages of developing a new customer care and billing system, it simultaneously ushered in a new executive management team. Over the next year, the utility welcomed a new General Manager, multiple Deputy General Managers, a Chief Innovation Officer, a Chief Financial Officer, a Chief of Staff, and a Chief Information Officer. Every member of this new Senior Leadership Team would go on to have a role on Project Cornerstone.

The Cornerstone team would change dramatically over the four-year life cycle of the project. As detailed below throughout this timeline, there were twenty WSSC staff members who held significant leadership, decision-making, and management roles and responsibilities in Cornerstone. Only four remain currently employed by WSSC. The staff and key personnel departures occurred at the executive, deputy, division chief, program manager, and project manager levels. Turnover occurred multiple times in some positions. The departures occurred for multiple reasons that varied from person-to-person, and included termination, resignation, resignation under pressure, retirement, and pursuit of other opportunities. For some individuals, multiple reasons may have applied. This attrition and turnover contributed in some cases to vacancies in important roles at critical junctures, loss of institutional and project specific knowledge, and lack of individual accountability for certain project deliverables or outcomes.

WSSC outlines a management and governance structure for CC&B implementation in a Project Charter

In September 2016, WSSC staff completed the first draft of a "CC&B Project Charter" for the project's planning, design, and implementation. The draft charter said that WSSC would adhere to certain defined principles, including "embrace [of] financial accounting and industry best practices" and "adequate consideration" of stakeholder needs. It itemized "key business drivers" of CC&B and outlined project goals.

The charter called for the establishment of a "CC&B Executive Steering Committee" (ESC) to drive the process. The ESC was to "meet regularly during the project life-cycle to understand the overall project status, make decisions, address escalated and out-of-scope issues, and other items as deemed appropriate." It included senior leaders from multiple business divisions.

The draft charter also included, per an annotation in the draft, a recommended provision for a "Change Control Board" to govern any proposed changes to the baseline design and ensure they receive "appropriate" review. This board would have the additional responsibility to ensure that changes "are documented for tracking and auditing purposes." This provision appears to have been intended to address the charter's call to "avoid scope creep."

The charter said that project success would be predicated on assumptions, including that the "[p]roject scope and budget will be effectively managed and [p]roject risks will be effectively managed and mitigated," and that failures to do so could result in budget overruns and an "inability to support business solution and systems post-implementation."

WSSC hires Consultants to serve as CC&B Program Manager and Project Manager, as the CC&B/Cornerstone management team is recruited and put into place

In January 2017, WSSC management hired a consultant as CC&B program manager. At this time, the consultant had been working for a firm under contract to WSSC through BOA 1111. The consultant was reportedly told by a member of WSSC management that in order to come on board for the CC&B project, they should leave their current firm and join another consulting firm under the same BOA, and that going through this other firm was the easiest path to do so.

Around the same time that the program manager was added to the team, two other consultants, who had previously been with the same firm, likewise switched firms before they were hired under BOA 1111. After these hires, at each level of project management, there was one WSSC staff member and one outside consultant in each role.

A former WSSC senior leader stated in an interview that it had been management's intention for the companies and consultants under the BOA to provide technical services, not project management. WSSC did not want the "fox guarding the hen house." They also noted that, in general, someone else should manage the implementors to avoid conflicts of interest.

CC&B Project Begins

Upon joining in January 2017, a program manager was "shocked" at how much Oracle software WSSC had purchased or licensed – noting it was "just about every product that Oracle offered." They said that WSSC was paying tens of thousands of dollars, even hundreds of thousands of dollars, in maintenance fees for Oracle software WSSC was not even using. Reportedly, one of the program manager's first projects at WSSC was to review the Oracle products and evaluate what should be cancelled.

On February 7, 2017, a WSSC project leader submitted a requisition request for a $1 million-plus spending authorization as part of the CC&B project. Another executive approved the request, but an IT staffer advised that the amount would exceed the $750,000 cap on the Commissioners' standing "delegation of authority" to the General Manager, and thus would require the Commissioners' approval. Accordingly, the IT staffer said they would place the item on the Commission's March meeting agenda. The project leader suggested splitting the amount into three separate contracts, to which the IT staffer replied, "I've been directed that separating requests to keep funding under a certain threshold is circumventing the system and against policy." Several weeks later, the project leader had modified the scope and price so that it fell just under the $750,000 threshold for Commission review and approval.

As WSSC was in the early stages of implementing CC&B v2.5, Oracle began promoting a new utility-focused software package it called C2M, which stood for "Customer-2-Meter" (sometimes called "Cash-to-Meter" or "Meter-to-Cash"). An Oracle brochure sent to WSSC around February 2017 touted the new software solution as it would deliver "Meter-to-Cash" revenue flow. Oracle defined Meter-to-Cash as "the entire process through which utilities collect revenue for the consumption of their services," and as the "perfect marriage" of a Customer Information System (CIS) and a meter data management system. Oracle's CIS offering was CC&B and its meter data management offering was called Oracle Utilities Meter Data Management (MDM).

A CC&B project leader attended a trade show where Oracle presented this new software solution. Exemplifying the susceptibility to Oracle's sales pitches—an issue discussed further below—the project leader immediately advised their colleagues working on CC&B on February 14, 2017, that, the project leader had "[j]ust learned that we definitely want to use/build out MDM [Meter Data Management] as it will be the upgrade path in [CC&B] v2.6, which will combine CC&B and MDM, which Oracle has termed Customer-2-Meter (C2M)."

Rate Challenge Impacts on CC&B

According to the draft agenda for a March 9, 2017 ESC meeting, project leaders were exploring whether WSSC, as it moved forward with CC&B, could "patch" its existing billing system as an interim measure, presumably to accommodate the PSC's order. The ESC eventually recommended that IT work to "code" the new rate structure into the mainframe system "in parallel" with the adoption of CC&B v2.6.

This patching effort was later abandoned due to a limitation of the legacy system; specifically, "the physical constraints of the data field in which [water] consumption [data] is stored." The legacy system could not accommodate values to the necessary four decimal points in the proposed new rate structure. The rate patch to the legacy system would require WSSC to either round these consumption numbers or to truncate them. Rounding them would cause some customers to be overbilled and some underbilled, which WSSC deemed to be unacceptable. Truncating the numbers, by WSSC's calculation, would cause WSSC to lose revenue at a rate of at least $23 million annually until it could implement a new billing system.

Consulting firm withdraws from the CC&B project, citing WSSC's alleged lack of "transparency and open communications."

On April 17, 2017, one of the four contractors that had been awarded work under BOA 1111 emailed WSSC project leaders to inform them that the company's "resources [would] be rolled off of the CC&B project . . . effective April 28, 2017." The consultant attributed its decision to pull its consultants off the project to WSSC requiring "excessive" travel and to WSSC's lack of "transparency and open communications." Although they had indicated that the consultants would leave the project on April 28, a WSSC project leader notified the consultant on the same day (April 17) that all of their task orders were "closed, effective immediately."

On May 12, 2017, the contractor's CEO emailed a WSSC project leader to "set the record straight on some key items that [the firm] was never able to convey while engaged at WSSC."

The contractor CEO attached a memo addressed to the leader with this "constructive criticism," and offered to discuss it at the upcoming Oracle CIS Conference or at WSSC. The criticisms included: "WSSC's inflexible travel arrangements were unfavorable to the consultants"; the concern that "the Contractor [Project Manager], their company, and family members were allowed to fill lead project roles and recruit and fill positions across the project with resources that had questionable qualifications, CC&B qualifications and credentials"; and that it was "puzzling" that WSSC placed "such great faith on one vendor with only a few years of CC&B experience on their resume," when they adopted a "pluralistic vendor model" over "the conventional one prime vendor model." The CEO expressed a willingness to remain on the project and help WSSC work through the cited concerns. The CEO's email was forwarded to most executives and project leaders inside WSSC. However, the company was not assigned additional work and WSSC eventually terminated the contractor for convenience.

Four months after this consulting firm removed its resources from WSSC, a senior WSSC leader appeared at a Commission meeting to request that the funds from that implementation contract be "spread across" the remaining three companies "evenly." When asked about the departure of the consulting firm, the WSSC leader did not inform the Commission about the CEO's concerns. The leader informed the Commissioners that the contractor had been "terminated for convenience" from the contract and explained:

> That determination [to terminate] was made based on the fact that they opted - they didn't give us any notice when they opted not to move forward with us. And through research, we found out that they have won another contract. And they had simply pulled out their resources from WSSC to move to the new contract, which really left us in a bind at that point. So, we worked with Procurement and General Counsel in order to make sure that we were able to terminate.

The "Pivot Analysis Study" recommends that WSSC adopt CC&B 2.6, not C2M

Amid continued sales pressure from Oracle for WSSC to adopt the newly released C2M product, project leaders commissioned a "Pivot Analysis" to study the appropriate course of action. The Pivot Analysis was both a process, and the title of the process's final report. The Pivot Analysis team included non-Oracle consultants. On May 30, 2017, the WSSC Pivot Analysis team began weighing the respective merits, demerits, risks, and benefits and making a written recommendation to the ESC) of either CC&B or C2M. The analysis took about five weeks.

Oracle provided a C2M demo to the team. The results did not inspire confidence. The team reported that "[p]erformance was poor" and "the system would go down after 20-30 minutes." Only after "much trial and error" was C2M able to "perform basic functions such as start service," and while it ultimately was able to start service, it "failed to successfully generate a bill for the account."

Because WSSC's implementation of CC&B v2.5 had been underway since February 2017 and, "all project activities through June 2, 2017 [had been] based on CC&B 2.5," the report referenced a possible midstream "course correction" or "pivot" to a new and different system. Three options were on the table for consideration: continue and complete implementation of CC&B v2.5 (software that had been released in 2016) with a possible later upgrade to C2M in 2020; implement CC&B v2.6 (software that was newly released in May 2017) with a possible later upgrade to C2M in 2020; or implement C2M now.

The Pivot Analysis team completed its 35-page final report on July 7, 2017. The team concluded that C2M – which it referred to as "Option 3" – "was determined to be the highest risk for meeting the goals and objectives of the project, schedule and budget." This was in part because, "[s]trictly speaking," C2M "is suited for large electric and gas distribution utilities who already have, or are currently implementing, an automated metering infrastructure," or AMI. This was "evidenced by the requirement of meter data management (MDM) and other AMI products which are ancillary to Customer Care and billing yet are required in the C2M model." The team warned that, "unexpected work would be required to get these elements [MDM and AMI] up to the 'starting line' for a water/ wastewater implementation." The team noted that, "[t]he amount of work this could add to the implementation schedule is presently unknown because no other water utility has implemented or planned to implement C2M."

The analysis made several points suggesting that C2M would make WSSC more dependent on Oracle. It stated that, "[a] great deal of knowledge transfer and training from Oracle would also be required to understand the new layout of C2M, and to understand where the incorporation of MDM functionality should be introduced in training." Furthermore, "early adopters [such as WSSC] can expect extensive product bugs and defects to manage during configuration and testing, and a more active role played by Oracle; this could be construed as disruptive to the project planning and management activities we have put in place." The team noted "significant schedule impacts and delivery risks" with a C2M implementation, including adding a year to the project, increasing its cost commensurately. They noted that C2M would, "insert a lot of distractions from the primary goal of this project which is to improve customer service."

The analysis concluded that a C2M implementation "introduces significant risks without commensurate benefits for a water/ wastewater utility," and was "more than a technical exercise" because it also would require that WSSC undergo "some profound operational and business changes." The analysis observed that, if AMI was not (or could not) be deployed, then C2M made no sense to implement because it would yield no return on the additional time, expense and risk incurred by WSSC.

