Tennessee Valley Authority
Annual Report on Energy Management
FY 2004

(Including Department of Energy
Reporting Guidance and Outline)

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OUTLINE AND INSTRUCTIONS FOR THE ANNUAL REPORT

I. Management and Administration. This section will describe (1) the agency's establishment of an energy management infrastructure and (2) the agency's use of management tools to implement Executive Order 13123.

A. Energy Management Infrastructure

1. Senior Agency Official. Identify the agency's senior energy official and describe the official's role and responsibilities.

LeAnne Stribley is the designated Senior Energy Official and Executive Vice President of Administration.

Stephen L. Brothers manages the TVA Internal Energy Management Program (IEMP) and is Senior Manager of Energy Legislation and Management under Administration.

David R. Zimmerman is the manager of Sustainable Design under Energy Legislation and Management.

2. Agency Energy Team. Identify the members of the team and describe the team's responsibilities.

TVA formed the Agency Energy Management Committee (AEMC) to facilitate compliance with federal statutes, Executive Orders, federal regulations, TVA energy and related environmental management objectives, and obligations under the Environmental Protection Agency's (EPA) Green Lights Program (GL), EPA's Energy Star Buildings Program (ESB) and EPA's Energy Star Program (ESP). The AEMC serves as the agency energy team. This committee is comprised of representatives from each TVA organization responsible for energy management and associated environmental considerations in facility and general operations inside the agency. The AEMC provides an avenue for sharing lessons learned and replicating success. The members are:

- **Stephen L. Brothers, chairperson for the AEMC;**
- **Paula R. McManus, Fleet Management;**
- **David R. Zimmerman, Sustainable Design;**
- **David W. Stewart, Fossil;**
- **Aaron B. Nix, Facilities Management Environmental;**
- **William R. McNabb, Facilities Management O&M;**
- **Jay T. Grafton, Nuclear;**
- **Teresa S. Wampler, River System Operations and Environment;**
- **David R. Dinse, Research and Technology Applications;**
- **Bryan H. Jones, Information Services;**
- **Jonnie A. Cox, Facilities Management Projects;**
- **David A. Gordon, Heavy Equipment;**

- **Judy G. Driggans, Chief Financial Officer representative;**
- **Barry M. Gore, Transmission/Power Supply;**
- **V. Edward Hudson, Demand Side Management Program;**
- **Justin C. Maierhofer, Communications and Government Affairs;**
- **David R. Chamberlain, Customer Service and Marketing;**
- **Tina I. Broyles, Transmission/Power Supply alternate; and**
- **Sherri R. Collins, Office of General Counsel.**

B. Management Tools

1. **Awards (Employee Incentive Programs).** Describe the agency's use of employee incentive programs to reward exceptional performance in implementing Executive Order 13123.

   TVA utilizes pay for performance as one method to reward employees' efforts toward meeting agency goals. One of the benefits to TVA's agency goals is savings attributed to the implementation of cost effective energy and related environmental projects. Examples of pay for performance goals include reduction in cost per square foot for building operation which results in the reduction of utility costs.

2. **Performance Evaluations.** Describe agency efforts to include successful implementation of provisions of Executive Order 13123 in the position descriptions and performance evaluations of senior energy officials, members of the agency energy team, heads of field offices, and facility/energy managers.

   To the extent to which employees are responsible for activities that are related to the objectives of Executive Order 13123 (E.O. 13123), their job descriptions contain reflective line items and their performance is evaluated in terms of the extent to which they accomplish such goals.

3. **Training and Education.** Describe activities undertaken to ensure that all appropriate personnel receive training for energy management requirements. (Note: The number of employees trained will be reported on the agency's Data Report and Energy Scorecard. Expenditures on training will also be reported on the Data Report). Describe agency outreach programs that include education, training, and promotion of ENERGY STAR® and other energy efficient and low standby power products for Federal purchase card users.

   Multiple methods of training are used to accomplish the objectives of the IEMP. The TVA Intranet and employee awareness programs are used as tools to educate employees on how they impact energy efficiency and use both at work and home. Energy efficiency and information updates are provided on current federal requirements and regulations to employees, managers, and TVA customers upon request. Energy management and associated environmental training is provided to managers and employees as needed. TVA also educates staff on energy and environmental related topics through the TVA University.

4. **Showcase Facilities.** Highlight exemplary new or existing facilities that the agency has designated Showcase Facilities in FY 2004. Describe why the facilities are considered Showcase Facilities (i.e., discuss the facility design, the

improvements made in energy or water efficiency, the use of renewable energy, etc.).

The TVA Chattanooga Office Complex (COC) continued to be TVA's designated Showcase Facility for FY 2004. The COC was completed in 1986 and encloses approximately 1.2 million square feet of floor area, and is made up of five interconnected buildings (Signal Place, Lookout Place, Blue Ridge, Missionary Ridge, and Monteagle Place). It integrates the use of passive energy strategies, energy management practices, and environmental programs and activities. Occupants' daily activities have been recognized as a major component in facility performance. Energy and environmental awareness programs have been established to inform the occupants of the impacts their actions have on this performance. The combinations of original design elements, energy and environmental activities, and aggressive energy reduction operation and maintenance efforts have resulted in the COC becoming a model facility.

During FY 2004 we continued to consolidate TVA space to reduce cost. This resulted in an increase in the occupancy density of the COC. To offset the increased energy demand from this increased density we continue to investigate energy efficiency measures and have implemented measures which include:

- **Better placement of task lights resulting in reduction of numbers used;**
- **Use of digital lighting controls which can be operated from the users PCs;**
- **Orienting offices to better utilize daylighting over mechanical lighting;**
- **Use of more efficient T5 lighting in place of existing T8 and T12; and**
- **Use of more efficient flat panel displays in place of conventional cathode ray tube displays.**

ENERGY MANAGEMENT AND ASSOCIATED ENVIRONMENTAL EFFORTS

Energy consumption in the COC exceeds TVA's target for facility design and the FY 2010 building energy reduction goal established in E.O. 13123. This low energy consumption rate supports the reduction of CO_2 and other environmental impacts at the source.

Since initial construction, additional energy and environmental improvements have been implemented in the COC. One of these improvements was the design and installation of a chilled and hot water storage system for the COC and Monteagle Place (MP) buildings. The system allows the two buildings, through a symbiotic relationship, to better use site energy and reduce the need for source energy.

COC Original Design Features:

- **VAV air handlers with full economizer capabilities;**
- **Energy Management and Control System (HVAC, Lighting, Fire);**
- **Heat recovery from MP chillers;**
- **Approximately 30 footcandles of ambient lighting supplemented with daylighting and task lighting;**
- **Renewable energy attributes such as daylighting; and**
- **Thermal storage through structural and fluid mass.**

Additional Improvements:

- **Chilled water crossover piping allows the COC and adjacent facility to share chilled water and run the most efficient mix of chillers;**
- **Water fountains are heated and cooled through heat exchangers to better manage temperature and humidity in the building;**
- **Motion sensors and timers have been installed in the COC (i.e., conference rooms, restrooms, enclosed offices, closets, etc.);**
- **LED exit lights have been installed;**
- **Energy efficient lighting has been added;**
- **COC storage tanks are used for chilled and hot water storage (3 x 19,000 gallons);**
- **Heat exchangers and chilled water were used to cool the secondary water loop allowing the abandonment of rooftop evaporative coolers and associated fans, motors, and sump heaters;**
- **Equipment (i.e., fixtures, motors, ballasts, chillers etc.) was upgraded to energy efficient models as failures occurred;**
- **Variable Frequency Drives (VFDs) and energy efficient motors have been installed on all large air-handling units;**
- **The energy management system has been upgraded to be more user friendly;**
- **Chiller efficiencies have been evaluated so the most energy efficient mix of chillers can be run for operating conditions;**
- **Upgrading to more energy efficient equipment is evaluated during modifications (fixtures with T-8 lamps and electronic ballasts, etc.);**
- **Energy efficient motors are installed where applicable;**
- **During purchase of replacement parts, energy efficient and environmentally friendly materials were ordered and stocked;**
- **Chillers have been retrofitted to accept non-CFC refrigerant;**
- **Energy Star equipment was installed where applicable; and**
- **Building entry air locks with automated doors have been installed to reduce the infiltration of outside air.**

ENVIRONMENTAL PROGRAMS AND ACTIVITIES

TVA demonstrates a commitment to environmental stewardship through the implementation of its environmental programs and activities at the COC. Examples of these efforts include, but are not limited to, toxic reduction, affirmative procurement, waste minimization, and recycling.

Toxic Reduction:

TVA continues its efforts to reduce the amount of toxic chemicals used in its operation and maintenance activities for the building. The volume of toxic chemicals purchased in corporate office buildings has been reduced by over ninety percent since 1994. The COC is the largest single contributor to this effort.

Affirmative Procurement:

TVA reduces environmental impacts at the COC and other facilities through affirmative procurement of materials with recycled content. In FY 2004, TVA supported its Corporation-wide Affirmative Procurement Policy and through the implementation of the revised Agency Affirmative Procurement Plan. During FY 2004 TVA purchased $5.76 million of materials meeting guidelines established under the Resource Conservation and Recovery Act (RCRA) out of $10.6 million (fifty four percent), and $44.6 million of other recycled content materials.

Waste Minimization and Recycling Programs:

TVA is a Federal Charter Partner in the EPA "WasteWise Program." Through this program, TVA has made a commitment to achieve results in three areas:

1) **Waste prevention;**
2) **Collection of recyclables; and**
3) **Use of recycled materials.**

This aligns with TVA's mission of stimulating economic growth by protecting the Tennessee Valley's natural resources and building partnerships for the public good. TVA has established the Solid Waste Leverage Team and a Solid & Hazardous Waste Regulatory Policy Team to support the "WasteWise Program."

During FY 2004 TVA generated 12,819 tons of solid waste which includes corporate facilities such as the COC. TVA partners with a nonprofit organization which trains and develops work skills in mentally and physically challenged clients. These clients, in conjunction with their respective organizations, collect, sort, and market the recycled material from the COC. In addition to the typical office waste recycling, TVA continues its efforts in recycling fluorescent light tubes, oil, scrap metals, building materials, wood waste, and ballasts. TVA also utilizes a redeployment program which collects and redeploys used equipment and materials. During FY 2004 TVA deployed 15,416 tons of material and equipment through scrap contracts, auctions and sales, and donations.

Sustainable carpet is used throughout the COC. This carpet contains and uses high performance backing made from one hundred percent recycled content. TVA has an agreement with the carpet manufacturer to recycle carpet removed from the COC which has kept used TVA facility carpet out of the landfill while saving an equivalent amount in raw materials.

5. **Other Energy and Related Environmental Initiatives.** Highlight new or existing energy and related environmental initiatives that the agency has accomplished in FY 2004. Provide a brief description of these initiatives.

INDUSTRIAL INITIATIVES

TVA provides assistance that focuses on providing solutions to energy-related problems in the manufacturing environment for their direct-served and distributor-served industrial customers. TVA works with clients to help them identify and solve problems related to their use of energy in areas such as: manufacturing processes; environmental issues; and plant operations. The targeted segments, such as the automotive, machinery, forest products and food processing industries are selected because of the large presence of such industries in the TVA service area, their high energy usage, or the availability of solutions for their existing problems. The TVA industrial marketing managers rely primarily on in-house expertise, but sometimes bring in consultants to assist these industrial clients.

The following are two examples of TVA energy assistance to industrial customers:

1. **TVA representatives developed and co-chaired an in-house energy conservation team to identify and implement energy cost savings opportunities at the GM Spring Hill (Saturn) automobile assembly plant. The team achieved savings in excess of $1.4 million in FY 2004 and over $5 million since the beginning of the initiative five years ago.**

2. **TVA provides environmental and operational assistance to industrial pretreatment systems and municipal wastewater systems. In the case of a food processor in west Tennessee, TVA was able to help reduce the operating costs of the pretreatment system by over half. The changes in operation that TVA recommended resulted in the receiving municipal system being able to improve their efficiency and reduce their motor load. The combined savings to the industry and the community are 464,280 kwh/yr.**

COMMERCIAL INITIATIVES

TVA works with Tennessee Valley commercial and institutional customers to provide solutions to their energy-related problems and to encourage the selection of energy efficient equipment. For example, TVA is working with schools, governments, offices, retail, healthcare, and other commercial segments to provide information on the various energy options available to them. As part of that effort, TVA provides feasibility studies conducted by independent private sector professional engineers to compare different types of systems on a life-cycle-cost basis. Also, if the customer is interested in closed loop geothermal heat pumps, TVA will provide test bores and thermal conductivity tests at the proposed project site to assist with the design of the ground heat exchanger. Furthermore, TVA sponsors continuing education for Tennessee Valley architects and engineers on the

proper design and application of geothermal heat pumps. In the TVA service area, there are approximately 225 geothermal systems installed or in design as the result of TVA's promotion of this energy efficient technology. Demand for TVA assistance to commercial customers on energy-related problems continues to grow.

RESIDENTIAL INITIATIVES

TVA and its 158 public power distributors have a long history of residential energy-efficiency programs for the Valley. These programs are marketed under the brand name *energy right*®.

About 150 distributors participate in the various initiatives from the *energy right*® Program. These initiatives are described below:

New Homes Plan **promotes all-electric, energy-efficient new homes. All homes built *energy right*® must meet a minimum rating in overall energy efficiency. Homes built at least 15 percent better than the minimum rating qualify as *energy right*® Gold while those built 30 percent better qualify as *energy right*® Platinum.**

Heat Pump Plan **promotes the installation of high efficiency heat pumps greater than 12 SEER in homes and small businesses. Installation, performance, and weatherization standards have been established to ensure the comfort of the customer and the proper operation of the system. A Quality Contractor Network has been established for maintaining high installation standards. Through a third-party lender, TVA provides ten year financing for residential heat pumps with repayment through the consumer's electric bill.**

Water Heater Plan **promotes the installation of energy-efficient electric water heaters in homes and small businesses.**

New Manufactured Homes Plan **promotes the installation of electric heat pumps in new manufactured homes.**

In Concert With The Environment **(in partnership with Nexus Energy Software) is a comprehensive environmental and energy education program directed to middle school and junior high school students. Student participants receive an energy survey to complete for their households. Results from the survey indicate the home's estimated annual and monthly energy usage by appliance and gives a number of energy, environmental and water recommendations for the student and their family to implement.**

energy right Home e-valuation® **(in partnership with Nexus Energy Software) allows residential customers to play an active role in saving energy in their homes. After completing an energy survey, customers receive a personalized report that breaks down the home's annual and monthly energy usage by appliance, and gives a number of energy recommendations as well as information about distributor products and services.**

energy right **Home *e*-Valuation Online (in partnership with Enercom) is a web-based home energy audit for residential customers to complete interactively via the Web. Customers complete the survey and receive a detailed analysis of their energy use based on their answers and average TVA rates.**

More information is available at the *energy right*® website (www.energyright.com)

These industrial, commercial, and residential programs accounted for an estimated 57.4 MW of demand reduction in FY 2004.

DIRECT LOAD CONTROL (DLC)

TVA and 13 of its power distributors are involved in a Direct Load Control program. This program involves power distributors installing radio controlled switches on their customers' air-conditioners and water heaters. During peak demand periods TVA is allowed to curtail the power to this equipment. The power distributors receive a bill credit from TVA for each operable switch. The participating power distributors are allowed to determine the type of incentive given to their customers. Currently, TVA can curtail approximately 30 MW of load upon demand.

GREEN POWER SWITCH® (GPS)

TVA and 12 public power companies launched GPS on Earth Day, April 22, 2000. GPS was the first program of its kind offered in the Southeast and provided consumers with an economical opportunity to participate in TVA's development of renewable energy resources. The program originally included supply from wind and solar energy sources. The program was expanded in FY 2001 to include electricity generated from methane gas at a landfill in Murfreesboro, Tennessee, and a waste water treatment plant in Memphis, Tennessee. Future expansion plans include additional wind turbines and solar installations at locations across the Tennessee Valley (for more details see section II Energy Efficiency Performance, subsection B. Renewable Energy).

RESEARCH AND TECHNOLOGY APPLICATIONS (formerly PUBLIC POWER INSTITUTE (PPI))

In support of TVA efforts to remain a competitive agency, Research and Technology Applications provides a strong research focus on TVA's generation, transmission and environmental areas. Additional research direction includes identifying and evaluating emerging technologies that could benefit TVA and its customers in the future. Efforts in these areas are included in this report.

R&TA promotes sustainability by partnering with TVA Facilities Management to test and showcase sustainable technologies.

R&TA helps TVA fulfill its commitment to provide competitively-priced and reliable power while promoting environmental stewardship and economic development. R&TA is positioned today to help develop, demonstrate, and deploy new energy-related technologies for a better tomorrow.

R&TA RECENT HIGHLIGHTS/ACCOMPLISHMENTS

New Technologies Demonstrated – R&TA's Technologies Demonstrated Indicator is a measure of the number of research and development technologies which are demonstrated for the first time at TVA facilities, at customer sites (distributor, directly served, and consumer), and through partnerships and collaborations.

1. **Breakaway Link - A prototype of the electro-mechanical fuse (Breakaway Link) has been designed, manufactured and is being tested/demonstrated by EPRI, TVA and the Tullahoma Board of Public Utilities served by TVA. The device limits storm damage to structures and service equipment by acting as a mechanical fuse that allows the connection to be severed both mechanically and electrically before the tension increases enough to damage the structure. It also assures that the service is electrically interrupted prior to complete separation.**

2. **Drip Irrigation Project - Wastewater Subsurface Drip Distribution - Peer Reviewed Guidelines for Design, Operation, and Maintenance, EPRI 1007406 - Subsurface drip distribution is the most efficient method currently available for application and subsurface dispersal of wastewater to soil. These guidelines represent the input and cooperation of many technical experts, manufacturers, and vendors. The guidelines also represent a standard for the design, performance, operation, and maintenance of drip technology as it is currently applied for subsurface dispersal of wastewater. These guidelines were prepared by TVA for EPRI.**

3. **SolarBee - The Batesville, Mississippi municipal sludge storage pond (25 million gallons) receives waste sludge from an oxidation ditch system. Brush aerators had been installed to reduce odor problems and sludge build-up at the influent to the pond but the aerators had high energy usage. Two SolarBee Model SBI0000's, a solar powered circulator, were installed in April 2004. Now only one or two of the ten hp brush aerators are needed. Power consumption has been reduced by $1,400.00 per month and consistent odor control has been achieved. The need for the remaining brush aerator could possibly be eliminated with a third SolarBee.**

4. **Wind Turbine Continuous Monitoring -As a part of the Electric Power Research Institute and DOE wind turbine verification program, a continuous monitoring supervisory control and data acquisition (SCADA) system was installed at the Buffalo Mountain wind turbine site. The system has been operated by TVA over the past two years without problems, and has provided on-line monitoring, archived performance data, troubleshooting information, and real time performance data.**

5. **Soybean-Based Electric Distribution Transformer Oil – BioTrans - A demonstration was completed of BioTrans soybean based electric distribution transformer oil with assistance from the American Public Power Association. Nashville Electric Service (NES) completed a 24-month demonstration project of transformers filled with BioTrans. Other distributors of TVA Power, Appalachian Electric Coop., and Gibson EMC, have completed parallel demonstrations. Additionally, TVA has conducted a retro fill of one of its 700 kw transformers at the Buffalo Mountain Wind Farm with 250 gallons of BioTrans.**

TVA-Wide New Technologies Implemented - The TVA–Wide Technology Implementation Indicator is a measure of the number of new technologies which TVA organizations have implemented or applied for the first time (as part of normal operations).

