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**CPS ENERGY
AUDIT SERVICES DIVISION**

**Report to the Board of Trustees
RE:**

**Special Investigation
Regarding
STP 3&4 Cost Estimate Information**

November 23, 2009

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Background and Objective

On October 27, 2009, San Antonio Mayor Julian Castro called a press conference with CPS Energy's Interim General Manager, Steve Bartley, to announce that the preliminary cost estimate for constructing STP Units 3 & 4 had increased to \$12 billion, an increase of \$4 billion from the amount publicly announced by CPS Energy in late June 2009. Due to this significantly higher cost estimate, the Mayor and the Interim General Manager agreed to postpone the planned October 29 vote of City Council to authorize a \$400 million bond issuance in support of the nuclear expansion.

On October 30, 2009, the CPS Energy Board of Trustees (the "Board") requested that the CPS Energy Chief Audit & Ethics Officer, Helen Madison, immediately begin an investigation as to why CPS Energy management had not advised the Board that the preliminary cost estimate had increased to \$12 billion. The investigation began the next day, Saturday, October 31, 2009. As requested by the Board, the objective of the investigation was to answer the following questions:

- *Who knew what information, by when, and who did they inform?*
- *Was there malicious intent to withhold information?*
- *Was there a failure to exercise prudent judgment and/or a failure to communicate in a timely manner?*
- *Did the individuals understand their roles and accountabilities?*

In addition to Ms. Madison, the investigation team included CPS Energy Audit Managers Lillian De Luna and Trena Wiseman. Ms. Madison also engaged Robert Bettac, a local employment attorney from the San Antonio office of Ogletree, Deakins, Nash, Smoak & Stewart for assistance and advice in conducting the investigation.

Scope and Investigative Approach

The scope of the investigation included review of several hundred e-mails, meeting notes, Board resolutions, contracts, presentations, and other documents and communications regarding STP Units 3 & 4. In addition, the investigation team conducted interviews of numerous individuals, as listed on page 2. From this information, the investigation team constructed a timeline of events, which is included as **Exhibit A**.

Following are the individuals who were interviewed during the investigation. Most are CPS Energy employees, unless otherwise noted in parentheses following the individual's job title.

<u>Name</u>	<u>Job Title</u>
Steve Bartley	Interim General Manager & CEO
Larry Blaylock	Director, Nuclear Oversight & Development
Julian Castro	Mayor (City of San Antonio) and CPS Energy Board member
Bob Coward	STP Units 3 & 4 Project Team Lead (STPNOC)
Paula Gold-Williams	Executive Vice President & Chief Financial Officer
Robbie Greenblum	Chief of Staff to the Mayor (City Of San Antonio)
L.D. Hollingsworth	Chief Risk Officer
David Jungman	Senior Director, Finance
Mike Kotara	Executive Vice President, Energy Development
Jelynn LeBlanc-Burley	Senior Vice President & Chief Administrative Officer
Milton Lee	General Manager & CEO
John Moore	Executive Vice President, Energy Delivery Services
Jim Nestrta	Vice President, Power Plant Construction and Nuclear Oversight
Kevin Pollo	Manager, Nuclear Oversight
Kevin Richards	Senior Vice President & Assistant to the CEO, formerly STP Units 3 & 4 Project Team Lead (STPNOC)
Bob Temple	Deputy General Counsel; Secretary to the Board; and Vice President, Nuclear Development

Summary of Evidence

Below is a detailed narrative of the significant events outlined in the timeline.