The Pivot Analysis concluded with a recommendation that WSSC adopt CC&B v2.6 and upgrade to C2M later, "if necessary." It advised that CC&B v2.6 "offers WSSC an approach to achieve the desired customer service and business process improvements in the shortest period and at the lowest relative risk" and "is the most practical strategy with good odds of success at the end-user level."

The Pivot Analysis is not shared with ESC and withheld from the Commissioners.

The Pivot Analysis was not shared with the full ESC, despite the fact that the report itself states that it was prepared for presentation to the ESC. A key project leader reported that they had not seen the Pivot Analysis and claimed that it was not discussed in any ESC meetings they attended. This assertion was confirmed in an interview with a consultant project leader, who reported the same information.

The Pivot Analysis was not presented to the Commissioners either. The Commissioners appear to have learned only much later about the Pivot Analysis's conclusions regarding C2M versus CC&B. A February 2022 document entitled "Cornerstone Commissioner Questions," which was found in the files of multiple WSSC managers, noted a question about whether it had been presented to the Commissioners. The answer: "No, a managerial decision was made and not all risks are presented to the commission."

Despite the Pivot Analysis's recommendation in favor of CC&B 2.6, project leadership gave a presentation – co-written by Oracle – advocating for pivoting to C2M

In an interview, a consultant manager reported that the project leadership team decided to recommend C2M, contrary to the Pivot Analysis. The manager claimed that the group did not hide the options from the ESC, but they changed the ultimate recommendation. They claimed that the final recommendation to the ESC was to go with C2M and was given through a PowerPoint presentation. This appears to be the presentation given at the July 13, 2017 ESC meeting.

An Oracle sales representative helped co-write the presentation deck shown during the ESC meeting. According to an email regarding their contributions to the presentation, Oracle "inserted" speaker notes for several slides, including: "What is C2M?", "Why does Oracle recommend WSSC re-focus to C2M?", "Why Oracle?", "How does Oracle recommend WSSC partner?", and "What is the cost impact to WSSC?"

As for how Oracle would partner with WSSC, one slide promised that Oracle will "[l]ead the C2M implementation." The slide acknowledged that for the implementation work, there "will be a cost impact" of Oracle leading the project that would be "dependent upon current staff re-purposing or remaining on the project," an apparent nod to existing contractors who had been working on the CC&B project since December 2015.

Vote to Pivot to C2M

The minutes for the July 13, 2017 ESC meeting as originally drafted by a WSSC employee reflected a "[u]nanimous vote to move forward with Customer-2-Meter (C2M) transition plan and an accompanying Commission package," with the express caveat that "[t]his is **not** to be considered the final vote for selecting C2M or CC&B v2.6 for WSSC." The bolded emphasis was in the original minutes.

A consultant made several edits to the draft minutes, including that the vote had been to move forward with C2M transition "planning" (not "plan") and that the vote was to "bring [a] recommendation with budget impact to the ESC to either move forward with C2M or CC&B 2.6," showing that, at least per the consultant's recollection, whether to select C2M or CC&B v2.6 remained an open question after the vote. The distinction the consultant drew between "plan" and "planning" was important enough to them to make; planning in this context could be construed as the continuation of a process that was already underway, whereas a "plan" could be construed as a document by which the ESC was giving C2M a green light.

The unanimous nature of this vote was disputed by a WSSC manager, who reportedly told multiple individuals (including in their interview, and the Commissioners in their February 2022 meeting) that they had not voted for C2M. It was widely understood that the manager had concerns related to aspects of the project from the beginning but no other participants in the meeting recalled a dissenting vote. There is no documentary evidence that corroborates the manager's contention. However, both the confusing documentation of minutes and the processes adopted by the project leadership team leave this possibility open.

WSSC Senior Leadership Proceeds with C2M Despite ESC Meeting Minutes Not Reflecting a Final Decision

The same day as the ESC vote – July 13, 2017 – a WSSC leader reported to their colleague, "Today, the CC&B Executive Steering Committee (ESC) gave us approval to move forward w/a transition plan detailing budget and schedule with a move to Customer-2-Meter (C2M)." They added, "[a]s discussed, we need to 'hire' Oracle Professional Services (Utilities Group) for this effort. Attached are Oracle's standard T&Cs" [meaning Terms and Conditions]. They asked for the Procurement department's review, feedback, and assistance, "so the scope can be finalized for the engagement." As discussed in more detail below, WSSC policy required GCO to review the Oracle contract because it was not a form contract.

On July 18, 2017, a top-level WSSC executive wrote to key WSSC managers to announce that on July 13th, the ESC had, "approved transitioning from implementing the Oracle CC&B system to the Oracle Customer-2-Meter (C2M) system," and that, "[a]s part of that approval, it was decided that WSSC needs to 'hire' Oracle Professional Services (Utilities Group) for this effort." The executive did not attend the meeting described in the email. The executive's communication arguably mischaracterized what had occurred at the July 13 meeting, which as noted above (and if the minutes were accurate and complete), did not vote to drop CC&B in favor of adopting C2M instead, but merely to continue transition planning for C2M, pending a future ESC vote to choose between the two.

None of the eleven e-mail recipients who had participated in the July 13 meeting objected to the executive's apparent mischaracterization of the ESC's decision. Insofar as the executive's message addressed WSSC's senior leaders, the other recipients could have reasonably concluded that senior management made an "executive decision" to proceed with C2M.

The WSSC employee responsible for drafting and circulating the minutes reported that after the executive's announcement, they (the employee) edited the draft minutes of the ESC's July 13 meeting further by deleting the sentence which stated, "This is **not** to be considered the final vote for selecting C2M or CC&B v2.6 for WSSC." The bolded emphasis was in the original minutes. The employee explained they would not have decided to remove the sentence themselves and suggested that their managers directed them to take it out. The employee noted in their interview that even after the deletion, the minutes still describe the vote as having been for "bringing a recommendation with budget impact to the ESC to either move forward with C2M or CC&B 2.6," that is, not a vote to implement C2M instead of CC&B v2.6. Nevertheless, the deletion appears to have partly obscured the discrepancy between what occurred at the meeting and the executive's announcement.

The executive, who denied multiple requests for an interview, seems to have used the imprimatur of ESC process to justify what appears to have been an "executive decision" to proceed with C2M. Because of the lack of access to key witnesses, the investigation did not have full visibility into the decision-making process, including who made the final decision to move to C2M.

WSSC Management presents C2M to the Commission, and Commissioners approve the $9 million Oracle C2M contract

At the August 2017 Commission meeting, a WSSC manager addressed WSSC's planned implementation of CC&B, its "pivot" to C2M, and Contract 7220, a professional services contract package award to Oracle in the amount of $9 million over three years, for C2M implementation. The manager requested approval of the contract under an exemption to the competitive bid process. Following the presentation and discussion, the Commissioners voted unanimously (6-0) to approve the Oracle contract.

During this meeting, the same manager requested that the Commissioners also approve the exercise of an option for BOA 1111 to authorize an additional $7 million for the remaining three companies, bringing the total allocated via BOA 1111 to $22 million. The Commissioners approved this funding with a 6-0 vote.

WSSC signs contract with Oracle for C2M

On August 18, 2017, WSSC entered into what was to be the initial contract for C2M (Contract 7220) with Oracle. Notably, this contract contained language that would later lead to a profusion of disagreements between WSSC and Oracle over the scope of each entity's performance obligations. Relevant here, Oracle agreed only to "assist" WSSC with a variety of C2M-related services, including project management, configuration, training, testing, and production. Oracle would later argue that its promise to "assist" with certain tasks excused it from performing a variety of tasks that WSSC expected to be completed by Oracle.

WAM/MWM Change Order

On September 20, 2017, the Commission approved Change Order 1 to Contract 7220, authorizing an additional $12 million award to Oracle for C2M and for Work & Asset Management (WAM) implementation – bringing the authorized budget total for Contract 7220 to $21 million, with the total for the overall project now standing at $43 million. Notably, it was during this meeting that a WSSC manager, who presented before the Commissioners, first made reference to the project as "Project Cornerstone."

Failed WAM Demo

On October 6, 2017, a WSSC manager e-mailed a few IT managers describing what they characterized as a failed Oracle WAM/MWM demo they had observed several days prior. Oracle had scheduled the demo of WAM and MWM for the managers of one WSSC department, which would be a major user of WAM/MWM. A few weeks earlier, the WSSC team had prepared and communicated to Oracle several scenarios and "use cases" outlining the functionality that they wished to see during the demo. About 45 minutes into the demo, another manager asked why none of their team's scenario items were being addressed. That manager also asked the Oracle representative to create a work order from a map, which was described as a "type of function [that] is widely used and elemental to how" multiple departments would use WAM. The Oracle representative tried to do so, but the software could not generate a work order, instead generating an error message. The manager characterized the demo as "a complete failure, in my opinion, of both preparation and execution." More than one WSSC attendee walked out of this meeting.

The message describing the failed demo was forwarded to a WSSC executive, telling them that "this puts things in a completely different light," and "I don't want you to be blindsided." The executive replied that this "email is making me think that maybe we really do have the wrong SI." Oracle was not System Integrator of C2M, or of WAM/MWM; the executive's evident belief that Oracle was acting in such a capacity was in error.

Another manager wrote to an IT employee to tell them that "the Oracle demo did not go well" and said, "I have yet to see a successful demonstration of the product. I have some major concerns that require attention."

The former WSSC project engineer who would become project sponsor for WAM described a failed Oracle demo, which appears to be a reference to the incident described above. They colorfully recalled that two so-called "experts" from Oracle were present. According to the engineer, they "may have been good salespeople" but did not know "how to navigate their own system." The witness then described a "heated exchange" between Oracle and WSSC personnel following Oracle's failure to successfully demonstrate the software. The room became "rowdy," and they opted to end the meeting. The engineer recalled that it was a "total failure" of a demonstration, and that Oracle had displayed a "lack of competence."

SOA Contract

On December 20, 2017, the Commissioners approved a new contract with Oracle, Contract 7280, for $2,357,972.08, to purchase "Oracle WebLogic Suite software [referred to also as Service Oriented Architecture (SOA) software] and 12 months of support from Oracle." This would bring the total authorized budget of the project to approximately $45.5 million, although this cumulative number was not presented during this meeting. Instead, a WSSC executive vaguely referenced the overall "program costs" for Project Cornerstone as being approximately $36 million. The source of this number is not clear.

Mounting problems with Cornerstone implementation become apparent

In the January 17, 2018 Commission meeting, WSSC management began their presentation to the Commissioners by explaining the project team's risk analysis process for Cornerstone and the current state of the project. There were three status classifications: (a) green— "everything is going according to plan"; (b) yellow— "there are some risks"; and (c) red— "we are behind schedule, or we are really putting ourselves in a position where we might not meet the schedule". They reported that C2M was in "yellow status" and that the team was "managing" and "addressing" identified risks. They added that the project was "on schedule" and "most importantly… on budget," and explained that part of the purpose of the weekly status reports and risk analyses would be to ensure that this remained the case throughout the project lifecycle.

Based on interviews and e-mails, there appears to have been a dawning realization or acknowledgement among senior WSSC managers starting around the first quarter of 2018 that, with a multitude of mounting problems, Cornerstone was not progressing as planned or expected. This prompted several steps including a discussion and review of the original contract involving GCO and the Procurement department and a decision to release a project lead who had been instrumental in driving the decision to go with C2M. Shortly thereafter, a top executive departed the project and the project team eventually abandoned WAM/MWM, a decision that is discussed in more detail below.

Talking points circulated by certain senior executives in April 2018, evidently in preparation for an internal discussion, reflect management's apparent decision-in-the-making to scale back Cornerstone's scope and functionality – specifically, to "pause" and reevaluate WAM/MWM. The document reflects management's considered belief that "WAM/MWM is NOT necessary" to implement C2M and in fact put the timely implementation of C2M at risk, and the senior executive's decision to let a senior manager go because they "led us to believe that this was necessary, but it wasn't."