1. **Spill Prevention, Control, and Countermeasures (SPCC) - Clarification of roles and responsibilities in the form of a Template Guidebook. Distributors of TVA power must prepare an updated plan for changes in SPCC as required by federal law. Project produced the following results:**
   - **Specific designs and alternative contingency plans;**
   - **A generic template and outline of information needed for implementation;**
   - **A range of scenarios distributors may encounter and specific recommendations on compliance strategies; and**
   - **Clarification of responsibilities related to customer sites, customer equipment, oil delivery and filtration vehicles.**

2. **Flywheel-Based Uninterruptible Power Supply (UPS) -TVA demonstrated a flywheel-based uninterruptible power supply (UPS) system at the home office of Covington Electric System, a distributor of TVA power located in Covington, Tennessee. The flywheel UPS is a bridge power system that uses short-term energy storage to "bridge" the few-second gap that exists between the detection of a power anomaly and the synchronization of a back-up generator. Such systems offer continuous protection for a consumer's critical loads against power sags, surges, and momentary interruptions. The flywheel offers significant advantages over conventional battery-based systems including improved reliability, lower operating costs, and elimination of environmental handling issues. The Covington site, which houses their cable television and internet operations, was selected for this demonstration because it is an example of a mission critical facility that must operate 24 X 7 without interruption of service.**

3. **AFV Transit Pilot in the Smokies -The Great Smoky Mountains National Park and surrounding communities have, for several years, experienced air quality problems. Several sources have been identified as major contributors to these air quality problems including emissions from internal combustion engines. The AFV Transit in the Smokies Demo project was submitted to the Park by TVA as a means of introducing and evaluating new AFV technologies capable of multiple uses in real-world applications. The project was extremely successful allowing the Park to gain valuable knowledge of the performance of these vehicles within Park applications and contributing valuable input into future purchases.**

4. **Distribution Transformer Protection Publication - Distribution transformers are one of the most important purchases a distribution company makes. Investment in transformers constitutes a large percentage of the distribution plant investment each year. This publication provides an overview of many factors affecting the choice of transformer configurations. These include operational safety, energy losses, and system reliability. Selection of appropriate transformer types can have significant long term economic and reliability benefits. Purchase options and information on the relative merits of each option are provided.**

5. **Ozonation Application in Food Processing - Poultry houses need to have a dependable source of clean water at a sustained rate of 15 gallons per minute per poultry house. From very limited survey data, it was found that municipal or county water cost could average $300 per month per poultry house. Water from wells and surface sources is much less expensive but may have several problems associated with using these water sources for poultry drinking water. An on-farm demonstration was conducted in Neshoba County, Mississippi, utilizing ozone and filtration as a means of purifying well water. Analyses showed that the well water contained excess iron, manganese and sulfur compounds. To treat the water, an ozone generator was installed along with three filtration tanks. Iron, manganese and sulfides were reduced to safe drinking water levels. Emitter fouling was reduced and drinking water costs were much lower because the well was providing sufficient water for two houses. Ozone treatment did not affect flock growth or feed conversion.**

Other Current Activities:

- **Development and commercialization by TVA and ORNL of the frostless heat pump;**
- **TVA currently has an intensive greenroof installed above the auditorium of the Chattanooga Office Complex, which is an Energy Star Building. A small greenroof demonstration is underway at the Edney Building in Chattanooga to validate potential benefits of extensive greenroof systems. The systems used in the demonstration are geared toward the retrofit of existing structures and are designed to provide the stormwater mitigation and thermal load leveling benefits that benefit both building owners and communities. The demonstration will be tracked to determine if there is any significant**

carbon sequestration benefit in addition to energy and stormwater benefits;

- **Completed the installation of a Membrane Energy Recovery Ventilator (MERV) project at the Edney Building in Chattanooga. R&TA and Facilities Management partnered on this project using a TVA facility to demonstrate the new technology. The MERV unit pre-conditions the incoming fresh air to the building by using the exiting exhaust air stream. Data loggers will monitor the effectiveness of this technology through the different seasons. Project monitoring will be completed in FY 2005;**
- **Drafted a project plan to measure the effect of installing motion sensors in individual work stations to save plug load energy used for task lights, computer monitors, and other in-office devices. The project was funded and will be completed in FY 2005;**
- **Partnered with ORNL, DOE and others to develop a revolutionary hybrid solar lighting (HSL) concept that integrates light from both solar and electric sources. Construction started on a demonstration of HSL technology at the American Museum of Science and Energy in Oak Ridge, Tennessee;**
- **Involved in multi-organizational public and private partnerships to demonstrate and evaluate alternative fueled vehicle (AVF) options within the Great Smoky Mountain National Park and other national parks;**
- **Completing a 20-year performance evaluation and a survey of passive TVA constructed wetlands technologies for acid drainage treatment;**
- **Continued microturbine testing/demonstration program (30 kW Capstone and 60 kW Capstone);**
- **Completed computer simulation phase of novel, low temperature power cycle technology development, then submitted the patent and began engineering design of demonstration pilot plant;**
- **Cooperated with Voith Hydro, Inc. in establishing and operating Hydro Resource Solutions, LLC, a Tennessee limited liability company which develops and markets energy efficiency enhancing hardware and software for the hydro power industry;**
- **Continued a joint DOE, EPRI, and TVA project, the Carbon Capture and Water Emissions Treatment System (CCWESTRS), which will demonstrate integration of fossil power plant operations with terrestrial carbon sequestration technologies;**
- **Evaluating and demonstrating Demand Side Management (DSM) initiatives to prepare for future changes in the energy and market place. Demonstrations underway include:**
  - **Uptown Memphis Green Buildings;**
  - **Net Zero Energy Building Demonstration; and**
  - **Price Response Load Management demonstration/evaluation;**
- **"Energy Efficiency Education" market transformation initiative with the State of Tennessee;**
- **Efficient technology demonstration for wastewater treatment; and**
- **Began testing and demonstration efforts with EPRI of a Stirling cycle engine, the demonstration will use biogas from the Lenoir City Utility Board sewage treatment plant as a fuel source. Cogeneration opportunities will be investigated as part of the demonstration.**

II. Energy Efficiency Performance. This section will highlight data calculated for reporting on the Data Report and the Energy Scorecard. The purpose of the section is to provide narrative information in support of these data.

A. Energy Reduction Performance

Site-Delivered vs. Source Energy—The factors used for converting the reporting units to Btu have a significant impact on how performance toward the energy efficiency goals and other goals of E.O. 13123 are measured. "Energy use" is defined as the energy that is used at a building or facility and measured in terms of energy delivered to the building or facility. Recognizing this, OMB and DOE will use Btu based on the site conversion factors for both electricity and steam as the primary measure of performance. However, because carbon emissions are generally proportional to source energy use, reductions in source Btu will also be considered more seriously than in the past.

The conversion factor for electricity of 3,412 Btu per kilowatt hour, the rate of consumption by the end-user on site, will be used for measuring performance. The difference between the site conversion rate and the estimated source conversion rate of 11,850 B tu per kilowatt ho ur is attributable to conversion losses associated with electric generation, as well as losses from transmission and power plant use. The site conversion factor for purchased steam is 1,000 Btu per pound. Generation inefficiencies and distribution losses are included in the source conversion factor of 1,390 Btu per pound.

TVA's facility inventory and the type of activities these facilities are used for continues to evolve as the agency faces new challenges. This facility information is updated through the AEMC. The AEMC remains the focal point for disseminating energy and related environmental information to TVA organizations and employees and implementing TVA's Energy Plan (see Attachment 8). The AEMC is also responsible for the development of TVA's Implementation Plan (see Attachment 6). To benchmark success the AEMC utilizes many tools including the Energy Scorecard (see Attachment 2). The AEMC allows representatives to voice problems in meeting regulations and goals and share success stories which can then be applied throughout TVA. To benchmark success the AEMC uses many tools including:

TVA NEW BUILDING DESIGN

TVA is designing new buildings to not only meet energy efficiency standards but also sustainable standards. Technologies such as daylighting, passive solar heating, geothermal heat pumps, advanced controls and non-toxic, recycle-content building materials are being incorporated into new building designs.

TVA FACILITY IMPROVEMENTS

TVA implements various energy efficiency improvements in its facilities. Some examples of typical energy reduction improvements are as follows:

- **New lighting systems using T-8 lamps, electronic ballasts and motion sensors have been installed in many existing buildings;**
- **New lighting systems using T-5 lamps, electronic ballasts, and varied control systems have been installed in existing buildings;**
- **Incandescent lights have been replaced with compact fluorescents in many facilities;**

- **Old mercury vapor lighting and incandescent lighting was upgraded to metal halide and high pressure sodium lighting at various fossil sites and switch yards;**
- **Heating, ventilating, air conditioning, and exhaust hood systems have been added to TVA's Energy Management and Control System;**
- **Energy Management Control Systems have been added to control heat pump heating and cooling systems;**
- **Variable Frequency Drives have been added to building heating, ventilating, and air conditioning units;**
- **New high efficiency heat pump systems have been installed in many buildings to replace old window units and out of date package units;**
- **Existing air handlers have been rebuilt to improve efficiency;**
- **Existing chillers have been replaced and/or rebuilt to improve efficiency;**
- **Old, inefficient cooling towers were updated to a high efficiency system on one facility with a reduction in energy use of 33 percent;**
- **Old inefficient single glazed windows were replaced with double glazed windows;**
- **Motorized shades were installed to reduce solar heat gain and cooling loads;**
- **Renovated buildings had insulation installed in the ceiling and walls where applicable; and**
- **Older emergency generators were replaced with smaller ones which reduces fuel use and cost.**

OPERATION AND MAINTENANCE ACTIVITIES FOR BUILDINGS

TVA continues to improve its energy efficiency and environmental stewardship through operation and maintenance activities. The following is a list of operation and maintenance practices and activities for FY 2004:

- **Recycle scrap metals, used oil, substation and communication station service batteries, and storm damaged or deteriorating steel structures;**
- **Recycle expired fluorescent lamps;**
- **Recycle or reuse waste material when feasible;**
- **Educate employees on energy efficiency;**
- **Encourage employees to implement energy efficient ideas and practices;**
- **Turn off equipment when not needed;**
- **Have custodians turn off building equipment after cleaning;**
- **Clean lamps, fixtures, and diffusers;**
- **Use the most efficient lamps available (i.e., screw-in fluorescent, screw-in halogen, screw-in high pressure sodium, energy efficient fluorescent lamps, etc.);**
- **Reduce lighting levels where light output exceeds requirements for the space;**
- **Install motion sensors to control lighting in rooms where economical (offices, restrooms, conference rooms, etc.);**
- **Install light switches or motion sensors in areas not currently controlled;**
- **Disconnect unnecessary lamps and ballasts;**
- **Disconnect unnecessary transformers;**
- **Install energy efficient electronic ballasts;**
- **Perform group relamping;**
- **Install photocell control on outdoor lighting;**

- **Rewire lamps to permit shutoff of unneeded lights;**
- **Minimize the number of ballasts installed (use a four-lamp ballast, for two adjacent two-lamp fixtures);**
- **Revise building operating procedures for efficiency and cost;**
- **Install programmable thermostats and use the night and weekend setback features to reduce energy use during unoccupied periods;**
- **Set thermostats in mechanical rooms and unoccupied areas so the least amount of energy will be used without causing the equipment to deteriorate;**
- **Verify and calibrate all controls periodically, including time clocks;**
- **Keep all outside doors and windows closed when heating or cooling, using vestibules properly;**
- **Keep garage and warehouse doors closed as much as possible while heating or cooling;**
- **Replace broken windows;**
- **Replace missing insulation;**
- **Add caulking where necessary;**
- **Replace worn weather-stripping on windows and doors;**
- **Reduce the amount of infiltration air where possible but always meet fresh air requirements;**
- **Eliminate ventilation during unoccupied hours;**
- **Operate exhaust fans only when required;**
- **Verify that all outside air dampers are operating properly;**
- **Operate HVAC in economizer mode when conditions are favorable;**
- **Eliminate ductwork leaks;**
- **Reduce ductwork and piping resistance where possible;**
- **Avoid heating and cooling at the same time;**
- **Change filters as recommended;**
- **Clean HVAC coils;**
- **Test and balance HVAC systems;**
- **Optimize chiller operation;**
- **Recycle waste heat when feasible;**
- **Lower domestic hot water temperature;**
- **Repair hot, chilled, or domestic water leaks;**
- **Cut off nonessential gas to buildings during the summer;**
- **When replacing motors, use properly sized energy efficient motors;**
- **Balance three-phase loads;**
- **Use cog-type belts for higher efficiency;**
- **Eliminate steam trap leaks; and**
- **Properly insulate hot water and steam lines to reduce energy loss.**

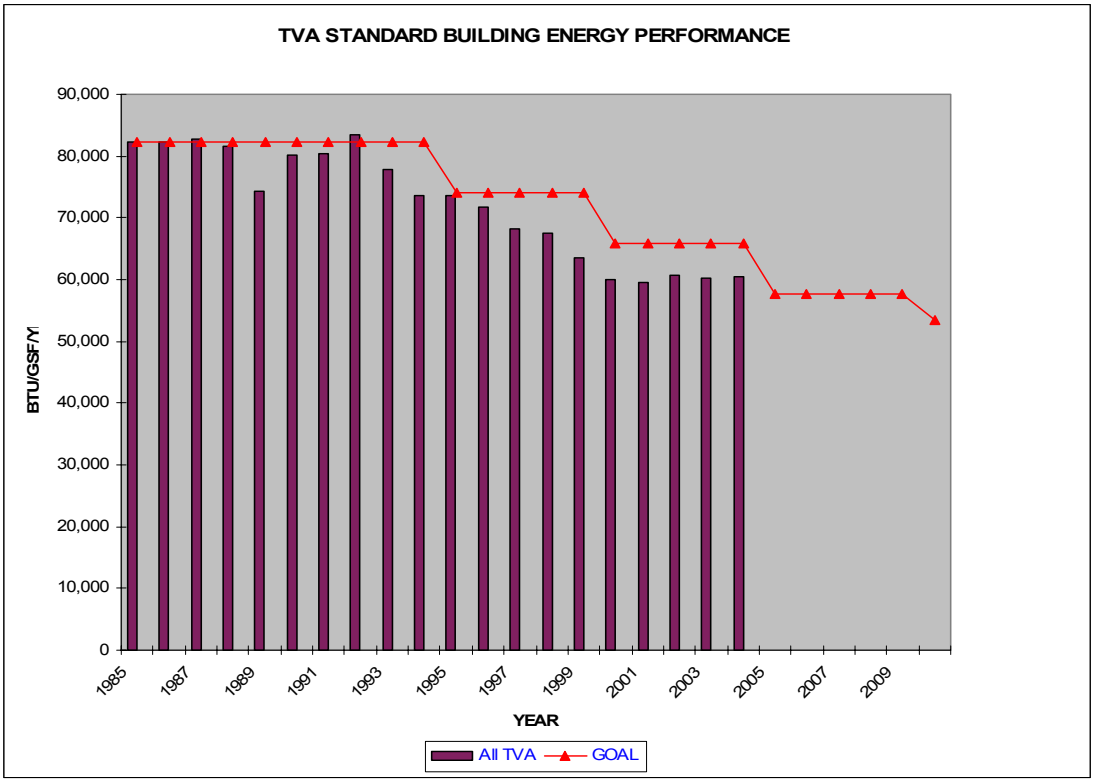
1. **Standard Buildings.** Report energy use for standard buildings in units of Btu-per-gross-square-foot (Btu/GSF) for FY 1985 (the base year) and FY 2004. Report the percent change from FY 1985 and from the FY 2004. (Note: This information will be reported on the agency's Energy Scorecard). Discuss any extenuating factors that may be skewing the accuracy of this performance measure.

Leased Spaced—Each agency that controls its Federally-owned building space or directly pays the utilities in its leased space will report to DOE the agency's aggregate energy consumption for various fuel types (see Data Report instructions). Reporting on leased buildings may pose some difficulty depending on the nature of the lease (partially serviced, fully serviced). In cases where an agency is responsible for paying utility bills for space that is leased, the agency is expected to report energy consumption for the leased space to DOE. If an agency is leasing from the General Services Administration, GSA is responsible for reporting.

Delegated Space—Agencies that have been delegated responsibility by GSA for operation and maintenance of buildings they occupy are required to report, to DOE, energy consumption for these buildings during the years the buildings are under their control. An agency should *not* adjust the FY 1985 baseline to reflect the addition of buildings delegated by GSA if those buildings were not under the agency's control during the base year period. The FY 1985 consumption and square footage of any building delegated after FY 1985 is included in GSA's FY 1985 baseline. To also include this square footage and consumption in the agency's baseline would result in double reporting. The impact of delegation activity on the Btu/GSF rates of most agencies should be minimal. In cases where building delegations account for a large increase in the percentage of an agency's building inventory and its Btu/GSF is greatly impacted, this situation will be documented in the text of DOE's Annual Report to Congress.

Lack of Base Year Data—Comparisons to a FY 1985 base year will not be possible for agencies that had no buildings under their control during the base year. Where comparisons to the FY 1985 base year are not possible, that specific item in the data table will be footnoted as "not applicable" in the report. In order to maintain accurate data and comply with the legislation, FEMP will work with relevant agencies to determine alternative approaches that would minimize double counting, but provide comparative information on Btu/GSF consumption.

