



Memorandum from the Inspector General, ET 4C-K

July 11, 2016

Those listed

FINAL REPORT – EVALUATION 2016-15376 – PROPOSED SALE OF BELLEFONTE
NUCLEAR PLANT SITE

Attached is the subject final report for your review. This report does not include any recommendations and is to be used for informational purposes only. Accordingly, no response is necessary.

Information contained in this report may be subject to public disclosure. Please advise us of any sensitive information in this report that you recommend be withheld.

If you have any questions or wish to discuss our findings, please contact me at (865) 633-7300 or David P. Wheeler, Assistant Inspector General, Audits and Evaluations, at (865) 633-7373. We appreciate the courtesy and cooperation received from TVA during the evaluation.

Richard W. Moore

Joe H. Ritch
Marilyn A. Brown
V. Lynn Evans
Richard C. Howorth

Peter Mahurin
Michael R. McWherter
Eric M. Satz

DSS:FAJ
Attachment
cc (Attachment):

Robertson D. Dickens, WT 4D-K
William D. Johnson, WT 7B-K
Dwain K. Lanier, MR 6D-C
Justin C. Maierhofer, WT 7B-K

Sherry A. Quirk, WT 6A-K
Rebecca C. Tolene, WT 7B-K
OIG File No. 2016-15376



Office of the Inspector General

Evaluation Report

To the TVA Board of
Directors

PROPOSED SALE OF BELLEFONTE NUCLEAR PLANT SITE

Evaluation Team
David S. Shields
Kristin S. Leach

Evaluation 2016-15376
July 11, 2016

ABBREVIATIONS

Bellefonte	Bellefonte Nuclear Plant
Board	Board of Directors
Browns Ferry	Browns Ferry Nuclear Plant
IRP	Integrated Resource Plan
TVA	Tennessee Valley Authority
Watts Bar	Watts Bar Nuclear Plant

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Evaluation 2016-15376 – Interim Report – Proposed Sale of Bellefonte Nuclear Plant Site

EXECUTIVE SUMMARY

Why the OIG Did This Evaluation

The Tennessee Valley Authority (TVA) began construction of Bellefonte Nuclear Plant (Bellefonte), located near Hollywood, Alabama, in 1974. Since then, TVA has made the decision to start and stop construction three different times at a total capital cost of approximately \$4.8 billion. TVA's 2015 Integrated Resource Plan (IRP)ⁱ concluded there would be no need for Bellefonte before 2033. In September 2015, TVA's Office of the General Counsel informed the Office of the Inspector General that TVA had received a proposal from a group, which included commercial developer Franklin L. Haney, interested in acquiring Bellefonte through a negotiated sale. The combination of the 2015 IRP's conclusion, the request from Mr. Haney's group to acquire the site, and TVA's desire to allow an opportunity for economic development at that location prompted TVA to consider its sale.

Due to the significance of the investment made by TVA and the importance of Bellefonte's future to various stakeholders and potential purchasers, we initiated this evaluation to determine whether (1) the proposed sale of Bellefonte was conducted according to TVA's policies and procedures, (2) TVA took reasonable measures to ensure transparency regarding the sale, and (3) TVA evaluated alternative uses for the site. We also evaluated TVA's assessment of the risks associated with the potential sale. We did not provide an opinion regarding whether TVA should sell or retain ownership of Bellefonte.

The purpose of this interim report is to provide the results of our work to date that addresses the transparency of the sale, alternative uses for the site, and risks associated with the potential sale. We plan to complete a follow-up report after TVA completes the sale of the property to address our objective of whether the sales process had been conducted according to TVA's policies and procedures.

What the OIG Found

In our opinion, TVA has taken reasonable actions to promote transparency of the sales process to date and has evaluated alternative uses for the Bellefonte site. In addition, we determined TVA appears to have considered the significant risks associated with selling the Bellefonte site.

ⁱ The 2015 IRP is used to guide TVA's decision making about the energy resources used to meet future demand for electricity through 2033.



Evaluation 2016-15376 – Interim Report – Proposed Sale of Bellefonte Nuclear Plant Site

EXECUTIVE SUMMARY

TVA management requested the TVA Board of Directors to surplus the Bellefonte site during its May 5, 2016, public board meeting so TVA could begin the process for selling the site.ⁱⁱ After consideration of the analysis performed by TVA management on the future needs for the site as well as the risks associated with a potential sale, the board voted to surplus Bellefonte. Since TVA can now go forward with the sale of Bellefonte, we plan to continue our review of the sales process to determine if it is conducted according to TVA's policies and procedures.

TVA Management's Comments

TVA management reviewed a draft version of our report and had no comments.