Senior management was clearly concerned about how the Commissioners would react; they posed the rhetorical question, "What are you going to tell the Commissioners? This is going to be embarrassing!" to which the proposed answer was, "I'm going to tell them the truth – that WAM/MWM was taking too many resources and taking focus away from C2M, which is our ultimate project implementation."

In April 2018, WSSC negotiated the removal of several key players in Project Cornerstone. According to the talking points, senior management planned to explain that these key players were "NOT needed" and that WSSC did "not need to fill their role[s]." Rather, the executive explained, a more junior staffer, reporting to the CIO, could take on their duties, allowing the team to "eliminat[e] a layer of unnecessary bureaucracy." Also, in May 2018, WSSC announced the departure of a key executive and decision maker in the project.

CATS Contract

During the May 16, 2018 Commission meeting, the Commissioners approved Contract 1148 for IT Consulting and Technical Services – a contract referred to more commonly in WSSC communications by its acronym, "CATS," or "IT CATS." As detailed in its commission package presented to the Commissioners during this meeting, CATS as written was a three-year contract with a base term expiring in June 2021 in the amount of $45 million, with a provision for a single two-year option to renew. Serving as an encompassing contract vehicle through which the IT department could issue task orders and select from a pool of 32 "pre-qualified" vendors, CATS was designed to bolster efficiency and allow IT to obtain consistent and expedient resources as needed.

Despite management's understanding that CATS would be used to support Project Cornerstone, and despite the reference for that use to the Commissioners several months before they presented the contract vehicle for approval, there is no mention of Project Cornerstone in the contract packet nor in the presentation to the Commission during the meeting.

Commissioners approve the new rate structure

On July 18, 2018, the Commission voted unanimously to adopt a new four-tiered rate structure for its customers, based on a June 28, 2018 recommendation submitted to them by WSSC management and briefings from management on both July 17 and 18, 2018. In its resolution adopting the new rate structure, the Commission said, "WSSC will continue the development and implementation of its new billing system [at this point C2M], so that the new rate structure can be configured in the new system, be properly tested, and go live in Spring of 2019 in time for the implementation of the new rate structure on July 1, 2019."

Staff reports that both C2M and WAM/MWM are on budget and on schedule

In the August 15, 2018 Commission meeting, project management staff delivered a presentation regarding Cornerstone's background and status. After explaining what Cornerstone would fundamentally consist of – the implementation of WAM, MWM, and C2M – staff reported that the Cornerstone team had delivered a business case for the project; was developing an internal communications plan; and was finalizing a post-go-live support plan. After detailing the various components of assessing the project's status, staff reported that the projects were both on budget and on schedule for implementation.

Management Updates the Commissioners on Project Cornerstone and Requests Funding for Additional Hardware

In the September 19, 2018 Commission meeting, management and project staff updated the Commissioners on the status of Project Cornerstone and requested approval for additional hardware in support of the project. This was a year after the Commission had approved $21 million in professional services contracts to Oracle plus additional funds, among other approved spending through BOA 1111, the CATS contract, and software licensing fees.

Specifically, management told the Commissioners that the project had contracted "eight additional developers to support interface development"; issued a solicitation for a vendor for bill prints; selected a manager for go-live activities whose prior functions were backfilled; and identified a new project director for Cornerstone, a consultant "from the outside" with oversight for both C2M and WAM/MWM and experience in "multiple enterprise level projects like this one" and a "strong background in Oracle."

Commissioners asked management several pertinent questions about the project, with one commissioner querying specifically about potential issues that could affect its timeline. Management responded that the project team was working to ensure it had "a lot of advanced insight into things that we have to do as a commission, [and] things that Oracle is responsible for," and relatedly, that the team had been examining its contract with Oracle to identify "things that we've [WSSC] taken on that could've been Oracle's responsibility" and to delineate responsibilities on both sides. The Commissioner followed up by asking how WSSC could make sure Oracle was "accountable" for meeting "milestones and delivery dates." Management noted that there was "a lot of ambiguity" around "who's responsible for what," and that the team would be working with GCO to form a "plan to hold [Oracle] accountable, if it ever gets to that point." Management explained that the team had a "decent feel for that now in terms of the partnership," but that if "that were to ever go off track," WSSC wanted to make sure that it had "some sort of recourse that we can fall back on."

Another Commissioner then asked management if they could bring the Commission information regarding project contracts in "composite form" to improve transparency around contract requirements. Management noted that some things had "caught us off guard," resulting in last-minute requests but asserted that management would try to improve "visibility into what's going to be happening down the road."

The Commission then unanimously approved another Cornerstone-related contract (Contract 15968) for "Oracle Exadata Updates to Mythics, Inc." in the amount of $3,935,211.76 for a term of five years.

WSSC management discloses WAM/MWM implementation challenges

During the October 17, 2018 Commission meeting, a Commissioner asked management whether WSSC was on schedule to implement their new rate structure from a billing perspective. A manager responded, "Yes, we are." They relayed to the Commission that C2M – which they noted was "absolutely critical for our billing system to go live on July 1" – was on schedule.

Notably, the manager also noted that WAM/MWM was not ready to go live because WSSC was experiencing some challenges with those systems. They noted that the team's focus over the preceding month had been to keep C2M on track but that IT was now "focused more heavily on the WAM/MWM schedule and picking up our development" on it, with a goal of "getting from red status, which is where we are at now" ultimately to green by March, "to make sure that we are in position to go live." They added that IT was looking at the viability of separating WAM/MWM from C2M.

The manager mentioned "conversations with Oracle in the past where I've said, hey, we're off track, and we expect, you know, your partnership. And they say all of the right things in the meeting. And, you know, we leave the meeting feeling pretty good, but we still see the same behavior continuing." The manager informed the Commissioners that to help resolve these issues, the general manager would meet with a senior person at Oracle to "make sure that we're getting more visibility higher in Oracle, and that they understand the investment we've put in not just with C2M and WAM/MWM, but for our databases, for hardware." The manager observed that "[f]or everything that we've done with Oracle, and that we should be a flagship account, and we expect that level of visibility within Oracle." A Commissioner suggested that a few Commissioners be included in that meeting to show support.

Additionally, the manager presented a request for a $9 million change order to BOA 1111 to add resources to support Project Cornerstone. They specified this change order was related to other consultants and not Oracle, although they explained that Oracle overtime services "may be coming in" later.

WSSC management presents Cornerstone's budget as approximately $40 million and notifies the Commission they plan to split the releases of C2M (Release 1) and WAM (Release 2)

A presentation given to the Commission on November 28, 2018, detailed an overall budget for C2M of $25,354,995 and for WAM/MWM of $15,411,230, for a total Cornerstone budget of $40.77 million. The same budget was shown in presentations given to the Commissioners on August 15, 2018, September 19, 2018, and October 17, 2018. After this November 2018 presentation, however, there do not appear to be any other presentations giving a project-wide breakdown of Cornerstone. Instead, the presentations to the Commission employed vague language to describe the budgetary status of the project rather than hard numbers.

More broadly, during the November 28, 2018 Commission meeting, management delivered to Commissioners a presentation on the overall status of Project Cornerstone. A consultant began by recalling the last update to the Commission, noting that they had started a "program-wide to-green recover plan because we knew that the program was not where it needs to be." As part of the plan, they continued, they had implemented "right-sizing and prioritizing the scope components to deliver the WSSC mission critical scope components on time" and introduced "project methodology improvements aimed at increasing the transparency and the speed with which some of the needs and the risks and issues get resolved within this large project." The same consultant reported that the project status had improved to yellow and was "getting better," and that they were working to get the project to "green as soon as possible."

The consultant also notified the Commission that the ESC had approved a recommendation to utilize a release-based implementation approach to "ensur[e] the delivery of the WSSC mission critical business needs based on priority and urgency of the business needs." They explained that to be ready for the implementation of a new rate structure in July 2019, they would aim to go-live with C2M and MWM in late May. This became known internally as "Release 1" and the WAM implementation was known as "Release 2." The consultant noted that, with this approach, go-live was more likely to be successful because splitting releases would "de-risk the C2M delivery on May 28" and "give ourselves more time to really align the business folks better to the solution that we're putting in place."

A Commissioner asked the consultant how their team had brought the project from "red" to "yellow." In response, the consultant explained that team members did so by prioritizing project components and subcomponents – described as "de-risking the project" – and by implementing improved project management methodology to "speed up the transparency, and discussion and resolution" of identified risks and issues. The consultant added that Release 2, which would go live in November 2019, would cover the remainder of project scope not addressed in Release 1.

Asked by another Commissioner whether the release approach impacted the project schedule, the consultant noted that it did in the sense that not everything would be done in May, but that components needed "for the rate structure" would be completed.

The consultant then addressed organizational readiness, training, business components, and other project management areas. They added that the new approach would also necessitate "cost increases only because the time has extended," and that their team would soon share the expected cost increases with the Commission.

WSSC discovers it has "leapfrogged" another water utility in implementing WAM 2.2, putting WSSC in the position of being a "beta" roll-out for Oracle for this software

As WSSC communicated with Oracle during ongoing negotiations over what it referred to as "WAM/MWM amendment 2 and C2M amendment 3" – apparently revisions to the Oracle contract ordering documents arising from the Commission's meeting with Oracle executives– WSSC discovered that it had moved ahead of another water utility in its WAM implementation in Release 2. WSSC had effectively become the "beta tester" for the software.

Second Task Order for Oracle Contract

Management, fearing a potential Oracle walk out from Project Cornerstone that would have endangered the July 1 "go live" deadline, requested a second change order to Contract 7220 which added an additional $9 million for Oracle professional services. This would bring the total amount to Oracle for professional services to approximately $30 million. The request was to be addressed during the February 2019 Commission hearing. The meeting was affected by inclement winter weather, but the Commission met and granted management's request for Change Order No. 2 to Contract 7220.

During an interview, an employee said that they disagreed with certifying the appropriateness of the procurement practices surrounding this change order. However, they signed it anyway because they feared being fired if they did not certify the contract. The employee denied that there were overt threats to their job if they did not sign. Instead, they generally understood that not certifying would be career limiting.

Management informs the Commissioners of a one-month postponement of Go-Live date; cites "the high number of defects that we saw in the system."

On March 14, 2019, an IT manager made an internal announcement that "the go-live of Project Cornerstone release one [would] be delayed by approximately one month to July 1st." That same day, the manager met with the Commission Chair and Vice Chair "to let them know" about the postponement.

Several days later, management briefed the full Commission at the March 20, 2019 Commission meeting that the go-live date had been moved to July 2019. Management explained to the Commissioners that,

> We have had to make the tough decision to move from a go-live date for Release 1 of May 28th to July 2nd. And the reason for that is because of the high number of defects that we saw in the system. And we could have pushed forward with the May 28th date, but the reality is we would have taken on a very high level of risk if we had done that.

On April 17, 2019, management informed the Commission that the project team was working to "finalize our plan for Release 2" and was still "moving towards the November 4th date." They also reported that the team was "down to zero critical defects in the system, five high defects, which are going to be resolved, and eight medium defects, and eleven low defects" – a reduction from "67 down to five."

On May 15, 2019, management delivered a Project Cornerstone update to the Commissioners. In addition to detailing the status of Release 1 (which was "yellow right now for budget and risk" and "green for milestones"), they reported that Release 2, "on the other hand, is red right now… and that's really across the board." They added: "It says here that we're yellow for budget…but we suspect that that will be changing."