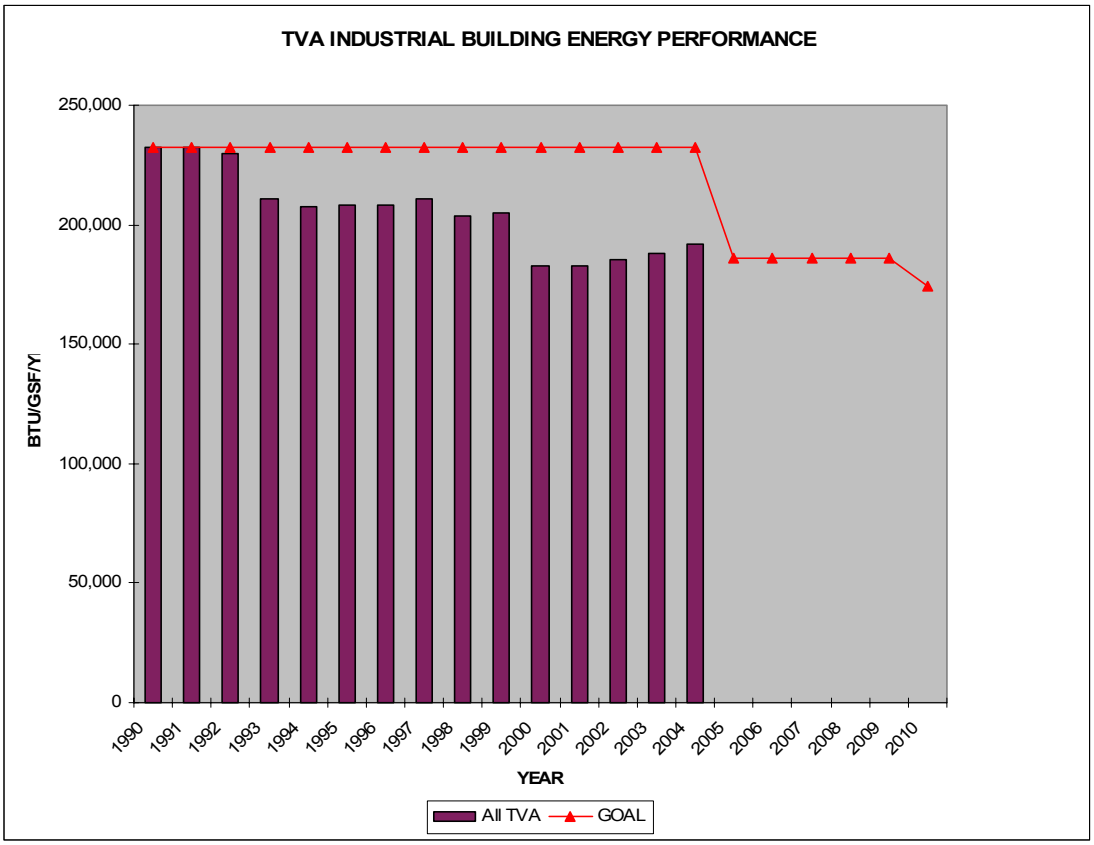
TVA continues to reduce energy use in its facilities through the coordination of energy management efforts. TVA has ended FY 2004 with a Btu/GSF/Yr of 60,448 which is a 26 percent reduction from FY 1985.



Industrial and Laboratory Facilities. Identify the facility inventory subject to this goal, referencing Section IV, Part D that lists the buildings included. Describe the performance measure(s) used (Btu/square foot, Btu/production unit, etc.). (Refer to FEMP web site for the guidance document *Section 203 Performance Goals for Industrial, Laboratory, Research, and Other Energy-Intensive Facilities* www.eere.energy.gov/femp/pdfs/ecoguidancedoc.pdf).

Report energy use (in the designated performance measure) for industrial and laboratory facilities for FY 1990 (the base year) and FY 2004. Report the percent change from FY 1990 and from the FY 2003. (Note: This information will be reported on the agency's Energy Scorecard). Discuss any extenuating factors that may be skewing the accuracy of this performance measure.

TVA has ended FY 2004 with a Btu/GSF/Yr of 191,732 which is an 18 percent reduction from FY 1990.



2. **Exempt Facilities**. Refer to Section IV E—a list of exempt facilities and an explanation of why they were exempted. (Refer to DOE's *Criteria for Exempting Facilities from the Goals of Executive Order 13123 and Guidance for Reporting Exemptions* www.eere.energy.gov/femp/pdfs/eoguidancedoc.pdf).

Although buildings found exempt according to the criteria are not subject to the requirements of Sections 202 and 203 of Executive Order 13123, DOE will continue to collect energy consumption data for these buildings under the new reporting category of "Exempt Buildings." This ensures that accurate reporting on overall Federal energy consumption is maintained.

TVA has a long history of demonstrating stewardship toward energy reduction and will continue to work toward reducing energy use in its generation, transmission and related energy intensive buildings. Energy reduction in these buildings has become increasingly more difficult given the majority of the energy consumption in these buildings is largely attributed to process energy (generation and transmission of electricity). In recognition of the above and the fact that only so much can be done to make these buildings more efficient in a cost effective manner, TVA, in discussion with DOE has decided to exempt these buildings. Attachment 5 contains a list of TVA's exempt facilities.

The following is a list of projects implemented in FY 2004 or planned for future implementation related to energy/water efficiency and sustainability in these exempt facilities.

TRANSMISSION POWER SUPPLY EFFICIENCY

TVA's Transmission Power Supply staff considers energy efficiency and environmental impacts for each project and activity. Following is a list of activities which have been completed in FY 2004 or planned for future implementation:

- **The Power System Optimization and New State Estimator Projects will add over-lapping coverage and improve TVA's ability to operate the power system confidently with decreased margin as a result of increased wide-area awareness of current state and contingency options;**
- **Reactive Power: Optimizing the power factor of electrical supply helps minimize losses associated with the transmission of electricity. TVA has installed new capacitors at Lonsdale, North Knoxville, and Alamo Substations;**
- **Reactive Power: The TPS Optimal Power Flow Initiative gives promise for future minimization of losses using an optimized voltage schedule, minimizing new construction of reactive devices through optimal placement;**
- **Construction of New Lines: New lines help to ensure that electricity can be delivered reliably for the minimum transmission loss. The environmental impact of new lines is very carefully minimized through careful design and route selection, study of all possible alternatives including new technologies, and realizing the best performance from existing resources, as well as a detailed process for public involvement. New lines were constructed from Leake-Singleton;**

- **Alternatives exercised to avoid or delay new construction included:**
  - **An operating guide was implemented for Kingston Fossil Plant operation that avoided construction of a Kingston-Rockwood transmission line;**
  - **A re-evaluation of system planning criteria resulted in a revision of the ambient temperature assumed for transmission line maintenance outage contingencies. This refinement allowed construction of the Lost City-Bowling Green line to be deferred indefinitely;**
  - **Convert Leake-Sebastopol transmission line from 46-kV to 161-kv operation in concert with other measures to decrease losses;**
  - **Switchyard bay upgrade at Pineville Sub (line trap, switches, and bus) increased line capacity of the Pineville-Stinnett transmission line deferring new construction;**
  - **CT changes on the Bull Run-Volunteer transmission line increased line capacity without new construction; and**
  - **Alcoa Switching Station, Nixon Road transmission line, was uprated for higher temperature operation (greater operating capacity) with no new construction.**
- **New Substations and Line Loops: Like new lines, designing a system with sufficient substations and connections to the transmission system enables supply to consumers to be achieved most directly while enhancing reliability and minimizing losses. New construction includes substations at State Route 160, East Point, Rotary Park, Burke Mill Road, Bluegoose, Madisonville, Oakland, Manis Road, South Carthage, North Lebanon, Greenbrier, Paulette, Chilhowee, Sweet Gum Flats, Hendersonville, Duncan, SCA Tissue, North Oakland, and Stock Creek;**
- **Replaced obsolete relays with more efficient solid-state relays on the Sullivan-Phipps Bend, Sullivan-Broadford, Sullivan-Nagle and Sequoyah-Widows Creek transmission lines;**
- **Replaced two environmentally hazardous oil breakers at Widows Creek Fossil Plant and one each at Johnsonville Fossil Plant and Browns Ferry Nuclear Plant;**
- **Continued installing steel poles instead of wood reducing the number of trees cut; replacing 1,685 existing wood poles with steel poles;**
- **Installed over 2,286 steel cross arms for failing wooden cross arms;**
- **Continued yearly repair or replacement of a significant number of HVAC units as they were determined to no longer provide a high level of reliability. High efficiency electric heat pumps were used exclusively. Each through wall and window heat pump unit and central system heat pumps was required to have a Seasonal Energy Efficiency Rating (SEER) rating of 10 or higher;**
- **Smaller modular switchouses which are more energy efficient are now being installed instead of the old block switchouses of the past; and**
- **Replaced 55 obsolete compressors for air blast breakers with more efficient units.**

HYDRO EFFICIENCY

The table below accounts for both completed and on-going projects at TVA hydro plants in FY 2004. These projects are aimed at increasing overall hydro efficiency by reducing energy consumption, maintaining plant availability, lowering maintenance costs, and increasing megawatt capacity. They also support environmental stewardship in that environmental impacts are included as part of the project development process. In addition, by maximizing hydro efficiency, TVA is able to burn less fossil fuel, reducing the amount of carbon released into the atmosphere.

TVA's hydro modernization is of particular importance in terms of energy management. This initiative, designed to ensure the availability of reliable hydroelectric generation in the future, has improved the facilities' efficiency by an average of approximately five percent since its inception in 1992. When completed around 2015, TVA's modernization program will have increased the hydro system's power output by more than 700 MW. TVA's automation program, another key energy management initiative, also is significantly reducing operating costs and increasing hydro efficiency.

Plant Name	Project Name	Cost (000's)
Hydro System	Modernization Program	34,989
Hydro System	Asset Preservation/Recovery Projects	28,106
Hydro System	Remoting and Automation	13,455
Hydro System	Safety/Fire Protection/Regulatory Projects	7,804
Hydro System	Miscellaneous Small O&M Projects	4,277
Hydro System	Miscellaneous Small Capital Projects	3,344
	Total All Projects	91,975

NUCLEAR EFFICIENCY

TVA Nuclear considers energy efficiency and environmental impacts for each project and activity. Many projects were initiated or completed in FY 2004 to maintain plant availability, increase electrical generation, or reduce environmental effects from equipment failure. The following is a list of energy management and related environmental projects at TVA Nuclear plants in FY 2004.

NUCLEAR ENERGY PROJECTS COMPLETED IN FY 2004

Plant Name	Project Name	Cost (000's)
Browns Ferry	Increased Unit 3 net electrical generation 4 MW/hr by installing a more efficient power source for the reactor cooling water recirculation pumps.	7,371
Sequoyah	Installed a spent reactor fuel storage facility.	25,800
	Total All Projects	33,171

NUCLEAR ENERGY PROJECTS IN PROGRESS IN FY 2004

Plant Name	Project Name	Cost (000's)
Browns Ferry	Extend the NRC operating license expiration date for all three reactors by 20 years.	17,235
Browns Ferry	Install a spent reactor fuel dry storage facility.	21,519
Browns Ferry	Remove PCBs from transformers.	3,222
Browns Ferry	Increase Unit 2 and 3 electrical output by 110 MW/hr per Unit.	185,561
Browns Ferry	Restart the Unit 1 reactor, 1280 Mwe/hr	1,687,185
Sequoyah	Remove PCBs from transformers.	4,599
Sequoyah	Increase Unit 2 electrical generation at least 13 MW/hr by replacing the generator high pressure turbine rotor.	10,427
Watts Bar	Improve Unit 1 heat rate by replacing the steam generators	216,662
Watts Bar	Increase annual Watts Bar Dam electrical generation 3 MW/hr by raising Watts Bar Nuclear Plant design and license basis ultimate heat sink temperature.	893
Watts Bar	Retire the Watts Bar Nuclear Plant Sewage Treatment Plant and connect to local city treatment plant.	530

Browns Ferry Sequoyah Watts Bar	**Install oil containment and other oil spill prevention measures required by the recent change to 40CFR112.**	**4,002**
	Total All Projects	**2,151,835**

FOSSIL EFFICIENCY

Fossil Power Group (FPG) has made significant improvements in reducing the number of forced outages at its fossil power plants since the implementation of the Failure Prevention Initiative in June 2000 and the Human Performance Initiative in the Spring of 2001. In FY 2004, FPG reduced the Equivalent Forced Outage Rate (EFOR) by 55 percent compared to the rate in FY 2003. The summer EFOR for the fossil system was only 4.46 percent, the lowest in history since all 59 units began operating. This improvement in system-wide performance means fewer generating unit startups which improves unit operational efficiency and helps reduce the delivered cost of power.

Ten additional Selective Catalytic Reduction (SCR) systems were brought online to remove nitrogen oxide during the summer ozone season. This brings the total number of operating SCR's on TVA's fossil system to 18. In total, these SCR's removed more than 70,000 tons of nitrogen oxide emissions during the May to September 2004 ozone season. TVA's environmental efforts are continuing via ongoing and future projects and include the addition of SCR's or alternative technologies to achieve further reductions in nitrogen oxide emissions; fuel switch changes and the addition of scrubbers to achieve further reductions in SO2 emissions; and the addition of equipment to mitigate SO3 and improve opacity.

Many energy management and related environmental projects were completed at TVA Fossil plants during FY 2004. These projects included heat rate improvements, maintaining plant availability, reducing energy consumption, lowering maintenance costs, environmental stewardship, and increasing overall efficiency.

The following is a list of projects for FY 2004:

Plant	Project Name	Cost (000's)
Allen	**ALF--U1 Replace #8 HP Feedwater Heater**	**2,013**
Allen	**ALF--U3 Retube #6 HP Feedwater Heater**	**592**
Bull Run	**BRF--U1 Replace LP Heaters**	**2,091**
Bull Run	**BRF--U1 HP Turbine – Replace Rotor & Inner Cylinder**	**11,564**
Bull Run	**BRF--U1 Selective Catalytic Reduction (SCR) Addition**	**146,333**
Colbert	**COF--U4 Replace Air Preheaters**	**2,126**

Colbert	**COF--U5 Selective Catalytic Reduction (SCR) Addition**	**90,822**
Cumberland	**CUF--U2 Selective Catalytic Reduction (SCR) Addition**	**159,507**
Gallatin	**GAF--U2 Replace HP Nozzle Block**	**929**
Gallatin	**GAF--U1 Upgrade HPT Control Stage, Nozzle and Blading Replacement**	**695**
Gallatin	**GAF--U1 Upgrade IP Nozzle and 1st Row Rateau Blades**	**292**
Johnsonville	**JOF--U3 Replace Economizer**	**1,790**
Johnsonville	**JOF--U3 Condenser Tube Replacement of West Side**	**528**
Kingston	**KIF--U5 Replace HP Feedwater Heater**	**604**
Kingston	**KIF--U1 Replace Air Preheaters**	**288**
Kingston	**KIF--U2 Replace Air Preheaters**	**288**
Kingston	**KIF--U7 Replace Air Preheaters**	**333**
Kingston	**KIF--U8 Replace Air Preheaters**	**339**
Kingston	**KIF--U7 Replace Economizer**	**241**
Kingston	**KIF--U1-4 Selective Catalytic Reduction (SCR) Addition**	**100,819**
Paradise	**PAF--U1 HP Turbine Capacity Increase**	**6,304**
Paradise	**PAF--U3 HP Turbine Capacity Increase**	**9,400**
Widows Creek	**WCF--U8 Selective Catalytic Reduction (SCR) Addition**	**56,599**
	Total All Projects	**594,497**

Following is a list of ongoing and/or future Projects:

Plant	Project Name	Cost (000's)
Allen	**ALF--U1 Combustion Optimization**	**755**
Bull Run	**BRF--U1 Replace Economizer Tubes**	**11,564**
Colbert	**COF--U5 Combustion Improvement Project**	**12,905**
Cumberland	**CUF--U2 Replace HP Feedwater Heaters 2A & 2B**	**4,853**

Gallatin	**GAF--U2 Retube North Side of Condenser**	**550**
Gallatin	**GAF--U4 IP Nozzle Block and Rateau Blade Replacement**	**589**
John Sevier	**JSF--U1-4 Replace Main Steam Flow Nozzle**	**1,580**
John Sevier	**JSF--U3 Replace Sootblowers**	**1,159**
John Sevier	**JSF--U1 Retube #5 LP Feedwater Heater**	**279**
John Sevier	**JSF--U2 Retube #6 LP Feedwater Heater**	**279**
Johnsonville	**JOF--U5 Economizer Replacement**	**1,743**
Johnsonville	**JOF--U5 Combustion Controls Replacement**	**2,250**
Johnsonville	**JOF--U9 Combustion Controls Replacement**	**2,275**
Paradise	**PAF--U3 Replace 4A & 4B HP Heaters**	**5,763**
Widows Creek	**WCF--U7 Upgrade Boiler Feed Pump Turbines**	**4,970**
Widows Creek	**WCF--U7 Replace 3B Feedwater Heater**	**485**
	Total All Projects	**51,999**

4. **Non-Fleet Vehicle and Equipment Fuel Use**. Refer to the Data Report to identify the fuel use for non-fleet vehicles and other equipment not captured by the Federal Automotive Statistical Tool (FAST) reporting system. Discuss trends in the use of each type of fuel and methods employed to reduce fuel use.

Vehicle Fleet Consumption—In the past, GSA's Agency Report of Motor Vehicle Data (Form SF-82) collected acquisition, fuel consumption, and fuel cost data for motor vehicles directly from vehicle fleet managers. The SF-82 was replaced by the Federal Automotive Statistical Tool (FAST), an internetbased reporting platform. FAST eliminates the need to report fuel consumption data for fleet motor vehicles to FEMP on the Data Report. FAST now collects this data, including alternative fuel consumption data reported under Sections 303 and 308 of EPACT, and this information is forwarded to FEMP for inclusion in the Annual Report to Congress. For more information on FAST, please contact Shab Fardanesh of DOE's Vehicle Technologies Program at (202) 586-7011.

FLEET FUEL EFFICIENCY

TVA's fleet strategy is to examine current vehicle use and replacement and where possible, choose replacement vehicles that are most efficient. TVA, as a major provider of electricity will continue to make use of alternative fueled vehicles (AFVs) including those that use electric power and acquire additional vehicles to meet requirements under EPAct92. TVA has recognized the value of hybrid electric vehicle technology in reducing fuel consumption, increasing versatility, and promoting electric propulsion and has included these vehicles in its fleet. TVA created a hybrid-fleet program

in FY 2002 which is a partnership effort between TVA's Energy Management and Fleet Management organizations. In FY 2004, TVA added seven hybrid gas/electric vehicles and 13 AFV's to its fleet bringing the total number of hybrid vehicles to 20 and AFV's to 36.

During FY 2004 TVA increased gasoline fuel use by eight percent and decreased diesel fuel use by 23 percent compared to FY 2003. The increase in gasoline use is mostly due to the increase in travel due to construction at the Browns Ferry Nuclear site and construction of selective catalytic reduction (SCR) scrubbers to meet clean air act requirements at many TVA fossil fuel generation sites.

