Vogtle 3 and 4 Conditional Loan Guarantees

Review of Documents Pertaining to Department of Energy Conditional Loan Guarantees for Vogtle 3 & 4

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Introduction

Earth Track and Synapse Energy Economics have conducted a preliminary review of hundreds of documents associated with the $8.33 billion conditional loan guarantees committed by the U.S. Department of Energy (DOE) for the construction of two proposed Toshiba-Westinghouse AP1000 nuclear reactors, Vogtle 3 and 4 (the Vogtle Project) in Georgia.[1] The full set of documents are available at http://www.scribd.com/doc/122597588/Full-Vogtle-FOIA-Online-Index; selected excerpts referenced in this paper can be accessed at http://www.scribd.com/doc/122803019/FOIA-Synapse-Earthtrack-Online-Index. These documents, covering a period between June 2008 and March 2010, were released as a result of a Freedom of Information Act (FOIA) request by the Southern Alliance for Clean Energy (SACE) and subsequent litigation with DOE.[2] The released documents relate to three individual borrowers: Georgia Power Corporation (GPC), Oglethorpe Power Corporation (OPC), and Municipal Electric Authority of Georgia (MEAG) and include virtually unredacted term sheets and credit subsidy estimates.[3]

Our goal was to learn more about 1) DOE's due diligence and risk assessment performed on the Vogtle Project, 2) the terms offered on the loan guarantees, and 3) potential conflicts of interest among involved parties. Although the loan guarantees have not been formally accepted by borrowers—even as DOE has extended its offer for the conditional loan guarantees into 2013—our review of related documents highlights a number of areas of concern. This review is limited to the Vogtle Project loan guarantees; we do not address the economics of the entire project, as there are multiple other subsidies, in addition to the loan guarantees, that artificially bolster the viability of these proposed reactors.

Important findings of our review include:

- The Term Sheets released thus far by DOE indicate credit subsidy payments that appear far too low to offer adequate protection to taxpayers in the event of a default. Even the high estimate for Georgia Power ($52 million), for example, would add only about 1/8% to borrowing costs over the life of the loan.
- DOE's estimated range for the one-time credit subsidy payments for the three borrowers is summarized in the table below:

Table 1 Summary of DOE Credit Subsidy Estimate Ranges

Borrower/ Vehicle	Maximum Conditional Loan Guarantee Amount ($ millions)	Low Estimate ($ millions)	High Estimate ($ millions)
GPC	$3,462	$17	$52
OPC	$3,057	$70	$132
MEAG SPV1*	$728	$37	$64
MEAG SPV 2*	$693	$46	$76
MEAG SPV 3*	$599	$25	$46
Total*	$8,328	$195	$370
Sources: DOE Credit Subsidy Letters Borrower Term Sheet Borrower Loan Application *Total loan guarantee for the MEAG special purpose vehicles are not to exceed $1.8 billion. The sum of the maximum individual vehicle guarantees is $2.0 billion.			

- DOE has outsourced so many important risk oversight functions that the government's ability to properly structure and monitor the deal may be insufficient.
- Modification of credit subsidy assessment tools continued well past the time that credit subsidy estimate letters were sent to borrowers.
- E-mails indicate periodic involvement by the Secretary of Energy on loans and loan terms, and by the White House and top levels of Department of the Treasury on other issues related to the Vogtle Project.

The construction of two new nuclear reactors is a high-risk project. Not only is there a long history of cost overruns on nuclear projects throughout this country and the world, but increasing competition from other forms of electric power generation (including natural gas) has already led to many nuclear projects in the U.S. being delayed or canceled. Despite these risks, however, DOE's loan guarantees for the Vogtle Project are structured more along the lines of a routine infrastructure investment.

Absent the loan guarantees, if financing for the Vogtle Project were possible at all, its form would be quite different, and considerably more expensive.[4] Expected differences would include the use of less debt financing and more equity from the project owners, as well as the application of venture-capital type approaches requiring much higher returns on invested capital and substantially stronger alignment of the incentives of investors and managers with the long-term success of the venture. Given the history of cost overruns in the nuclear industry and the emergence of cost overruns on the Vogtle Project already, we would not expect traditional project finance models with high debt and payments secured only by project (rather than corporate) revenues to be available.

These distinctions matter. The use of highly leveraged, government-guaranteed financing for such a large investment—one with uncertain costs and an uncertain completion schedule—creates particular management challenges and U.S. taxpayer risks. Although the federal government has many credit programs, the Vogtle Project loan differs from other programs in important ways:

- The loan guarantees are much larger than the average loans made through other federal agencies, for other Title XVII borrowers, and the average funding levels for private venture capital investments.[5]
- DOE's loan guarantee program is not time-tested, but rather has been cobbled together quickly through evolution of Title XVII of the Energy Policy Act of 2005.
- Structural elements of the program include: 1) large amounts of money, 2) only a few "winners" getting most of the money, and 3) a non-transparent analytic and decision-making process. This combination puts the program at high risk for corruption or political interference.

In light of these factors, review of DOE's process for evaluating project risks and credit subsidies is particularly important in order to protect taxpayers.

This report summarizes our findings in the following four broad categories:

- Loan process findings,
- Financial terms of conditional guarantees,
- Important risks in DOE's credit subsidy analysis, and
- Political interference with financial decisions.