Management added that Oracle would be "mirroring our hours" in light of the impending go-live for Release 1. While the first 30 days after go-live, known as the "hypercare" period, would be the "project team's responsibility," the second 30 days would be a "combination of the project team and WSSC."

Head of the IT Department Resigns Months Before "Go Live"

Unexpectedly, WSSC's top IT official tendered a resignation by letter to management on May 17, 2019, effective immediately. This official had been presenting the updates on the project to the Commission throughout the entirety of the project. Management informed the Commissioners of the resignation the same day. One Commissioner wrote, "very unfortunate that [they] decided to leave so suddenly and at this critical time," and asked how it would affect the scheduled "go-live" of Cornerstone. They also asked, "what does this mean for the Release 2 scheduled in November?" Management responded that WSSC was confident of meeting the scheduled times, telling them that, "We do not expect [their] departure to impact the July 2nd go live or release 2." At this time, however, staff and management knew Release 2 to be in distress and only two months later, the ESC voted to cancel it.

Based on multiple interviews with WSSC executives, managers, and this official, the official's resignation resulted from a combination of stress related to the project, a potential opportunity at a different entity, and internal infighting.

ESC says Cornerstone budget covered costs only through stabilization; creation of "Managed Services" contract

In a May 2019 meeting, two months before the "Go Live" date, the ESC expressed their determination that the Commission-approved Cornerstone budget did not provide for the post-production costs of maintaining and using C2M after the go-live date. Per the meeting minutes:

> The budget for Project Cornerstone only included money to implement and support the technology component and ONLY through stabilization. After stabilization, a project is formally handed off to operations and begins to impact that set of resources, while the project team members depart or go on to the next project. Because the implementation budget did not include costs after stabilization, costs for business support during stabilization and no one else budgeted for these costs, the Managed Services contract was born and approved for execution, but was not formally adopted into the project budget.

The meeting minutes made no mention of bringing this determination before the Commissioners and reflect that the ESC considered two options for the unbudgeted post-production costs: (1) treat them as part of the Cornerstone budget; or (2) treat them as separate from the Cornerstone budget and assign a dedicated financial analyst to manage this process. The ESC chose the second option because it "[a]ccurately reflects costs that, although a result of the project, are not for standing up the project. Rather, for maintaining indefinitely."

That same month, managers tasked an employee in IT Finance and Contract Administration with compiling financial information on Cornerstone for inclusion in a briefing document for senior leadership. Specifically, they were asked for information on: funds spent year-to-date and funds spent since contract execution on Release 1; funds spent since project inception on Release 2; current monthly burn rates for Release 1 and Release 2 since the beginning of 2019; and "[a]ny perceived financial risk(s) and/or concerns based on your observations or opinions."

The employee responded on May 28, 2019. Regarding their observation of perceived risks, they noted:

> The risk is in the lack of a project schedule that is tied to a budget so it's difficult to evaluate what aspects of the project is causing a negative impact on the project. Also, lack of understanding the true scope of the project is causing scope creep which in turn impacts the schedule and costs. As is the case with the budget for FY20. In Sept/Oct 2018, we put in an FY20 budget request for Project Cornerstone in the amount of $10M. Recently, we submitted a request for FY20 resources under BOA 1111 in the amount of $21M. That amount does not include Oracle resources which is estimated at $7M for FY20. The expected increase in expenses is significant given the requested budget.

The employee concluded: "If I were a Commission member I would question the validity of these requests for additional funds. How much closer to project completion has the additional funds benefited WSSC?"

Additional Contract Disputes with Oracle

Even as the rescheduled "go live" date fast approached, WSSC struggled to hold Oracle to WSSC's understanding of the terms of the contract. On June 3, 2019, a project manager emailed GCO members and other senior leadership members a list of contractual items that they "believe[d] Oracle is not in compliance with or will not be in compliance with based on either resource planning forecast provided by Oracle." Among those items listed were propagating certain sections of code "into a Production environment," the creation of an "Infrastructure Management Plan" and "Release Management Plan," and "[p]erform[ing] corrections on C2M enhancement and interface packages that do not conform to the Functional Designs."

During the June 19, 2019 Commission meeting, management briefed the Commissioners on project status. They began by outlining the project's accomplishments, including completion of Operational Readiness Testing. They reported that Release 1 had a "yellow" risk rating but was "on track to hit all the project milestones," but that Release 2 was rated "red" for "risk, budget, and schedule" and that the "executive team is currently reevaluating the project's budget and schedule, that is in large part due to… the necessary focus on Release 1 go-live and stabilization." Management added that the team faced challenges in the form of "limited availability of critical skillsets in the marketplace for that particular version of Oracle Work and Asset Management."

Later in the meeting, management requested approval to award "a special procurement for hardware and software maintenance for the Oracle solutions on Project Cornerstone to Mythics," in the amount of $3,403,484.03. Management responded that the contract was for needed hardware and software support. Even though it had not been "expected and anticipated," the requested contract would "allow us to sort of consolidate that support under one vendor." The Commission approved the contract, 4-0.

Cornerstone Release 1 goes live, the same month Release 2 is Canceled

On July 2, 2019, Cornerstone's Release 1, comprising the C2M billing system and some elements of MWM, went live. The project officially entered the "postproduction" phase. Some interviewees understood this to be the end of Project Cornerstone. However, WSSC ultimately spent an additional approximately $51.4 million during postproduction on stabilization, knowledge transfer, software licensing, staff augmentation, and managed services for the IT department.

On July 17, 2019, WSSC management briefed the Commissioners on Cornerstone, reporting that Release 1 go-live had been successful.

As for Release 2, management reported that it remained in the "red" as they had not had "a lot of time to focus" on it. Asked if Release 2 would be shelved, an executive responded that they were "looking at different options with the project right now," and that they would likely make "a decision on that within August on the project." Despite this assurance, the ESC voted to not proceed with Cornerstone Release 2 the very next day, according to the ESC minutes of its July 18, 2019 meeting.

On August 6, 2019, a draft "Release 2 autopsy" report was forwarded to several managers, soliciting their comments, questions, and edits. The document was meant for circulation to principals on the ESC and does not appear to have been disclosed to the Commissioners.

This autopsy report found that:

> The major cause of the implementation issues was a flawed decision-making process for project scoping, management, staffing, and contracting. These project decisions were often made outside of the Executive Steering Committee, without consulting all affected stakeholders, and were made in an unnecessarily rushed manner that prevented a careful discussion of all relevant facts, costs, and the risks and consequences of the decisions.

The autopsy recounted that WSSC had been advised in 2017 by "then existing staff and consultants" that to have a "seamless transition" to a "complete solution" for utility and billing operations, WSSC would need to implement both C2M and WAM/MWM; that they would need to do so simultaneously to facilitate Oracle modules' complex interfaces with each other; and that this "dual implementation" would not be that difficult.

Echoing concerns first raised in the Pivot Analysis, the report observed that C2M was new and no other domestic utility had implemented it before. It also highlighted the fact that WAM was "not a mature, market tested product" and that no domestic utility had fully implemented it when WSSC made the decision to do so. The report concluded that the "burden of configuring and implementing two new, untested solutions was a significant drain on project and commission resources."

The report also included the *mea culpa* that WSSC chose to manage project implementation itself rather than select an outside system integrator that would have been responsible for delivering Cornerstone on a fixed-price basis. This choice put the burden for successful implementation on WSSC staff, which had limited experience in this area. It led to "consultants and other vendors not being held accountable for failing to meet their own deadlines and other terms of their contracts," among other issues.

During the August 21, 2019 Commission meeting, management reported on the status of Project Cornerstone. They stated that Release 1 remained on track for full stabilization to be completed by December 31. This was "dependent upon an additional funding request approval." Management also reported on Release 2, noting that it was "being paused" while the team prioritized stabilization of Release 1. Management assured the Commission that they were capturing lessons learned from Release 1, as well as reviewing and refining the business requirements for Release 2. They added that the team was "working to conduct market research to identify other potential solutions."

The following month, in a September 18, 2019 meeting with Commissioners, management reported that WSSC had successfully paused Release 2 on September 6, 2019, "with the proper archiving of all project artifacts, including complete system code configuration and all project documentation." Management added that the post-production team for Cornerstone was working with the business units in the ESC on "requirements gathering and potential alternative solutions."

Several WSSC employees said in interviews that without the implementation of the asset management functions that were to be part of Release 2, the full functionality they were promised with C2M was not delivered – especially related to work order processing. At the time of writing, WSSC has not implemented a replacement for Release 2. As of January 2023, WSSC management reported that the canceled Release 2 accounted for more than $15.8 million of the total spent on Project Cornerstone.

COSTS

The cost of Project Cornerstone was a concern raised by the Commission and others. Much attention has focused on the difference between the initial $15 million amount the Commissioners authorized in December 2015 for the engagement of consulting firms and more recent news reports of costs exceeding $100 million.

WSSC's Accounting Division tracked (and continues to track) Cornerstone costs in its General Ledger for financial reporting purposes, including ultimately for the purpose of capitalizing a portion of these costs.

WSSC's General Ledger can categorize and generate reports on total costs and expenditures including by job number, if one is assigned. At the direction of WSSC's executive management, WSSC designated three separate job numbers for Cornerstone: for Release 1 (C2M), for Release 2 (WAM/MWM), and for Cornerstone post-production. Both outside consultants and WSSC employees who worked on Cornerstone were instructed to enter their time, charges, costs, and expenses on Cornerstone to these job numbers.

The first of these job numbers, for Release 1, was issued at the end of January 2017, shortly in advance of Cornerstone's implementation launch in February 2017. The second job number was issued when work on Release 2, or WAM/MWM, began in or around September 2017. For accounting purposes, go-live in July 2019 marked the end of the implementation phase and substantially all further Cornerstone spending thereafter was charged to a newly issued post-production job number after a transition period during which charges to the Release 1 and Release 2 job numbers tapered off.

As part of the investigation, WSSC's Accounting Division ran a report compiling all costs and expenses that outside consultants and contractors had charged to the three Cornerstone job numbers, from February 2017 through early-May 2023. The total amount charged was $90,427,166.

The Accounting Division also compiled and provided records documenting "pre-Project Cornerstone" costs from fiscal 2015 to February 2017 in the amount of $2,195,154.

The Accounting Division ran a report of all WSSC employee time charged to the three Cornerstone job number, through the date the report was generated in May 2023. These charges totaled $6,560,835.

Starting in January 2022, the Commissioners tasked WSSC management with answering several specific questions regarding overall Cornerstone costs. At the direction of the Commissioners, WSSC ultimately conducted what was meant to be a retrospective compilation of total Cornerstone costs incurred to date, results of which were presented in a *Cornerstone Report* dated January 17, 2023.

The task of calculating total Cornerstone costs fell mainly to several senior managers in IT and Procurement who had become familiar with Cornerstone costs and budgets during their tenures at WSSC over the course of the project.

The managers initially compiled Cornerstone cost numbers not from WSSC's General Ledger (referenced above) but instead from WSSC's Procurement-to-Pay (P2P) system, from which they retrieved all purchase orders (POs) as well as all "releases" of funds for task orders under CPAs (Contract Purchase Agreements) and BPAs (Blanket Purchase Agreements) that had been paid to outside contractors and consultants who were known to have worked on Cornerstone.

To determine whether they might have missed any relevant purchase orders, the managers then checked these purchase orders against contractor payments that had been charged to the three Cornerstone job numbers in the General Ledger.