VEHICLE FUEL EFFICIENCY OUTREACH PROGRAMS

TVA encourages employees to use mass transit systems, vans for group travel, and car pools, when available and feasible. The use of coordinated TVA and vendor delivery, pickup routing schedules, and just-in-time delivery is utilized throughout TVA. This coordinated effort avoids double handling and, multiple trips to the same sites, and reduces deadheading.

The TVA service area covers all of Tennessee and portions of six other states, therefore employees are widely dispersed and often travel significant distances to attend meetings and presentations. TVA continues to install technologies which enable employees to travel less and conduct more meetings from their remote work sites. The reduction of required travel realized through telecommunication improvements has resulted in a savings of fuel and related expenses.

- **Streaming Media - TVA's streaming media capability allows individuals to participate in Board events, employee communications, training, and other live broadcasts without incurring travel expenses. Since its introduction in FY 2003, usage topped at over 3,000 streaming participants at one of TVA's employee conferences. Streaming media has been integrated into mainstream TVA operations such as employee training where employees can participate in events from their desk, therefore reducing travel costs. In FY 2004, the Streaming Media Infrastructure was expanded and is now able to reach approximately 97 percent of the TVA population as well as TVA's external business partners and other outside entities.**
- **PC Efficiency - TVA replaced approximately 3,000 computers in FY 2004 with new units that have the latest energy savings features. It is policy to enable all energy saving features available in new computers so the maximum possible energy savings can be realized.**
- **Monitor Efficiency - TVA Information Services, TVA Facilities Management, and the Environmental Protection Agency worked cooperatively to significantly enhance TVA enterprise-wide computer monitor efficiency during FY 2004. On September 8, Information Services began deploying weekly updates to TVA enterprise PCs to enable automatic monitor management. This effort shuts monitors off when they are not used after a designated amount of time. Implementation was specifically developed and tested by Information Services associates and was constructively coordinated with EPA Energy Star specialists. Energy**

savings of $11,000 were estimated for September 2004. During FY 2005, savings are estimated to exceed $190,000.

- **Meeting Place - This technology enables audio conferencing, real-time online document collaboration, and remote presentations among employees at different locations. Employees can participate in audio conferencing without operator assistance, simultaneously share, view, and edit documents from computers, and conduct and participate in remote presentations without having to travel. On average, over 2,101 such meetings are held monthly using this system.**
- **Video Conference Rooms - TVA has 49 video conference rooms throughout the Tennessee Valley service area. Approximately 1,301 video conferences were held in FY 2004, eliminating the need for travel to these meetings.**

HEAVY EQUIPMENT

TVA continued the utilization of the Total Base Number (TBN - measure of oil's alkaline) value as an oil indicator has resulted in a reduction in TVA's oil consumption due to extended oil drain intervals. Accordingly, the oil change interval in some of the smaller diesel engines has changed to 320 hours or 10,000 miles to protect TVA's equipment. Turbo pre-cleaners are being used on tractor scrapers and dozers to lengthen air filter life and extend oil change intervals. Air filter indicators used on TVA's equipment have reduced filter changes (especially oil bath type), and additionally provide better engine protection.

TVA continued using Fuel Mag with small compressors to kill bacteria and spores that grow in fuel that is stored for long periods of time. It should decrease the amount of contaminated fuel that has to be disposed. These units can also eliminate down time due to filter and fuel injector plugging.

TVA's maintenance shops use filter crushers to get all possible oil out of filters before disposal. The three maintenance facilities are using oil burners to heat their facilities using TVA's generated used oil.

These projects provide TVA with the benefits of reduced potential of adverse environmental impacts from spillage of waste oil and fuel, increased operational efficiency, increased availability of units, and decreased cost due to reduction in oil consumption.

TVA incorporates EPA emission standards in specifications for both on-road and off-road trucks. TVA also is in constant communication with equipment providers on their emission standards and latest engine components to insure the best and most economical equipment is used.

FEDERAL VEHICLE FUEL EFFICIENCY

The following tables show a comparison of TVA's annual mileage and miles per gallon (mpg) performance for sedans and light trucks from FY 1975 through FY 2004.

ANNUAL MILEAGE

FY	Miles Driven		Percent Increase/(Decrease)	
	Sedans	Trucks*	Sedans Base Yr. 75	Trucks* Base Yr.79
75	12,222,850	N/A	0	N/A
76	14,698,600	N/A	20	N/A
77	14,331,650	N/A	17	N/A
78	14,101,300	N/A	15	N/A
79	13,779,900	25,947,000	13	0.0
80	14,788,300	25,989,000	21	0.2
81	14,922,450	27,655,000	22	7
82	24,714,480	24,878,000	4	(4)
83	12,125,848	25,122,699	(1)	(3)
84	11,760,288	24,947,558	(4)	(4)
85	11,958,251	21,237,202	(2)	(18)
86	12,359,000	24,954,488	1	(4)
87	12,905,706	24,064,000	6	(7)
88	12,650,124	24,008,436	3	(7)
89	11,312,417	22,599,061	(7)	(13)
90	15,665,480	23,516,512	28	(9)
91	19,175,027	24,120,233	57	(7)
92	23,264,550	24,318,622	91	(6)
93	25,557,833	25,702,300	109	(1)
94	29,766,173	23,947,797	144	(8)
95	30,096,968	23,996,720	146	(8)
96	28,388,572	24,998,289	132	(4)
97	20,298,902	24,343,292	66	(6)
98	7,124,589	26,623,769	(42)	3
99	7,939,345	21,335,796	(35)	(18)
00	9,723,679	27,701,582	(20)	5
01	9,290,949	25,242,686	(24)	(3)
02	10,793,620	23,520,150	(12)	(9)
03	11,788,288	26,175,474	(4)	1
04	10,689,531	29,911,323	(13)	15

*Figures for Trucks include both light duty (<8500 lbs GVWR) & medium duty (8501 – 16000 lbs GVWR).

MPG PERFORMANCE

FY	Annual MPG			Percent Increase/(Decrease)		
	Sedans Base Yr. 75	Trucks* Base Yr. 79		Sedans Base Yr. 75	Trucks* Base Yr. 79	
		4 x 2	4 x 4		4 x 2	4 x 4
75	15.1	N/A	N/A	0	N/A	N/A
76	15.0	N/A	N/A	(1)	N/A	N/A
77	15.6	N/A	N/A	3	N/A	N/A
78	16.2	N/A	N/A	7	N/A	N/A
79	16.3	11.6	8.2	8	0	0
80	17.9	12.0	8.3	19	3	1
81	19.2	13.2	7.9	27	14	(4)
82	22.7	14.2	8.5	50	22	4
83	26.2	16.0	9.8	74	38	20
84	27.5	16.4	9.5	82	41	16
85	26.9	16.1	10.2	78	39	24
86	27.6	18.2	10.8	83	57	32
87	26.6	17.5	11.4	76	51	39
88	24.6	15.3	11.0	63	32	34
89	28.3	15.9	13.1	87	37	60
90	28.4	15.7	11.6	88	35	41
91	29.6	18.2	15.7	96	57	91
92	27.7	21.2	12.4	84	83	52
93	31.9	17.3	13.6	105	49	66
94	29.8	15.5	12.9	97	34	57
95	31.2	14.5	13.4	107	25	63
96	29.1	13.2	12.7	66	14	44
97	28.3	14.2	12.7	87	22	44
98	26.6	15.4	14.4	76	33	76
99	25.4	12.8	11.9	68	10	45
00	26.3	13.7	12.8	74	18	56
01	26.6	13.9	13.2	76	20	61
02	26.0	14.1	12.9	72	22	57
03	27.4	14.0	12.7	81	21	55
04	28.2	15.2	13.4	87	31	63

*Figures for Trucks include both light duty (<8500 lbs GVWR) & medium duty (8501 - 16000 lbs GVWR).

PROCUREMENT OF ALTERNATIVE FUELED VEHICLES

As a major supplier of electricity, TVA is particularly interested in supporting the use of electric vehicles (EVs). TVA has incorporated EVs into its fleet operations and supports power distributors and local communities with EV technology demonstrations. TVA is also utilizing electric vehicles at its plant sites to reduce fuel consumption and emissions.

TVA currently has the following EVs:

- **1 U.S. Electricar Prism sedans**
- **4 Solectria Ford sedans**
- **2 Ford Ranger pickup trucks**
- **7 GEM electric cars**
- **46 EZGOs electric vehicles**

B. Renewable Energy. Discuss agency's policy and efforts to encourage purchase and generation of electricity and thermal energy from renewable energy sources. (Note: The quantitative information related to this section [see below] will be reported on the agency's Data Report and Energy Scorecard. On the Energy Scorecard, self-generated renewable energy use and purchased renewable energy use will be aggregated into a single value).

GREEN POWER SWITCH® (GPS)

TVA and 12 public power companies launched GPS on Earth Day, April 22, 2000. GPS was the first program of its kind offered in the Southeast and provided consumers with an economical opportunity to participate in TVA's development of renewable energy resources. The program originally included supply from wind and solar energy sources. The program was expanded in FY 2001 to include electricity generated from methane gas at a landfill in Murfreesboro, Tennessee, and a waste water treatment plant in Memphis, Tennessee. Future expansion plans include additional wind turbines and solar installations at locations across the Tennessee Valley.

Fifteen solar generating facilities are presently operating in Tennessee, Kentucky, Alabama, Virginia and Mississippi. One solar installation will be relocated from Oak Ridge National Laboratory (ORNL) to Morgan County Technical School in FY 2005. One commercial scale wind power generation site has been operational since November 2000. TVA has agreed to purchase, from the project developer Invenergy, 27 megawatts of new wind energy for the next 20 years. Fifteen 1.8 megawatt wind turbines are being added to the existing three wind turbines currently located on Buffalo Mountain in Anderson County, Tennessee. These units are expected to be operational by January 2005. GPS also benefits from generation produced from an eight megawatt waste water treatment methane gas project located at TVA's Allen Fossil plant near Memphis, Tennessee. The GPS program is managed through TVA's Marketing Organization.

Under the GPS program, residential customers can purchase green power blocks of 150 kilowatt hours each, at a cost of $4.00 per block. These blocks represent approximately 12 percent of a typical home's monthly energy use. Commercial and industrial customers can sign up for the 150 kilowatt hour blocks based on the amount of energy they use each month. When two blocks of GPS are purchased each month for one year, the associated reduction of atmospheric carbon dioxide is equivalent to planting an acre of trees in the Tennessee Valley. As of September 30, 2004, there were 7,175 residential customers purchasing 12,581 blocks and 337 business customers purchasing 9,254 blocks for a total of 22,835 purchased blocks of green power.

Today there are 70 TVA power distributors and one direct-served customer participating in the GPS program throughout the Tennessee Valley. TVA plans to continue expanding the GPS program by offering it to additional power distributors as renewable energy supplies allow.

TVA's GPS program was awarded the "2003 TVA Environmental Excellence Award for Partnership and Public Involvement" and the "2003 Center for Resource Solution National Award for Creative Marketing of Green Power." The Department of Energy's National Renewable Energy Laboratory (NREL) has ranked Green Power Switch as a "Top 10 national green power program" for the last three years.

TVA launched the Generation Partners Program in support of Green Power Switch. Generation Partners pays program participants 15 cents per kWh for all the generation they produce from solar and wind generation installed on their home or small business. The energy from Generation Partners is used to supply renewable energy for Green Power Switch.

RENEWABLE ENERGY TECHNOLOGY MONITORING

The objectives of the program are to: Identify and evaluate emerging renewable energy technologies in support of TVA's strategic needs; Provide data to support debate on renewable energy policy; Monitor advancements in renewables to keep TVA organizations and customers abreast on technology issues; and Develop the most viable technologies in the areas of bio-energy, waste-to-energy, wind, solar, and other renewable resources.

Renewable energy technologies are becoming more reliable and cost effective. As more utilities offer renewable energy alternatives, manufacturers achieve lower costs through economy of scale. The cost of wind energy, for example, has decreased about 90 percent over the last 20 years. Renewable energy portfolios are mandated in 14 states and may be mandated at the national level in the near future. In anticipation of renewable portfolio mandates and in response to customer needs TVA continues to assess and evaluate new and advanced renewable technologies. Project plans include developing and demonstrating biomass gasification for production of electricity and value-added products from regional biomass, evaluating renewable energy supply options for TVA's portfolio, and evaluating enabling technologies that enhance the value of renewables, such as energy storage.

1. **Self-generated renewable energy.** Identify/estimate energy use from electricity self-generated from renewable sources (photovoltaics, wind turbines) and renewable energy thermal projects (solar thermal, biomass, geothermal). Also report energy generated on Federal lands or by projects facilitated by your agency, but which may be sold to other parties. Agencies should report the annual energy generated from all renewable energy systems installed after 1990 and in place during FY 2004.

   Through TVA's GPS program, TVA utilizes photovoltaics, wind, and methane as part of its mix to provide renewable energy to its customers.

2. **Purchased renewable energy.** Identify the renewable (i.e., wind, solar, geothermal, biomass) energy component of power purchases under competitive contract in megawatt hours. Agencies should report what portion of total purchased renewable energy should be applied to standard buildings, energy intensive facilities, or exempt facilities. (Note: Guidelines for counting renewable energy projects and purchases of electricity from renewable energy sources toward agency progress in reaching their goals and information on the Federal renewable energy goal are available on the FEMP web site www.eere.energy.gov/femp/pdfs/eoguidancedoc.pdf.)

   Through the TVA GPS program, TVA purchased 1,170 MWh for use in its Knoxville Office Complex, Chattanooga Office Complex, and Huntsville office.

   TVA committed to a 20 year Power Purchase Agreement with Invenergy, LLC, for 27 additional megawatts of large scale wind power. The expansion consists of fifteen, 1.8 megawatt wind turbines at the existing Buffalo Mountain wind site in east Tennessee.

   The Green Power Switch Generation Partners demonstration continued to allow residential and small commercial customers to install solar/wind generation and sell their power to TVA's Green Power Switch program. In FY 2004, GPS Generation Partners was expanded to allow larger, demand-metered customers to participate with solar generation only. More information on the demonstration may be found at www.gpsgenpartners.com.

C. **Petroleum.** Identify petroleum-based fuels (fuel oil, LPG/propane) used in buildings in FY 1985 and in FY 2004 and the percentage change from FY 1985. (Note: The FY 2004 data will be reported on the Data Report and the Energy Scorecard).

   TVA consumed 14,000 gallons of petroleum in building operations in FY 2004 which is a decrease of 36 percent from the FY 1985 baseline of 21,920 gallons.

D. Water Conservation. Identify/estimate water consumption and cost by the agency in FY 2004 and outline any agency-specific issues related to collection of water consumption data. (Note: This information will be reported on the Data Report and the Energy Scorecard.) Also in this section, highlight activities undertaken to improve water efficiency. Discuss progress in developing Water Management Plans and implementing Best Management Practices for efficient use of water. For more information, refer to DOE's Guidance to Federal Agencies for Determining Baseline Water Usage and Guidance to Establish Water Efficiency Improvement Goal for Federal Agencies on the FEMP web site www.eere.energy.gov/femp/pdfs/eoguidancedoc.pdf.

During FY 2004 energy surveys including water were conducted at multiple TVA sites.

TVA consumed 169,200,000 gallons of potable water in FY 2004 with an estimated cost of $356,700. These numbers exclude the water consumption of the exempt buildings.

TVA considers water management plans as part of its operation and maintenance activities. As part of these activities more than 70 facilities have been covered representing over 3.6 million GSF. This represents over 37 percent of TVA's standard and industrial facilities GSF.

To date TVA has implemented the Best Management Practices (BMPs) in more than 11 percent of its gross square footage.

III. Implementation Strategies. The purpose of this section is to identify and describe the use of strategies to reduce energy consumption and improve energy efficiency. It is not expected that each agency will have employed every strategy; rather, each strategy identified in Executive Order 13123 is listed as a subsection to remind agency officials of the existence of these strategies and to encourage their use where practical and life-cycle cost effective.

In each of the following subsections, present highlights for each of the strategies that were used. If certain strategies were not used, explain why not. Please provide narrative where strategies that were identified as focal points in the previous year's Implementation Plan were successful, where challenges existed in implementing strategies, and how challenges were overcome.

TVA implements many energy management measures through a number of strategies which include the following:

AGENCY ENERGY MANAGEMENT COMMITTEE

TVA Agency Energy Management Committee is a forum for sharing of information and success stories on energy efficiency efforts for application across the agency.

NEW CONSTRUCTION

TVA combines teams of designers to incorporate energy efficiency and sustainability at the start of new building designs.

RENOVATION

TVA takes advantage of renovation activities by incorporating energy efficiency and sustainability into its spaces that are being reconfigured for change.

OPERATIONS & MAINTENANCE

Operation and maintenance (O&M) personnel are the front line, used to identify potential energy and sustainable problems and opportunities on a daily basis. O&M staff take corrective action where needed and seek help from engineering, energy and sustainable staff to resolve technical issues when necessary.

Examples of O&M activities are the efficient operation of building EMCS systems, the placement of controls on lighting and other energy consuming equipment, addition of insulation in buildings, replacement of old glazing with newer high efficiency glazing, and replacement of inefficient lighting when actions are determined to be life-cycle cost effective. In addition TVA considers efficiency improvements in its industrial, power plant and transmission operations when life-cycle cost effective.

As part of its operation and maintenance function, TVA has an emergency curtailment procedure which reduces energy use in its buildings during energy emergencies.

VEHICLE FUEL

TVA looks at its overall fleet and business needs on a continuous basis to match the work needs of each individual to the most efficient vehicle. TVA investigates efficient vehicles such as hybrid cars and adds these vehicles to its fleet to meet business needs. TVA also investigates ways to extend the life cycle of vehicles especially special purpose vehicles. TVA's detailed Fleet Strategy is provided as Attachment 9.

A. Life-Cycle Cost Analysis. Outline procedures in place to ensure the use of life-cycle cost analysis in making investment decisions about in products, services, construction, and other projects to lower the Federal Government's costs and to reduce energy and water consumption. Highlight examples where life-cycle cost analysis was used in capital budgeting decisions concerning energy efficiency. Report on the successes and challenges of implementing life-cycle cost effective projects. (Under EPACT, energy conservation projects that will pay back investment costs within 10 years must be undertaken).

TVA's Energy Plan provides that life-cycle analysis will be used in making investment decisions regarding energy/water efficiency and sustainable measures.

B. Facility Energy Audits. Describe the number/percentage of agency facilities audited for energy and water efficiency during FY 2004, and the total percentage of facilities audited to date. (In accordance with EPACT and Executive Order 13123, approximately 10 percent of facilities should be audited each year). Agencies that have audited 100% of their facilities should describe their plans to implement a new cycle of audits.

TVA has evaluated building inventory for potential energy conservation measures. These facilities are being re-evaluated in accordance with E.O. 13123 and TVA's Memorandum of Understanding with the EPA.

