

VILLAGE OF FREEPORT - FREEPORT ELECTRIC

Energy Efficiency, Conservation & Awareness Program

EECAP

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R1 – 9/17/09

R2 – 1/15/10

“Energy Efficiency, Conservation & Awareness Program” (EECAP) outlined in the following pages will provide details on how Freeport Electric believes everyone should confront the need to address these issues. Our goal is to provide our community with the tools it needs to understand and manage its energy usage behavior.

Executive Summary

Freeport Electric was established by Public Referendum in 1897. The Utility commenced operation in April 1898 and provided power for 24 carbon lights. As applications for electric service began to grow, the Utility developed a rate structure to meet the demand. Much has changed since 1898. Today, Freeport Electric serves a community of over 45,000 people with a customer base of approximately 15,000 meters. The Utility operates two generating stations with a total installed capacity of 78 MW and has a system peak of 65 MW. A new interconnecting substation was energized in December of 1996 and has a capacity of 84 MW. This substation operates at 138 kV, is 100% redundant, and can be easily expanded in the future to carry up to 138 MW.

The bulk of the Utility's energy requirements are met with hydropower purchased from the New York Power Authority (NYPA). The Utility continues to first rely on that hydropower purchased from NYPA. The Utility has succeeded in meeting the growing electrical energy needs of the community in a reliable and cost effective manner. In recent years, however, it has become apparent that the growth in energy usage we long viewed as a sign of prosperity is nearing levels which cannot be sustained on a global basis.

Energy efficiency is first and foremost a matter of controlling and reducing energy demand, although targeted actions are required for both energy consumption and energy supply. "Business as usual" is not a sustainable response. The "Energy Efficiency, Conservation & Awareness Program" (EECAP) outlined in the following pages will provide details on how Freeport Electric believes everyone should confront the need to address these issues. Our goal is to provide our community with the tools it needs to understand and manage its energy usage behavior.

Plan Description

EECAP will focus on three program plans: Energy Efficiency, Customer Education, and Marketing and Administration.

Energy Efficiency

This plan will entice Freeport Electric customers to take action to use electricity more efficiently by investing in cost effective energy conserving technology. Initial planning will be conducted to identify technology that will allow electric customers to save money on their utility bills, lower their financial impact on the community, and lower their energy usage impact on the environment. Funding availability will be assessed, financial incentives will be developed, and procedures shall be instituted to allow customers to participate in the propagation of various programs targeted at the various classes of customers (residential and commercial). Initial programs expected to be implemented include:

a. Retrofit Municipal Buildings (Recreation Center and Electric Main Office)

FYE 2010:

- The Recreation Center uses outdated inefficient boilers to heat the showers in the Recreation Center. During the non-heating months the big boilers were run only for hot water – extremely inefficient. The addition of the new heaters to the mechanical system allowed the Recreation Center to shut down the old boilers during the non heating season and use the hot water heaters to heat the shower water. This reflects a significant impact on the cost to heat water for the building. Expected savings is 6500 therms/year.
- The Electric Department uses window AC's and electric base board heat – this will be replaced with high efficient mini-split heat pump system. Freeport Electric is entering into an agreement with the HVAC Engineering and Air-conditioning Firm to engineer and design an energy efficient heating and cooling system.

FYE 2011:

- Power Plant 2 uses fire boilers designed to heat jacket water for the 2-diesel fired generators. The same water is also used to heat the office space. In 2004 we decommissioned the 2 diesels and currently use the old boilers only to heat the offices. It is planned to decommission the old boilers and replace the boilers with domestic home boilers.

Power Plant 1 uses old fire boilers to heat jacket water for 4 diesel fired generators. The plan is to Preheat Jacket water for #9, 10, 11, and 12 Engines with electric 40 gallon domestic hot water heaters.

b. Solar Initiative

Our successful award of \$125, 000 from the New York Power Authority incentive program for Municipal and Rural Electric System Cooperative Customers is a grant incentive program for any installation within our electric system (i.e. any residential customer, commercial customer or any municipal building). As a result of the award Freeport Electric is offering \$4/watt rebate on solar installations up to 10kW. All Freeport customers are eligible. Four specific locations have been identified.

Our successful \$355,072 award from the DOE through NYSERDA will allow the utility to construct a 50Kw solar array on Fire Headquarters. This project is funded entirely with grant money. It will reduce energy consumption by 60,000 kWh annually, reducing carbon output by almost 5,000 lb's annually. All Village residents benefit from the reduced operating costs of FireHeadquarters.

c. Electric Vehicle Program (EV)

The EV Program will be purchasing more energy efficient and environmentally friendly highway transportation technologies that will enable Freeport to use less petroleum. The long-term aim will provide us with greater freedom of mobility and energy security, while lowering costs and reducing impacts on the environment.

FYE 2011

We will be purchasing a hybrid bucket truck.