ⁱⁱ According to TVA, the Board must declare property surplus in a public meeting in order for the property to be sold through public auction. The TVA act states, ". . . any land purchased by the Authority and not necessary to carry out plans and projects actually decided upon shall be sold by the Authority as an agent of the United States, after due advertisement, at public auction to the highest bidder, or at private sale as provided in section 4(k) of this Act."

BACKGROUND

The Tennessee Valley Authority (TVA) began construction of Bellefonte Nuclear Plant (Bellefonte), located near Hollywood, Alabama, on September 18, 1974. In 1985, Bellefonte Unit 2 was deferred and, in 1988, Unit 1 was also deferred. In 1988, it was estimated that Unit 1 was 90 percent complete and Unit 2 was 58 percent complete. The plant remained in deferred status from 1988 until March 23, 1993, when TVA notified the Nuclear Regulatory Commission of plans to complete Bellefonte Units 1 and 2. TVA's decision to complete Bellefonte came after what TVA described as, ". . . three years of extensive studies that concluded completion of the facility as a nuclear power plant was viable." Subsequently, in December 1994, the TVA Board of Directors (Board) announced that Bellefonte would not be completed as a nuclear plant without a partner and put further construction activities on hold.

TVA's 1995 Integrated Resource Plan (IRP), titled *Energy Vision 2020*, recommended converting Bellefonte to an alternative fuel source such as natural gas or coal. The IRP's short-term actions recommended, ". . . TVA will not, by itself, complete Bellefonte Nuclear Plant Units 1 and 2, Watts Bar Nuclear Plant [Watts Bar] Unit 2, or restore Browns Ferry Nuclear Plant [Browns Ferry] Unit 1 as nuclear plants."¹ Further, the IRP noted, "For the Bellefonte Nuclear Plant, converting the unfinished plant to a combined cycle plant that uses either natural gas or gasified coal as the primary fuel has been identified as one of the most viable alternatives." In a subsequent *Final Environmental Impact Statement for the Bellefonte Conversion Project* issued in 1997, TVA identified natural gas combined cycle as the preferred conversion option.

Following the termination of the Bellefonte construction permit in 2005, TVA implemented an investment recovery effort to recoup some of the costs associated with Bellefonte. As part of the investment recovery effort, all or parts of some major plant components, including steam generators, feedwater heaters, large pumps and motors, demineralized water and condensate storage tanks, main condenser tubes, and some piping and valves were removed and sold. Additionally, some usable components were transferred from Bellefonte to other TVA facilities as spares.

In March 2010, TVA published a Detailed Scoping, Estimating, and Planning report for completing Bellefonte Unit 1. The estimated project duration was 7.5 years at a cost of \$3.71 billion, with a cost contingency of \$430 million. The report estimated Bellefonte Units 1 and 2 were 55 and 35 percent complete, respectively. The decline from previous estimates was attributed to such things as the investment recovery effort and needed equipment refurbishment.

¹ TVA's Board approved returning Browns Ferry Unit 1 to service in 2002 and completion of Watts Bar Unit 2 in 2007.

As part of its plan to provide low-cost and cleaner energy, the Board, on August 18, 2011, approved completion of Bellefonte Unit 1. TVA management reported:

Completing Bellefonte Unit 1 will meet a substantial portion of TVA's future generating needs and provide a low carbon-emitting power source at a significantly lower cost per installed kilowatt than other generation options. Operation of a nuclear unit at the Bellefonte site will supply reliable, low-cost power, afford increased operating flexibility, and provide additional fuel cost stability to reduce risk from volatile fuel prices.

TVA estimated the cost of completing Unit 1 to be \$4.9 billion. TVA planned to use existing site assets, including the containment building, cooling tower, and infrastructure as part of completion. At the time, TVA estimated the value of the existing assets at \$1.9 billion. The decision to complete Bellefonte Unit 1 precluded further consideration of any options to convert it to a coal- or natural gas-fired plant that were analyzed in 1997.

In November 2013, TVA revised its Bellefonte Unit 1 cost estimate to between \$7.5 and \$8.7 billion. TVA's new cost estimate for completing the unit took into account lessons learned from the Watts Bar Unit 2 project (that had a significantly higher cost than initially estimated) and the high cost of building nuclear units under construction in Georgia and South Carolina. In addition to the higher cost estimate, a TVA spokesman stated there was no immediate need for Bellefonte because electricity demand had fallen and was not expected to reach 2007 levels for a decade.² The combined impact of these factors resulted in TVA reducing staffing and funding for the project. TVA's Chief Executive Officer was quoted as stating, "[Bellefonte] continues to be a valuable asset and who knows what the future holds. If we get a couple of big auto plants or other industry and we need the power, we could have a different discussion."