2007 Indicative Estimate

In June 2006 NRG Energy ("NRG"), one of CPS Energy's partners in STP Units 1 & 2, announced their intention to construct STP Units 3 & 4. Subsequently, in 2007, NRG began negotiations with Toshiba Corporation ("Toshiba") to become the primary contractor for STP Units 3 & 4. On September 26, 2007, Toshiba sent to STP Nuclear Operating Company ("STPNOC"), which was and is acting as agent for the "Owners" (CPS Energy and NRG), its initial "indicative" estimate of the cost of the project. The initial indicative estimate was based on the results of a study prepared for a proposed Tennessee Valley Authority ("TVA") nuclear plant that was to have been the same design as proposed for STP Units 3 & 4. The TVA "Bellafonte Study" was conducted in 2005 and included very detailed costing. Toshiba provided to STPNOC a "modified" indicative estimate in November 2007 of \$8.5 billion. STPNOC then analyzed Toshiba's estimate and determined that \$8.1 billion was a more realistic number for STP Units 3 & 4, taking into account differences in the two plant sites and other variables. This estimate of \$8.1 billion was provided to the Owners by STPNOC in late November 2007, as a preliminary estimated construction cost.

The Board's Disclosure Directive

On October 29, 2007, the Board approved \$206 million in funding for the "development" of STP Units 3 & 4. Additional funding was approved in 2008 and 2009, making the total approved funding to date \$376 million. The October 29, 2007 Board resolution provided the following:

We direct CPS Energy management to report back to the Board frequently during the nuclear development process on the results of its continuing public process, the status of its negotiations of significant contracts, its development of project cost estimates, its development of project financing alternatives, its projection of rate impacts associated with construction of new baseload generation, its identification of risks and challenges for the project and its continuing validation of assumptions that led to the conclusion that nuclear generation represents the best choice among the alternatives for new baseload generation.

Applications for DOE Loan Guarantees

On May 2, 2008, NRG, in partnership with Toshiba, formed Nuclear Innovation North America LLC ("NINA")--NRG owns 88% of NINA; Toshiba owns the other 12%. The current ownership interest in STP Units 3 & 4 is divided equally at 50% each between CPS Energy and NINA.

On September 26, 2008, both CPS Energy and NINA applied to the U.S. Department of Energy (DOE) for loan guarantees which were being offered to encourage new nuclear development. A comparison of the applications reveals that NINA's estimate was \$7.85 billion, and CPS Energy's estimate \$7.91 billion. NINA's application presented four ownership percentages of STP Units 3 & 4, including 100% ownership by itself. CPS Energy's application indicated only equal ownership for each partner.

Toshiba's Withholds 2008 Estimate

On October 28, 2008, John Bates of NINA sent an e-mail (**Exhibit B**) to Jim Nestrta stating that:

Toshiba's senior management is under the expectation that an estimate must be delivered the week of November 3rd to the Owners.... [T]here needs to be a significant amount of effort [by Toshiba] with respect to developing an accurate [2008] estimate that takes the following into account:

- The significant reductions in commodity pricing and overall global slowdown we are currently experiencing. Material and equipment pricing is probably at or below our overnight estimate of November 2007, offset somewhat by the strength of the Yen....
- Full benefit of modularization of the project....
- A full and detailed review of the specifications on changes that could be made to reduce capital cost.

After having the opportunity to review the estimate we will then schedule a series of review sessions....

I believe the approach is absolutely critical for CPS and NINA to get an estimate that we can base future decision[s] on and submitting an estimate November 2nd will not reflect the current market conditions nor our desire for a complete specification review. Quality is far more important than schedule on this effort....

that we can base future decision[s] on and submitting an estimate November 2nd

Toshiba had been preparing a Preliminary Estimate intended for release in September 2008; however, the Owners requested that Toshiba take into account the recent steep declines in the worldwide economy before providing a 2008 Preliminary Estimate. Toshiba responded that such re-work would be too resource consuming and they decided to instead defer a re-calculation until 2009. Subsequently, on July 15, 2009, Toshiba disclosed their draft 2008 Preliminary Estimate of \$12.67 billion to STPNOC in a PowerPoint presentation. (See section below titled **CPS Energy's 2009 Estimate**.)