The vehicle is estimated to save 30% to 55% of fuel, based on similar prototype vehicles. With an annual consumption of 1,000 gallons of diesel fuel, at \$3 per gallon and an approximate minimum reduction of 30% in fuel, We will save 300 gallons of fuel per year for total savings of \$900 dollars. The CO2 emissions will be reduced by 5-10 tons annually.

d. Street Lighting Replacement Program

This program will upgrade current high pressure sodium lights to more efficient longer lasting Induction Light design. Street lighting is an integral part of the municipal environment serving local business, promoting economic development, enhancing safety, security and the aesthetic appeal of surrounding property. Street lighting increases the perception of safety and security, reduces vehicular accidents, improves pedestrian visibility, increases commerce, creates a

particular architectural “look”, illuminates building facades and responds to public demand.

FYE 2010:

Our successful award of \$173, 000 from the DEO will allow the utility to replace 340- 100w HPS (123w nominal operating wattage) “cobra head” street lights with 80 w induction lights. We will see a reduction in green house gas emissions of 1,379,896 pounds of CO when all lights are converted.

We will save the Village \$197,000 annually when all lights are converted.

FYE 2011

We anticipate replacing 160- 100w HPS (123w nominal operating wattage) “cobra head” street lights with 80 w induction lights. This will be an on-going program until the entire Village has been completed.

e. Weatherization - NYPA Partnership Program

FYE 2011:

- i. Freeport Electric will offer all Freeport homeowners a Free Home Energy Study that will provide homeowners with the tools necessary to make improvements in their home that will save 25% or more of their total energy bill. This work can be done either with the help of approved implementation partners or by the homeowner. This program helps customers cost justify/evaluate the economics of installing energy efficient products. By forming a partnership with NYPA, Freeport Electric will be able to offer its residential customers a proven program targeting the “Low Hanging Fruit.” The low hanging fruits are the efficiency improvements that offer the highest return on investment.

f. Compact Fluorescent Light (CFL) Bulb Program

FYE 2011:

This initiative is intended to demonstrate the positive impact that the CFL can have to reduce the amount of energy used for lighting, especially at the residential level. We will offer a pair of free indoor fluorescent light bulbs to every customer (two 60 watts equivalent / 15 watts). This will also increase awareness and hopefully stimulate the purchase of additional bulbs. A program will be implemented for the collection and recycling of old CFL bulbs. We will see a reduction in green house gas emissions of 3,154,224 pounds of CO when all 26,100 CFL lights have replaced the same amount of incandescent lights. Homeowners will save \$15.00 annually when both lights are replaced.

Education Program

FYE 2011:

Our objective is to build awareness of our energy efficiency programs and to make sure our customers understand the benefits of these programs from an energy savings and environmental standpoint. This education program will focus on the education of both Freeport Electric Staff and the public regarding the impacts of energy usage on a wide variety of levels. There are many low-cost, simple things that customers can do in and around their homes to reduce energy use and save money. The first step customers will be counseled to take is to request an energy audit on their home. The scope and objectives of the Education Program are outlined below.

a. Customer Education Program:

- i. Education helps customers feel more committed to the program and gives customers some control over their energy usage and savings.
- ii. **Presenting a Power Point presentation on “Helping Customers Manage High Bills”**: Energy efficiency is the quickest, cleanest, and most economical way to reduce energy use and save money on your energy bill. This power point presentation is intended to provide information on the benefits of using energy efficient products. It will show the impact that energy consumption within our community creates from a financial and environmental perspective, and suggest ways that energy can be used more responsibly.
- iii. Providing teaching aids for primary and secondary schools.
- iv. Wise Energy Use – an interactive Web tool that practices wise energy use to save money while saving the planet. We will create a link on our Web page directing users to “Wise Energy Use”.
http://iec.electricuniverse.com/eu_wiseuse.php?sec=5&mc=0&sc=0&pn=wiseuse_home.html
- v. Louie the Lightning Bug – This is intended for primary school children. Louie the Lightning Bug® has been associated with electrical safety since 1983.
- vi. Primary and secondary school presentations of a working model of the Village of Freeport’s Electric Distribution System.

b. Staff Education Program

- i. The staff will attend American Public Power Association (APPA) seminars dealing specifically with energy efficiency programs.

Marketing and Administration Plan

Marketing is an important part of any energy efficiency program. In order for a program to be successful, customers must be interested in participating. The Utility must understand and identify all income market segments, and market the program in a way that will minimize barriers and maximize participation. An important component of this marketing strategy is that customers be contacted by someone they trust. The Utility will take the following steps to inform the public of the energy efficiency program.

- i. Press Release – prepare and issue a press release to the local media to coincide with the implementation on our website of the applications.
- ii. Bill Envelope Message – print on the outside of the billing envelope (or print and insert the message into the bill) an announcement regarding the implementation of the energy efficiency programs.
- iii. Email Strategy – send out an email announcement to our customers for whom we have email addresses; send periodic email newsletters and reminders about the applications to serve their needs.
- iv. Brochures / Advertising Campaign – have available to hand out to the public 1500 professionally printed brochures; implement some distribution to the public; place in Village Hall, the Recreation Center and the Library.
- v. Posters – The installation of large posters at key areas in the Village such as in Village Hall, the Library and the Recreation Center. Posters would be changed seasonally.
- vi. Installation of Truck Decals on all trucks - the decal will say “for energy tips visit our Web site at www.freeportelectric.com”.