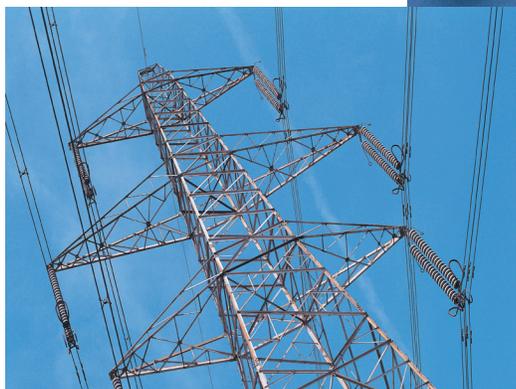


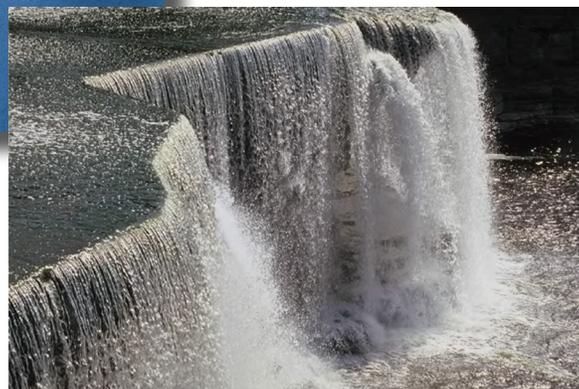


Utility Energy Services Contracts Lessons Learned

Negotiating Financing



Lowering Finance Rates



Water Conservation



U.S. Department of Energy
**Energy Efficiency
and Renewable Energy**
Bringing you a prosperous future where energy
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Introduction

The use of Utility Energy Services Contracts (UESCs) has evolved over the past 10 years. The following recommended best practices were generated by a growing group of innovative energy managers in many successful projects. While each specific Federal facility and its relationship with its utility company is unique, considering the experience of these pioneers can make future UESCs easier to implement and more successful. Six sections of this document relate to project finance issues. The last two sections concern competition between franchised utility companies and best practices for water conservation.

Financing UESCs

Understanding Financing Factors

Financing is a significant part of the cost of undertaking a UESC project, and experience shows that there are several techniques the Federal government can utilize to reduce the financial transaction costs and interest. This section describes practices that some agencies have used to keep costs as low as possible.

Interest rates are based on the sum of an index rate on the date the transaction is signed and a “premium” or “adders,” usually measured in basis points, where 100 basis points is equal to 1%. The premium reflects the costs of obtaining the financing under prevailing market conditions, financial risk, transaction costs, and profit for the finance company. The utility company needs to recover transaction costs as well (this may be included in overhead, as a separate finance charge, or more rarely in the premium). The final result is a premium that has typically added 100 to 250 basis points (1.0% to 2.5%) to the base index rate. Financial market fluctuations affect premiums as well as index rates. For example, the current

trend includes falling index rates offset by higher premiums due to a more conservative and restricted corporate credit market. This may continue as long as current concerns about the economy persist.

Financial transaction costs (and the margin to cover them) have been decreasing as an increasing number of Federal agencies use the same basic contractual forms and clauses and as finance companies become more familiar with the constraints and uniqueness of financing Federal energy projects. All other things being equal, using standard, acceptable contract terms and conditions reduces the perception of risk, shortens approval time, and reduces transaction costs.

Financial Market Fluctuations

Until recently, the base index for UESC finance rates was the U.S. Treasury bill (T-bill) rate for a time period approximating that of the loan. In 2001, the finance community indicated that the international “swap rate” was preferred because it best reflected the cost of money on the markets where these projects must compete for financing. The financial market for UESC projects is very different from consumer loan markets (e.g., home mortgages). This is a very limited, structured market. If the finance company is required to use a T-bill rate and it is lower than the prevailing swap rate (which better reflects the market where the project will get financed), the difference will probably be erased by a larger spread. To track T-bill and swap rates (listed under “interest rate swaps”) for different maturity periods, see the Federal Reserve Web site at www.federalreserve.gov/releases/h15/data.htm.

You cannot influence the value of an index rate. But whatever the agreed-upon index rate, the best business practices discussed in this document could help you to reduce the incurred premium or adders as well as other financial transaction costs.