TVA's 2015 IRP, which is intended to guide TVA in making decisions about the energy resources used to meet future demand for electricity through 2033, concluded there is no immediate need for new base-load plants after Watts Bar Unit 2 comes online and uprates³ are completed at Browns Ferry. As such, the 2015 IRP did not include a recommendation to complete Bellefonte Units 1 or 2.

In September 2015, TVA informed our office they had received a proposal from a group that included commercial developer Franklin L. Haney interested in acquiring Bellefonte through a negotiated sale. The group's stated intention was to complete both nuclear units at Bellefonte. In recent years, there has been an attempt by Mr. Haney to privately finance the completion of Bellefonte that has

² According to data published in TVA's 10-K filings, TVA sales (millions of kilowatt hours) dropped over 10 percent from 2008 to 2015. Sales in fiscal year 2008 were 176,304 compared to 158,163 in fiscal year 2015.

³ Upgrading is the physical modification of a nuclear plant to increase its generating capacity.

garnered media attention. Media reports have described Mr. Haney's efforts to help finance Bellefonte's completion and his conclusion that Bellefonte Units 1 and 2 could be completed for \$10 billion, compared to TVA's estimate that a single unit would cost between \$7.5 and \$8.7 billion.

Two TVA Board members, prior to their confirmation in December 2014, acknowledged they had spoken with Mr. Haney or his representatives. In response to concerns raised about the perception of influence, the two Board members agreed in writing to recuse themselves from matters, ". . . in which Mr. Haney or any person on his behalf is a party or represents a party, or in which Mr. Haney, or his family, would have a direct or indirect financial interest."

The combination of the 2015 IRP's conclusion that Bellefonte would not be needed prior to 2033, Mr. Haney's request to obtain it, and TVA's desire to allow an opportunity for economic development at the site prompted TVA to consider selling the plant. TVA management completed several actions to provide the Board with information necessary to determine whether Bellefonte should be deemed surplus property.⁴ These actions include (1) evaluating the options available for selling the property (e.g., sale through public auction or negotiated sale); (2) obtaining an independent appraisal of the site; and (3) issuing a request for public comment on the potential sale. On May 5, 2016, the Board voted to surplus Bellefonte.

Due to the significance of the investment made by TVA and the importance of Bellefonte's future to various stakeholders and potential purchasers, we initiated this evaluation.

OBJECTIVE, SCOPE, AND METHODOLOGY

The objectives of the evaluation were to determine whether (1) the proposed sale of Bellefonte was conducted according to TVA's policies and procedures, (2) TVA took reasonable measures to ensure transparency regarding the sale, and (3) TVA evaluated alternative uses for the site. We also evaluated TVA's assessment of risks associated with the potential sale of Bellefonte. We are not providing an opinion regarding whether TVA should sell or retain ownership of Bellefonte.

The scope of our evaluation was limited to TVA's actions to ensure transparency around the sales process, TVA's evaluations of alternative uses for the Bellefonte site, and TVA's risk assessment related to the potential sale.

⁴ According to TVA, the Board must declare property surplus in a public meeting in order for the property to be sold through public auction. The TVA act states, ". . . any land purchased by the Authority and not necessary to carry out plans and projects actually decided upon shall be sold by the Authority as an agent of the United States, after due advertisement, at public auction to the highest bidder, or at private sale as provided in section 4(k) of this Act."

To achieve our objectives, we:

- Interviewed personnel in TVA's Office of the General Counsel and multiple business units including Infrastructure, Nuclear, Transmission and Power Supply, and Stakeholder Relations to, among other things, (1) determine whether TVA considered alternative uses for the Bellefonte site and (2) identify actions taken by TVA to increase transparency of the process to surplus Bellefonte.
- Obtained and reviewed documentation containing Bellefonte historic information.
- Obtained and reviewed TVA IRPs published in 1995, 2011, and 2015.
- Participated in a teleconference with the independent appraiser who performed an appraisal of Bellefonte, during which we discussed their methodology, assumptions, and conclusions.
- Obtained and reviewed the Bellefonte appraisal, including its methodology, assumptions, and conclusions.
- Obtained evidence of studies and other work performed by TVA to evaluate Bellefonte for uses other than nuclear generation.
- Obtained evidence of TVA actions to increase transparency of the process for determining whether to sell Bellefonte.
- Obtained and reviewed the public comments received by TVA in response to the potential sale of Bellefonte.
- Evaluated TVA's assessment of risks related to the potential Bellefonte sale.