EPC Agreement

On February 24, 2009, STPNOC as Agent for the "Owners" (CPS Energy and NINA, specifically NINA Texas 3 LLC and NINA Texas 4 LLC) and Toshiba as Contractor entered into the "South Texas Project Units 3 & 4 Master Engineering, Procurement & Construction (EPC) Agreement." The EPC Agreement represented a major milestone in the development of STP Units 3 & 4. A project of this magnitude carries substantial inherent financial risk for all contracting parties. The Owners, on the one hand, would prefer that the contractor guarantee a firm fixed price. The contractor (Toshiba), on the other hand, cannot be expected to guarantee a fixed price, due to the constant fluctuation of all cost variables such as materials, equipment and labor, as well as the 7 to 8 year length of the project--unless it includes Higher than usual contingency and other fees which would unreasonably inflate the total cost. The EPC Agreement seeks to control the risk to which both the Owners and Toshiba will be exposed. To achieve this, the parties agreed to negotiate the pricing methodology they will use for determining all substantial costs associated with the project.

Under the EPC Agreement, the negotiation of the pricing methodology with Toshiba is to be completed by December 31, 2009. Establishing a negotiated pricing methodology, per the EPC Agreement, in 2009 Using this agreed methodology, moreover, Toshiba is also required to notify the Owners of its Preliminary Estimate of the cost of the project by December 31, 2009. Thereafter, under the EPC Agreement Toshiba is required to update the Preliminary Estimate annually until licensing of the reactors is obtained from the Nuclear Regulatory Commission, which is expected to occur in 2012. The EPC Agreement further provides that, shortly after licensing, Toshiba will furnish the Owners a fixed price for the project. The price will be "fixed" to the extent that the Owners will be protected against major fluctuations in the cost of materials, equipment, labor, etc. These provisions of the EPC Agreement figure prominently in the discussion that follows.

Also of note, exploration of the pricing methodology led to the creation of the Cost Optimization Team in March 2009, to review technical specifications. And, in October 2009, a separate Innovation and Cost Reduction Team (ICRT), which includes some 24 cost reduction sub-teams, was created to review each line item of any cost proposal presented by Toshiba or Fluor.

CPS Energy's 2009 Estimate

Because of Toshiba's decision not to submit their draft 2008 Preliminary Estimate to the Owners, in the May-June 2009 timeframe CPS Energy took two measures to create an updated cost estimate of its own. First, it created an updated estimate of construction costs by escalating (adjusting for market changes) the indicative estimate provided in 2007 by STPNOC (based on Toshiba's estimate). Next, CPS Energy compared its updated estimate to a modeling estimate created by consulting firm Sargent & Lundy; the primary purpose of both estimates was for comparison of nuclear to alternative types of electric generation sources (coal, gas, renewables). CPS Energy's internal estimate was virtually the same as Sargent & Lundy's modeling estimate—a cost of \$10 billion *excluding* financing costs. This estimate was substantially higher than the cost

estimate announced by NRG/NINA on June 5, 2009, which was \$10 billion *including* financing costs.

Mixed Signals from Toshiba

Less than two weeks later, however, specifically on June 16, 2009, Kei Nishida of Toshiba sent an e-mail to Bob Temple and David Jungman (see **Exhibit C**) advising that Toshiba could not endorse CPS Energy's \$10 billion figure; and that Toshiba's Preliminary Estimate may be higher. The next day, June 17, 2009, Kevin Richards of STPNOC informed Nestrsta and Bates (NINA) by e-mail that Toshiba would not sign a contract with construction firm Fluor because Fluor's estimate of the construction costs (its piece of the project) was too high. Fluor's actual number, accompanied by six volumes of supporting documentation, was made available in Greenville, South Carolina, for "Open Book" review by the Owners, beginning June 22. Toshiba again stated its opinion that Fluor's estimate was too high. It is our understanding that Toshiba has not signed a contract with Fluor as of this writing.

