

#100 EXECUTIVE SUMMARY

EUA Cogenex - U.S. DOE

Forrestal Building Lighting Retrofit

The U.S. Department of Energy's retrofit of its own headquarters, the James Forrestal Building located at 1000 Independence Avenue, is a unique and symbolic project for a number of reasons. Its shared savings financing plan, funded in part by the local electric utility, and financed by EUA Cogenex, a leading energy service company, represents an important trend in the capture of energy efficiency in the United States. The retrofit required essentially no outlay of U.S. taxpayers' dollars and will result in a revenue stream of savings over time. Less well known, however, is the living proof that energy efficiency can not only save energy but can enhance the quality of the workplace. Retrofitting 37,000 fixtures has provided far more attractive lighting and workers report high levels of satisfaction with the project. And while energy efficiency gains were clearly made, light levels were increased by 165% from an average of 30 footcandles to 50 footcandles to enhance the quality of the workplace.

From a project management standpoint the project was also exemplary. Asbestos in the ceilings made the fixture retrofits complex. Nevertheless, work was completed on time and in 178 days. At the height of the activity, fully 675 fixtures were retrofitted each night using 20 men working ten-hour shifts, four days a week. To address the asbestos, minimal intrusions were made in ceiling panels. Crews working at night worked in concert with clean-up crews following installers, all checked and cleared for security purposes. (The Forrestal Building is perhaps one of the most secured building in Washington after the Pentagon due to DOE's role with nuclear energy for both civilian and military applications).

The Forrestal retrofit also is a model of the Federal Energy Management Program. The seven-year shared savings arrangement coordinated by EUA Cogenex, an energy service company located in Lowell, Massachusetts, allows the DOE to engage in the retrofit with no out-of-pocket expenses and will result in savings of \$400,000 annually. A million dollar prescriptive rebate from Potomac Electric Power Company provided additional support for the project participants to engage in more sophisticated retrofits. Under the terms of the agreement, for the first three years the DOE will retain 27% of its energy savings while paying EUA the 73% balance. For the final four years, the DOE will keep 85% of its savings while paying EUA Cogenex the remaining 15%. As such the Forrestal Building retrofit is a primary example of effective leveraging resources through Federal government, energy service company, and utility collaboration.

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EUA COGENEX - U.S. DOE Forrestal Building Lighting Retrofit

Sector:	Federal buil	dings
Measures:	Comprehen: including hig fluorescent specular ref. occupancy s	sive relighting gh-efficiency lamps, fixtures, lectors, ballasts, and sensors
Mechanism:	Seven-year shared energy savings contract between EUA Cogenex and the U.S. Department of Energy coupled with a \$1.16 million rebate from Potomac Electric Power Co.	
Hi s tory:	Proposed in 1989; 1990 building energy analysis; RFPs issued in 1991; 1992 live test demonstrations; retrofit work completed in 1993; extensive post-installation monitoring continues	
1993 PROGRAM DATA		
Energy savings:		5,566 MWh
Capacity savings:		1,187 KW
Annual cost savings:		\$399,057
CUMULATIVE DATA		
Seven-year energy		
l iteructe energy sovings:		33,302 MM/h 83 490 MM/h
Seven-year cost savings:		\$2,793,399

The Results Center produced 126 profiles of the most successful energy efficiency and renewable energy programs in the United States and around the world in the early and mid 1990s. With the support of the John D. and Catherine T. MacArthur Foundation, Ted Flanigan directed a research team at Colorado-based IRT Environment to produce and distribute these exceptional examples. Thanks to strong demand for solid case studies, The Results Center was supported by dozens of major utilities and energy associations worldwide. Today, The Results Center is managed again by Ted Flanigan, now at California-based EcoMotion Incorporated, a firm focused on strategic consulting, information dissemination, program design, outreach services, and aggressive implementation. To nominate highly successful programs, contact: The Results Center, c/o EcoMotion, 15375 Barranca Parkway, F-104, Irvine, CA 92618, (949) 450-7155, or TFlanigan@EcoMotion.us