After presenting our findings, we recommend additional lines of research that would further identify and clarify risks to taxpayers associated with the Vogtle Project's loan guarantees.

Loan Process Findings

The Title XVII program required DOE to develop and undertake a process to screen projects, assess risks, and underwrite complex financial guarantees. A transparent and robust process is critical to ensure the success of the loan guarantees and to protect taxpayer interests. Our review of the released documents found:

- **DOE may not have sufficient analytic tools and staff expertise internally to properly assess credit risks and deal structure.** While some external input is useful in order to bolster DOE's expertise (e.g., review by external credit rating agencies), the released documents suggest that *all* key tools used to assess project risk were developed and held by private companies, and that individuals outside of the government were relied on for most tasks related to modifying and interpreting model runs, and addressing deal structure.[6] While other federal agencies (Department of the Treasury and the Office of Management and Budget) did review some of this material, they played an ancillary role in a process led by DOE.
- **Extensive redactions in credit subsidy models precluded third-party review of the validity of either the input assumptions or the results.** We saw e-mail and documentary evidence that DOE and its contractors conducted iterative assessments of the financing and associated credit subsidies for the Vogtle Project. However, the redaction of all specific information on inputs and scenarios prevents third party assessment of the modeling approach and assumptions.

- **Credit subsidy values were issued to borrowers before the credit subsidy model was finalized.** Released e-mails indicate that the credit subsidy model continued to go through significant revisions and modifications well after credit subsidy estimates were provided to borrowers in January of 2010 (two of the three letters were incorrectly dated 2009 by DOE).[7] These communications call into question the quality of the credit subsidy values presented to borrowers, and likely weaken DOE's negotiating position to tighten terms later.
- **Vogtle Project borrowers may have been given access to the analytic models DOE used to assess credit risks and subsidy rates.** Some e-mail correspondence suggests that borrowers may have received credit subsidy models from DOE.[8] If true, this would have telegraphed the structure and assumptions of those models, allowing borrowers to optimize the screening tools for their benefit and weakening the ability of the analytic tools to properly screen risks. Opening the model to this type of manipulation would be expected to increase the financial risk to taxpayers. Furthermore, such access to borrowers would remove any basis for DOE refusing to release these models to the public.
- **Multiple extensions of loan offer letters weaken DOE's bargaining position.** DOE has extended its initial offer letters multiple times, with the current term extending through to the first half of 2013.[9] This pattern signals to borrowers that they need not act quickly on the agreement, and weakens DOE's ability to strike a strong deal protecting taxpayers. It is also notable that while the Secretary of Energy signed the initial Term Sheets, offer extensions and credit subsidy amounts have been signed only at the Office of Loan Program level. These documents are integral parts of the loan terms, governing the amount and duration of the credit risks to which the Term Sheets put taxpayers at risk. Yet, they are being decided on at a lower level of the bureaucracy.

Financial Terms of Conditional Guarantees

Understanding the financial terms of the Vogtle Project conditional loan guarantees is critical to assess the associated risks. We reviewed the 2010 Term Sheets and 2010 credit subsidy estimates. We believe there may be more recent versions of the credit subsidy estimates, but they were not made available by DOE. We also reviewed additional relevant material from released e-mails and attachments. Our review found:

- **Disagreement between DOE and the Office of Management and Budget (OMB) on appropriate credit subsidy rates was evident, although heavily redacted.** The dialogue between DOE, OMB, and the Department of the Treasury provides useful insight into the quality of risk assessment and underwriting in the Term Sheets, since that interchange reflects the evolution of loan terms and credit subsidy rates over time. Although e-mails and some attachments indicate that there was disagreement among the agencies, the redaction levels are too extensive to determine the degree of divergence among agencies, or how the differences were bridged.[10]
- **Multiple efforts by borrowers to reduce cost of borrowing and fees in the loan terms were evident in the released e-mails.** There are many e-mails between DOE and borrowers focused on fees. Although it is not possible to tell how these interchanges

influenced DOE staff in setting the final terms, at least one of the fees (the annual loan maintenance fee) does seem to have dropped from $300,000 to $200,000/borrower per year.[11] Further, full payment of a multi-million-dollar "facility fee" originally due at conditional commitment was modified so that 80% is not paid until final closing.[12] In response to pressure from GPC, DOE modified terms even for this residual 20%, and we are not sure whether it has yet been paid.[13]