C. Financing Mechanisms. Provide narrative information related to the use of Energy-Savings Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs). (Note: Quantitative information related to ESPCs and UESCs will be reported on the Data Report and the Energy Scorecard). Report funding requested and received for FY 2004 and funding requested for FY 2005 for the performance of energy surveys/audits and for applied energy conservation measures (Note: This information will be reported on the Data Report).

Funding procedures for energy management and related environmental projects are reviewed through the IEMP and the AEMC. Recommendations and comments are submitted to the proper organizations for implementation consideration. Projects for facilities are primarily funded through renovation, operation, maintenance, and modernization efforts. Projects covered under general operations are ranked for economic benefit compared to other TVA projects to determine funding availability and implementation status and are funded mainly through the capital budgeting process.

D. ENERGY STAR® and Other Energy-Efficient Products. Describe steps taken to promote the purchase of ENERGY STAR® products and/or products that are in the upper 25 percent of energy efficiency and low standby power products as designated by FEMP. Note whether energy efficient criteria have been incorporated into all guide specifications and product specifications developed for new construction and renovation. Also note whether such criteria have been incorporated into product specification language. (See the ENERGY STAR® products and "green" products web sites by GSA [www.fss.gsa.gov/environ], DOE [www.eere.energy.gov/femp/technologies/eeproducts.cfm], and EPA [www.energystar.gov/products])

TVA's Energy Plan provides that TVA will strive, where cost-effective, to meet the Energy Star Building criteria for energy performance and indoor environmental quality in eligible facilities to the maximum extent practicable as described by section 403(c) of E.O. 13123. This includes purchasing Energy Star and other energy efficient products when feasible.

TVA continues its efforts to buy materials which have positive environmental qualities including soy ink, rechargeable batteries, low mercury lamps, and non-toxic supplies. TVA also purchases materials which meet sustainable architecture criteria. These are non-toxic building materials which have recycled content, and their creation, use, and disposal does not damage the environment.

E. Energy Star® Buildings.. Report the number and percentage of buildings that have met the Energy Star® Building criteria and have officially been designated ENERGY STAR® Buildings. (Buildings must rank in the top 25 percent in energy efficiency relative to comparable commercial and Federal buildings to be eligible for the ENERGY STAR® Buildings designation. See www.energystar.gov).

TVA currently has two facilities that meet the ENERGY STAR® Buildings criteria. These are the Chattanooga Office Complex and the Edney building which represent 11 percent of TVA's overall corporate square footage.

F. Sustainable Building Design. Report whether sustainable building design principles have been incorporated into the siting, design, and construction of new facilities. (See www.wbdg.org for a description of sustainable building design principles).

TVA is incorporating sustainable design criteria into renovation and new construction efforts. TVA is in the process of reviewing its building inventory in an effort to reduce inefficient, high cost, underutilized space. This consolidation effort provides an opportunity to further practice sustainable efforts such as:

- **Renovate space using removable, reusable wall systems;**
- **Recycle and recondition office furniture and panel systems;**
- **Install recyclable carpet tiles and low VOC finishes; and**
- **Upgrade lighting systems using T-5 and T-8 lamps, occupancy sensors, and internet based digital lighting control systems.**

All of these efforts are being done as part of an agency sustainable program under TVA's IEMP.

TVA continues to buy materials that have positive environmental qualities and include those that meet RCRA requirements and other recycled content materials. Examples of environmental products purchased include soy ink, rechargeable batteries, low mercury lamps, and non-toxic supplies and movable/reusable wall systems in place of drywall. TVA also purchases materials which meet sustainable architecture criteria. These non-toxic building materials have recycled content, and their creation, use, and disposal minimize environmental impacts.

G. Energy Efficiency in Lease Provisions. Describe how energy and water efficiency are considered when agencies enter into new leases or renegotiate/extend existing leases (e.g., preference for buildings with sustainable design and development, preference for certified ENERGY STAR® Buildings, etc.)

Where applicable, TVA uses model lease provisions based on those recommended by the General Services Administration (GSA) and such provisions will be incorporated into new and renewed leases provided they are cost-effective. The model lease provisions address energy and water efficiency.

H. Industrial Facility Efficiency Improvements. Highlight activities undertaken to explore efficiency opportunities in energy-intensive facilities. This may include activity in the following areas: steam systems, boiler operation, air compressor systems, industrial processes, fuel switching, cogeneration, and other efficiency and renewable energy technologies.

TVA looks for opportunities to improve energy efficiency in its industrial facilities. Energy savings opportunities include lighting, HVAC, motor, and building control.

I. Highly Efficient Systems. Describe new construction and/or retrofit projects for which combined cooling, heating, and power systems were installed. Report whether local natural resources were surveyed to optimize use of available biomass, geothermal, or other naturally occurring energy sources.

TVA considers the implementation of high efficiency systems as mentioned above when it is life-cycle cost effective.

J. Distributed Generation. Describe the installation of non-renewable distributed generation technologies such as fuel cells, microturbines, generators (dedicated and peak shaving), and other power generation alternatives. Distributed generation from renewable sources (solar, wind, etc.) should have already been reported in Section II, part B. Some distributed generation projects could be grid connected and should be reported if used by the agency to reduce demand usage from the power grid.

TVA is currently researching, testing, and demonstrating the use of green power technologies.

I. Electrical Load Reduction Measures. Describe agency activities undertaken to reduce electricity load during power emergencies. These activities are required under the President's Memorandum of May 3, 2001 on Energy Conservation at Federal Facilities. (See www.eere.energy.gov/femp/about/legislation_directive.cfm for the directive.)

As part of its operation and maintenance function, TVA has an emergency curtailment procedure which reduces energy use in its buildings during energy emergencies.

IV **Data Tables and Inventories.** Include the items listed below:

- **FY 2004 Annual Energy Management Data Report.** A Data Report is included as Attachment 1. No Data Report for revisions to past years' energy data has been included.

- **Energy Scorecard for FY 2004.** A Scorecard is included as Attachment 2.

- **Goals of Executive Order 13123 and NECPA/EPACT** (optional). This table was prepared by OMB/DOE and is attached (see Attachment 3).

- **Industrial and Laboratory Facilities Inventory**. This inventory list includes the following information: building name and building location (city and state) (see Attachment 4).

- **Exempt Facilities Inventory**. This inventory includes the following information: building name, building location (city and state), and justification for exempt status (see Attachment 5).

V. **Attachment.** Attach a FY 2005 Implementation Plan to this FY 2004 Annual Report. Consult Attachment 6, *Guidance for Preparing the Federal Agency Implementation Plan for FY 2005*.

1) **FY 2004 Annual Energy Management Data Report (electronic file "Attachment 1_DataReport_12-04.xls")**
2) **Energy Scorecard for FY 2004 (electronic file "Attachment 2_Scorecard_12-04.doc")**
3) **Goals of Executive Order 13123 and NECPA/EPACT (electronic file "Attachment 3_EO_13123_Goals_12-04.doc")**
4) **Industrial & Lab Buildings (electronic file "Attachment 4_Industrial_Lab_12-04.xls")**
5) **Exempt Facilities Inventory (electronic file "Attachment 5_Exempt Facilities_12-04.xls")**
6) **FY 2004 Implementation Plan including Guidance for Preparing the Federal Agency Energy Management Implementation Plan (electronic file "Attachment 6_Implementation_Plan_12-04.doc")**
7) **Reporting Units and Conversion Factors for Federal Energy Management Reporting (electronic file "Attachment 7_Conversion_Factors_12-04.doc")**
8) **TVA Energy Plan 12-4-04 Final (electronic file "Attachment 8_TVA Energy Plan_12-04.doc")**
9) **TVA Fleet Strategy FY 2004 (electronic file "Attachment 9_Fleet Strategy_12-04.doc")**

FY 2004 ENERGY MANAGEMENT DATA REPORT

Agency: Tennessee Valley Authority
Prepared by: Stephen L. Brothers
Date: 12/23/2004
Phone: 423-751-7369

PART 1: ENERGY CONSUMPTION AND COST DATA

1-1. Standard Buildings/Facilities

Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Electricity	MWH	161,365.1	$10,166.0	$0.06 /kWh	550.6	1,912.2	27,105
Fuel Oil	Thou. Gal.	14.0	$19.6	$1.40 /gallon	1.9	1.9	39
Natural Gas	Thou. Cubic Ft.	4,383.9	$35.1	$8.01 /Thou Cu Ft	4.5	4.5	65
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Coal	S. Ton	0.0	$0.0	#DIV/0! /S. Ton	0.0	0.0	0
Purch. Steam	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	
		Total Costs:	$10,220.7	Total:	557.0	1,918.6	27,209
Standard Buildings/Facilities (Thou. Gross Square Feet)		9,215.2		Btu/GSF:	60,448	208,204	

1-2. Industrial, Laboratory, Research, and Other Energy-Intensive Facilities

Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Electricity	MWH	22,754.5	$1,456.3	$0.06 /kWh	77.6	269.6	3,822
Fuel Oil	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Natural Gas	Thou. Cubic Ft.	0.0	$0.0	#DIV/0! /Thou Cu Ft	0.0	0.0	0
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Coal	S. Ton	0.0	$0.0	#DIV/0! /S. Ton	0.0	0.0	0
Purch. Steam	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	
		Total Costs:	$1,456.3	Total:	77.6	269.6	3,822
Energy-Intensive Facilities (Thou. Gross Square Feet)		404.9		Btu/GSF:	191,732	665,895	

1-3. Exempt Facilities

Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Electricity	MWH	362,754.6	$18,137.7	$0.05 /kWh	1,237.7	4,298.6	60,933
Fuel Oil	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Natural Gas	Thou. Cubic Ft.	0.0	$0.0	#DIV/0! /Thou Cu Ft	0.0	0.0	0
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0.0	0
Coal	S. Ton	0.0	$0.0	#DIV/0! /S. Ton	0.0	0.0	0
Purch. Steam	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	0
Other	BBtu	0.0	$0.0	#DIV/0! /MMBtu	0.0	0.0	
		Total Costs:	$18,137.7	Total:	1,237.7	4,298.6	60,933
Exempt Facilities (Thou. Gross Square Feet)		18,848.6		Btu/GSF:	65,666	228,062	

1-4. Non-Fleet Vehicles and Other Equipment

	Consumption Units	Annual Consumption	Annual Cost (Thou. $)	Unit Cost ($)	Btu (Billion)	Est. Carbon Emissions (Metric Tons)
Auto Gasoline	Thou. Gal.	2,620.8	$3,925.2	$1.50 /gallon	327.6	6,339
Diesel-Distillate	Thou. Gal.	932.2	$1,324.2	$1.42 /gallon	129.3	2,580
LPG/Propane	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Aviation Gasoline	Thou. Gal.	73.3	$148.4	$2.02 /gallon	9.2	173
Jet Fuel	Thou. Gal.	54.6	$129.0	$2.36 /gallon	7.1	137
Navy Special	Thou. Gal.	0.0	$0.0	#DIV/0! /gallon	0.0	0
Other	Thou. Gal.	0.0	$0.0	#DIV/0! /MMBtu	0.0	
	Total Costs		$5,526.8		473.2	9,229

1-5. WATER CONSUMPTION, COST AND EFFICIENCY MEASURES

	Consumption Units	Annual Consumption	Annual Cost (Thou. $)
Water	Million Gal.	169.2	$356.7
Best Management Practice Implementation Tracking Data			
Number of facilities* in agency inventory			1,004
Number of facilities with completed water management plans			70
Number of facilities with at least four (4) BMPs fully implemented**			3
*number in the agency inventory, can be buildings, bases, or campuses			
**these 3 buildings make up > 20% of our GSF			

1-6. RENEWABLE GREEN ENERGY PURCHASES

(Only include renewable energy purchases developed or contracted after 1990)

	Consumption Units	Annual Consumption	Annual Cost (Thou. $)
Electricity from Renewables	MWH	1,170.0	$31.2
Natural Gas from Landfill/Biomass	MMBtu	0.0	$0.0
Renewable Thermal Energy	MMBtu	0.0	$0.0
Other Renewable Energy_____*			

*For other renewable energy that does not fit any category, please fill in the type, units used, annual consumption and cost, and include any additional information in your narrative submission. For example, biodiesel used in non-transportation applications. (Renewable fuels used for transportation will be collected through GSA's Fleet Managment reporting process.)

1-7. SELF-GENERATED RENEWABLE ENERGY INSTALLED AFTER 199(

	Consumption Units	Total Annual Energy	Energy Used by Agency*
Electricity from Renewables	MWH	30.0	30.0
Natural Gas from Landfill/Biomass	MMBtu	0.0	0.0
Renewable Thermal Energy**	MMBtu	0.0	0.0
Other Renewable Energy_HMOD***	MWH	10,216.0	10,216.0

*Energy used by agency equals total annual generation unless a project sells a portion of the energy it produces to another agency or the private sector. It can equal zero in the case of non-Federal energy projects developed on Federal land.

**Examples are geothermal, solar thermal, and geothermal heat pumps, and the thermal portion of combined heat and power projects. Thermal energy from geothermal heat pumps should be based on energy savings compared to conventional alternatives.

***For other renewable energy that does not fit any category, fill in the type, units used, annual consumption and cost, and include any additional information in your narrative submission. For example energy displaced by daylighting technology or passive solar design.

PART 2: ENERGY EFFICIENCY IMPROVEMENTS

2-1. DIRECT AGENCY OBLIGATIONS

	FY 2004		Projected FY 2005	
	(MMBTU)	(Thou. $)	(MMBTU)	(Thou. $)
Direct obligations for facility energy efficiency improvements, including facility surveys/audits		$335.4		$400.0
Estimated annual savings anticipated from obligations	6,253.3	$112.1	4,550.0	$80.0

2-2. ENERGY SAVINGS PERFORMANCE CONTRACTS (ESPC)
(we have no ESPCs to report)

	Annual savings (MMBTU)	(number/Thou. $)
Number of ESPC Task/Delivery Orders awarded in fiscal year & annual energy (MMBTU) savings.	0.0	0
Investment value of ESPC Task/Delivery Orders awarded in fiscal year.		$0.0
Amount privately financed under ESPC Task/Delivery Orders awarded in fiscal year.		$0.0
Cumulative guaranteed cost savings of ESPCs awarded in fiscal year relative to the baseline spending.		$0.0
Total contract award value of ESPCs awarded in fiscal year (sum of contractor payments for debt repayment, M&V, and other negotiated performance period services).		$0.0
Total payments made to all ESP contractors in fiscal year.		$0.0

2-3. UTILITY ENERGY SERVICES CONTRACTS (UESC)
(TVA is a utility)

	Annual savings (MMBTU)	(number/Thou. $)
Number of UESC Task/Delivery Orders awarded in fiscal year & annual energy (MMBTU) savings.	0.0	0
Investment value of UESC Task/Delivery Orders awarded in fiscal year.		$0.0
Amount privately financed under UESC Task/Delivery Orders awarded in fiscal year.		$0.0
Cumulative cost savings of UESCs awarded in fiscal year relative to the baseline spending.		$0.0
Total contract award value of UESCs awarded in fiscal year (sum of payments for debt repayment and other negotiated performance period services).		$0.0
Total payments made to all UESC contractors in fiscal year.		$0.0

2-4. UTILITY INCENTIVES (REBATES)
(TVA is a utility)

	Annual savings (MMBTU)	(Thou. $)
Incentives received and estimated energy savings	0.0	$0.0
Funds spent in order to receive incentives		$0.0

2-5. TRAINING

	(number)	(Thou. $)
Number of personnel trained/Expenditure	248	$37.2

FY 2004 Federal Agency Energy Scorecard

Department/Agency Name	Contact Name and Phone
Tennessee Valley Authority	Steve Brothers (423) 751-7369
Name of Senior Energy Official	**Signature of Senior Energy Official**
LeAnne Stribley	

Did your agency . . .	Yes	No	Anticipated Submittal Date
1. Submit its FY 2004 energy report to OMB and DOE by January 1, 2005 (Sec. 303)?	X		12-23-2004
2. Submit a FY 2005 Implementation Plan by January 1, 2005 (Sec. 302)?	X		12-23-2004
Did your agency . . .	**Yes**	**No**	**Comments**
3. Implement or continue to use renewable energy projects at Federal installations or facilitate the siting of renewable generation on Federal land in FY 2004 (Sec. 204)? (Report all self-generated renewable energy from projects installed after 1990; refer to Table 1-7 on the Energy Management Data Report)	X		If yes, how many projects and how much energy generated? (Specify unit: MWH or MMBtu) # Projects / Energy / Unit Solar 1 30 MWH Wind Thermal[1] Biomass Other RE(1) 42 10,216 MWH
4. Purchase energy generated from new renewable energy sources in FY 2004 (Sec. 204)? [2]	X		If yes, how much: 1,170 MWH or _____ MMBtu
5. Invest direct FY 2004 appropriations in projects contributing to the goals of the Order (Sec. 301)? (2)		X	If yes, how much: $_____
6. Specifically request funding necessary to achieve the goals of the Order in its FY 2006 budget request to OMB (Sec. 301)? (Refer to OMB Circular A-11, Section 25.5, Table 2) (2)		X	If yes, how much: $_____
7. Perform energy audits of 10% of its facility space during the fiscal year (Sec. 402)? (3)	X		What percentage of facility space was audited during the FY? 0 % How much facility space has been audited since 1992?[3] 100 %
8. Issue to private-sector energy service companies (ESCOs) any energy savings performance contract (ESPC) delivery orders (Sec. 403(a))? (Refer to Table 2-2 on the Energy Management Data Report)[4] (4))		X	How many? _____ Annual savings (MMBtu):_____ Total investment value[5]: $_____ Cumulative guaranteed cost savings: $_____ Award value: $_____

1 Examples are geothermal, solar thermal, and geothermal heat pumps. Thermal energy from geothermal heat pumps should be determined as follows: Thermal energy = Total geothermal heat transferred – electrical energy used.
2 "New" renewable energy means sources developed after 1990.
3 Should be greater than 100% if all facility space has been audited at least once since 1992.
4 Although ESPC authority expired October 1, 2003, some agencies may have signed delivery orders under existing contracts.
5 Investment value includes design, materials, labor, overhead, and profit but excludes contractor's financing costs and government's administration costs. Using investment value allows comparison with other traditional execution methods such as appropriated and working capital funded projects.