Factors that affect risk and finance rate

- Term of financing
- Amount of financing
- Utility bond rating/financial status of contractors
- Perceived performance risk
- Contractual provisions
- Pertinence to agency mission
- Type/complexity of project
- Lower perceived risk to the finance company

Ten Ways to Lower Perceived Risk and Finance Rates

Federal agencies have used various methods to lower perceived project risk and finance rates. In an increasing number of cases, as credit tightens, several of these guidelines are prerequisites to obtain private financing. Individual finance companies have their own experience and perception of the importance of specific contract clauses. The following generalizations should be discussed during the negotiation of each project.

1. Time is money

You will save money anywhere you can reduce processing time and facilitate quick closure of your deal. First, a short turn-around reduces the administrative cost for your utility and the subcontractors' project development teams. Delays also affect the interest rate. In the past, a finance company could hold a rate for a week or two without charge, but given current market volatility, you will need to consult with your finance company. Finally, and most importantly, the sooner the project is implemented, the sooner it begins saving energy and money for your facility. Every day of delay is an opportunity lost for cost savings. Chronic late payments can also result in compensating increased interest rates, so it is important to the entire program to make sure that payments are made on time.

Shopping for the best rates

At least one utility active in this market has conducted its own competitive process to establish a list of pre-qualified finance firms for Federal energy projects. Each time a new project is designed and ready to finance, a standard form is used to share project data with the pre-qualified firms, who can give a quick response to the utility looking for the best value for construction and term financing. A recent \$3 million project elicited quotes that varied by about 100 basis points, with final term financing at 7%. Savings compared to the highest interest rate quoted were approximately \$580,000 over a 10-year term.

2. Communicate with finance companies

As the contractor, it may be inappropriate to discuss the financing of a specific project with anyone other than the utility company. However, most finance companies are happy to discuss the rates, adders, and costs associated with financing projects. This provides an opportunity to explore ways to reduce risk and obtain the lowest possible rate for a specific project. Many agencies leave all communication up to the utility or contractor, but there is no prohibition against asking the utility to have its selected finance company attend

project negotiation meetings to answer questions and provide financing clarity. Most UESC payments flow directly to the finance company, and those finance costs often represent more than half the total project costs for the government. Consequently, it makes good business sense to get acquainted with the details of financing and ensure that you have done all you can to ensure the best possible rate for your project. Ask your finance company to identify financial costs separately and to clarify the specific rate impact of significant individual contract terms and conditions. You can then evaluate the importance of those clauses individually. Similarly, ask for a break-out of the net present value of the finance company's fee, both at closing and during the payment period, to enable you to compare it with similar projects.

3. Compare rates

Once the basic parameters of your project (size, type of equipment, expected annual savings) are known, it is possible to get rate comparisons by calling the firms active in this market. A relatively small number of reputable finance organizations specialize in energy projects at Federal facilities. Formal competition for financing (particularly for smaller projects) may result in administrative costs that exceed the value of the competition. Consider a comparison of rates rather than formal competition. Ask your utility for a comparison of rates for recent project financing of similar dollar amounts. The Federal Energy Management Program (FEMP) can provide guidance based on other projects and can help you to identify sources for comparison.

Why Bother?

What are a few basis points worth over the term of your loan? The amount depends on the capital investment financed and the length of the term, but it can be significant. For example, with a 10-year term, an increase of just 30 basis points from 7.0% to 7.3% has the following impacts:

Investment Value Increased Cost* over the term for 30 basis points

\$1.5 million project \$ 83,780

\$4.5 million project \$251,340

\$6.0 million project \$363,100

*These dollars could be better spent on facilities improvements.

4. Use standard terms and conditions

Contract clauses and formats that are unfamiliar to the finance company can increase risk because they are different from what has been tried and proven. They may also lead to significant increases in transaction costs and longer timetables for execution. To keep costs low, try to use the standard terms and conditions and contractual forms already established for UESCs in the area-wide energy services annex and model agreements with your utility and finance company.