- **The inability to align the incentives between borrower and lender is a departure from entrepreneurial financing models (e.g., venture capital) and increases the risks of venture failure.** Unlike with entrepreneurial financing models, the credit providers for the Vogtle Project loan guarantees (primarily DOE) are precluded from taking a long-term financial stake in the project they are funding. This weakens their incentive to ensure long-term project success. The released documents indicate other factors that weaken the incentive structure of the project as well, including: a mix of firms involved with risk assessment, staff turnover within DOE, credit risk assessment being conducted by DOE (with a policy interest in the program) rather than by an independent agency such as Treasury, and little equity at stake by key borrowers.[14] Further, while government officials can't have an individual stake in the outcome of a venture, taxpayers as a group could. Despite putting up such a large amount of capital, taxpayers will not receive any share of returns should the Vogtle Project be successful.
- **The value of credit subsidies is being maximized by slowing repayment of principal to DOE during the 30-year loan period.** Vogtle Project borrowers are all enterprises with multiple assets and many sources of capital. They have an incentive to repay the most expensive sources of capital first, and retain the least expensive (in this case, heavily subsidized) source of capital as long as possible. The downside for lenders is that more capital remains at risk for a longer period, and is therefore subject to loss if the Vogtle Project fails to perform financially due to large cost overruns or to bankruptcy, distressed sale, or abandonment. GPC planned to back-load its repayment of the loan principal until the very end of the term, what is commonly referred to as a "balloon" payment structure.[15] In a separate e-mail, Office of Management and Budget expressed displeasure with balloon structures, and did not want to see them repeated.[16] The Vogtle Project's other borrowers, OPC and MEAG, were not granted such a favorable loan amortization schedule. Nonetheless, they have gotten permission to make smaller principal payments each quarter than would be needed to repay the full amount due over the loan term of 30 years.[17] Thus, all of the borrowers will likely need to refinance their loans in order to pay back DOE at the end of the Title XVII loan term.
- **Key Vogtle Project borrowers are putting little or no equity into the project.** Title XVII capped loan guarantees at 80% of the eligible costs, and looked to the magnitude of equity investments by borrowers as an important criterion in deciding whether or not to approve a guarantee.[18] The equity objective helps align the government's interest in getting paid back with the owner's interest in making the project successful.[19] Yet, the Term Sheets and e-mail communications highlight that OPC and MEAG, as public power entities with no shareholders, will rely on other sources of debt to fill out their investment in the Vogtle Project and thus will not have any equity at risk.[20, 21] OPC, for example, would issue other debt that will have equal standing with DOE's loan guarantee in the

event of a bankruptcy.[22] DOE was concerned that relying on 100% debt financing was problematic given the intent and structure of the final regulations, and sought clarification on the issue from the Office of Management and Budget.[23]

- **Loan administration fees may be offsetting credit subsidy estimates in DOE's model.** Data limitations and redactions make it difficult to conclusively determine if some or all of the fees paid to DOE to cover pre-closing costs also feed into the credit subsidy model as an offset to the estimated credit subsidy costs. Table descriptors in redacted model runs suggest that this may be the case, and would result in understating credit subsidy costs for any given risk scenario. Any modeling that understates credit risks will increase the taxpayer exposure to losses.
- **Principal repayment in the case of material changes in project conditions appears slow.** The OPC and GPC Term Sheets allow repayment over five years under a variety of mandatory pre-payment events defined in the agreement, including cancellation, abandonment, or merger.[24] This type of arrangement would increase taxpayer risk, but it is not clear whether the pre-payment timing was incorporated into the expected credit subsidy cost.
- **Loan guarantee limits as percentages of eligible costs are different for the three MEAG SPVs.** The MEAG Term Sheet indicates that the Special Purpose Vehicle (SPV) created for the PowerSouth power purchase agreement is allowed to have a loan-to-eligible-cost ratio of 72%.[25] The other two SPVs created for Jacksonville Electric Authority and MEAG's participating municipalities are limited to loan-to-eligible-cost ratios of 50%. In addition, the overall MEAG loan-guarantee-to-eligible-cost ratio is limited to 50%. Although the caps likely represent different investment risks in each of the SPVs, there was insufficient information to assess the causes in greater detail.

Important Risks in DOE's Credit Subsidy Estimates

The purpose of the credit subsidy payment under Title XVII is to offset anticipated financial risks to taxpayers should the Vogtle Project construction fall behind schedule, exceed costs, or be abandoned. Understanding the key assumptions used by DOE to determine the credit subsidy level for the Vogtle Project borrowers is necessary in order to properly assess the results of DOE's credit subsidy analysis. Our review found:

- **Simplified presentations of credit subsidy amounts in press reports overstate their benefit in protecting taxpayers against default.** Annualizing the subsidy over the life of the loan is necessary to accurately compare the risk premium to other types of borrowers.
- **Credit subsidy payments, particularly for GPC, are too low in the reviewed documents to provide adequate protection to taxpayers in the case of financial problems.** Annualized values indicate there is insufficient protection to taxpayers from the proposed credit subsidy payments to key Vogtle Project borrowers. Even using the upper-limit credit subsidy payment amount calculated by the DOE for Georgia Power ($52 million), the average interest rates over the life of the loan increase only by 1/8%. This increment, which is supposed to protect taxpayers from the risk of default on the first nuclear reactors built in the U.S. in 30 years, is likely less than the Federal Financing Bank (FFB) markup on the loan relative to the Department of the Treasury's base cost of

borrowing.[26] It is indicative of an extremely low assessment of taxpayer risk on the project by DOE at the time of their 2010 credit subsidy payment estimate letter.