Did your agency . . .	Yes	No	Comments
9. Issue any utility energy services contract (UESC) delivery orders (Sec. 403(a))? (Refer to Table 2-3 on the Energy Management Data Report) (5)		X	How many? _____ Annual savings (MMBtu):_____ Total investment value[3]: $_____ Cumulative cost savings: $_____ Award value: $_____
10. Incorporate energy efficiency requirements into relevant acquisitions (Sec. 403(b)(3))? (6)	X		See TVA Energy Plan
11. Adopt and apply the sustainable design principles (e.g., Whole Building Design Guide, Leadership in Energy and Environmental Design (LEED)) to the siting, design, and construction of new facilities or major (budget line item) renovations begun in FY 2004 (Sec. 403(d))? (7)	X		Number of new building (or major renovation) design/construction projects in FY 2004[6]: 0 Number of these projects that can or will be certified under LEED[6]: 0
12. Provide training to appropriate personnel[7] on energy management (Sec. 406(d))? (8)	X		Number of appropriate personnel trained: 248 Total number of appropriate personnel: 248
13. Implement any additional management tools (Sec. 406)?	X		Check all that apply: Awards: X Performance Evaluations: X Showcase Facilities: X Number of Showcase Facilities designated in fiscal year: 1
14. Establish Water Management Plans (WMPs) and implement at least 4 Best Management Practices (BMPs) in at least 10% of agency facilities (Sec. 207, 503(f))? (9)	X		Number of facilities with WMPs and 4 BMPs: 3 Number of facilities in agency inventory: 1004

NOTE: Provide additional information below if a "No" reply is used for any of the questions above.

6 Count projects only once, regardless of phase. For example, if in FY 2004, your agency had 10 new building or major renovation projects, of which 2 can be LEED certified, then report 10 and 2, respectively, in the spaces provided. If the project was designed and reported on in response to this question in a previous year, do not report it as a new project in FY 2004, even if construction commenced or continued in FY 2004.

7 Appropriate personnel include the agency energy management team as well as Federal employees and on-site contractors who are energy or facility managers, operations and maintenance workers, design personnel, procurement and budget staff, and legal counsel.

Please enter data from annual energy report pertinent to performance toward the goals of Executive Order 13123	Base Year	Previous Year (2003)	Current Year (2004)	% Change (Current vs. Base)
15. Site Energy Efficiency Improvement Goals (Sec. 202). 1985 Base Year	82,357 Btu/Ft^2	60,256 Btu/Ft^2	60,448 Btu/Ft^2	(26)%
16. Industrial/Energy Intensive Facilities Goals (Sec. 203). 1990 Base Year	232,662 Btu/unit	187,848 Btu/unit	191,732 Btu/unit	(18)%
17. Source Energy Use (Sec. 206). 1985 Base Year	402.4 BBtu	566.0 BBtu	565.9 BBtu	41%
18. Water Conservation Goal (Sec. 207). 2000 Base Year	173.1 MGal	171.7 MGal	169.2 MGal	(2)%
19. Renewable Energy (Sec. 204) Energy used from self-generation and RE purchases (10)	N/A	125.3 BBtu	125.3 BBtu	N/A

Abbreviation Key: Btu/Ft^2 = British thermal units per gross square foot
Btu/unit = British thermal units per unit of productivity (or gross square foot when such a unit is inappropriate or unavailable)
MGal = Million gallons
MMBtu = Million British Thermal Units
BBtu = Billion British Thermal Units
RE = Renewable energy
N/A = Not applicable

(1) This value represents a very small percentage of renewable power from hydro modernization and is based on projects covering multiple units and the number of effected facilities.
(2) TVA is self funded through its power operations and does not request appropriations to support its statutory mission; therefore, TVA has not submitted any such requests.
(3) Since FY 1992, TVA has evaluated 100-percent of its buildings, and plans to reevaluate facilities as needed to implement cost effective energy management objectives and/or update portfolio information.
(4) TVA considers the use of ESCOs where cost effective and in the best interest of the agency and its customers.
(5) TVA is a utility.
(6) TVA incorporates energy efficiency language where appropriate.
(7) TVA has a sustainable design program which applies to new construction and renovation.
(8) This includes employees not specified under sec. 406(d) since all employees play an important part in energy management.
(9) TVA has developed an agency wide water plan. TVA has implemented 4+ BMPs in three of its facilities accounting for 20% of TVA's total facility square footage.
(10) The source conversion factor was used for this value (11,600 Btu/kWh).

Attachment 3
Goals of Executive Order 13123 and NECPA/EPACT

Executive Order 13123

Category	Goal	Comments
Greenhouse Gas Emissions	30% reduction by 2010	Base year is 1990. DOE will calculate agencies' progress toward this goal and report it on agencies' annual energy scorecards
Energy Efficiency		
Standard Buildings	• 30% improvement by 2005 • 35% improvement by 2010	Base year is 1985
Industrial and Laboratory Facilities	• 20% improvement by 2005 • 25% improvement by 2010	Base year is 1990
Exempt Facilities	N/A	Despite lack of quantitative goal, agencies should implement strategies to improve energy efficiency at these facilities.
Renewable Energy	• Implement renewable energy projects • Purchase electricity from renewable energy sources • Install 2,000 solar energy systems at Federal facilities by 2000 • Install 20,000 solar energy systems at Federal facilities by 2010	Installation of Federal solar energy systems will help support the Million Solar Roofs initiative
Petroleum	Reduce petroleum use	Switches to alternative energy sources should be life-cycle cost effective
Source Energy	Reduce use of source energy	Accomplish by undertaking projects that are life-cycle cost effective
Water Conservation	Reduce water consumption*	Accomplish via life-cycle cost effective measures, energy-savings performance contracts, or other financing mechanism

NECPA/EPACT

Energy Efficiency	20% improvement by 2000	Base year is 1985
Financing	Undertake all energy efficiency improvement projects that have a simple payback period of 10 years or less by 2005	E.O. 13123 expands this goal by mandating that any energy efficiency project that is life-cycle cost effective be undertaken
Audits	Conduct audits for energy efficiency on 10% of facilities annually	E.O. 13123 includes language supporting this goal

* FEMP has established water efficiency improvement goals as directed by the Executive Order. Agencies must implement Water Management Plans and Best Management Practices according to the following schedule:

05% of facilities by 2002
15% of facilities by 2004
30% of facilities by 2006
50% of facilities by 2008
80% of facilities by 2010

For more detail, see the FEMP guidance document Water Efficiency Improvement Goal for Federal Agencies

Attachment 4

TVA Industrial & Lab Laboratory Buildings - FY 2004

Building Name	City	State
BFN BIOTHERMAL RESEARCH	Decatur	AL
BFN LOW LVL RDWST BLDG. (E-32)	Decatur	AL
BST BIG SANDY PUMPHOUSE - HEAT/LTG	Big Sandy	TN
BST BIG SANDY PUMPHOUSE - MOTOR	Big Sandy	TN
CHH CHL/DC/MSC COAL LABORATORY	Chattanooga	TN
CHH CHL/DC/MSC LABORATORY BLDG/POWER STORES	Chattanooga	TN
DNT DANDRIDGE PUMP STA. (DOUG DAM)	Dandridge	TN
GOT DUCK RIVER LTG/HEAT	Johnsonville	TN
GOT MONTEAGLE PLACE	Chattanooga	TN
GOT WELLHOUSE	Grainger Co.	TN
GPR WELL HOUSES	Golden Pond	KY
GVA BACKWATER PROTECTION	Guntersville	TN
LXK LEXINGTON WATER PUMP (TEMPORARY)	Lexington	KY
MFK MARSHALL PUMP HOUSE	Calvert City	KY
MFK MARTIN PUMP HOUSE	Martin	TN
MSL CATALYZER # 1 - MINERAL LAB	Shoals	AL
MSL CATALYZER # 2 - NITRO FERTILIZATION LAB	Shoals	AL
MSL CATALYZER # 3 - PLANT	Shoals	AL
MSL CATALYZER # 4 - RADIO/HIGH PRESSURE LAB	Shoals	AL
MSL CATALYZER # 5 - PLANT	Shoals	AL
MSL CATALYZER # 6 - NITRO FERTILIZATION OFFIC	Shoals	AL
MSL CHEMICAL FEED HOUSE	Shoals	AL
MSL ENGINEERING LAB ANNEX	Shoals	AL
MSL FERMENTATION BLDG (PILOT PLANT)	Shoals	AL
MSL FLEET HARBOR PUMPING STATION	Shoals	AL
MSL PDW PUMPING STATION	Shoals	AL
MSL PROTOTYPE OPERS BLDG (PILOT PLANT)	Shoals	AL
N AQUATIC BIOLOGY LAB (MAIN)	Norris	TN
N ENGINEERING LAB BLDG B	Norris	TN
N ENGINEERING LAB BLDG H	Norris	TN
N ENGINEERING LAB BLDG N	Norris	TN
N MAINTENANCE BUILDING	Norris	TN
NSC PUMP HOUSE	Nashville	TN
SPA WEST SANDY PUMP HOUSE	Springville	TN
SPA WEST SANDY PUMP HOUSE (LTS/HT)	Springville	TN
TPU CAMDEN 161 KV PUMP HOUSE	Camden	TN
TPU PUMP STATION (WATTS BAR RES)	Kingston	TN

Attachment 5

TVA Exempt Buildings - FY2004

Following is a list of TVA's exempt buildings which include generation, transmission and related energy intensive activities. Energy reduction in these buildings has become increasingly more difficult given that the majority of the energy consumption in these buildings is largely attributed to process energy (generation and transmission of electricity). In recognition of the above and the fact that only so much can be done to make these buildings more efficient in a cost effective manner, TVA, in discussion with DOE has exempted these buildings.

Building Name	City	State
ALF AMMONIA UNLOADING CONT RM	Memphis	TN
ALF BARGE UNLOADER	Memphis	TN
ALF BC 8 CONVEYOR & TUBE	Memphis	TN
ALF BIO-GAS BUILDING 1	Memphis	TN
ALF BIO-GAS BUILDING 2	Memphis	TN
ALF BOTTLE GAS STORAGE SHED	Memphis	TN
ALF CHEM POND PUMP STR EQUIP SHED	Memphis	TN
ALF CONVEYOR 1A & 1B	Memphis	TN
ALF CONVEYOR 2A & 2B	Memphis	TN
ALF CONVEYOR 3A & 3B	Memphis	TN
ALF CONVEYOR 6A	Memphis	TN
ALF CONVEYOR 6B	Memphis	TN
ALF CONVEYOR 7A	Memphis	TN
ALF CONVEYOR 7B	Memphis	TN
ALF CRUSHER BLDG FIRE PROT EQUIP BLDG	Memphis	TN
ALF D.I. WATER TANK VALVE ROOM	Memphis	TN
ALF ECOLOCHEM STORAGE VALVE HOUSE	Memphis	TN
ALF ELEC EQUIP BUILDING (6.9 KV SWITCHGEAR)	Memphis	TN
ALF FIRE PROT EQUIP BLDG #1	Memphis	TN
ALF FIRE PROT EQUIP BLDG #2	Memphis	TN
ALF HYDROGEN STORAGE BLDG EAST (UNIT 1)	Memphis	TN
ALF HYDROGEN STORAGE BLDG WEST (UNITS 2 & 3)	Memphis	TN
ALF MCC BLDG	Memphis	TN
ALF NEW CRUSHER BLDG & ELEC ROOM	Memphis	TN
ALF OLD CRUSHER BUILDING	Memphis	TN
ALF PH COMPRESSOR SHED 1	Memphis	TN
ALF PH COMPRESSOR SHED 2	Memphis	TN
ALF PH PPTR 1A & 1B	Memphis	TN
ALF PH PPTR 2A & 2B	Memphis	TN
ALF PH PPTR 3A & 3B	Memphis	TN
ALF POWERHOUSE	Memphis	TN
ALF RECLAIM HOPPER A	Memphis	TN
ALF RECLAIM HOPPER B	Memphis	TN
ALF SMOKE STACK 1	Memphis	TN
ALF SMOKE STACK 2	Memphis	TN

ALF SMOKE STACK 3	Memphis	TN
ALF STACKER CONVEYOR	Memphis	TN
ALF SWITCHYARD SUPPLY SHED	Memphis	TN
ALF TIRE FUEL HANDLING FACILITY	Memphis	TN
ALF TRANSFER STATION A	Memphis	TN
ALF TRANSFER STATION B	Memphis	TN
ALF TRANSFER TOWER	Memphis	TN
ALF UNIT 1 CEMS BLDG	Memphis	TN
ALF UNIT 1 SWYD RELAY BLDG	Memphis	TN
ALF UNIT 2 CEMS BLDG	Memphis	TN
ALF UNIT 2 SWYD RELAY BLDG	Memphis	TN
ALF UNIT 3 CEMS BLDG	Memphis	TN
ALF UNIT 3 SWYD RELAY BLDG	Memphis	TN
ALF UNLOADER ELEC. BLDG	Memphis	TN
ALF WATER INTAKE STRUCTURE	Memphis	TN
ALF WATER TREATMENT BUILDING	Memphis	TN
ALF XFMR FIRE PROT VALVE HOUSE	Memphis	TN
APH DAM	Ducktown	NC
APH DIESEL GENERATOR BUILDING	Ducktown	NC
APH POWERHOUSE	Ducktown	NC
APH VALVE HOUSE	Ducktown	NC
APU ROCKHOUSE, BUCKEYE, BAGWELL PUMP HOUSE	Decatur	AL
APU WHITESIDE PUMP HOUSE	Decatur	AL
BFN CONTROL BUILDING	Decatur	AL
BFN PLANT 500 KV SWITCH HOUSE	Decatur	AL
BFN RADWASTE EVAPORATOR BLDG	Decatur	AL
BFN REACTOR BUILDING	Decatur	AL
BFN TELEPHONE NODE BLDG. (W-19)	Decatur	AL
BFN TURBINE BUILDING	Decatur	AL
BFN UNIT 1 & 2 DSL.GEN. BLDG	Decatur	AL
BFN UNIT 3 DIESEL GENERATOR BLDG	Decatur	AL
BFN UNIT 3 RESTART	Decatur	AL
BGK ADAIRVILLE 69 KV SWITCH HOUSE	Adairville	AL
BGK BOWLING GREEN MICROWAVE	Bowling Green	KY
BGK BRISTOW	Bowling Green	KY
BGK BRISTOW 161 KV SWITCH HOUSE	Bristow	AL
BGK BURKESVILLE 69 KV SWITCH HOUSE	Burkesville	AL
BGK CADIZ 161 KV SWITCH HOUSE	Cadiz	KY
BGK CANEYVILLE 69 KV SWITCH HOUSE	Caneyville	AL
BGK CASKY 161 KV SWITCH HOUSE	Hopkinsville	KY
BGK CELINA 69 KV SWITCH HOUSE	Celina	AL
BGK EAST BOWLING GREEN 161 KV SWITCH HOUSE	Bowling Green	AL
BGK ELKTON 69 KV SWITCH HOUSE	Elkton	KY
BGK FOUNTAIN RUN 69 KV SWITCH HOUSE	Fountain Run	AL
BGK FRANKLIN 161 KV SWITCH HOUSE	Franklin	KY
BGK GLASGOW 161 KV SWITCH HOUSE	Glasgow	AL
BGK HARTSVILLE NUC PLANT CONST 69 KV SWITCH H	Hartsville	AL
BGK HOLLIS CHAPEL MICROWAVE	Hollis Chapel	KY
BGK HOPKINSVILLE 161 KV SWITCH HOUSE	Hopkinsville	KY
BGK HOPSON 69 KV SWITCH HOUSE	Hopson	KY
BGK LAFAYETTE 161 KV SWITCH HOUSE	Lafayette	AL

BGK LAFAYETTE DISTRICT 69 KV SWITCH HOUSE	Lafayette	AL
BGK LAFAYETTE TELE	Lafayette	AL
BGK LOGAN ALUMINUM	Russellville	KY
BGK MONTICELLO 69 KV SWITCH HOUSE	Monticello	AL
BGK ORLINDA 69 KV SWITCH HOUSE	Orlinda	AL
BGK PENCHEM 69 KV SWITCH HOUSE	Pencham	KY
BGK PORTLAND 161 KV SWITCH HOUSE	Portland	TN
BGK PORTLAND 161 KV SWITCH HOUSE	Portland	AL
BGK ROSINE 69 KV SWITCH HOUSE	Rosine	AL
BGK RUSSELLVILLE 161 KV SWITCH HOUSE	Russellville	AL
BGK RUSSELLVILLE DISTRICT 69 KV SWITCH HOUSE	Russellville	AL
BGK SCOTTSVILLE 161 KV SWITCH HOUSE	Scottsville	AL
BGK SOUTH BOWLING GREEN 161 KV SWITCH HOUSE	Bowling Green	AL
BGK SUMMER SHADE 161 KV SWITCH HOUSE	Summer Shade	KY
BGK TOMPKINSVILLE 69 KV SWITCH HOUSE	Tompkinsville	AL
BGK WESTMORELAND 161 KV SWITCH HOUSE	Westmoreland	AL
BLN AUXILIARY BLDG	Hollywood	AL
BLN BLESSINGTON POINT MICROWAVE	Blessington	AL
BLN CENTRE 46 KV SWITCH HOUSE	Centre	AL
BLN COLLINSVILLE DISTRICT 46 KV SWITCH HOUSE	Collinsville	AL
BLN CONST 46 KV SWITCH HOUSE	Hollywood	AL
BLN CONTROL BLDG	Hollywood	AL
BLN FORT PAYNE 161 KV SWITCH HOUSE	Fort Payne	AL
BLN FORT PAYNE DISTRICT 46 KV SWITCH HOUSE	Fort Payne	AL
BLN GAYLESVILLE 46 KV SWITCH HOUSE	Gaylesville	AL
BLN HENAGAR 161 KV SWITCH HOUSE	Henagar	AL
BLN LIM ROCK 161 KV SWITCH HOUSE	Lim Rock	AL
BLN PLANT 500 KV SWITCH HOUSE	Hollywood	AL
BLN RAINSVILLE 161 KV SWITCH HOUSE	Rainsville	AL
BLN RAINSVILLE 46 KV SWITCH HOUSE	Rainsville	AL
BLN REACTOR BLDG	Hollywood	AL
BLN TURBINE BLDG	Hollywood	AL
BLN WININGER MICROWAVE	Wininger	AL
BOH CONTROL BUILDING	Spurgeon	TN
BOH POWERHOUSE/DAM	Spurgeon	TN
BRF AMMONIA UNLOADING	Clinton	TN
BRF ASH SILO BUILDING	Clinton	TN
BRF ASH SILO EQUIPMENT BUILDING	Clinton	TN
BRF ASH SILO SCALE HOUSE	Clinton	TN
BRF BECHTAL ENG.	N/A	TN
BRF BLOCK 69 KV SWITCH HOUSE	N/A	TN
BRF BRAYTOWN 161 KV SWITCH HOUSE	Braytown	TN
BRF BREAKER BLDG	Clinton	TN
BRF CEMS EQUIPMENT SOUND	Clinton	TN
BRF CEMS KEEPER	Clinton	TN
BRF CLAXTON 69 KV SWITCH HOUSE	Claxton	TN
BRF CLINCH RIVER BREEDER CST 161 KV SWITCH HO	Oak Ridge	TN
BRF CLINTON 69 KV SWITCH HOUSE	Clinton	TN
BRF COAL CREEK 69 KV SWITCH HOUSE	Clinton	TN
BRF COAL SAMPLE EAST	Clinton	TN
BRF COAL SAMPLE WEST	Clinton	TN