We provided feedback to TVA management throughout our evaluation and management took action where needed to ensure the transparency and consideration of risk surrounding a potential sale of Bellefonte. The purpose of this interim report is to provide the results of our work to date that addresses the transparency of the sale, alternative uses for the site, and risks associated with the potential sale. We plan to complete a follow-up report after TVA completes the sale of the property to address our objective of whether the sales process had been conducted according to TVA's policies and procedures.

This evaluation was performed in accordance with the Council of the Inspectors General for Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*.

FINDINGS

In our opinion, TVA has taken reasonable measures to promote transparency of the sales process to date and has evaluated alternative uses for the Bellefonte site. In addition, we determined TVA appears to have considered the significant

risks associated with selling the Bellefonte site. The following provides a more detailed discussion of our findings under each of these three areas.

TVA TOOK REASONABLE ACTIONS TO PROMOTE TRANSPARENCY

In light of the history and public sensitivities around Bellefonte's future, TVA sought a high degree of transparency in the process to (1) determine if Bellefonte should be retained or sold and (2) avoid the appearance of preferential treatment toward any potential purchaser of the property. We found TVA has taken reasonable actions to date to promote transparency of the potential sale of Bellefonte.

Actions taken by TVA include (1) requesting the public's input on the best use for Bellefonte, which could include selling the property; (2) publishing a summary of the public comments received; (3) obtaining an independent appraisal of Bellefonte and publicly releasing the appraisal amount; (4) hosting a webinar for the Regional Energy Resource Council⁵ to discuss the potential sale; (5) committing to include the Tennessee Valley Customer Planning Council⁶ in the decision-making process; and (6) committing to conduct a public auction if Bellefonte is sold.

We obtained and reviewed the public comments submitted to TVA about the potential sale of Bellefonte. Seven of the 79 comments received imply TVA would receive a significant sum of money from the sale of the property.⁷ This belief was likely the result of the money spent to date by TVA on the project, media reports, and past TVA communications. TVA estimated the amount spent on capital investment (not including operating and maintenance expenses) for Bellefonte is approximately \$4.8 billion as of February 2016. In addition, there had been media reports making such claims as (1) "TVA's fiscal 2015 financial statements indicate Bellefonte is worth \$1.5 billion . . .," and (2) "TVA could make some serious money off the sale" since the "assets are reportedly worth more than one billion dollars." These amounts reported by the media are consistent with TVA communications released in 2011, which valued the site assets at \$1.9 billion.

TVA, as previously mentioned, hired an independent appraiser to determine the market value of Bellefonte. The independent appraiser, relying in part on TVA's \$8.3 billion most likely estimated cost to complete Unit 1, concluded that completing Bellefonte as a nuclear plant is not financially feasible. The appraiser reached this conclusion because the value of the completed plant would be less

⁵ TVA established the Regional Energy Resource Council to obtain advice from external stakeholders who are interested in the development and management of energy resources in the Tennessee Valley. Council members represent both public and private stakeholders.

⁶ According to TVA, the Tennessee Valley Customer Planning Council includes the Tennessee Valley Public Power Association, Tennessee Valley Industrial Committee, and TVA.

⁷ See the Appendix for our summary of public comments.

than the cost to complete. The appraiser concluded that Bellefonte is not financially feasible for completion of a nuclear plant.

The determination that the completion of Bellefonte as a nuclear plant was not financially feasible resulted in the appraiser valuing the land and buildings based on nonnuclear use. This caused the appraisal value (\$36.4 million) to be significantly less than the \$1.9 billion TVA estimated in 2011 because nuclear use structures such as the main nuclear plant and cooling tower were assigned a negative value. The negative values represented the estimated cost of demolition for those structures. It is reasonable to conclude that the appraisal would be higher if the completion of the nuclear plant was determined to be financially feasible. An appraisal using this assumption would presumably assign a positive value to existing structures such as the containment building and cooling tower, among others.

During our evaluation, we discussed with TVA management and the Board our concern that TVA could suffer reputational harm if the Bellefonte sales price was significantly lower than public expectations. We recommended TVA disclose the independent appraised value of the property. During the May 5, 2016, Board meeting, TVA management reported the appraised value of Bellefonte, which was \$36.4 million. With the announcement of the appraised value, we concluded TVA had taken reasonable measures to promote transparency in the process.