- **If DOE underestimates the up-front credit subsidy payment amount, all financial risk of the error rests with taxpayers.** The credit subsidy payments are estimated at the signing of the final loan agreement, a time of great uncertainty on the actual project performance. The Federal Credit Reform Act (FCRA) requires annual adjustments in program accounting if the subsidy estimates are too low. However, that fixes only the accounting. The Title XVII credit subsidy payment is made only once at the outset, and any subsequent shortfalls are made up by taxpayers—not the borrower. The political pressure to get loans out the door at DOE, combined with the benefits to borrowers from the subsidized credit, make subsidy underestimation more likely. Were credit subsidy payments set at a level commensurate with the actual risks of the Vogtle Project, there is a much greater chance that the borrowers would walk away.
- **Despite the scale and risk of the Vogtle Project, credit subsidy estimates for all the borrowers are below DOE's Title XVII average.** DOE's average credit subsidy costs for other completed loan guarantees were 12.5% of the authorized guarantee amount. (GAO-12-157: 11) These projects were smaller and also included long-term purchase agreements. Yet, this average value is higher than even the *upper-end* range for any of the Vogtle Project borrowers (see Table 1). GPC's upper end credit subsidy payment is only 1.5% of the guarantee amount; MEAG SPV2, the highest of all the borrowers, had an upper-end credit subsidy rate of 11.1%). Given the considerable risks associated with the Vogtle Project, such low credit subsidy estimates are surprising and, in our assessment, unwarranted.
- **DOE's ability to increase credit subsidy payments between initial offer letters and final loan Term Sheets may be constrained.** While there may be no legal restriction to increasing credit subsidy requirements above the high-end estimate provided to borrowers as the loan guarantees are finalized, internal e-mails suggest DOE is not planning to do this, and may have made representations to borrowers that they would not.[27]
- **Comparable data used to estimate project defaults may be inaccurate benchmarks, overstating historical recovery rates.** We note that GPC used overall utility debt performance to argue that recovery rates on debt subsequent to a default would be very high—nearly 87%.[28] Due to redactions, we do not know what recovery assumptions DOE actually used. However, historical data produced by the Congressional Budget Office (CBO) and even the Nuclear Energy Institute (NEI), an industry trade and lobbying association, suggests lower recovery rates than proposed by GPC.[29] CBO indicates that senior unsecured bonds are most similar to the nuclear loans, and have a historical repayment rate of only 37%. Clearly, if DOE is relying upon the wrong historical data set, credit subsidy rates may be significantly understated and thus generate inappropriately low credit subsidy payment requirements to the borrowers.
- **DOE's independent market expert identified cost recovery risks that could impact the borrowers.** NERA Economic Consulting (NERA) recommended that DOE and/or the borrowers run rate impact analyses under various cost scenarios to assess whether divergent retail electric rates resulting from potential cost overruns and/or schedule delays

in the Vogtle Project could become a source of repayment risk.[30] There is no evidence that DOE or the borrowers conducted the recommended analyses.

Political Interference with Financial Decisions

The very large exposure to losses for U.S. taxpayers should the Vogtle Project go awry, along with the known complexities of building two new reactors, underscore the importance of an objective and unbiased review of the project, its borrowers, and the appropriate credit subsidy level. Political interference increases fiscal risks because political pressure can supplant economic and financial assessments in driving funding decisions and terms. In the released documents, political involvement at the highest levels was visible in a number of instances, including by the White House, the Secretary of Energy, and key political appointees within both the Department of the Treasury and the Department of Labor. The specifics of this involvement were not possible to discern due to redactions, but the general tenor was evident.

- **Expediting the Vogtle Project loan.** There were a number of e-mails from DOE staff indicating that they were under tight timelines to "move our first nuclear power deal forward."[31]
- **Direct contacts between Vogtle Project borrowers and Secretary of Energy Steven Chu.** A series of e-mails from DOE staff indicate that Secretary Chu was involved in discussions with at least GPC[32] and MEAG[33] over the loans and specific loan terms. Those discussions were generally with the top management of the companies. This is a potentially troubling blurring of financial risk review, political discussion, and potential modification of loan terms.
- **Direct contact between Vogtle Project participants and the White House.** An e-mail from December 2010 indicates communication between the White House (though not necessarily the President) and the Nuclear Energy Institute over issues of concern.[34] Another, from February 2010, notes that DOE did not "deal" with Shaw [the firm slated to do much of the reactor construction]; rather, the White House did.[35]
- **Department of the Treasury.** Efforts for DOE to close out consultation, most likely on loan terms, was being handled "at the political level" of the Department of the Treasury.[36]
- **Department of Labor**. There were extensive negotiations, all heavily redacted, between GPC, DOE, and DOL regarding the applicability of Davis-Bacon Act prevailing wage requirements on the Vogtle Project construction. While the February 2010 Term Sheets do include a clause indicating required compliance with the Act, other e-mails indicate that at least GPC received some exemptions.[37]

Areas of Further Research to Assess Risk to Taxpayers

This report provides an initial review of the released documents detailing how DOE evaluated one of the largest, non-crisis-related, federal financings of a commercial venture to date. However, the large amount of redaction in the documents means that much still remains uncertain, and the volume of information presented provides an opportunity to investigate additional topics associated with the conditional loan guarantees. Earth Track and Synapse Energy Economics have identified several possible areas for additional research and analysis based on the existing documents and outstanding FOIA requests.[38] These areas of research include:

- Analyze additional and/or updated released materials to assess changes in the review process as a result of recent events that would impact credit risk.
- Compare loan markups proposed by DOE on the Vogtle Project loans to risk premiums charged in other sectors of the economy.
- Conduct further analysis of Term Sheets to examine all clauses for which terms vary across the borrowers. For example, MEAG's three Special Purpose Vehicles have different loan-to-eligible-cost ratios, without detailed explanation. A more exhaustive assessment of the differences between the SPVs, and possible reasons for the differences, could generate interesting insights into the risks identified by DOE.
- Review Title XVII final regulations and flag areas where the intent of the law has not been upheld or risk control strategies in the original rules have been watered down. Examples might include equity at risk by borrowers in the project, the ability of DOE to exert control over the project in the case of a key default, or the timing and scope of involvement by key oversight staff in Treasury or the Office of Management and Budget versus what was expected in the law.
- Integrate findings from this conditional loan guarantee investigation with existing research on the multiple ways the Vogtle Project borrowers are accessing federal and state subsidies, thus shifting financing costs and risks onto taxpayers and ratepayers.
- Analyze power purchase agreements and long-term contract details of MEAG and OPC to assess possible repayment risks for the two borrowers or operating risks to the guarantor municipalities should reactor costs escalate.
- Investigate additional loan guarantee materials as they become available to determine if electric rate impact analyses were conducted by the DOE or the borrowers as recommended.
- Map transitions of key personnel involved with the Vogtle Project loan process over time, to identify any migration of staff from the public sector to private industry and the loss of key expertise. For example, we have found that Kelly Coylar, who oversaw the credit review process at DOE has since moved to OMB to oversee energy programs, a position that would presumably include the DOE conditional loan guarantee.

Endnotes

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[1] Although Title XVII is a loan guarantee program, the Term sheets note that funding to Vogtle will come from the Federal Financing Bank (FFB), an instrumentality of the US government. Thus, the conditional guarantee is really a direct federal loan.

[2] A summary of SACE's FOIA suit is detailed at http://www.cleanenergy.org/index.php?/Press-Update.html?form_id=8&item_id=298#.UKJ2COTLS5g accessed November 13, 2012.

[3] The MEAG portion of the conditional loan guarantee, in turn, was separated into three separate special purpose vehicles, each with its own loan terms from DOE.

[4] Given that there is already litigation regarding cost overruns for the Vogtle Project, we are doubtful that GPC would be able to receive cheap financing specific to the project. While GPC did recently sell bonds at very favorable interest rates, that issue was for short-term, secured debt and not related to the Vogtle Project. Without the loan guarantees, we would anticipate that more expensive equity financing would be a much larger share of the capital structure. To the extent that private financing would arise for the Vogtle Project, we expect its availability would hinge on other subsidies, primarily highly favorable construction work in progress (CWIP) rules that enable financing risks to be shifted from investors to ratepayers, and long-term and highly restrictive power purchase agreements that lock municipalities into paying for the Vogtle Project even if it is not completed.

[5] Credit support to industry through the Export Import Bank of the United States and the Overseas Private Investment Corporation are sometimes used as analogs for the Title XVII program (this comparison was provided by DOE official Richard Corrigan in a personal communication with Doug Koplow, Earth Track, Inc., January 25, 2008, for example). However, average credit commitments are less than $55 million in both of those entities. Similarly, venture capital had average funding per investment of less than $10 million across all sectors, and less than $15 million for energy ventures (see Doug Koplow, *Nuclear Power: Still Not Viable without Subsidies* (Cambridge, MA: Union of Concerned Scientists), February 2011, p. 29).

[6] The primary credit subsidy costing models used by DOE appear to have been developed by Summit Consulting, LLC, a Washington, DC consulting firm specializing in modeling federal credit and defaults for a variety of federal agencies in support of their compliance with the Fair Credit Reporting Act (FCRA). Based on the FOIA releases, the majority of the credit subsidy analytics was done by two individuals at the firm, Anthony Trankiem and Scott Burroughs, with Anthony Curcio as the project manager. Brian Oakley of Scully Capital shows up in numerous e-mails as well. His role appeared to be providing technical review of Summit model outputs and suggestions for improvements or scenarios to run. Among other projects, Scully Capital produced a 2002 analysis for DOE titled *Business Case for New Nuclear Power Plants* (available at http://www.nuclear.gov/home/bc/businesscase.html), for which Mr. Oakley provided modeling support. The 2002 review recommended federal financing to new reactors in order to leverage private capital markets. Greengate LLC, another Washington, DC-based firm, was also involved as a financial advisor to DOE on project structure. Finally, James McCrea of James McCrea & Associates appears to have been added as an additional financial consultant later in the process. Summit describes its role as follows: "Federal Credit modeling and default estimation support across the main loan programs at DOE's Loan Program Office: the Advanced Technology Vehicles Manufacturing, Section 1703, and Section 1705. These programs enable DOE to work with private companies to mitigate the financing risks associated with clean energy projects, and thereby encourage their development on a broader and much-needed scale, promoting advanced or innovative technologies within the automotive and energy sectors. Summit quantitatively supports deal flow in these loan programs through the estimation of credit subsidy rates, defaults, and recoveries. In addition, Summit supports credit loss budget formulation and re-estimates, and provides training for DOE budget and accounting staff." See http://www.summitllc.us/casestudy/financial-modeling-and-federal-credit-support-services-at-the-department-of-energy/ accessed September 2, 2012.