That same day (June 22) Kotara gave a progress report to the CPS Board. He specified an estimated cost of \$10 billion plus \$3 billion in financing costs, for a total of \$13 billion, of which \$5.2 billion would be CPS Energy's share of the cost. The Board approved release of the cost estimate to the public for the June 29 start of the "Public Process."

The evening of Sunday, June 28, 2009, the day before the start of the Public Process, Kevin Richards of STPNOC sent an e-mail to Jim Nestrsta and John Bates in reference to an e-mail from Kei Nishida of Toshiba, stating:

This message from Nashida [sic] is troubling [that Toshiba is not in a position to endorse the \$10B figure]. Here is what I know. TSB [Toshiba] is pressuring Fluor to reduce their part of the estimate, Fluor's number alone got to 7.5B. It is now at 6.5B. TSB has told them they need to get to 5B. I doubt they will get to 5 but think we may get them to under 6B by challenging the estimate by line item. Currently, I am not sure where TSB estimate is--but should being [sic] into that piece [sic] over the next week or so.

If I read into this, I would say the TSB portion is at 4B. If you take all of that--it says the estimate stands around 11.5-12 B (with some reductions coming)--overnight [cost]--and of course that does not include the risk and the fix price negotiation.

At this stage of the project, I have always condoned using a range.

John Bates of NINA replied:

I heard from TSB [Toshiba] that they have set a 6.5 stretch for Fluor, but Fluor has not committed. TSB's scope is as much, which makes little sense to me. I think we need to take a hard look at their STG [Steam Turbine Generator] and other equipment costs. . . . We have a 2B+ gap, which is not surprising at this point. I am comfortable we can achieve the numbers that CPS is stating regarding EPC costs.

Nestrsta forwarded this e-mail string (**Exhibit D**) that same evening to Kotara, Temple, Blaylock and Pollo with the notation: "FYI. We probably need to huddle in the morning." Kotara promptly responded:

I'm very disappointed that we have come this far, and only now are learning of how wide the gap is between our estimate and Toshiba's. It is hard to understand how we can spend in excess of \$200 million, and still have \$1-2 billion gap between us and our contractor. And if we had not pushed for a public announcement, then we wouldn't be having this discussion until 6 months later. Our project costs and rate projections are clearly understated.

That same evening Nesrsta replied: "We knew that Fluor was coming in with high numbers. That is one of the reasons that Toshiba has not signed with Fluor. We didn't know how high until now. We still don't know what a 'real' number might be and we won't have that until the end of the year. This is part of the negotiation." Bob Temple added: "I agree we have some time and negotiating before we are dealing with a 'real' price." Kotara replied: "That's all well and good, but we should not have used an 'optimistic' number for our Long Range Resource Plan analysis. I think we need to ask Finance to rerun everything with something like \$12B overnight [cost]." (See **Exhibit E.**) Staff subsequently ran the model again, with \$12 billion for the overnight cost, and determined that the nuclear expansion project was still economically viable up to the higher cost, at which point gas was equally viable.

Despite the foregoing e-mail exchange, Kotara did not share the number from Richards' e-mail with Steve Bartley. CPS Energy's \$10B (w/out financing) /\$13B (w/ financing) estimate was announced publicly on June 29, 2009, at a Board meeting held at the Villita Assembly Building.

On June 30, 2009, the STP Units 3 & 4 Owners Committee met in Bay City, Texas. The minutes of that meeting, prepared by STPNOC, reflect the following

The Owners stated that the estimate numbers that Toshiba gave them last week were unacceptable and must be reduced in order for the project to continue.... It was noted that this year's open book estimate review is top priority. The Owners need to receive the realistic project estimate no later than December 2009. They will make a decision on whether to continue the project after they receive this estimate.