According to one of the managers, the problem with a methodology that would have relied exclusively on counting charges to the three Cornerstone job numbers as recorded in the General Ledger is that "it was not tracked properly" at the time the charges were made and "we may have applied the job numbers incorrectly on [some] POs." In many cases, according to IT and Procurement managers interviewed during the investigation and to emails and financial documents, contractors submitted what were (for want of a better word) "omnibus" invoices that bundled both Cornerstone and non-Cornerstone charges, without separately categorizing them. Similarly, some contractors provided services and/or software or equipment that in practice were used on or applied to both Cornerstone-related and non-Cornerstone projects or operations, both inside and outside of IT. Cornerstone-related charges on such invoices were not always disaggregated from the totals billed or allocated to a relevant Cornerstone job number. The foregoing means that some Cornerstone costs failed to be captured in the General Ledger's job numbers.

On the other hand, according to several IT managers we interviewed, some contractors and consultants mistakenly or improperly charged, or were instructed to charge work to the Cornerstone job numbers that the managers believed were not Cornerstone-related.

To calculate total Cornerstone costs, the IT and Procurement managers, together with staff in Customer Service, collaborated to review individual purchase orders dating back through fiscal year 2017 to determine what portion of them were attributable to Cornerstone. Based on their review and informed by their collective institutional knowledge of the underlying contracts, task orders and worked performed, they calculated percentages of costs of each purchase order attributable to Cornerstone. These percentages ranged from 3% to 100% and were in some cases, of necessity, estimates.

As one IT manager explained the process in an email to another IT manager and to a Procurement manager, "[b]ecause Purchase Orders and contracts covered vast areas within WSSC IT and were not all exclusively drawn up for Cornerstone, a lot of the calculations are subjective as we needed to take a best guess from our experience on the project." The manager added that, "[i]f an objective analysis was to be done, it would be reliant on accurately using the Job Number associated with the project. Because this did not happen, the only analysis that can ever happen is subjective."

For example, the IT manager also said that charges made under a staff augmentation contract to a Cornerstone job number were not counted because "those individuals were determined not to have worked on Cornerstone as the project was known and erroneously used the job number." The IT manager added that "[i]n fact, there were many instances uncovered where it was determined that the Cornerstone job numbers were used incorrectly."

In another example, the same manager added that "[a]llocations of the Oracle [software license] renewals [were] set at 20% counted against Cornerstone. This was due to the actual Purchase Order being not for just Cornerstone, but all Oracle items WSSC IT owns."

In a similar vein, the Procurement manager noted that one contractor's charge "was manually removed [from the Cornerstone tally], because the user department determined that the change order was not Cornerstone related."

For the reasons detailed above, the total Cornerstone costs presented in the *Cornerstone Report* differ from the total Cornerstone costs charged to the three job numbers and recorded in the General Ledger (which, as noted, were $90,427,166). The IT and Procurement managers identified a total of $112,395,357 in Cornerstone costs from fiscal year 2017 through fiscal year 2023 (exclusive of WSSC salaries and including budgeted instead of actual post-production costs for fiscal year 2023). In applying the considerations and criteria outlined above, the IT and Procurement managers identified a net amount of approximately $22 million more in total Cornerstone costs than would have been reported if they had relied on the General Ledger job numbers alone. Insofar as the outcome of their process identified significantly more in net Cornerstone costs than were to be found in the General Ledger, the methodology they used does not appear to reflect a systematic bias toward undercounting or understating overall Cornerstone costs.

Because the total costs presented by the *Cornerstone Report* differ from those in the General Ledger, the *Cornerstone Report*'s reported costs for each of Release 1, Release 2 and post-production also differ from those in the General Ledger, for some of the same reasons.

The table below demonstrates the investigation's best calculation of total Cornerstone costs to date. The table is a composite of information based on multiple sources, including: numerous interviews of and communications with managers in WSSC's IT, Accounting, and Procurement Divisions; review of summary spreadsheets and reports they produced at the investigators' direction; retrieval and review of individual contracts, purchase orders, task orders, invoices, and checks; and, a review of e-mail communications relating to Cornerstone costs and budgets over the life of the project. The investigation, however, is not an accounting audit.

Section	Cost
Pre- "Project Cornerstone" Costs	$2,195,154.24
Release 1	$39,838,756.35
Release 2	$15,803,376.13
Postproduction	$51,425,824.33
Forecast for FY 2023	$5,327,399.38
WSSC Salaries	$6,560,835.56
GRAND TOTAL	**$121,151,346.17**

As indicated above, there are subjective considerations as to what counts as Cornerstone costs and what does not. For example, WSSC management's reporting to the Commissioners on Cornerstone costs has not included WSSC employee salaries charged to Cornerstone. They are included in the table above as part of a comprehensive summary. For a similar reason the table includes certain "pre-Cornerstone" costs that were not included in previously reported totals.

The table also includes post-production costs. While WSSC's *Cornerstone Report* listed Cornerstone post-production costs, WSSC's executive management has stated that, "Post go live operating costs are normal in any enterprise level IT implementation for an organization the size of WSSC Water," and were "never considered or represented to be part of the project budget."

INVESTIGATIVE FINDINGS

Procurement

The investigation analyzed various issues related to how Cornerstone contracts were procured and whether they complied with WSSC procurement regulations.

Time Pressures on Project Cornerstone Led to Increased Risks

Although WSSC had already begun some work on a new billing system beginning in 2015, time pressures emerged in the spring of 2017. In March 2017, the Public Service Commission found that WSSC's rate structure was "unduly discriminatory among classes of customers and that it is unreasonable." It remanded the matter to WSSC "to develop reasonable rates." The order did not set a deadline for compliance.

The GCO advised the organization that the new rate structure needed to be implemented within two years—that is, by approximately March 2019—to mitigate risks of future litigation for noncompliance with the PSC's order. This determination became widely understood by WSSC managers and staff as a mandated date not to be questioned or altered. The development of a new rate structure for a large utility like WSSC is not a simple matter. WSSC began a complex "cost of service" study with outside consultants to identify rate structure alternatives to present to the Commission. Consistent with the two-year mandate, management informed the Commission that the new structure would be implemented by July 2019.

However, in the summer of 2017, management realized that the current billing system could not implement most of the proposed rate structures because it was outdated. Management admitted to the Commission at the September 2017 meeting that it "should have" realized these IT limitations sooner. The two-year deadline for the new rate structure was in serious jeopardy since it could not be made effective until the new billing system was implemented.

Although the two-year deadline does not appear to have been set or communicated in any single explicit or formal communication, management understood the urgency of this timeline. For example, at the August 2017 Commission meeting, management noted that the new customer care and billing system was needed to "support variable rate structure" and had a "25 month implementation" schedule. The Commission was informed that even a one-month delay in approval of contracts related to Cornerstone would "jeopardize" this schedule.

The reason for this time pressure and the associated possible litigation risks were understood organization-wide. For example, one reason given by the project team to use an exemption from the competitive procurement process was that "if the rate structure is not implemented on July 1, 2019, there will be significant legal ramifications at the Public Service Commission ('PSC') and/or in the Circuit Court."

The investigation found three problems with the two-year deadline delineated by GCO.

First, the deadline was too narrowly focused on *litigation* risk. While this is an appropriate risk to consider, it ignored the highly relevant cost and business risks associated with such an expedited deadline. A competitive procurement process is generally viewed as the most effective way to ensure that WSSC obtains goods and services from a qualified vendor at the lowest cost. However, competitive bidding at WSSC takes approximately eighteen months from start to finish. A two-year deadline for the entire project meant that it was effectively impossible to use the competitive bidding process for most Cornerstone contracts. Using non-competitive bidding increases the risk of higher costs. The deadline also did not account for the business risks associated with accelerating such a complex implementation process. The use of procurement exemptions led to considerable reliance on a single vendor, Oracle. The deadline increased the urgency to present contracts to the Commission as quickly as possible. As described in more detail below, this "hurry up" approach resulted in short time frames to review complex, multi-million-dollar contracts, which may have contributed to the organization's failure to detect extremely unfavorable language in an Oracle contract that contributed to an increase in cost and delay.

Second, along the same lines, the perceived need to fast-track Project Cornerstone led to governance shortcuts. The ESC was the governing body for Project Cornerstone. The ESC included participants from the Senior Leadership Team (including the GM and DGMs), IT, Procurement, Customer Service, Finance, Utility Services, and the project team. Although GCO was not included as a voting member of the ESC, it was aware of its existence and at times weighed in on contract matters related to Project Cornerstone.. It does not appear that GCO ever requested that it be included in the ESC formally. According to the Project Charter, the ESC had "the authority and responsibility to make all funding, resource and policy decisions to ensure the success of the project." The ESC should have been the entity to decide on the move from the CC&B solution to the C2M solution. The final minutes from the July 13, 2017 ESC meeting say that there was a "unanimous vote to move forward with Customer-2-Meter (C2M) planning." Despite these definitive statements about the outcome of a supposed ESC vote, the initial meeting minutes include the statement that "This is **not** to be considered the final vote for selecting C2M or CC&B v.2.6 for WSSC." The bolded emphasis was in the original minutes.

The person in charge of the minutes explained in an interview that they were instructed to remove the statement that it was "not" the final vote.

Following the July 13 meeting, a project manager explained in an email to a senior procurement employee that the ESC "gave us approval to move forward [with] a transition plan detailing budget and schedule with a move to Customer-2-Meter (C2M)." From that point forward, no one questioned whether the ESC had voted to move to C2M, including the fourteen participants in the meeting. Instead, the organization moved forward as though the ESC had approved the change. The ESC was the established governance check to ensure that the project "adhere[d] to WSSC decision and reporting protocol." The rush to complete the project within the deadline appears to have circumvented the ESC's governance function.

Third, there was insufficient communication among WSSC senior management, GCO, IT, and Procurement about the efficacy of the two-year deadline, particularly as these cost and business risks increased. The deadline was based on advice given by GCO. These key decision makers did not engage in meaningful discussion about the practicality of a two-year deadline before such deadline was publicly announced and effectively became set into stone. These key decision makers did not adequately communicate about the challenges created (or exacerbated) by the perceived need to move quickly as the project progressed. While there may have been a valid reason for setting the deadline, there should have been a cross-department analysis of whether this reason was sufficient to overcome the negative consequences of the deadline and to determine the best overall strategy to achieve the intended and necessary outcomes for the organization.

Exemptions

Project Cornerstone encompassed more than twenty contracts. About half of them were procured using an exemption to competitive bidding. The preferred method of procurement generally, and at WSSC, is competitive bidding as it is more likely to result in a qualified bidder providing the goods or services at the lowest cost.

As mentioned previously, the commission implemented Project Cornerstone under time pressure resulting from the PSC's March 2017 decision and the internal two-year deadline. This perceived time pressure led to the failure to use competitive bidding for most of Project Cornerstone's contracts. The competitive bidding process at WSSC takes approximately eighteen months. This means that a year and a half would elapse before the vendor even began work.

WSSC Procurement Regulations in place at the time provided for three main procurement exemptions: (1) sole source; (2) special procurements; and, (3) ten identified "exceptions," including for "standardized services." Procurement policy required the requester to justify the need for an exemption and approval by the Chief Procurement Officer. Requesters would invoke Project Cornerstone's time urgency as a reason for an exemption, and Procurement employees explained that they did not feel as though they could deny these requests.

Communications reveal that the project team assumed that Procurement would approve exemption requests. For example, in July 2017, project managers informed Procurement that the ESC had voted to recommend that the Commission must "hire" Oracle to implement C2M, assuming that some type of noncompetitive award would be made. The senior Procurement manager did not question this instruction or ask the project managers to first complete the written justification form for an evaluation. Instead, the manager noted the next day in an email to GCO that "it will not be a competitive process" as the ESC wanted to "select [Oracle] as a single source." GCO did not question this process.

Several Project Cornerstone contracts—in particular, the Oracle one that grew to $30 million—invoked the "standardized service" exemption, even though this exemption did not properly apply to these contracts. Procurement did not have policies in place to explain the application of this exemption, even though the language of the regulation was vague and there was known confusion over its application. The lack of compliance controls, combined with the organizational pressure to complete Project Cornerstone, led to its repeated, improper application.