[7] The following e-mail from financial consultant James McCrea to Jonathan Silver in August 2010 illustrates this point: "Brian [Oakley of Scully Capital] and I have been working on the task of providing a data driven

rationale for different recovery rates for different technologies…There is little to no data for the technologies we are financing which is not unexpected as many of these technologies are being built for the first time in the US. Even nuclear presents data issues as what data there is on nuclear defaults and recovers is from the last round of nuclear financing in the 70's when projects were undertaken on a rate base structure. Accordingly, that data is appropriate for evaluating the Georgia Power piece of the Vogtle transaction but [redacted sentence]…Brian has put together a brief paper (attached) which outlines the process and debate that resulted in the [redacted phrase]." ("Recovery Ratings," James McCrea e-mail to Jonathan Silver and David Frantz, August 5, 2010. FOIA reference: Jonathan Silver GPC Correspondence 52).

[8] "Attached are the three amortization schedules for three proposed SPVs [Special Purpose Vehicles]. The sum of the three SPVs DOE Guaranteed amounts equal $1,796,441,452 which agrees to the base case model runs*. As we discussed on Friday morning we did not runs [sic] the model right of [sic] the top limits for each SPV to hit the maximum 50% in aggregate so the $1,796,441,451 if [sic] a little under the $1,808,910,000 on the cover letter"* [emphasis added]. Text from "Base Case Amortization Schedules for SPV1, SPV2 and SPV3," e-mail from Jim Fuller of MEAG Power to Nicholas Whitcombe at DOE, December 13, 2009. Included as part of forwarded e-mail chain to Kelly Colyar of DOE. FOIA reference: Kelly Colyar GPC Correspondence 75.

[9] David Frantz, Acting Executive Director, Loan Programs Office, U.S. DOE, "Re: Conditional Commitment Letter/Termination Date Extension (Plant Vogtle Units 3&4)," letter to Earl Long, Assistant Treasurer, Georgia Power Company, May 1, 2012.

[10] See, for example, "RE: Vogtle," e-mail from Richard A. Mertens (OMB) to Kelly Colyar and Jonathan Silver (DOE), December 17, 2009. FOIA reference: Jonathan Silver GPC Correspondence 50.

[11] "RE: Annual Fee," e-mail from Steven T. Nichols, Southern Company, to Nicholas Whitcombe, DOE, November 9, 2009. FOIA reference: *Nick Whitcombe GPC Correspondence* p.858.

[12] DOE noted to GAO that the full fee was reduced to 20% "in response to applicant feedback." However, Georgia Power was unhappy with any fee being due prior to close. See U.S. Government Accountability Office, *DOE Loan Guarantees: Further Actions Needed to Improve Tracking and Review of Applications*, March 2012. GAO-12-157, p. 25; and Earl Long, "Response to your initial comments and proposed amortization schedule," e-mail to Nicholas Whitcombe and Richard Corrigan, DOE, September 29, 2009. FOIA reference: *Nick Whitcombe GPC Correspondence*, p. 633.

[13]GPC was unhappy paying any of this fee at conditional closing, and despite legislative limitations on exempting them, DOE seems to have met GPC's demands by allowing them to delay acceptance of conditional agreement until they were happy with the terms of the final agreement. DOE responded to GPC that "As a policy matter, the facility fee cannot be refunded. Upon GPC's acceptance of the conditional commitment, in accordance with the regulations, GPC will be obligated to pay 20% of the facility fee. However, DOE is willing to provide that GPC have a period of 90 days to accept the conditional commitment and that such period be extended at DOE's option for additional periods of 90 days depending on the progress of its due diligence and the negotiation of definitive documents. Prior to GPC's acceptance of the conditional commitment, DOE would continue with its due diligence and the parties would continue to negotiate the definitive documentation. The foregoing would provide GPC with additional time to decide whether or not to accept the conditional commitment and for the parties to continue to negotiate more definitive terms." Since GPC did sign a conditional agreement with DOE on February 13, 2010, we are not clear how the 20% conditional fee payment was handled at that time. See "DOE Response to Georgia Power Proposed Terms," Nicholas Whitcombe, DOE e-mail to Earl Long and Steven Nichols (GPC and Southern), 27 October 2009. FOIA reference: Nick Whitcombe GPC Correspondence, p. 803).

[14] Some movement of staff was evident in the FOIA documents as well, underscoring the difficulty in aligning long-term incentives with project success for program managers. Richard Corrigan, a federal employee who came to the Office of Loan Programs (OLP) early in the process to transfer knowledge from OPIC (where he worked for more than a decade, ending up as a portfolio manager) is one example. By September of 2010,