BRF CONTROL & SAMPLING BLDG	Clinton	TN
BRF CONVEYOR BC-1	Clinton	TN
BRF CONVEYOR BC-14	Clinton	TN
BRF CONVEYOR BC-2	Clinton	TN
BRF CONVEYOR BC-3&4	Clinton	TN
BRF CONVEYOR BC-5&6	Clinton	TN
BRF CONVEYOR BC-7	Clinton	TN
BRF CONVEYOR BC-8	Clinton	TN
BRF CONVEYOR BC-9&10	Clinton	TN
BRF HUNTSVILLE 161 KV SWITCH HOUSE	Clinton	TN
BRF HYDROGEN TRAILER PORT	Clinton	TN
BRF JELLICO 161 KV SWITCH HOUSE	Jellico	TN
BRF LIVE COAL SILO	Clinton	TN
BRF LOVELL 69 KV SWITCH HOUSE	Clinton	TN
BRF MELTON HILL HYDRO PLANT 69 KV SWITCH HOUS	Clinton	TN
BRF OAK RIDGE 161 KV SWITCH HOUSE	Oak Ridge	TN
BRF OAK RIDGE MICROWAVE	Oak Ridge	TN
BRF OFFICE WING	Clinton	TN
BRF OLIVER SPRINGS 69 KV SWITCH HOUSE	Oliver Springs	TN
BRF PETROS 69 KV SWITCH HOUSE	Petros	TN
BRF PLANT 500 KV SWITCH HOUSE	Clinton	TN
BRF POWER HOUSE	Clinton	TN
BRF PRECIPITATOR 1	Clinton	TN
BRF PRECIPITATOR 2	Clinton	TN
BRF PRECIPITATOR CONTROL BLDG	Clinton	TN
BRF PUMPING STATION	Clinton	TN
BRF SMOKE STACK	Clinton	TN
BRF SOLWAY 161 KV SWITCH HOUSE	N/A	TN
BRF SWITCHGEAR	Clinton	TN
BRF SWITCHYARD MANIT. BLDG	Clinton	TN
BRF TRANSFER & BREAKER	Clinton	TN
BRF TRANSFER STATION & CREW ROOM	Clinton	TN
BRF TRANSFER STATION A	Clinton	TN
BRF TRANSFER STATION B	Clinton	TN
BRF TRANSFER STATION C	Clinton	TN
BRH POWERHOUSE	Blue Ridge	GA
BRH SMALL TURBINE GENERATOR	Blue Ridge	GA
BRH SPILLWAY EQUIPMENT BUILDING	Blue Ridge	GA
CBT BELFAST 161 KV PUMP HOUSE	Columbia	TN
CBT BELFAST 161 KV SWITCH HOUSE	Belfast	TN
CBT CENTERVILLE 161 KV SWITCH HOUSE	Centerville	TN
CBT CENTERVILLE FALLOUT SHELTER	Centerville	TN
CBT CLIFTON CITY 69 KV SWITCH HOUSE	Clifton City	TN
CBT COLLINWOOD 69 KV SWITCH HOUSE	Collinwood	TN
CBT COLUMBIA 161 KV PUMP HOUSE	Columbia	TN
CBT COLUMBIA 161 KV SHELTER	Columbia	TN
CBT COLUMBIA DISTRICT 46 KV SWITCH HOUSE	Columbia	TN
CBT COLUMBIA PRIMARY 161 KV SWITCH HOUSE	Columbia	TN
CBT CORNERSVILLE 46 KV SWITCH HOUSE	Cornersville	TN
CBT CULLEOKA 46 KV SWITCH HOUSE	Culleoka	TN

CBT ELKTON 46 KV SWITCH HOUSE	Elkton	TN
CBT ETHRIDGE - VHF RADIO	Ethridge	TN
CBT HOHENWALD 161 KV SWITCH HOUSE	Hohenwald	TN
CBT JINGO 161 KV SWITCH HOUSE	Jingo	TN
CBT LAWRENCEBURG 161 KV SWITCH HOUSE	Lawrenceburg	TN
CBT LAWRENCEBURG DISTRICT 46 KV SWITCH HOUSE	Lawrenceburg	TN
CBT LAWRENCEBURG REMOTE	Lawrenceburg	TN
CBT LEWISBURG 161 KV SWITCH HOUSE	Lewsburg	TN
CBT LEWISBURG 46 KV SWITCH HOUSE	Lewsburg	TN
CBT LINDEN 69 KV SWITCH HOUSE	Linden	TN
CBT LORETTO 46 KV SWITCH HOUSE	Loretto	TN
CBT MAURY 500 KV SWITCH HOUSE	Maury	TN
CBT MONSANTO 161 KV SWITCH HOUSE	N/A	TN
CBT MONSANTO 46 KV SWITCH HOUSE	N/A	TN
CBT MOUNT PLEASANT 161 KV SWITCH HOUSE	Mount Pleasant	TN
CBT MOUNT PLEASANT DISTRICT 46 KV SWITCH HOUS	Mount Pleasant	TN
CBT MT. PLEASANT 161 KV SWITCH HOUSE	Mount Pleasant	TN
CBT MT. PLEASANT PS 161 KV SWITCH HOUSE	Mount Pleasant	TN
CBT NORTH COLUMBIA 46 KV SWITCH HOUSE	North Columbia	TN
CBT ONLY 161 KV SWITCH HOUSE	Only	TN
CBT PULASKI 161 KV SWITCH HOUSE	Pulaski	TN
CBT PULASKI DISTRICT 46 KV SWITCH HOUSE	Pulaski	TN
CBT SATURN 161 KV SWITCH HOUSE	Spring Hill	TN
CBT SPRING HILL MICROWAVE	Spring Hill	TN
CBT VICTOR SWITCH HOUSE	N/A	TN
CBT WAYNESBORO 161 KV SWITCH HOUSE	Waynesboro	TN
CBT WAYNESBORO DISTRICT 69 KV SWITCH HOUSE	Waynesboro	TN
CBT WEST COLUMBIA 161 KV SWITCH HOUSE	Columbia	TN
CBT WEST COLUMBIA 46 KV SWITCH HOUSE	Columbia	TN
CBT WILLIAMSPORT 46 KV SWITCH HOUSE	Williamsport	TN
CBT WRIGLEY 69 KV SWITCH HOUSE	Wrigley	TN
CCK GILBERTSVILLE 69 KV SWITCH HOUSE	Gilbertsville	KY
CCK KENTUCKY HYDRO PLANT 161 KV SWITCH HOUSE	Gilbertsville	KY
CHC CAPACITORS AND OTHER	Chickmauga	TN
CHC CATOOSA 161 KV SWITCH HOUSE	Catoosa	TN
CHC CHATT PSC RADIO	Chattanooga	TN
CHC CHICKAMAUGA HYDRO PLANT 161 KV SWITCH HOU	Chattanooga	TN
CHC COALMONT A & B 161 KV SWITCH HOUSE	Coalmont	TN
CHC COALMONT COMM	Coalmont	TN
CHC CONCORD 161 KV SWITCH HOUSE	Chattanooga	TN
CHC COOPER HEIGHTS	Cooper Heights	TN
CHC DATA CENTER MICROWAVE	Chattanooga	TN
CHC DAYTON 161 KV SWITCH HOUSE	Dayton	TN
CHC DAYTON DISTRICT 69 KV SWITCH HOUSE	Dayton	TN
CHC HALETOWN 69 KV SWITCH HOUSE	Haletown	TN
CHC JASPER TELE	Jasper	TN
CHC LOOKOUT MOUNTAIN RADIO	Lookout Mountain	TN
CHC MISSIONARY RIDGE PCC	Chattanooga	TN
CHC MOBILE & PORTABLE CAP. & GRD	Chattanooga	TN
CHC MOCCASIN 161 KV SWITCH HOUSE	Chattanooga	TN

CHC MOCCASIN RADIO	Chattanooga	TN
CHC MONTLAKE MICROWAVE	Signal Mountain	TN
CHC OGLETHORPE 161 KV SWITCH HOUSE	Oglethorpe	GA
CHC RACCOON MTN MICROWAVE	Tiftonia	TN
CHC RIDGEDALE 161 KV SWITCH HOUSE	Chattanooga	TN
CHC SEQUOYAH TRAINING RADIO	Soddy Daisy	TN
CHC SIGNAL MOUNTAIN MICROWAVE	Signal Mountain	TN
CHC STEPHENSVILLE MICROWAVE	Stephensville	GA
CHC TAYLORS RIDGE	N/A	TN
CHC TILTON 115 KV	Tilton	TN
CHC TRENTON MICROWAVE	Trenton	TN
CHC VOLTAGE/CURRENT TRANSFORMERS	Chattanooga	TN
CHH DIESEL GENERATOR BUILDING	Chattanooga	TN
CHH POWERHOUSE/DAM	Chattanooga	TN
COF CONVEYOR BC-19	Tuscumbia	AL
COF 161 KV SWITCH HOUSE	Tuscumbia	AL
COF ASH SILO BUILDING	Tuscumbia	AL
COF BAKER LANE 46 KV SWITCH HOUSE	Tuscumbia	AL
COF BARGE UNLOADER #1	Tuscumbia	AL
COF BARGE UNLOADER #2	Tuscumbia	AL
COF CEMS 1 & 2	Tuscumbia	AL
COF CEMS 3 & 4	Tuscumbia	AL
COF CENTRAL ELECTRIC CONTROL	Tuscumbia	AL
COF CHEROKEE 161 KV SWITCH HOUSE	Cherokee	AL
COF CHEROKEE DISTRICT 46 KV SWITCH HOUSE	Cherokee	AL
COF COAL SAMPLE BLDG #1	Tuscumbia	AL
COF COAL SAMPLE BLDG #2	Tuscumbia	AL
COF CONTROL ROOM BY STEAM FITTERS	Tuscumbia	AL
COF CONVEYOR BC-1	Tuscumbia	AL
COF CONVEYOR BC-10&11	Tuscumbia	AL
COF CONVEYOR BC-12&13	Tuscumbia	AL
COF CONVEYOR BC-16	Tuscumbia	AL
COF CONVEYOR BC-17	Tuscumbia	AL
COF CONVEYOR BC-18	Tuscumbia	AL
COF CONVEYOR BC-2	Tuscumbia	AL
COF CONVEYOR BC-5	Tuscumbia	AL
COF CONVEYOR BC-6	Tuscumbia	AL
COF CONVEYOR BC-8&9	Tuscumbia	AL
COF CONVEYOR CONTROL BLDG	Tuscumbia	AL
COF CT UNITS 1&2 CONTROL HOUSE	Tuscumbia	AL
COF CT UNITS 3&4 CONTROL HOUSE	Tuscumbia	AL
COF DRY FLY ASH FACILITY	Tuscumbia	AL
COF GENERATOR PUMP BLDG	Tuscumbia	AL
COF HYDROGEN TRAILER PORT A	Tuscumbia	AL
COF HYDROGEN TRAILER PORT B	Tuscumbia	AL
COF MCC 1 & 2	Tuscumbia	AL
COF MCC 3 & 4	Tuscumbia	AL
COF MCC 5 & 6	Tuscumbia	AL
COF MOBILE SW GEAR NO. 1	Muscle Shoals	AL
COF MOBILE SW GEAR NO. 2	Muscle Shoals	AL

COF MOBILE TRANSFORMER NO. 3 46 KV SWITCH HOU	Muscle Shoals	AL
COF MOBILE TRANSFORMER NO. 4 69 KV SWITCH HOU	Muscle Shoals	AL
COF MOBILE TRANSFORMER NO. 5 69 KV SWITCH HOU	Muscle Shoals	AL
COF MULBERRY 46 KV SWITCH HOUSE	Mulberry	AL
COF MUSCLE SHOALS 46 KV SWITCH HOUSE	Muscle Shoals	AL
COF NEW SMOKE STACK	Tuscumbia	AL
COF NEW SMOKE STACK #5	Tuscumbia	AL
COF OAKLAND 161 KV SWITCH HOUSE	Oakland	AL
COF OLD SMOKE STACK #1	Tuscumbia	AL
COF OLD SMOKE STACK #2	Tuscumbia	AL
COF OLD SMOKE STACK #3	Tuscumbia	AL
COF OLD SMOKE STACK #4	Tuscumbia	AL
COF POWERHOUSE	Tuscumbia	AL
COF PRECIPITATOR CONTROL ROOM 1	Tuscumbia	AL
COF PRECIPITATOR PUMP CONTROL 3 & 4	Tuscumbia	AL
COF PUMP CONTROL BLDG	Tuscumbia	AL
COF RED BAY DISTRICT 46 KV SWITCH HOUSE	N/A	AL
COF RUSSELLVILLE 161 KV SWITCH HOUSE	Russellville	AL
COF TRANSFER STATION	Tuscumbia	TN
COF TRANSFER STATION A	Tuscumbia	TN
COF TRANSFER STATION B	Tuscumbia	TN
COF TRANSFER STATION D	Tuscumbia	TN
COF TRANSFER STATION E	Tuscumbia	TN
COF TRANSFER STATION F	Tuscumbia	TN
COF TUSCUMBIA 46 KV SWITCH HOUSE	Tuscumbia	AL
COF UNIT 5 ELECTRICAL EQUIP ROOM	Tuscumbia	AL
COF UNIT 5 PPTR WASHDOWN PAD	Tuscumbia	TN
COF UNITS 1&2 PPTR ELECTRICAL EQUIP ROOM	Tuscumbia	AL
COF UNITS 1&2 PPTR WASHDOWN PAD	Tuscumbia	AL
COF UNITS 1&2 PPTR WEATHER ENCLOSURE	Tuscumbia	AL
COF UNITS 3&4 PPTR ELECTRICAL EQUIP ROOM	Tuscumbia	AL
COF UNITS 3&4 PPTR WASHDOWN PAD	Tuscumbia	AL
COF WATER SUPPLY	Tuscumbia	AL
CRH POWERHOUSE/DAM	Jefferson City	TN
CTH POWERHOUSE/DAM	Hayesville	NC
CUF 500KV SWITCHYARD STORAGE BUILDING	Cumberland City	TN
CUF ABSORBER BUILDING	Cumberland City	TN
CUF AMMONIA UNLOADING CONTROL BUILDING	Cumberland City	TN
CUF ASH SILO 1	Cumberland City	TN
CUF ASH SILO 2	Cumberland City	TN
CUF ASH SILO CONTROL ROOM	Cumberland City	TN
CUF ASH SILO SERVICE BLDG	Cumberland City	TN
CUF AUXILIARY BOILER ROOM 1	Cumberland City	TN
CUF AUXILIARY BOILER ROOM 2	Cumberland City	TN
CUF BARGE UNLOADER (LIMESTONE)	Cumberland City	TN
CUF BREAKER BLDG	Cumberland City	TN
CUF BREAKER BLDG VALVE STATION	Cumberland City	TN
CUF CAUSTIC BLDG	Cumberland City	TN
CUF COAL BARGE UNLOADER	Cumberland City	TN
CUF CONVEYOR BC-13	Cumberland City	TN
CUF CONVEYOR BC-14&15	Cumberland City	TN

CUF CONVEYOR BC-16&17	Cumberland City	TN
CUF CONVEYOR BC-2	Cumberland City	TN
CUF CONVEYOR BC-20&21	Cumberland City	TN
CUF CONVEYOR BC-3&4	Cumberland City	TN
CUF CONVEYOR BC-34	Cumberland City	TN
CUF CONVEYOR BC-34A	Cumberland City	TN
CUF CONVEYOR BC-35	Cumberland City	TN
CUF CONVEYOR BC-5&6	Cumberland City	TN
CUF CONVEYOR BC-7&8	Cumberland City	TN
CUF CONVEYOR BC-9	Cumberland City	TN
CUF CONVEYOR BCL-1	Cumberland City	TN
CUF CONVEYOR BCL-2	Cumberland City	TN
CUF CONVEYOR BCL-3	Cumberland City	TN
CUF CONVEYOR BCL-4	Cumberland City	TN
CUF CONVEYOR BCL-5&6	Cumberland City	TN
CUF CONVEYOR BCL-7	Cumberland City	TN
CUF CONVEYOR BCL-8	Cumberland City	TN
CUF EMISSIONS CONTROL BLDG 2	Cumberland City	TN
CUF FAN CONTROL 2A1-2A2	Cumberland City	TN
CUF FAN CONTROL 2B1-2B2	Cumberland City	TN
CUF FAN CONTROL 2C1-2C2	Cumberland City	TN
CUF HYDROGEN PORT	Cumberland City	TN
CUF LIMESTONE PREP BUILDING	Cumberland City	TN
CUF LIMESTONE STORAGE SILO	Cumberland City	TN
CUF LIMESTONE SWITCH GEAR	Cumberland City	TN
CUF LIMESTONE TRANSFER TOWER #1	Cumberland City	TN
CUF LIMESTONE TRANSFER TOWER #2	Cumberland City	TN
CUF LIMESTONE TRANSFER TOWER #3	Cumberland City	TN
CUF MECHANICAL BLDG EQUIPMENT ROOM	Cumberland City	TN
CUF NEW SMOKE STACK 1	Cumberland City	TN
CUF NEW SMOKE STACK 2	Cumberland City	TN
CUF OLD SMOKE STACK 1	Cumberland City	TN
CUF OLD SMOKE STACK 2	Cumberland City	TN
CUF POWERHOUSE	Cumberland City	TN
CUF PPTR 1A	Cumberland City	TN
CUF PPTR 1B	Cumberland City	TN
CUF PPTR 1C	Cumberland City	TN
CUF PPTR 2A	Cumberland City	TN
CUF PPTR 2B	Cumberland City	TN
CUF PPTR 2C	Cumberland City	TN
CUF PPTR CONTROL 1A	Cumberland City	TN
CUF PPTR CONTROL 1B	Cumberland City	TN
CUF PPTR CONTROL 1C	Cumberland City	TN
CUF PPTR CONTROL 2A	Cumberland City	TN
CUF PPTR CONTROL 2B	Cumberland City	TN
CUF PPTR CONTROL 2C	Cumberland City	TN
CUF PPTR UTILITY BLDG	Cumberland City	TN
CUF SAMPLE BLDG	Cumberland City	TN
CUF SERVICE BUILDING	Cumberland City	TN
CUF SLURRY PUMP BLDG	Cumberland City	TN