5. Negotiate buy-down and prepayment formulas in advance

Standard language for buy-down, prepayment, and termination (for convenience or otherwise) with pre-negotiated terms and conditions can, in some cases, hold finance costs down. If these terms are not clearly set forth in the contract, it will significantly increase risk and could cause the government serious problems with future contract administration. (See page 4.)

6. Structure appropriate measurement and verification

Cost-effective measurement and verification of energy efficiency improvement and savings, coupled with a performance guarantee, is strongly recommended and can be achieved through alternatives to a contractual cost-savings guarantee. Finance companies reportedly establish the interest rate primarily on the basis of the experience and expertise of the utility and its subcontractors, relying on their credibility to evaluate the risk of specific technologies. While the margin for specific technologies set by the utility can be reduced by negotiating reasonable measurement and verification criteria, interest rates should not be affected by the complexity of the energy conservation measures.

7. Include explicit language minimizing risk to the finance company

A payment structure that minimizes risk to the finance company is the central element of reducing perceived risk and obtaining a lower interest rate. To keep rates low, include clear terms for how and when payments will be made, demonstrated ability to comply with those terms, and standard clauses to protect the finance company from offsets and future claims related to performance (assignment of claims).

Additional Savings

Savings may be possible by ensuring that the payment stream to the finance company will not be affected by performance guarantees.

Example

In a Department of Defense project, contract language helped ensure that the payment stream to the finance company would not be interrupted

even though the utility included an energy savings performance guarantee in the contract. This reportedly helped obtain a discount of nearly 100 basis points (1%) in financing. The project was signed in 1999 for \$15 million at 7.0% interest. The estimated benefit to the government of a 100 basis point reduction in interest, given the 10-year term and total investment, was near \$2 million.

8. Avoid unnecessary hedge costs: do not buy an interest rate “lock”

To keep government costs (and the long-term interest rate) low, it is not necessary to require a guaranteed or fixed interest rate long before the date of award. Instead, a formula based on an index rate (e.g., T-bill or swap rate) and adders should be negotiated and set forth in the contract, stating how the final rate will be established on or near the day the delivery order contract is signed. The finance company should set the interest rate as close to the actual contract date as possible, in order to reduce the risk of rising rates and eliminate the hedge cost.

9. Bundle energy conservation measures

Bundling many energy conservation measures (ECMs) together can result in lower rates and more conservation

for each dollar invested. Bundling also offers the facility other benefits by reducing contract and administrative burdens and optimizing energy savings. More ECMs and greater facility improvements can be included when those with longer-term payback periods are bundled with and offset by those with quick payoff terms. Just as some finance companies are bundling projects to attract lower interest rates from a portfolio risk management perspective, facility managers can also spread out the perceived performance risk by combining many ECMs.

10. Show that the project is important for the facility and that the facility is expected to have a strong mission during the contract period

Most finance companies look on a Federal government contract as a secure investment. However, any uncertainty about the future operation of the facility can increase the perceived risk of premature contract termination and finance costs, or put the deal in jeopardy during negotiations. To decrease perceived risk, ensure that the finance company understands that this project is an important asset for the facility and that the facility is expected to have an ongoing mission that will outlive the project’s contract period. Provide documentation, if necessary.

Using Annual Payments to Decrease the Total Interest Paid

The annual payment option allows the government to pay for an entire fiscal year (12 months) of payments in advance. This method is attractive to finance companies and may also fit Federal budget and finance constraints, saving the government a substantial amount of interest expense. Savings are generated because the financing is amortized quicker, and less interest accrues over the term of the project financing. But note one important feature: the interest rate used for a monthly amortization is lower than that used for an annual amortization (mathematically known as the bond equivalent yield). However, even with the slightly increased interest rate, interest payments over the payment period are less than monthly payments. The net effect is that total interest payments decrease, depending on the term, by 8% to 14%.

Example 1

Finance term:	120 months (10 years)
Project amount:	\$10 million
Monthly interest rate:	8%
Monthly payment:	\$121,327/month
Annual interest rate:	8.3%
Annual payment:	\$1,394,758/year
Total monthly payments:	\$14,559,310
Total annual payments:	\$13,947,580
Savings from annual payment:	\$611,730
Interest savings:	13.5%

In some cases, finance companies prefer that the annual payment be made on December 1 so they are assured that the agency will have received its annual appropriation. The two examples show approximate savings for different amounts and contract periods.