he had an e-mail footer that listed him as a Senior Advisor to the Loan Guarantee Program, and a DOE e-mail address, but a final line that read "National Interest Advanced Solutions, an IBM Company." ("RE: Nuclear Projects," e-mail from Richard Corrigan to Joseph Montgomery and Victor Trebules, September 29, 2010. FOIA reference: Matt McMillen GPC Correspondence, p. 47). Warren Belmar is listed in a December 2008 e-mail as DOE's Deputy General Counsel for Energy Policy ("Meeting w/ Counsel for DOE," e-mail from Dorothy Franzoni of Sutherland to Betsy Higgins et al., December 15, 2008. FOIA reference: *Dave Frantz GPC Correspondence* pp. 63-65). By 2010, he sends in a congratulatory e-mail upon issuance of the Term Sheets from his role with Capitol Counsel Group LLC in Palm Beach, FL. The e-mail remarks that "as you now well know, OMB was not as cooperative in 2007." ("RE: Obama Administration Announces Loan Guarantees to…" e-mail from Warren Belmar to David Frantz, February 12, 2010. FOIA reference: Dave Frantz GPC Correspondence 1). Jonathan Silver, the Office's Executive Director, signed off on the first credit subsidy letters to Vogtle borrowers in January 2009, but was out of DOE entirely by November 2011. He is a visiting senior fellow with Third Way, as DC-based policy advocacy group that has been supportive of a subsidized nuclear build-out in the past. Kelly Coylar, who oversaw the credit review process at DOE, including on the Vogtle loan guarantees, has since moved to OMB to oversee energy programs just before the credit subsidy estimates were released to borrowers. To the extent her new position requires oversight of decisions made at her old position, there is a potential conflict of interest.

[15] Although heavily redacted, empty cells were not blacked out, allowing us to see that GPC's loan, where a first draw had been planned for January 1, 2010, showed no principal payments until October 1, 2039, with one additional payment in January 1, 2041. The final payment in 2041 rather than 2040 may be a typo, as it would exceed the 30 year allowable term. However, it is clear that the repayment is heavily backloaded. See "Loan Disbursement and Amortization Schedule," undated. FOIA reference: *Whitcombe Attachments, PDF* pp. 371-373.

[16]"Also, Jeff [Liebman of OMB] wanted to relay that OMB would prefer not to have any further loan guarantees that include balloon payments. He would like to discuss with you." See "FW: Vogtle," e-mail from Kelly Colyar to Jonathan Silver, December 17, 2009. FOIA reference: *Jonathan Silver GPC Correspondence*. p. 49.

[17] Specifically, the principal due each quarter will assume the loan lasts 40 years rather than its actual 30 years. At the end of the 30-year term, rather than all principal having been repaid as it would under a standard amortization schedule, both OPC and MEAG will still owe substantial principal on the note. See DOE, *Municipal Electric Authority of Georgia: Credit Committee Presentation*, December 15, 2009, p. 6. OPC's *Credit Committee Presentation* of December 15, 2009, p. 6 is more heavily redacted, but also believed to use this approach.

[18] The final rules (Federal Register, 2009: 63550, 63554, 63555) note that prior to executing a loan guarantee agreement DOE must ensure, among other things, that DOE guarantees no more than 80% of the total project costs, and that the "Borrower and other principals involved in the project have made or will make a significant equity investment in the project…" The regulations define "equity" to be "cash contributed by the Borrowers and other principals," but excludes such sources of funding as "proceeds from any other non-guaranteed loans, or the value of any form of government assistance or support."

[19] In a bankruptcy proceeding, equity holders get paid last. Thus, it is useful to have equity holders since they would also be the ones responsible for a project's success (colloquially, have "skin in the game").

[20] *MEAG Term Sheet*, U.S. Department of Energy, "Re: United States Department of Energy ('DOE') Loan Guarantee," February 13, 2010, clause 4, p. 5.

[21] "DOE Loan Guarantee Program, Oglethorpe – Vogtle", FOIA reference: *GA Power Correspondence_Sept2011_FOIA_HQ_2010_01170_F__Item2_Assorted Attachments Packet_1_9.12.11.pdf*, p. 2546.

[22] *OPC Term Sheet*, U.S. Department of Energy, "Re: United States Department of Energy ('DOE') Loan Guarantee," February 13, 2010, clause 24, p. 27. In a FOIA document titled *OPC Questions Combined*, DOE notes that "Oglethorpe is funding its 30% 'equity' with other debt which will sit *pari passu* with the DOE loan." FOIA reference: *FOIA_HQ_2010_01170 –F_Item_2_Assorted_Attachments_Packet_1_9.12.11.pdf*, p. 2546

[23] OMB notes that "MEAG Power is a not-for-profit instrumentality of the State of Georgia, and its access to capital is only through issuing debt…Given these specific circumstances, OMB does not object to the requested deviation." See "Vogtle – OMB signoff on [redacted]," e-mail from Courtney Timberlake, Acting Assistant Director for Budget, OMB to Rod O'Connor, Jonathan Silver, David Frantz, and Kelly Colyar, DOE, on December 18, 2009.

[24] *OPC Term Sheet*, February 13, 2009, clause 14, p. 7; *GPC Term Sheet*, clause 14, p. 7.

[25] *MEAG Term Sheet*, 2010. "Re: United States Department of Energy ("DOE") Loan Guarantee," letter from Steven Chu, U.S. Secretary of Energy, to the Municipal Electric Authority of Georgia, February 13, 2010

[26] The 3/8% markup is mentioned in an e-mail from Earl Long at Southern Company to David Frantz of DOE on January 22, 2010 ("FW: Credit Subsidy Cost Estimates"). A summary of FFB's bank operations, accessed in September 2012, indicated a 3/8% markup when the bank was first founded in 1974, but that this had dropped to 1/8% by May 1975. Their current lending policy is to charge close-to-market rates, assessed per deal; however, "[a]t the request of a guarantor agency, the Bank may charge a fixed spread over comparable Treasury securities if doing so will provide significant benefits to the guarantee program." This spread can go as low as zero, but not below. See U.S. Federal Financing Bank, *Federal Financing Bank Operations*, http://www.treasury.gov/ffb/bankops.pdf and U.S. Federal Financing Bank, *Federal Financing Bank Lending Policy*, as approved at the March 15, 2011, meeting of the board of directors, http://www.treasury.gov/ffb/lending_policy.pdf both accessed on September 13, 2012.