TVA CONSIDERED ALTERNATIVE SITE USES

Since 1995, TVA has performed multiple studies evaluating alternative uses for the Bellefonte site. These studies consisted of an IRP, environmental impact statements, and a comparison of the advantages and disadvantages of constructing a natural gas combined-cycle plant at the site versus other locations. The alternative uses evaluated in the studies included:

- Converting Bellefonte to a fossil-fuel fired plant. These options included:
 - Coal generation.
 - Natural gas combined cycle.
 - Integrated gasification combined cycle.
 - Integrated combined cycle with chemical coproduction.
 - A combination of natural gas combined cycle and integrated combined cycle with chemical coproduction.
- An AP1000 advanced passive pressurized light water reactor.
- Mixed use residential and commercial uses.

In addition to the work performed by TVA, the independent appraiser also provided their professional opinion describing what they believed to be the highest and best use⁸ of the Bellefonte site.

TVA'S RISK ASSESSMENT APPEARS TO INCLUDE ALL SIGNIFICANT RISKS

In addition to the work performed to address our evaluation objectives, we also evaluated TVA's assessment of the risks associated with the potential sale of the Bellefonte site to provide additional assurance that the TVA Board had the best possible risk information with which to make their decision to declare the property surplus and authorize the sale of the site. We determined TVA's risk assessment appeared to include all significant risks. The risk assessment provided by TVA included the following:

1. *Risk that TVA will need the Bellefonte Plant in the future* – TVA management stated this risk is assessed as low. Management referenced TVA's most recent IRP that concluded there would be no need for Bellefonte through 2033. Management also noted TVA's latest forecast indicates flat-to-very minor growth in energy demand.
2. *Risk that TVA will need the plant site in the future* – TVA management stated there is no strategic use for this site and concluded the risk of needing this site in the future is low. Management stated this site is not of great strategic importance for either load or transmission support.
3. *Risk associated with having a merchant generator⁹ in TVA's service territory* – TVA stated having a plant in another utility's territory is common and there have previously been merchant generators in the TVA territory. A third party who wants to finish the nuclear plant will also have to make transmission arrangements that will add cost to the power prices.
4. *Risk of a merchant generator using political influence to force TVA to purchase plant output* – TVA management stated the answer to this risk is to follow the requirements of the TVA Act and its least-cost mandate.
5. *Political and reputational risks of any decision TVA makes* – TVA management stated there is a wide range of opinions about Bellefonte and its future use. Management stated the risk of being second-guessed is unavoidable and exists today.

⁸ Highest and best use is defined as the reasonably probable and legal use of vacant land or an improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest value.

⁹ Merchant generators build power capacity on a speculative basis or have acquired utility-divested plants. These companies then market their output at competitive rates in unregulated markets.

6. *Risk of an undesirable site outcome after TVA sells the property* – This risk includes the risks associated with outcomes subsequent to TVA’s sale of Bellefonte. Examples of this risk provided by TVA include: (a) a purchaser’s project fails or goes astray, and (b) the purchaser is later determined to be of undesirable character and behavior. As part of the bidder qualification process, TVA will require bidders to demonstrate financial worthiness and to submit a site development plan.

TVA MANAGEMENT’S COMMENTS

TVA management reviewed a draft version of our report and had no comments.

SUMMARY OF PUBLIC COMMENTS

The Tennessee Valley Authority (TVA) received 79 public comments regarding the potential sale of Bellefonte Nuclear Plant (Bellefonte). In general, the comments fell in the following categories: “sell,” “retain,” or “other.” We reviewed the comments and made the following observations:

- Thirty-six of the 79 comments were in favor of TVA selling Bellefonte.¹
 - Of the 36 “sell” comments, 5 stated they did not want Bellefonte to be used for nuclear generation, while 13 stated they do want Bellefonte used for nuclear generation.
- Thirty-one of the 79 comments were in favor of TVA retaining Bellefonte.
 - Of the 31 comments that suggested TVA “retain” ownership, 9 stated they did not want Bellefonte to be used for nuclear generation, while 17 stated they do want Bellefonte used for nuclear generation.
- Twelve of the 79 comments were categorized by the Office of the Inspector General as “other.” This category included comments that (1) made a suggestion related to Bellefonte, but did not indicate a preference for TVA to sell or retain Bellefonte or (2) were not related to the potential sale of Bellefonte.
- Six of the 79 comments mention the desire for transparency of the decision-making process and/or inclusion in the decision-making process.
- Seven of the 79 comments imply a belief that TVA will be receiving a significant sum of money from the potential sell of the Bellefonte property.

¹ TVA also performed an analysis of the public comments and determined 39 comments favored selling Bellefonte, while 28 supported TVA retaining Bellefonte. Some public comments were ambiguous with regard to a preference for selling or retaining Bellefonte and, as a result, the summary interpretations made by TVA and the Office of the Inspector General show a discrepancy. We did not deem the discrepancy significant to our evaluation objectives and did not attempt to reconcile the differences.