Example 2

Finance term:	240 months (20 years)
Project amount:	\$20 million
Monthly interest rate:	8%
Monthly payment:	\$167,288/month
Annual interest rate:	8.3%
Annual payment:	\$1,923,112/year
Total monthly payments:	\$40,149,122
Total annual payments:	\$38,462,252
Savings from annual payment:	\$1,686,870
Interest savings:	8.3%

Recommended Buy-Down/Buy-Out Prepayment Approaches

Most project contracts for energy services allow the government to prepay the financing obligation at any time during the term of the contract in accordance with a preestablished termination schedule. When underwriting a long-term debt obligation, an investor or lender is committing its assets to an investment that is expected to provide a fixed rate of return over the term of the contract. If the investment is prepaid, the investor or lender must take the prepayment proceeds and reinvest them in another financial instrument that will, hopefully, ensure the same rate of return, regardless of current market conditions.

Historically, the Federal finance marketplace has experienced few terminations for convenience or prepayments. Because of this, there should be little, if any, premium paid by the government for its right to prepay. However, to the extent that the government begins to consistently and systematically prepay, and particularly should prepayments be based on lower market interest rates, then it is likely that a premium of between 25 and 50 basis points would be charged for the prepayment right. The government can obviously reduce its costs associated with prepayments (such as the termination

liability premium, interest rate premium, or make-whole penalties) by limiting prepayments to actual terminations for convenience.

Minimizing Prepayment Costs

An alternative to paying a premium rate (thus having increased monthly payments over the entire term of the financing) provides a means of protecting against a possible prepayment shortfall. Customers and borrowers typically choose to use a formula that reflects the current interest rate at the time a prepayment is made. This ensures that prepayment is not paid for as an additional assessment to the monthly payment, but rather in the form of the actual cost at the time of the event. Thus, the government does not pay an increased interest rate for an option that may never be exercised.

The Federal finance marketplace has several other ways to minimize prepayment cost to the government. Some finance companies have substantially reduced the effective risk of prepayment, without charging the government an interest rate premium or the use of a make-whole formula by aggregating Federal transactions into portfolios. In this case, the number of projects financed spreads the potential of prepayment and the perceived financial risk over all projects. Another way that prepayments can be accepted without adding a premium or penalty is by allowing the finance company to reinvest the money for the benefit of the government and use the accrued interest and principal to shorten the term of the transaction.

Projects for single transactions that are not financed as part of a larger portfolio may indeed receive a lower interest rate if a make-whole formula is inserted into the contract. Some finance companies offer a lower financing rate if a make-whole clause is used, others do not. The make-whole premium will not compensate the government for the benefit enjoyed by the finance company should the prepaid funds be reinvested at a higher rate, but will cost the government money if rates have fallen. The make-whole clause may limit future flexibility because it does not allow refinancing if rates go down during the contract term. The formula, in contrast with a fixed amortization schedule, is designed to protect an investor should the government elect to prepay a finance obligation at a time when interest rates (treasuries or swap rates) are lower than when the financing was originally initiated. The formula offers investors or lenders protection for yield maintenance. At the same time, it allows the government to take advantage of a substantially lower interest rate. The impact of the make-whole provision should be evaluated in detail in order to decide on which prepayment strategy is the best.

Recommended Prepayment Formula Clause

The following is a draft clause that could be considered a way to establish a mutually agreeable prepayment formula if that course of action is believed to be the best for the specific situation (if swap rate is used, the reference should replace that of Treasury bill).

This task order provides that if the government prepays the task order at any time during the term, the government agrees to give the contractor thirty (30) days prior written notice and to pay a yield maintenance amount plus the un-amortized principal balance of the total funding amount plus accrued interest. The yield maintenance amount shall be equal to the difference, if positive, between (1) the net present value of the payments remaining to be paid through the term of the payment period, and (2) the un-amortized principal balance of the total funding amount. The calculation of the net present value shall assume that each remaining payment is made on the relevant payment due date and shall be discounted to the effective date of the prepayment at an interest rate equal to the sum of (i) the yield-to-maturity of a United States Treasury obligation having a term most closely approximating the average life of the un-amortized principal balance of the total funding amount, and (ii) one-half of one percent (1/2%). Such implied yield shall be determined, if necessary, by (a) converting U.S. Treasury bill quotations to bond-equivalent yields in accordance with accepted financial practice and (b) interpolating linearly between yields reported for various maturities.