On July 1, 2009, Toaru Maruyama of Toshiba sent an e-mail to Kevin Richards of STPNOC stating that Toshiba has repeatedly said that its draft cost estimate for 2008 was too high. As of July 1, however, Toshiba still had not revealed the amount of that estimate. The estimate was finally disclosed at a meeting on July 15, 2009, to which STPNOC, but not CPS Energy or NINA, was invited. Kevin Richards of STPNOC states that STPNOC had not anticipated learning of any numbers from Toshiba at this meeting. Larry Blaylock of CPS Energy was advised on the afternoon of July 15 by Joe Kiwak, NINA's on-site representative, that Toshiba was meeting with STPNOC personnel. Blaylock immediately made arrangements to attend the second day of the meeting, on July 16, 2009. While there, Blaylock received a copy of a Toshiba PowerPoint presentation on the 2008 cost estimate, which had been presented the prior day. (See **Exhibit F**, excerpted from that presentation.)

Pages 5 and 11 of the PowerPoint presentation described "TANE/Toshiba's position of 2008 estimate" as follows: "2008 preliminary estimate is outdated and not effective today. All efforts are now focused on 2009 Preliminary Estimate to realize cost reductions." The very next entry on the slide stated that the "[t]otal difference with 2007 Indicative estimate [was] \$4,144M," meaning \$4.1 billion. The reader could quickly deduce that Toshiba's 2008 estimate was therefore \$8.5 billion plus \$4.1 billion = \$12.6 billion. Blaylock was unable to obtain additional information about the PowerPoint presentation, such as why Toshiba would present the 2008 estimate when it was

described on the slide as “outdated and not effective today.” CPS Energy staff understood from STPNOC (and the Investigation Team verified with STPNOC) that July 15, 2009 was the first time STPNOC heard from Toshiba that their 2008 estimate had been \$12.6 billion; the number had not been provided in 2008 nor early 2009.

Also on July 15, an Owners’ conference call was held between Richards, Steve Winn (CEO of NINA), and Kotara. During the call, Richards announced that Fluor’s detailed estimate (a component of Toshiba’s estimate) had started at \$7.5 billion three weeks earlier, that the number had already been reduced to \$6.4 billion, and that he expected Fluor’s final number to be below \$6 billion.

The following week, on July 23, 2009, at a project meeting in Greenville, S.C. with all parties represented including Toshiba, Nesrsta announced that if Toshiba’s Preliminary Estimate does not come in below \$9 billion, CPS Energy staff would recommend that the Board not move forward with the project.

NRG/NINA Meetings with Mayor Castro

On July 31, 2009, Bartley drove to Austin for a luncheon meeting with Steve Winn of NINA. The purpose of the meeting was to discuss CPS Energy’s and NINA’s options vis-a-vis one another with respect to STP ownership. Bartley inquired whether NRG would consider transferring a larger ownership interest in STP Units 1 & 2 in exchange for CPS Energy’s transfer to NRG of all of CPS Energy’s rights in STP Units 3 & 4. Winn responded he did not think NRG would be interested, but clarified that he could only speak for NINA and not NRG. Bartley asked Winn to convey his proposal to NRG, and Winn said he would. Winn then proposed a Purchase Power Agreement as an alternative, but Bartley promptly declined. Implicit in this proposal was the notion that CPS Energy would sell its entire interest in STP 3 & 4 to NRG/NINA.

Following the meeting, Winn commented that he needed to travel to San Antonio in order to meet with Mayor Castro. (Bartley has informed the investigation team that he was aware of NRG/NINA having met with the Mayor at least once prior to this conversation.) Bartley offered to give Winn a ride to San Antonio. Winn graciously declined, adding that Mark Walker, a public relations representative for NRG, would be picking him up by prior arrangement.

Bartley states that some days later Robbie Greenblum, Chief of Staff to the Mayor, told him that he had asked Winn if he had followed up with NRG to see if they were interested in the swap proposal. Greenblum told Bartley that Winn said that he had not followed up with NRG.

On August 10, 2009, Temple sent an e-mail to Board Chair Aurora Geis stating that Winn was scheduled to meet with the Mayor “again” at 3:00 p.m. that day.