In addition, the investigation revealed at least one example of a contract that was approved initially as an exemption because of its supposedly urgent nature as part of Project Cornerstone but later morphed. In this example, the consultant apparently finished its work on Project Cornerstone and then the requesting department sought to switch the consultant to non-Cornerstone work. When Procurement pushed back on the end-user to explain that changing the subject matter of the work was not permitted, the end-user objected. Ultimately, the contract was cancelled.

GCO Review of Contracts/ Legal Sufficiency

WSSC has a written policy that defines when and how contracts must be presented to the Commission for its approval. When a contract requires Commission approval, management prepares a two-page summary of the contract to present to the Commission, referred to as the "commission package." It includes an overview of the project and the contract; information about the contract such as its term, amount, and whether it is the result of a competitive or non-competitive process; the name of the vendor; and any history of change orders for the contract.

The commission package includes a signed certification from a Procurement employee that the contract is "fair, reasonable, and in the best interest of the Commission" and that "all applicable regulatory and statutory provisions were adhered to when determining [the] award." There is also a page devoted to signatures documenting "Committee Review and Approval," that requires the signature of senior leadership, including the head of the requesting department, the head of Procurement, the head of Office of Supplier Diversity Initiatives (OSDI), a deputy general manager, and the general manager.

The Commission has a long-standing written Standard Procedure that requires the GCO to review every contract for legal sufficiency unless it is a form contract. The purpose of the Standard Procedure is "to ensure that all contracts entered into by the [C]ommission are legally sufficient and in proper form" and "to ensure that all contracts are reviewed by the General Counsel's office for form and legal sufficiency prior to execution by the approving authority." Review by GCO "shall constitute a certification of the following:

> 1. The commission has the authority to enter into this contract.
>
> 2. The approving authority executing the contract is acting within his or her delegated authority.
>
> 3. Specific terms and conditions of the contract are within the legal authority of the commission.

> 4. There are no known legal impediments to the execution of this contract by the approving authority."

Three issues surrounding GCO review arose during the investigation.

First, even though there was a written policy requiring that GCO review every contract, the commission packages did not require a GCO signature certifying that the review had been completed until a Commissioner brought this oversight to GCO's attention in late 2017. The Commissioner asked why the commission packages did not include a signature certifying that GCO had reviewed the contract. Following this meeting, GCO included a signature box on each commission package going forward. It appears that until a Commissioner raised the issue, however, there was no procedure to ensure that GCO reviewed each contract. Interviewees reported that a former Procurement manager would bypass GCO review deliberately. There was at least one example of where a Project Cornerstone contract was apparently not reviewed by GCO, and this contract was signed by a person who did not have the authority to sign it but was nonetheless sent to the Commission for approval and approved.

Second, the narrow scope of the GCO contract review excludes analysis of whether the contract complies with procurement regulations. Documents and interviews of employees in Procurement and GCO confirmed that the legal sufficiency review does not include this analysis. One former Commissioner interviewed expressed surprise that GCO review did not include this analysis within its scope.

Third, documents revealed that the time pressure for Project Cornerstone meant that GCO conducted its legal sufficiency review of key contracts under severe time constraints. There was pressure to review contracts quickly so that they could be presented to the Commission at the next monthly meeting. This accelerated review may have led to a failure by GCO and other departments to identify language in at least one Oracle contract that created significant business risk to the organization. A GCO employee explained that if GCO identifies a business risk during a legal sufficiency review, then it will raise this concern to the requester. However, this analysis is not part of its standard legal sufficiency review process.

BOA/CATS

During the May 16, 2018 Commission meeting, the Commissioners approved Contract 1148 or the IT Consulting and Technical Services (CATS) contract. As detailed in its commission package (presented to the Commissioners during this meeting), CATS as written was a three-year contract with a base term expiring in June 2021 in the amount of $45 million, with a provision for a single two-year option to renew if exercised by the Commission. Serving as an encompassing contract vehicle through which the IT department could issue task orders and select from a pool of 32 "pre-qualified" vendors, CATS was designed to bolster efficiency and allow IT to obtain consistent and expedient resources as needed.

In mid-2021, WSSC officials requested to exercise the two-year extension on Contract 1148, as well as to issue a change order in the amount of $29 million "to cover existing and new task order requests during the option term." This change order increased the approval from the original $45 million to a total of $74 million. WSSC management presented the proposed change order to the Commission in April 2021, and on May 19, 2021, the Commission unanimously approved it as part of its approval of the consent calendar.

As originally envisioned, CATS, the foundations of which dated back to mid-2017 or earlier, represented a paradigm shift in how the IT department was to select vendors and award contracts. With CATS, WSSC sought to emulate the Prince George's County and Maryland state models by providing for the creation of a "flexible contract vehicle for obtaining consistent IT resources." Rather than completing a full competitive bidding process to fill each departmental need, IT could create task orders and issue awards to "pre-qualified vendors" at a "fixed hourly rate or fixed cost on a task order basis" for specific needs under a "master contract" for "managed services." Consistent with this, WSSC described CATS as an IDIQ (Indefinite Delivery, Indefinite Quantity) contract vehicle with "maximum value, flexibility, and a streamlined competitive mechanism," which would allow WSSC to obtain "IT resources quickly, efficiently and cost effectively." CATS, which also appeared to have been a supplier diversity initiative from the beginning, was an expedited procurement process created at the request of a senior IT manager.

In effect, CATS's emphasis on "streamlining" the IT procurement process appeared to give the IT department the latitude to choose from among a pool of pre-qualified vendors for specific tasks without obtaining full review from Procurement. It allowed IT to act as "its own evaluator" and bypass the procurement function. This streamlining potentially opened the task order award system to abuse. A top Procurement manager pointed out this deficiency early in the CATS vendor solicitation process, writing an IT manager in June 2017 that they had found "issues with the CATS solicitation resulting strictly from a lack of review… on the part of Procurement."

Later that month, the Procurement manager also told the IT manager that CATS task orders should be reviewed by Procurement before distribution and that even though vendors were "pre-qualified," Procurement would still have the "responsibility of insuring transparency and competitiveness in the issuance of the task." Perhaps notably, the Procurement manager also indicated in these emails that, in the past, IT had "inappropriately [issued task orders] without Procurement involvement, leaving the Commission vulnerable to questions about the transparency and competitiveness of the process."

According to an April 20, 2018 interoffice memorandum, WSSC advertised Solicitation 15566 (for CATS) on its supplier portal in late May 2017, for which it received several hundred proposals; the WSSC evaluation team finished its evaluations of these proposals by mid-January 2018. WSSC decided to "award 8-10 top vendors in each functional category," selecting a total of 32 vendors based on their "experience on similar projects, key personnel, project approach and SLMBE [Small, Local and Minority Business Enterprise Program] requirements." In early April 2018, OSDI approved these selections.

In an interview of a former WSSC procurement employee, they indicated that their team had originally identified 19 vendors for the award, although this number was later expanded to the final number of 32 vendors. WSSC communications surrounding the vendor selection process corroborate this point. By late February 2018, Procurement had identified "19 vendors with 8 of those vendors being MBE [Minority Business Enterprise] or SLBE [The Small Local Business Enterprise Program]" and suggested that an IT manager may have been behind a subsequent push to award more vendors. One of the companies that received the largest share of tasks under the CATS contract was not included on the original list of 19 vendors.

A Procurement manager later objected to CATS because they believed IT should have been competing the individual task orders rather than handing them out to vendors of their choice. The task orders were, at times, in the tens of millions of dollars. Per that manager, CATS had no defined scope of work and functioned instead as a "staff augmentation" mechanism for IT, contrary to the contract's original purpose.

As noted above, the CATS contract was presented to the Commissioners for a vote as part of its overall consent calendar, which covered a total of eight contracts on May 16, 2018. During the session, CATS was initially removed from the consent calendar for separate consideration, as WSSC management sought to amend it by removing the approximately $1.4 million award listed for each of the 32 identified vendors (an even split of the total contract value, $45 million, among all vendors) while maintaining the overall contract value. When Commissioners questioned why the initial award had included the $1.4 million limit per vendor, management attributed their inclusion to "administrative error" and explained that actual awards to individual vendors would be determined on a task order basis. The Commission subsequently approved the contract unanimously, as amended.

In practice, this amendment of CATS was quite significant. It allowed IT to award individual vendors any amount in task orders under CATS, as long the sum of the department's awards totaled $45 million or less. In addition, some if not most of the vendors could theoretically receive no awards at all. In fact, only a handful of vendors were ultimately awarded task orders under CATS. The vast majority of the contract dollars ended up going to only two vendors.

A Procurement manager reported that "IT got a customized delegation of authority in the vehicle of the CATS contract" and $45 million of delegated spending authority with, in effect, "no strings attached."

In June 2022, an IT manager stated in an email to a Procurement manager regarding IT staff augmentation that the IT department "rarely need[s] anything like Managed Services… which is why CATS has been such a failed vehicle… and I have been unable to leverage effectively."

Project Management

The investigation analyzed various issues related to Cornerstone's project management process. The findings of this analysis are summarized below.

System integrator

Problems stemming from WSSC's role as System Integrator (SI) on Cornerstone manifested early in the project's implementation and persisted throughout its course. The issue was identified early and, as detailed further below, reported to WSSC management as posing a serious risk to a successful implementation. This risk was reported even before WSSC entered into the C2M contract with Oracle in August 2017.

A system integrator is an independent person or company that identifies and compiles the components of a complex IT integration and ensures that those components work well together. This work is often completed on a fixed fee basis with defined project deliverables and set deadline for completion.

A WSSC IT manager reported in an interview that the SI role and its associated responsibilities was WSSC's "biggest" point of contention with Oracle and became an overarching problem with Cornerstone implementation. This interviewee explained that in large-scale IT projects, an SI may be hired and charged with ultimate responsibility for managing a project (including other contractors) and delivering a defined outcome to the customer for a set price. This manager said that if WSSC had hired an SI, or had put Oracle in this position, WSSC would have had "one throat to choke," meaning one outside party whom WSSC could have held accountable and from whom it could have demanded results and solutions to problems.

Similarly, a former senior WSSC IT manager said in an interview that using an SI "would have been a much better approach" for WSSC and would have helped manage costs. The problem, in this person's opinion, was that because C2M was so new, no company had SI experience with it. Only Oracle could have been the SI, and Oracle could not be induced to step up to that role. The former IT manager said that Oracle, based on its experience with such large implementations, knows exactly where they "get into trouble" and, as with the WSSC contract, drafts contracts to deliberately avoid such responsibilities.

Emails reveal that the IT department deliberately assumed the SI role in CC&B implementation, prior to its transition to C2M. Early in 2016, a contractor sent a strongly worded warning to WSSC executive management that in acting as its own SI, WSSC was taking on a "significantly higher amount of risk" than necessary. The IT department rebuffed the warning, reassuring WSSC's executive management that foregoing an outside SI allowed IT to "engage the best of breed consultants" under the oversight of its "separate, independent, and experienced project management team."

A June 2017 "Risk Register," however, identified the fact of "WSSC as system integrator with contractors filling many key roles" as having a "high" likelihood of having a "high" adverse impact on the project, in the areas of resource availability and quality. The Risk Register tasked management with mitigating the risk.