[27] A letter from David Frantz, Director of the Loan Guarantee Program Office, to Georgia Power implies that the range encompasses the project uncertainty, and therefore that the upper-end of the credit subsidy range is not likely to be exceeded: "The determination of the estimated credit subsidy cost [redacted word or number] that was sent to you on Friday, January 15, 2010 by Jonathan Silver, Executive Director, Loan Programs, utilized certain assumptions based on our current knowledge of the Vogtle project. As you would expect, because of the approximately two year period between the date of such estimation and the anticipated closing date, there is substantial uncertainty with respect to the variables used to estimate the credit subsidy. Accordingly, the estimated credit subsidy cost range factors in such uncertainty." See "Re: United States Department of Energy Loan Guarantee," letter to Earl Long, Assistant Treasurer, Georgia Power Company, January 29, 2010. FOIA reference: *FOIA HQ_2010_01170-F_Item2_Assorted Attachments_Packet_1-9.12.11.pdf*, p. 9.

[28] "GA Power Proposed Subsidy Cost Calculation (1 page)," FOIA reference: *FOIA HQ_2010_01170-F_Item2_Assorted Attachments_Packet_1-9.12.11.pdf*, p. 14.

[29] CBO notes that the industry trade association has argued federally-guaranteed debt for nuclear construction would behave more like project finance, which the Nuclear Energy Institute (NEI) notes had an average recovery of 72%. See: U.S. Congressional Budget Office. *Federal Loan Guarantees for the Construction of Nuclear Power Plants*, August 2011, pp. 9-12.

[30] NERA Economic Consulting. *Independent Market Expert Report for Vogtle Electric Generating Plants Units 3 and 4* (RSCAP No. DE-RD04-00022) U.S. Department of Energy. December 4, 2009.

[31] Kelly Colyar, "Nuclear power deal," e-mail to financial staff and contractors, October 13, 2009. FOIA reference: *Kelly Colyar GPC Correspondence*, p. 204

[32] Matthew Winters, e-mail to Jonathan Silver, "Update re: Southern Corp [redacted word], May 17, 2010. FOIA reference: *Jonathan Silver GPC Correspondence* p.53.)

[33] "MEAG DOE Term Sheet," e-mail from Carl Lyon of Orrick to Nicholas Whitcombe [DOE] and Peter Fitzgerald [Chadbourne & Parke], November 8, 2009. FOIA Reference: *Nick Whitcombe GPC Correspondence* p. 470.

[34] "Update and Request," e-mail from Richard Myers (NEI) to Jonathan Silver, DOE, December 27, 2010. FOIA reference: *Terry Hulihan GPC Correspondence*, p. 33.

[35] "Re: Shaw," e-mail from Jonathan Silver (DOE) to Amy Bodette (DOE), February 13, 2010. FOIA reference: *Jonathan Silver GPC Correspondence*, p. 38.

[36] Kenneth Cestari, "DOE-Vogtle," e-mail to Preston Atkins at Treasury, and Atkins response, December 16 2009. FOIA reference: *Susan Richardson GPC Correspondence*, p. 88.

[37] High-level interagency contacts do seem to have happened: "However, it is very important that we get as much clarity as possible by early next week. If it would be helpful to have a high-level call from DOE to DOL, please let me and Scott know so that we can arrange it." ("RE: Georgia Pacific [sic]," Susan Richardson, e-mail to Janet Barsey of DOL, December 2, 2009, in reference to Georgia Power's request to be exempted from prevailing wage requirements. FOIA reference: Thomas O'Connor GPC Correspondence, p. 13.) The waiver did appear to be granted: GPC attorney John Mercer sent to DOE for their review "a proposed addendum to the GPC/Vogtle Term Sheet to incorporate the anticipated DOL Davis Bacon waiver provisions into the Term Sheet." (John Mercer, e-mail to Ken Cestari and Peter Fitzgerald, 16 June 2010. FOIA reference: *Jean Stucky GPC Correspondence* p. 5.) Although the Term Sheets do include reference to Davis Bacon, the wording in the GPC Term Sheet seems to include some wiggle room. Paragraph 18(l) requires "receipt by DOE of satisfactory evidence that the Borrower has complied with all Davis Bacon requirements," whereas the OPC terms state simply "compliance with all Davis Bacon Requirements." (*GPC Term Sheet*, February 13, 2010, p 14; *OPC Term Sheet*, February 13, 2010, p. 19).

[38] On October 23, 2012, DOE provided SACE with two subsequent documents that were both specific to Georgia Power. One was a heavily redacted open items issues table dated July 11, 2012, and the other was a draft loan agreement dated January 30, 2012. DOE did not provide any documents related to OPC or MEAG. Furthermore, it did not appear that DOE provided any additional updated analyses of the financial terms regarding the conditional loan guarantees. We understand that SACE will continue to press DOE to provide for information pertaining to the terms of the loan guarantees.