



U.S. GENERAL SERVICES ADMINISTRATION  
Office of Inspector General

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April 26, 2012

MEMORANDUM FOR: ROB HEWELL  
REGIONAL COMMISSIONER  
PUBLIC BUILDINGS SERVICE (PBS)  
MID-ATLANTIC REGION (3P)

A handwritten signature in blue ink that reads "James M. Corcoran".

FROM: JAMES M. CORCORAN  
REGIONAL INSPECTOR GENERAL FOR AUDITING  
MID-ATLANTIC REGIONAL FIELD AUDIT OFFICE (JA-3)

SUBJECT: Procurement of Design Build Air Handler Unit/Photovoltaic  
Roof/Green Roof Project at the Byrne Courthouse and  
Green Federal Building - a Limited Scope Construction  
Project Funded by the American Recovery and  
Reinvestment Act of 2009<sup>1</sup>  
Audit Memorandum Number A090184-56

Our review of the subject procurement identified areas of concern that we would like to bring to your attention. The payback periods for the vegetative roof, photovoltaic roof, and Air Handler Units (AHUs) do not represent a reasonable return on investment. In addition, the contracting officer could not rely on the Independent Government Estimate (IGE) as a tool for assuring price reasonableness because the IGE was significantly lower than the bids received and the ultimate award amount.

The Mid-Atlantic Region PBS office (Region 3) awarded a \$16,398,000 firm-fixed-price contract<sup>2</sup> to Keating Building Corporation (Keating), on March 19, 2010, for the design and construction for replacement of the AHUs with high performance equipment and the installation of a vegetative roof at the Green Federal Building; and the installation of a rooftop crystalline photovoltaic system at the Byrne Courthouse, both located in Philadelphia, Pennsylvania.

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<sup>1</sup> The American Recovery and Reinvestment Act of 2009 appropriated \$5.55 billion to the Public Buildings Service's Federal Buildings Fund, the majority of which was related to measures necessary to convert its facilities to High-Performance Green Buildings. The Recovery Act also required the Office of Inspector General to oversee and audit programs, grants, and projects funded under this Act.

<sup>2</sup> Contract number GS-03P-10-AZC-0004, for Design Build of Air Handler Unit/Photovoltaic Roof/Green Roof project at the Byrne Courthouse and Green Federal Building. The contract consisted of a base award, plus four options.

The Strawbridges Building, 20 N 8th Street, Room 10-080, Philadelphia, PA 19107-3191

## **Payback periods do not represent a significant return on investment.**

The payback periods for this project do not represent a significant return on investment for the taxpayer, a key requirement of the American Recovery and Reinvestment Act (Recovery Act). The preconstruction payback analyses, dated December 7, 2009, estimated payback periods of 502.7 years for a vegetative roof and 32 years for AHUs at the Green Federal Building, as well as 207.3 years for the photovoltaic system at the Byrne Courthouse. In November 2011, PBS updated/revised the payback periods to 87.1 years for the vegetative roof and 20.91 years for the AHUs at the Green Federal Building, and 61.2 years for the photovoltaic system at the Byrne Courthouse.

The major reason the payback periods for the vegetative roof and photovoltaic system were reduced was that actual costs were significantly lower than the estimated costs. In addition, the initial payback analysis for the photovoltaic system did not include offsets from the sale of Solar Renewable Energy Credits. Also, the initial payback analysis for the vegetative roof did not include the Philadelphia Water Department Stormwater credit because this credit did not exist when the original payback period was calculated. Finally, the initial payback analysis only projected that the AHUs would save on electricity; however, file documentation showed that, "...the fully designed system saves on both the electricity and the natural gas usage."

PBS' Recovery and Reinvestment Program Plan (Plan) emphasizes investment in energy-efficient technologies, a reduced carbon footprint, and decreased energy consumption. The Plan also states that investment in the government's real estate infrastructure will provide a significant return on investment for the taxpayer. Arguably, payback periods of 87.1 years, 20.91 years and 61.2 years do not accomplish this goal.

In response to our observations, the contracting officer stated:

Payback was not the single criteria for these projects, *[sic]* the intent of the Recovery Act was to stimulate the economy and put people back to work while also taking the necessary measures to convert our buildings into high performance green buildings. This includes performing necessary repairs to our buildings, improving energy efficiency, increasing the use of clean and renewable sources of energy,...GSA selected projects for accomplishing the goals of the Recovery Act...and transforming Federal buildings into high-performance green buildings, including lighting, HVAC retrofit/replacement, renewable energy generation by PV and water conservation projects.... We are in the process of updating the payback information and will forward upon completion.

While payback may not be the only consideration in Recovery Act projects, it is an important one. Payback helps prioritize projects and helps determine if the taxpayers are getting value for the monies spent. Although the revised payback periods were drastically reduced, they are still excessive. Further, only the initial, higher payback periods were known at the time the project was awarded. Therefore, we believe Region

3 could have pursued more cost effective alternatives for these buildings or used the Recovery Act funds for other projects.

**The contracting officer could not rely on the IGE due to the significant difference between the IGE and award amount.**

The \$8,880,746 IGE was significantly lower than the bids received and approximately 46 percent lower than the ultimate award amount of \$16,398,000. As a result, the contracting officer could not rely on the IGE as a tool for assuring price reasonableness. Contracting officers use IGEs to assess whether an offeror's proposed price is fair and reasonable, and to obtain an understanding of the project requirements. We asked the contracting officer why there was such a significant difference between the IGE and the bids and why a corrected/revised IGE had not been prepared. In her October 13, 2011 response, the contracting officer said:

The A/E prepared the IGE based on a certain set of assumptions. The Contractors may have used a different set of assumptions. FAR part 15 allows different tools, the IGE is only one tool, market conditions as established by the competition are another tool. Due to fluctuating market conditions and the depressed economy, a revised IGE would not have changed the market pricing and a revised IGE may have been higher.

In addition, in a March 15, 2010 memo, the GSA Project Engineer acknowledged the inaccuracy of the IGE, stating, "The estimate provided by O&K<sup>3</sup> was drastically lower than competitive pricing received from several offerors during procurement phase. The O&K estimate failed to accurately forecast the cost of construction at award." Region 3 officials did not request a revised IGE and "...made a best value decision based on the review of the ten technical and price proposals consistent with our source selection plan."

Price reasonableness determination is based in part on Federal Acquisition Regulation (FAR) 15.404-1(b)(2)(v), *Comparison of proposed prices with independent Government cost estimates*. In addition, as stated in FAR 15.406-1(a) regarding contract pricing documentation, contracting officers use documents such as an IGE in developing their prenegotiation objectives and determining fair and reasonable prices. Region 3 had to rely solely on competition among the contractors in determining and ensuring a fair and reasonable price. However, had competition been limited, contracting officials would not have had a basis for assuring price reasonableness, since a key tool, a reliable IGE, was not available.

Our office issued the Draft memorandum A090184-56 on March 6, 2012 to the Regional Commissioner, PBS, Mid-Atlantic Region, with a request to provide a written response by March 20, 2012. On March 20, 2012, the Regional Commissioner requested an extension to April 15, 2012. A final response was provided on April 20, 2012. The

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<sup>3</sup> O&K refers to Oudens Knoop Knoop + Sacks Architects, PC

Regional Commissioner had no additional comments as he stated their position was accurately included in the Draft memorandum.

We appreciate the support that has been provided throughout this review. If you have any questions, please contact me at (215) 446-4846, or Mr. Gregory P. Pasqualone at (215) 446-4842.

## **DISTRIBUTION LIST**

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