On August 11, 2009, John Bates of NINA transmitted to Kotara by e-mail the portion of Toshiba’s July 15, 2009 PowerPoint presentation indicating the amount of the 2008 cost estimate for the project which Toshiba had declined to reveal in 2008. This appears to have been Kotara’s first opportunity to view the text of Toshiba’s PowerPoint presentation.

David Crane, CEO of NRG, and Winn met with Mayor Castro on August 31, 2009. NRG and NINA had also arranged a separate meeting with prominent San Antonio business leaders that morning to discuss the STP expansion project. Bartley was not initially invited to either meeting, but after inquiring, he was invited to the community leaders meeting (only).

That same day (August 31) the Board heard a presentation by Kotara on the nuclear development budget. After this meeting, Bartley took over the presenting of such information to the Board, at the request of the Board.

Council Briefing, Toshiba Conference Call

On October 7, 2009, the CPS Energy management team, including Lee, Bartley, Kotara, and Temple, appeared before City Council to discuss the status of STP Units 3 & 4. According to the San Antonio Express-News, Council was advised that CPS Energy may not be able to pay for the STP expansion if the electric rate increases were limited to 5% every other year. That same evening, a conference call was scheduled for the Owners and Toshiba in Japan. Crane of NRG organized the call. Kotara and Nesrsta were present for the entire 20-minute conversation. Per Nesrsta and Kotara, Bartley joined the call mid-way, and Lee and Temple joined toward the end, having been delayed by the City Council meeting. During the call Bartley declared it was imperative that Toshiba close the “gap” between its cost estimate and CPS Energy’s expectation as to cost, or else CPS Energy could not continue the project.

Immediately after the call, the group went to dinner at Paesano’s. Those attending included Lee, Bartley, Kotara, Nesrsta, and Temple. Paula Gold-Williams, CFO, also joined them. During the meal, Nesrsta discussed the “gap” with Bartley. There are varying recollections of the particulars: Bartley does not recall Nesrsta mentioning a specific number and is not sure that he and Nesrsta even discussed STP 3 & 4. Nesrsta believes that he did speak of \$12 billion, or a \$4 billion gap, but he is not certain that he gave a specific number. Kotara and Temple believe that Nesrsta specifically mentioned the \$12 billion estimate.

Toshiba’s Unofficial 2009 Estimate

The Board met on October 13, 2009, and approved the sale of half (25%) of CPS Energy’s stake in the STP expansion, and also approved the sale of \$400 million in bonds to fund STP development. The meeting started at 2:17 p.m. At 7:45 a.m. that morning, however, Bob Coward with STPNOC wrote an e-mail to Nesrsta and Bates stating:

The news is not good. The combined Toshiba-Fluor cost estimate “delivered” today will be \$12.04 B.... They know this far exceeds the Owners’ estimates, but this is where they are.... My current plan is a discussion this afternoon with [Toshiba/Fluor personnel] to lay out a roadmap of how we can close the gap.... My inclination is that we should not broadcast this information, but you need to know status.

Nesrsta forwarded Coward’s e-mail immediately to Kotara, Blaylock, Pollo, Ellis, and Temple. (See **Exhibit G.**)

At 4:18 p.m. that same day (October 13), Steve Ellis, a consultant for CPS Energy in Greenville, S.C., transmitted Toshiba’s new preliminary estimate as an attachment to an e-mail to Ed Alarcon, Nesrsta, Pollo, and Blaylock. The amount of the estimate was shown as \$12.354 billion. The next morning, October 14, 2009, Nesrsta saw the e-mail for the first time and forwarded it, with attachments, to Kotara and Temple. (See **Exhibit H.**) The following day, October 15, 2009, Kotara had a breakfast meeting with Bartley during which they discussed the \$12 billion number. Kotara also sent Bartley the October 15 weekly cost estimate update from the ICRT, reflecting Toshiba’s “current” estimate of \$12.3 billion by e-mail later that day.