Despite these known concerns with WSSC taking on the SI role, it appears to have been largely an afterthought in WSSC's internal deliberations leading up to its C2M contract with Oracle. The above-referenced IT manager said during an interview that WSSC came to fully understand only after it had signed the C2M contract that WSSC, not Oracle, would act as SI. Contemporaneous documents corroborated these statements. This person reported that WSSC management had made "an assumption" that Oracle would act as SI, and "Oracle said, 'You can think that, but it's not in the contract.'" This IT manager added that, in contract documents, Oracle's representations to WSSC about what it would do involved careful use of the word "assist," promising only that Oracle would "assist" WSSC in achieving certain outcomes. The contract documents corroborate this point.

The IT manager indicated that in the absence of contractually designated and defined SI responsibilities and deliverables – as was the case with the WSSC's C2M and WAM/MWM contracts – there is room for disagreement between customer and contractor over who is responsible for certain tasks, responsibilities and deliverables that could be construed as falling under an SI purview. The result was that WSSC management had "expectations" of Oracle that Oracle declined to meet. The manager said that Oracle repeatedly "pawned off" tasks or responsibilities onto WSSC that "we were clearly not in the business of doing – we're a water utility." WSSC had no meaningful recourse, given the unfavorably vague contract terms to which it had agreed.

The IT manager said (and email communications confirm) that disagreement between WSSC management and Oracle over their respective responsibilities for the SI role developed into a "contentious issue" between the two parties, up to the executive level. The IT manager said that WSSC "fought it for a while," but in the end, "[w]e became the SI."

As late as July 2018, nearly a year after the Oracle contract had been executed, a member of Cornerstone's Program Management Office admonished Oracle in advance of Oracle's planned upcoming meeting with WSSC's executive management that, "[t]here is real concern about Oracle's use of the word SI as WSSC's role."

A former senior IT manager explained that while Oracle was "on the hook for delivery of the system itself," the system Oracle delivered "didn't meet WSSC's needs" because it lacked functionality to perform "key activities" that WSSC required in its normal course of operations. Getting the system to meet its needs required extensive "specific configuration," a responsibility that fell to WSSC. What led to this situation was that the contract "didn't adequately define what a working product was."

As part of a draft Cornerstone "autopsy" review in mid-2019, a WSSC executive-level manager identified the absence of an outside system integrator as a major contributing factor to Cornerstone's problems.

The draft autopsy stated that:

> WSSC chose to manage project implementation and delivery themselves rather than select a consulting firm, a System Integrator (SI), that would have been responsible, on a fixed price basis, for delivery of Project Cornerstone. This decision was made to be able to select the best IT talent available rather than be limited to the skill sets available to the SI. The problem with this rationale is that it put the burden for project success on WSSC that had limited experience with billing and asset management system implementation. Further, this decision complicated project management for WSSC as we then had the responsibility for managing multiple (sometimes competing) consulting firms rather than hold[ing] one firm responsible for project success.

Oracle Dominance

Oracle provided both the software solutions (including C2M and WAM) and a substantial part of the professional services that were part of Project Cornerstone. WSSC has used Oracle software for many years for solutions other than billing software, so much so that there is a widespread perspective within the organization that WSSC is an "Oracle shop."

The investigation revealed that Oracle had a heavy—and, at times, dominating—influence over the project and that WSSC did not adequately resist this influence.

WSSC began the process to change its billing system in 2015 to Oracle CC&B software. In February 2017, several WSSC employees attended a conference in February 2017 where Oracle debuted a new software solution called Customer-2-Meter or C2M. They were intrigued by C2M, noting to colleagues that "we definitely want to use/build out MDM [Meter Data Management] as it will be the upgrade path in [CC&B] v2.6, which will combine CC&B and MDM, which Oracle has termed Customer-2-Meter (C2M)."

The choice to move to C2M was driven in part by a belief that it would be the fastest and least expensive path to Advanced Metering Infrastructure (AMI). Apart from Oracle's sales pitch to this effect, neither witnesses nor documents provided any evidence to support this conclusion. Nonetheless, the project managers seemed to quickly adopt this sales pitch as fact.

Oracle representatives attended the ESC meetings, although they were excused when the ESC discussed its internal decisions. Nonetheless, several witnesses recounted their perception that Oracle dominated the meetings by talking over WSSC people and because Oracle was the perceived expert on C2M. The project managers improperly permitted Oracle to influence the ESC's decisions. In particular, a project manager permitted Oracle to draft part of the slide deck to be presented to the ESC at its July 2017 meeting, during which the committee planned to decide whether to adopt the older CC&B software or the new C2M software. The language drafted by Oracle was, unsurprisingly, narrowly supportive of the move to C2M. Interestingly, although Oracle would convince WSSC that it needed to use Oracle's professional services to implement C2M because the software was new, Oracle drafted language for the ESC presentation that "while the offering [C2M] is new to the utility market, the projects are not and have been running successfully for utilities around the world since 2007."

The alternative technical analysis, the Pivot Analysis, recommended selecting CC&B v2.6 rather than C2M. The Pivot Analysis concluded that "C2M introduces significant risks without commensurate benefits for a water/wastewater utility." It suggested implementing CC&B v.2.6 now and upgrading to C2M later. The Pivot Analysis was not shared with all members of the ESC, nor did management explain this alternative analysis when it presented the Commission with its recommendation to choose C2M.

After selecting C2M, WSSC subsequently negotiated with Oracle to provide the professional services to implement it. No one pushed internally to require a competitive procurement process; instead, the initial $9 million contract with Oracle was approved under the "standardized goods and services" procurement exemption, even though the contract did not fit this exemption.

A senior Procurement manager identified the need to be careful when negotiating the professional services contract with Oracle, suggesting that WSSC "should [e]nsure our terms and conditions are included." They went on to note that, "[t]here is the potential for finger pointing with this project based on the approach and I would want to make sure Oracle is on the hook to be accountable for delivery."

The organization apparently ignored this warning. Instead, Oracle drafted the contract, sending the first draft to WSSC on July 27, 2017. The draft scope of work included language that defined Oracle's role, stating that "Oracle will provide the following Services" and then listing "Oracle Services" and "Your [WSSC] Obligations." The project manager sent the contract for GCO review but because of the upcoming Commission meeting, GCO had only a few days to review it. The Commission meeting was scheduled for August 16, and commission packages were usually due at least a week before the meeting.

After some back and forth between WSSC and Oracle over other language in the contract, Oracle sent back to WSSC a new version on August 11. The cover email from Oracle does not highlight the major change in contract language nor did Oracle send a redline version of the contract. However, this new version changed the language from "Oracle ***will provide*** the following Services" to "Oracle ***will assist You*** with the following Services." In other words, Oracle changed the key contract language that defined Oracle's deliverables and WSSC's deliverables—effectively removing Oracle's responsibility to provide any defined deliverables.

This new contract language was reviewed by employees in Procurement, IT, and GCO, yet no one noticed or pushed back this substantial change in contractual obligations. WSSC signed the contract. The lack of clearly defined roles for Oracle and WSSC led to problems down the road. Procurement, GCO, and IT employees explained that the vague contract language led to disputes with Oracle during the project. Because WSSC could not hold Oracle to a firm deadline or deliverables, WSSC had to handle more work itself. It had no negotiating leverage against Oracle. As one Procurement employee explained, "an open-ended contract engagement at Oracle's rates and lacking deliverables is asking for an F in Procurement 101." A former senior Procurement manager described it a few months later to members of the senior leadership team as "a horrible contract" because "our deliverables in it far exceed [Oracle's]."

Overall, WSSC approved $30 million in professional services contracts to Oracle, plus millions of dollars in software costs. Instead of negotiating a fixed fee for defined work to be completed by a set date, WSSC permitted Oracle to draft contract language that gave every advantage to Oracle.

Oracle declined to make any of its current employees available for an interview with the investigative team.

Red Flags Ignored

WSSC's senior leadership was presented with several early "red flags" that accurately foreshadowed the problems they would face with Project Cornerstone.

System Integrator Role

One of the first red flags came on February 4, 2016, when an executive of an IT vendor to WSSC – wrote a strongly worded e-mail to senior management to express their concern that in implementing Oracle's new CC&B billing product, WSSC:

> may be taking on a significantly higher amount of risk for this project than is necessary. Project failures on CIS [Customer Information Systems] replacement projects of this sort are quite common and cost overruns can run in the millions of dollars when projects are not executed properly.

The executive continued:

> WSSC has decided on an implementation strategy and approach that is unconventional and has virtually no history of success over the last twenty-five years, [and added that;] "WSSC's strategy relies on staffing the project using ad-hoc resources from several vendors versus the conventional approach that leans on a system integrator (s) with a track record of success that can leverage proven,

> battle tested, exercised, repeatable processes and templates. It is possible that WSSC can be successful with this unconventional approach but I am skeptical.

The executive's email was forwarded to a senior IT officer, who rebutted the executive's assessment and reassured senior leadership that:

> WSSC's approach is [to] engage the best of breed consultants from a competitive pool of contractors under the oversight of a separate, independent, and experienced project management team, [and that]…our approach has been to develop a system proof of concept (POC) to mitigate risk during implementation and system transition [which they claimed had] progressed very smoothly and many of the key technical issues have been identified, analyzed, and, in most cases, we have a clear path to the solutions.

The IT vendor executive's warnings were correct. The autopsy report drafted after the cancelation of Release 2 in August 2019 included the point that WSSC chose to manage project implementation itself rather than select an outside system integrator that would have been responsible for delivering Cornerstone on a fixed-price basis. This put the burden for success on WSSC which had limited experience in this area, which led to, "consultants and other vendors not being held accountable for failing to meet their own deadlines and other terms of their contracts," among other issues.

Oracle Contract

A leader in the procurement department also gave an early warning to the project team, before WSSC entered in the first sole source contract with Oracle. The Procurement manager wrote, "given that this work is Professional Services, I believe we should [e]nsure our terms and Conditions are included. There is the potential for finger pointing with this project based on the approach and I would want to make sure Oracle is on the hook to be accountable for delivery."

Almost a year later, the same Procurement manager, who was conflicted out of helping WSSC negotiate the Oracle contract, was asked to assess the executed contract when problems surfaced. In an email they wrote, "I've gone through it… This is a horrible contract and our deliverables in it far exceed theirs."

Project Manager Observations

In December of 2017, one of the consultant senior managers on the project drafted an outline titled "Observations Regarding Project Cornerstone" and shared it with their counterpart, a senior project manager for WSSC. The outline included the following observations: "Governance process is broken," "People are being underutilized," "Conflicting direction as to whether MWM/WAM project will go forward," "Too much talk too little action," "Too many people doing the same thing," and "There needs to be a rationalization of where WSSC is going with technology and where/how project fit together."

It does not appear the senior project manager shared the critical observations with the larger project team. Several months later, both the consultant and senior project manager were relieved of their positions.

Travel expenses

In February 2017, as WSSC launched implementation of Cornerstone, it issued to contractors and consultants the "WSSC CC&B Program Management Office (PMO) Ground Rules," which communicated WSSC's guidelines, policies, and caps on reimbursement of contractors and consultants for travel costs incurred while working on Cornerstone (among other rules and policies). This document, also referred to as the "Welcome Kit and Ground Rules," was drafted primarily by an outside consultant with a project management role in Cornerstone. A second, more senior outside consultant employed by the same contractor in a Cornerstone program management capacity assisted in the drafting process. The outside consultant who was the primary author was subject to the policy they drafted and later submitted expense reimbursement requests under the policy.

The newly drafted Ground Rules instructed consultants to "select the most economically logical airfare" and stated that "round trip air travel shall not exceed $750.00 per week" without approval from managers. A draft of the Ground Rules called for approval by the primary author of airfares over $750, and of the secondary author of airfares over $1,200. A WSSC manager revised the draft to designate two WSSC Cornerstone managers as the primary approvers of airfares over $750 but retained the two consultants as alternate approvers.