In the event the government terminates or cancels the task order for any reason whatsoever after acceptance (including, without limitation, termination pursuant to the clause entitled "Termination for Convenience of the Government"), the Government agrees to pay the sum of (x) the yield maintenance amount calculated as described above and (y) the unamortized principal balance of the total funding amount plus accrued interest. The government acknowledges and agrees that the payment of such amounts are reasonable and allowable costs with respect to the task order."

Competition Between Franchised Utility Companies

There is no legal requirement to compete for utility incentive services provided by the “established source” utility company to a Federal facility in the utility’s franchised service territory. The Energy Policy Act of 1992 states that there should be no restriction on the Federal facilities directly availing themselves of the same service as any other customer. However, if there is more than one serving utility company offering utility energy services (for example, a gas company and an electric company), the Federal Acquisition Regulations and good fiscal management would require the government to evaluate each utility and select the one that provides the best value. This evaluation can be as simple as a discussion of the experience, expertise, and specific offer of each, to limit the administrative costs on both public and private sectors, or as rigorous as a formal competitive procurement process. The decision to compete and the level of competition are completely at the discretion of the Federal facility, based on the specific situation and unique constraints and opportunities. It is also strongly recommended that the utility company be required to competitively select the technical subcontractors to do the actual work and that the subcontracting plan comply with the Federal utility contract requirements (either General Services Administration [GSA] area-wide or other delegated authority contract).

Water Conservation Best Practices

Federal sites across the country are incorporating water-efficiency measures as part of their overall comprehensive UESC projects. As it becomes more difficult to secure internal funding for efficiency projects, working with your local utility can be a very effective way to implement a comprehensive program that incorporates water-efficiency measures.

Why Water Conservation?

The rising cost of water and sewer services is one reason sites should include water-efficiency measures as part of their overall efficiency program. There’s a reason that water has become a national priority. A recent government survey showed at least 36 states are anticipating local, regional, or statewide water shortages by 2013 (U.S. EPA). For the first time, water efficiency goals have been established through Executive Order 13423. Agencies are required to reduce water consumption intensity by 16 percent by the end of fiscal year 2015 based on 2007 consumption levels.

Water-efficiency technologies often have short payback periods of six years or less. Many water-conservation measures not only save water but save energy as well, used in both heating and pumping. Utilities and sites are discovering that incorporating water conservation as part of an energy program helps to buy down the overall cost of the project. In one case, a utility was able to include an additional 15% of mechanical work by implementing water-efficiency measures in comprehensive energy projects at Federal sites.

Water-Efficiency Improvement Best Management Practices

FEMP developed “Water-Efficiency Improvement Best Management Practices” (BMPs) as part of the program established in Executive Order 13123. Although Executive Order 13123 has been superseded by Executive Order 13423, agencies are encouraged to continue striving to achieve the BMPs to reduce Federal water consumption.

Use these highly recommended BMPs as a guideline for incorporating water conservation in your comprehensive UESC projects:

BMP # 1 - Public Information and Education Programs

BMP # 2 - Distribution System Audits, Leak Detection, and Repair

BMP # 3 - Water-Efficient Landscape

BMP # 4 - Toilets and Urinals

BMP # 5 - Faucets and Showerheads

BMP # 6 - Boiler/Steam Systems

BMP # 7 - Single-Pass Cooling Systems

BMP # 8 - Cooling Tower Systems

BMP # 9 - Miscellaneous High Water-Using Processes

BMP #10 - Water Reuse and Recycling

These BMPs can be found on the FEMP website at http://www1.eere.energy.gov/femp/water/water_fedrequire.html

For More Information

FEMP Help Desk: 1-877-337-3463 (DOE-EERE Information Center)

FEMP Website: <http://www1.eere.energy.gov/femp/about/index.html>

UESC Website: <http://www1.eere.energy.gov/femp/financing/uescs.html>

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