While the Ground Rules stated further that consultants must "make every effort to control air travel expenses" they did not specifically prohibit first-class air travel. In failing to do so, the Ground Rules differed from a pre-existing WSSC IT Travel Policy document which specified that domestic travel must be booked as coach or economy class and limited in cost to $600.

The draft Ground Rules also provided consultants with a $65 per diem for non-travel days, which the WSSC manager edited to reduce to $55. Some seven months later, the per diem allowances came to the attention of a senior WSSC IT manager who evidently had not been aware of them previously, and who in a communication to a WSSC executive, questioned the "justification for paying for meals for consultants that are already making more than the [General Manager] in some cases.

In response to their inquiries, the WSSC executive was advised that while the IT Travel Policy provided "guidance" on per diems, it was "never vetted" and "discontinued," and the senior IT manager was told that work on a new travel policy for consultants was "underway." The senior IT manager responded that, "[w]e need to put a policy in place ASAP because our spending is out of control" and that, "[r]ight now we have no way to account for them." The senior manager also asked whether it was "customary to have consultants approving travel expenses," to which a WSSC subordinate replied that this was not customary, "especially not in this case because [the consultant] would be approving expenses from consultants from the firm they work with to include his wife." The senior IT manager replied, "[i]n that case, we really need to modify it," referring to the Ground Rules then in place.

The following month, the senior IT manager was informed that the consultant who had drafted the Ground Rules had submitted first-class flights for reimbursement. The senior manager wrote to WSSC executive management, the GCO, and Procurement saying, "I think it's ridiculous that [the consultant is] flying first class while I scramble to figure out how I'm going to pay software maintenance for FY18 because project spending is out of control." A senior Procurement manager replied that the current guidelines were being reevaluated and concluded that anyone billing first-class flights for "normal business operations" exhibited "a blatant disregard for costs and should be reprimanded accordingly."

The senior IT manager confronted the consultant about billing first-class flight and informed them that WSSC's travel policy included a "clear statement regarding economical trip selections for airfare." The senior IT manager said that they would approve the consultant's expenses but advised them to "to align with expectations moving forward."

Shortly thereafter, the consultant's employer wrote to the consultant that, "WSSC conducted an audit of all your reimbursable expenses for 2017. They discovered twenty-one (21) First-Class tickets for which WSSC provided $14,205.82 in reimbursement. WSSC advised that each instance is a violation of policy, and that no member of your project leadership approved or was aware of these exceptions. Understandably, WSSC is not pleased."

In November 2017, WSSC terminated the consultant, and issued an updated version of the guidelines to only allow economy class flights and total weekly flights up to $700 per week. (The consultant who had been terminated later claimed to a colleague to have "volunteered to pay WSSC for the airfare differences" between what was submitted and what was within WSSC policy.)

In a February 2022 report to the Commissioners addressing Project Cornerstone travel costs, IT reported that consultant travel costs to date on Project Cornerstone totaled $5,754,348 which included travel expenses for flights, car rental, lodging, and per diems.

Transparency to Commissioners

WSSC's governing body is made up of six part-time Commissioners. Each Commissioner serves a four-year term. The Corporate Secretary is the only full-time employee for the Commission. The Commissioners do not have any other staff support, although they can request information from management or from GCO. The Commission meets monthly at a public meeting and may also meet in closed session under certain circumstances. An agenda controls the topics discussed during the meeting, and management will present the issues to the Commissioners for discussion and their vote. The meetings last several hours.

Because of the complexity and breadth of issues they must address, the Commissioners rely on management to provide information relevant to their votes and to answer their questions accurately and completely. Unlike commissioners at large in federal agencies, who are full-time employees, and have devoted staff support not beholden to management, the Commissioners have a very limited ability to independently investigate matters.

Relevant here, the Commission voted on several contracts related to Project Cornerstone, beginning in 2015. During the Commission meetings about these contracts, various members of management or consultants presented information to the Commissioners to inform their votes. The investigation revealed that, at times, management was not entirely transparent with the commissioners about key issues.

Information Presented in a Piecemeal Fashion.

At the August 2017 meeting, management presented its recommendations that the Commission select C2M as the software solution and award a non-competitive contract to Oracle to provide the professional services to implement it. During that meeting, management asked the Commissioners to vote on a $9 million contract to Oracle. The Commission voted unanimously to approve the contract.

At the time of this meeting, management was aware of significant additional project costs that would soon require Commission approval: (a) a change order to the Oracle contract for about $12 million for additional work; (b) the need to purchase service-oriented architecture software from Oracle for about $2.4 million; and (c) upcoming Oracle software renewal costs, which ended up costing about $2 million.

Management, however, did not inform the Commissioners about these future costs at the August 2017 meeting, which prevented the Commissioners from understanding the true size of the project when they voted on the first Oracle contract.

At the September 2017 meeting, management presented the $12 million change order to the Oracle contract. Commissioners asked why this contract was not presented at the meeting a month earlier. Management's answers were vague, responding that it was a "timing" issue and that "we weren't ready to bring this forward to the Commission last month." According to a member of the senior leadership team, waiting even a month to present both contracts together would "jeopardize" the schedule to complete the implementation on time. The Commission ultimately approved the change order by a 4-2 vote.

Even though management may not have been ready to present the change order to the Commission in August 2017, the investigation did not reveal any reason why management did not at least inform the Commissioners that a $12 million change order would be presented to them the following month. Instead, management chose to present the information in a piecemeal fashion. For their part, the Commissioners did inquire in September about why this change order had not been presented in August. Most Commissioners accepted the explanation provided and did not inquire about the overall budget for the project.

An October 2017 email from a senior IT manager reveals management's hesitancy to keep asking the Commission for funds for the project. In response to emails about the need to ask the Commission for authority to spend about $2 million on software renewals, the senior manager responded, "after last month's Commission meeting, I really do NOT want to go back to them to ask for more money."

Information about C2M Risks Withheld from Commissioners

WSSC consultants researched and drafted a "Pivot Analysis" to evaluate the various software options (CC&B v.2.5, CC&B v.2.6 and C2M). The final version was completed in July 2017. It recommended selecting CC&B v.2.6 rather than C2M. The Pivot Analysis concluded that "C2M introduces significant risks without commensurate benefits for a water/wastewater utility." It suggested implementing CC&B (version 2.6) now and upgrading to C2M later.

When management explained to the Commission why it recommended the selection of C2M, it did not note that this analysis existed or that it reached a different conclusion. (Given the technical nature of the Pivot Analysis, it would be unusual to provide such a document to the Commissioners.) A senior IT manager did inform the Commissioners that C2M was "very new" and "very few people" had used it. It noted that "four other major implementations going on right now," including Exelon, and noted that "no one has put this into production just yet." The focus of the recommendation was that C2M was the solution that could be used to implement AMI the fastest.

Management did not explain some of the key risk identified in the Pivot Analysis of choosing C2M, including:

- "C2M is only advisable if WSSC fully intends on going to the smart meters" and planned to deploy them "in the near term," which it defined as being prior to "2020 or thereabouts"; otherwise, "there is no return on the additional time, expense and risk we will be undertaking."
- C2M "was determined to be the highest risk for meeting the goals and objectives of the project, schedule and budget."
- C2M "is suited for large electric and gas distribution utilities who already have, or are currently implementing, an automated metering infrastructure," unlike WSSC.
- "The amount of work [adoption of C2M] could add to the implementation schedule is presently unknown because no other water utility has implemented or planned to implement C2M."
- C2M would mean that Oracle would play a large role in the implementation because a "great deal of knowledge transfer and training from Oracle would also be required to understand the new layout of C2M" and "early adopters [such as WSSC] can expect extensive product bugs and defects to manage during configuration and testing, and a more active role played by Oracle."
- A C2M implementation created "significant schedule impacts and delivery risks" including adding a year to the project, increasing its cost commensurately, that it would, "insert a lot of distractions from the primary goal of this project which is to improve customer service."
- A C2M implementation "introduces significant risks without commensurate benefits for a water/wastewater utility," and was "more than a technical exercise" because it also that WSSC undergo "some profound operational and business changes."

Although one would not expect the Commissioners to delve into the details of the decision to move to C2M, the failure of management to identify this alternative analysis and some of the risk factors involved in the choice reveals a lack of transparency to WSSC's governing body.

Other Examples of Lack of Transparency

There are other examples of management not providing all relevant information to the Commissioners.

Management did not inform the Commissioners that the project budget presented to them did not include substantial post-implementation costs. Several witnesses explained that standard project management concepts view a "project" as complete when it has been implemented, so costs beyond the go-live date would not be considered project costs. Contemporaneous documents confirm that view. For example, in a November 2018 Executive Financial Review, the budget is listed as $53 million and notes the "assumption" that "[p]ost production support is not accounted for in this analysis." A May 2019 document explains that the "budget for Project Cornerstone only included money to implement and support the technology component and ONLY through stabilization. After stabilization, a project is formally handed off to operations and begins to impact that set of resources, while the project team members depart or go on to the next project."

Management informed the Commission that the move to WAM was necessary to implement C2M although it is not clear how the project managers came to this understanding. In the commission package for the $12 million change order to the Oracle contract in September 2017 to implement WAM, management explained that "this integration is required for C2M to function properly." During the public meeting, it added that for C2M to have the "pieces in place to support AMI going forward," it would "require an upgrade of WAM." A senior Oracle employee spoke at the meeting as well and did not correct these statements. At least by spring 2018, however, senior management knew that WAM was not necessary to implement C2M yet did not inform the Commission of this new information. Given that WSSC cancelled the WAM implementation in late 2019 and continues to use C2M today, it seems that WAM was not necessary for C2M to "function properly" for WSSC's purposes.

Early in the project, a key consulting company left the project. At the August 2017 meeting, a Commissioner asked why the company left the project, leading to the termination of its contract. A senior IT manager responded that the company had "opted not to move forward with us" and "simply pulled out their resources from WSSC to move to the new contract." The IT manager did not disclose complete information to the Commissioners about the reasons given by the company for leaving the project. In fact, the president of the company had written multiple communications explaining their concerns with the project, including:

- An "inability to communicate directly with WSSC to remediate or resolve project issues or concerns."
- WSSC's mandate that consultants travel every week to work on-site on the project, which risked those consultants leaving the company.
- Its perception that project managers "were allowed to fill lead project roles and recruit and fill positions across the project with resources that had questionable qualifications."
- WSSC's failure to use a system integrator and instead fill the role itself, which was an approach "that is unconventional and has virtually no history of success over the last twenty-five years."

At the July 17, 2019 meeting, management told the Commissioners that the ESC was considering "options" for WAM. Management did not say that cancelling WAM was an "option" under consideration. Yet the evidence shows that the ESC voted the very next day to cancel WAM.

At the December 2017 Commission meeting, a Commissioner asked a senior IT manager about the approach used to select software solutions, expressing a "concern" that "we not be locked in a relationship with Oracle that precludes us from getting the best and most competitive price." The manager responded that the IT department uses a "best of breed" approach and that they always look "across the board" at possible solutions. No witness or evidence suggests that the organization looked "across the board" at software solutions for the project. Instead, the organization selected Oracle without any competitive process to consider other software companies' solutions.

Conclusion

Within any organization that is governed by a board or commission, there is a tension between full transparency and established principles of corporate governance. In general, an organization's governing body is not meant to be "in the weeds" on every issue or to manage day-to-day operations. That is the role of management. The Commission's role is to *govern*. But the investigation revealed that the Commissioners did not learn about facts related to Project Cornerstone that were likely relevant to their votes on various multi-million-dollar contracts. Instead, management—including the senior leadership team—chose to withhold certain information from them. The investigation, however, did not discover evidence that management made these choices for a corrupt or improper reason. Instead, the evidence suggests a desire to complete an important project within a very short timeline and avoid delays. Expediency frequently trumped transparency.