CUF STACKOUT CONVEYOR TOWER	Cumberland City	TN
CUF SURGE HOPPER BLDG	Cumberland City	TN
CUF TRANSFER STATION 3	Cumberland City	TN
CUF TRANSFER STATION A	Cumberland City	TN
CUF TRANSFER STATION B	Cumberland City	TN
CUF WATER TREATMENT PLANT	Cumberland City	TN
CVT ANDERSON MICROWAVE	Anderson	TN
CVT APH 161 KV SWITCH HOUSE	Ducktown	NC
CVT ATHENS 161 KV SWITCH HOUSE	Athens	TN
CVT BENTON 69 KV SWITCH HOUSE	Benton	TN
CVT BLAIRSVILLE 69 KV SWITCH HOUSE	Blairsville	TN
CVT BLUE RIDGE HYDRO PLANT 69 KV SWITCH HOUSE	Blue Ridge	TN
CVT BOWATER 161 KV SWITCH HOUSE	N/A	TN
CVT BRAWLEY MTN MICROWAVE/RADIO	Brawley	TN
CVT BYRDSTOWN 69 KV SWITCH HOUSE	Byrdstown	TN
CVT CHARLESTON 161 KV SWITCH HOUSE	Charleston	TN
CVT CHARLESTON DISTRICT 69 KVSWITCH HOUSE	Charleston	TN
CVT CHATUGE HYDRO PLANT 69 KV SWITCH HOUSE	N/A	TN
CVT COPPER BASIN 161 KV SWITCH HOUSE	Hayesville	NC
CVT COPPER BASIN COMM	Copper Basin	TN
CVT COTTONPORT RADIO	Cottonport	TN
CVT CRAB ORCHARD 69 KV SWITCH HOUSE	Crab Orchard	TN
CVT CROSSVILLE 161 KV SWITCH HOUSE	Crossville	TN
CVT CROSSVILLE RADIO	Crossville	TN
CVT DECATUR 69 KV SWITCH HOUSE	Decatur	TN
CVT DELANO 26 KV SWITCH HOUSE	Delano	TN
CVT EAST CLEVELAND 161 KV SWITCH HOUSE	Cleveland	TN
CVT EAST CLEVELAND COMM	Cleveland	TN
CVT EAVES BLUFF MICROWAVE/RADIO	Decatur	TN
CVT ELLIS MOUNTAIN MICROWAVE	N/A	TN
CVT ENGLEWOOD 69 KV SWITCH HOUSE	Englewood	TN
CVT EPWORTH 69 KV SWITCH HOUSE	Epworth	TN
CVT ETOWAH SWITCH HOUSE 69 KV SWITCH HOUSE	Etowah	TN
CVT FRIENDSVILLE 69 KV SWITCH HOUSE	Briendsville	TN
CVT GEORGETOWN 69 KV SWITCH HOUSE	Georgetown	TN
CVT GRANDVIEW RADIO/MICROWAVE	Grandview	TN
CVT GRIMSLEY 69 KV SWITCH HOUSE	Grimsley	TN
CVT HARRISON BAY 161 KV SWITCH HOUSE	N/A	TN
CVT HAYESVILLE 69 KV SWITCH HOUSE	Hayesville	TN
CVT HIWASSEE HYDRO PLANT 161 KV SWITCH HOUSE	N/A	TN
CVT HIWASSEE MICROWAVE	N/A	TN
CVT HOPEWELL 69 KV SWITCH HOUSE	Hopewell	TN
CVT JAMESTOWN 69 KV SWITCH HOUSE	Jamestown	TN
CVT JENA 69 KV SWITCH HOUSE	N/A	TN
CVT KIE 238 RADIO	N/A	TN
CVT LANG STREET 69 KV SWITCH HOUSE	N/A	TN
CVT LOUDON 161 KV SWITCH HOUSE	Loudon	TN
CVT LOUDON DISTRICT 69 KV SWITCH HOUSE	Loudon	TN
CVT MADISONVILLE 69 KV SWITCH HOUSE	Madisonville	TN
CVT MARBLE 69 KV SWITCH HOUSE	Marble	TN
CVT MAYLAND 69 KV SWITCH HOUSE	Mayland	TN

CVT MCDONALD 69 KV SWITCH HOUSE	McDonald	TN
CVT MONTEREY 161 KV SWITCH HOUSE	Monterey	TN
CVT MURPHY 161 KV SWITCH HOUSE	Murphy	NC
CVT NIOTA 69 KV SWITCH HOUSE	Niota	TN
CVT NOTTELY HYDRO PLANT 69 KV SWITCH HOUSE	Blairsville	GA
CVT OCOEE NO. 1 HYDRO PLANT 69 KV SWITCH HOUS	Ocoee	TN
CVT OCOEE NO. 2 HYDRO PLANT 69 KV SWITCH HOUS	Ocoee	TN
CVT OCOEE NO. 3 HYDRO PLANT 161 KV SWITCH HOU	Ocoee	TN
CVT OCOEE VILLAGE 69 KV SWITCH HOUSE	Ocoee	TN
CVT OSWALD DOME MICROWAVE	Reliance	TN
CVT POND CREEK - FIBRE OPTIC	N/A	TN
CVT RICEVILLE 69 KV SWITCH HOUSE	Riceville	TN
CVT ROCKWOOD 161 KV SWITCH HOUSE	Rockwood	TN
CVT ROCKWOOD DISTRICT 69 KV SWITCH HOUSE	Rockwood	TN
CVT ROOSEVELT MT MICROWAVE	Rosevelt Mt	TN
CVT SOUTH ATHENS 69 KV SWITCH HOUSE	Athens	TN
CVT SOUTH CLEVELAND 161 KV SWITCH HOUSE	Cleveland	TN
CVT SPRING CITY 161 KV SWITCH HOUSE	Spring City	TN
CVT STALEY 161 KV SWITCH HOUSE	Staley	TN
CVT SWEETWATER 161 KV SWITCH HOUSE	Sweetwater	TN
CVT SWEETWATER 69 KV SWITCH HOUSE	Sweetwater	TN
CVT TELLICO DISTRICT 69 KV SWITCH HOUSE	Tellico	TN
CVT TEN MILE 161 KV SWITCH HOUSE	Ten Mile	TN
CVT WAUCHECHA BALD RADIO	N/A	TN
CVT WBF PLANT 161 KV SWITCH HOUSE	Spring City	TN
CVT WBH PLANT 161 KV SWITCH HOUSE	Spring City	TN
CVT WBN CONST	Spring City	TN
CVT WBN PLANT 500 KV	Spring City	TN
CVT WBN UTIL CORR	Spring City	TN
CVT WHITE OAK MOUNTAIN RADIO	White Oak	TN
CVT WOOD GROVE 69 KV SWITCH HOUSE	Wood Grove	TN
DGH POWERHOUSE/DAM	Dandridge	TN
EST ANDERSON 46 KV SWITCH HOUSE	Anderson	TN
EST BLANCHE 46 KV SWITCH HOUSE	Blanche	TN
EST COWAN 46 KV SWITCH HOUSE	Cowan	TN
EST FAYETTEVILLE 161 KV SWITCH HOUSE	Fayetteville	TN
EST FAYETTEVILLE DISTRICT 46 KV SWITCH HOUSE	Fayetteville	TN
EST FLINTVILLE 46 KV SWITCH HOUSE	Flintville	TN
EST HILLSBORO 46 KV SWITCH HOUSE	Hillsboro	TN
EST LYNCHBURG 46 KV SWITCH HOUSE	Lynchburg	TN
EST NORTH TULLAHOMA 161 KV SWITCH HOUSE	Tullahoma	TN
EST ORME MOUNTAIN MICROWAVE	N/A	TN
EST PARK CITY 46 KV SWITCH HOUSE	Park City	TN
EST PETERSBURG 46 KV SWITCH HOUSE	Petersburg	TN
EST SEWANEE 69 KV SWITCH HOUSE	Sewanee	TN
EST SEWANEE MICROWAVE	Sewanee	TN
EST SHERWOOD 46 KV SWITCH HOUSE	Sherwood	TN
EST TFH PLANT 46 KV SWITCH HOUSE	Winchester	TN
EST WINCHESTER DISTRICT 46 KV SWITCH HOUSE	Winchester	TN
ESTILL SPRINGS 46 KV SWITCH HOUSE	Estill Springs	TN
EZT WELLHOUSE (WATAUGA DAM)	Elizabethton	TN

FNH DIESEL GENERATOR BUILDING	Fontana Village	NC
FNH POWERHOUSE/DAM	Fontana Village	NC
FPH POWERHOUSE/DAM	Kingsport	TN
FTL FLH POWERHOUSE/DAM	Lenoir City	TN
GAF 161 KV SWITCH HOUSE	Gallatin	TN
GAF ALGOOD 69 KV SWITCH HOUSE	Algood	TN
GAF ASH SILO	Gallatin	TN
GAF BARGE UNLOADING BUILDING	Gallatin	TN
GAF BAXTER 69 KV SWITCH HOUSE	Baxter	TN
GAF BREAKER BUILDING	Gallatin	TN
GAF BREAKER SWITCHGEAR BUILDING	Gallatin	TN
GAF BUILDING OUTSIDE BL-1	Gallatin	TN
GAF CARPENTER SHOP	Gallatin	TN
GAF CARTHAGE 161 KV SWITCH HOUSE	Carthage	TN
GAF CARTHAGE DISTRICT 46 KV SWITCH HOUSE	Carthage	TN
GAF CEMS 1	Gallatin	TN
GAF CEMS 2	Gallatin	TN
GAF CEMS 3	Gallatin	TN
GAF CEMS 4	Gallatin	TN
GAF CENTRAL ELECTRICAL CONTROL	Gallatin	TN
GAF COMPRESSOR BUILDING	Gallatin	TN
GAF CONVEYOR BC-1	Gallatin	TN
GAF CONVEYOR BC-11	Gallatin	TN
GAF CONVEYOR BC-13	Gallatin	TN
GAF CONVEYOR BC-2	Gallatin	TN
GAF CONVEYOR BC-3	Gallatin	TN
GAF CONVEYOR BC-4	Gallatin	TN
GAF CONVEYOR BC-5&6	Gallatin	TN
GAF CONVEYOR BC-7&8	Gallatin	TN
GAF CONVEYOR CONTROL BUILDING	Gallatin	TN
GAF COOKEVILLE 69 KV SWITCH HOUSE	Cookville	TN
GAF CRUSHER BUILDING	Gallatin	TN
GAF CT CEMS 5 & 6	Gallatin	TN
GAF CT CEMS 7 & 8	Gallatin	TN
GAF CT UNIT 1 CONTROL ROOM	Gallatin	TN
GAF CT UNIT 2 CONTROL ROOM	Gallatin	TN
GAF CT UNIT 3 CONTROL ROOM	Gallatin	TN
GAF CT UNIT 4 CONTROL ROOM	Gallatin	TN
GAF CT UNIT 5 PEECC BLDG	Gallatin	TN
GAF CT UNIT 6 PEECC BLDG	Gallatin	TN
GAF CT UNIT 7 PEECC BLDG	Gallatin	TN
GAF CT UNIT 8 PEECC BLDG	Gallatin	TN
GAF EAST COOKEVILLE 69 KV SWITCH HOUSE	Cookville	TN
GAF FPVH & MCC BLDG	Gallatin	TN
GAF GAINESBORO 69 KV SWITCH HOUSE	Gainesboro	TN
GAF GORDONSVILLE 46 KV SWITCH HOUSE	Cordonsville	TN
GAF HOPPER BUILDING A	Gallatin	TN
GAF HOPPER BUILDING B	Gallatin	TN
GAF HOPPER SHED	Gallatin	TN
GAF HYDROGEN TRAILER PORT A	Gallatin	TN

GAF HYDROGEN TRAILER PORT B	Gallatin	TN
GAF MARTHA 161 KV SWITCH HOUSE	Martha	TN
GAF MCC BUILDING	Gallatin	TN
GAF OCANA 69 KV SWITCH HOUSE	Ocana	TN
GAF POWER HOUSE	Gallatin	TN
GAF PPTR 1-1	Gallatin	TN
GAF PPTR 1-2	Gallatin	TN
GAF PPTR 2-1	Gallatin	TN
GAF PPTR 2-2	Gallatin	TN
GAF PPTR 3-1	Gallatin	TN
GAF PPTR 3-2	Gallatin	TN
GAF PPTR 4-1	Gallatin	TN
GAF PPTR 4-2	Gallatin	TN
GAF PUMP BUILDING	Gallatin	TN
GAF SAMPLE PREP BUILDING	Gallatin	TN
GAF SMOKE STACK #1	Gallatin	TN
GAF SMOKE STACK #2	Gallatin	TN
GAF TRANSFER STATION 6	Gallatin	TN
GAF TRANSFER STATION B	Gallatin	TN
GAF TRANSFER STATION B VALVE HSE	Gallatin	TN
GAF TRANSFER STATION C	Gallatin	TN
GAF TRANSFER STATION D	Gallatin	TN
GAF WATER PURIFICATION BUILDING	Gallatin	TN
GAF WATER SUPPLY BUILDING	Gallatin	TN
GAF WEST COOKEVILLE 161 KV SWITCH HOUSE	Cooksville	TN
GAF WILSON 500 KV PUMP HOUSE	Gallatin	TN
GAF WILSON TELE	Gallatin	TN
GEK CADIZ DISTRICT 69 KV SWITCH HOUSE	Cadiz	KY
GEK CERULEAN 69 KV SWITCH HOUSE	Cerulean	KY
GEK DUNMOR 69 KV SWITCH HOUSE	Dunmor	KY
GEK EDGOTEN 161 KV SWITCH HOUSE	Edgoton	KY
GEK ELKTON HILL RADIO/MICROWAVE	Elkton Hill	KY
GEK GREENVILLE RADIO	Greenville	KY
GEK HOPKINSVILLE DISTRICT 69 KV SWITCH HOUSE	Hopkinsville	KY
GEK HOPKINSVILLE MICROWAVE	Hopkinsville	KY
GEK KIRKMANSVILLE 69 KV SWITCH HOUSE	Kirkmansville	KY
GEK LYON 69 KV SWITCH HOUSE	Lyon	KY
GEK PARADISE FOSSIL PLANT 500 KV	Drakesboro	KY
GEK PEEDEE 69 KV SWITCH HOUSE	Peedee	KY
GEK PEMBROKE 69 KV SWITCH HOUSE	Pembroke	KY
GEK PRINCETON 161 KV SWITCH HOUSE	Princeton	KY
GFH CONTROL BUILDING	Great Falls	TN
GFH INTAKE HOUSE	Great Falls	TN
GFH POWERHOUSE	Great Falls	TN
GFH ROCK HOUSE	Great Falls	TN
GUH POWERHOUSE/DAM	Guntersville	AL
HDC HARTSVILLE N.P. 161KV SWITCH HOUSE	Hartsville	TN
HIH DAM	Murphy	NC
HIH POWERHOUSE/CONTROL BUILDING	Murphy	NC
HTA ADDISON 161 KV SWITCH HOUSE	Addison	AL
HTA ALBERTVILLE 161 KV SWITCH HOUSE	Albertville	AL

HTA ALBERTVILLE DISTRICT 46 KV SWITCH HOUSE	Albertville	AL
HTA ALPHA 69 KV SWITCH HOUSE	Ft. Payne	AL
HTA ARAB 161 KV SWITCH HOUSE	Arab	AL
HTA ARAB DISTRICT 46 KV SWITCH HOUSE	Arab	AL
HTA ARAB TELE	Arab	AL
HTA ARDMORE 161 KV SWITCH HOUSE	Ardmore	AL
HTA ASBURY RADIO	Asbury	AL
HTA ATHENS 161 KV SWITCH HOUSE	Athens	AL
HTA ATHENS DISTRICT 46 KV SWITCH HOUSE	Athens	AL
HTA ATHENS TELE	Athens	AL
HTA BECHTEL CORP.	Athens	AL
HTA BELLE MINA 46 KV SWITCH HOUSE	Belle Mina	AL
HTA BOAZ 46 KV SWITCH HOUSE	Boaz	AL
HTA BREMEN 46 KV SWITCH HOUSE	Bremen	AL
HTA BRINDLEY 46 KV SWITCH HOUSE	Brindley	AL
HTA BRYANT 161 KV SWITCH HOUSE	Bryant	AL
HTA COLLINSVILLE 161 KV SWITCH HOUSE	Collinsville	AL
HTA COURTLAND 46 KV SWITCH HOUSE	Courtland	AL
HTA CULLMAN 161 KV SWITCH HOUSE	Cullman	AL
HTA CULLMAN RADIO	Cullman	AL
HTA DANVILLE 46 KV SWITCH HOUSE	Danville	AL
HTA DECATUR 161 KV SWITCH HOUSE	Decatur	AL
HTA FABIUS MICROWAVE	Jackson Co.	AL
HTA FAIRVIEW 46 KV SWITCH HOUSE	Fairview	AL
HTA FALKVILLE 46 KV SWITCH HOUSE	Falkville	AL
HTA FARLEY 161 KV SWITCH HOUSE	Farley	AL
HTA FARLEY TELE	Farley	AL
HTA FINLEY 161 KV SWITCH HOUSE	Finley	AL
HTA FLINT 46 KV SWITCH HOUSE	Flint	AL
HTA FULTONDALE 115 KV SWITCH HOUSE	Fultondale	AL
HTA GERALDINE 46 KV SWITCH HOUSE	Geraldine	AL
HTA GOOSE POND 161 KV SWITCH HOUSE	Scottsboro	AL
HTA GROVE OAK 46 KV SWITCH HOUSE	Grove Oak	AL
HTA GUNTERSVILLE 161 KV SWITCH HOUSE	Guntersville	AL
HTA HANCEVILLE 161 KV SWITCH HOUSE	Hanceville	AL
HTA HANCEVILLE 46 KV SWITCH HOUSE	Hanceville	AL
HTA HANEY 161 KV SWITCH HOUSE	Haney	AL
HTA HARTSELLE 161 KV SWITCH HOUSE	Hartselle	AL
HTA HARTSELLE DISTRICT 46 KV SWITCH HOUSE	Hartselle	AL
HTA HENEGAR 161 KV SWITCH HOUSE	Henegar	AL
HTA HOLLY POND 46 KV SWITCH HOUSE	Holly Pond	AL
HTA HUNTSVILLE 161 KV SWITCH HOUSE	Huntsville	AL
HTA JONES CHAPEL 46 KV SWITCH HOUSE	Jones Chapel	AL
HTA LAMBERT CHAPEL MICROWAVE	Jackson Co.	AL
HTA LIMESTONE 500 KV SWITCH HOUSE	Limestone	AL
HTA MADISON 500 KV PUMP HOUSE	Madison	AL
HTA MADISON 500 KV SWITCH HOUSE	Huntsville	AL
HTA MONSANTO CHEMICAL 161 KV SWITCH HOUSE	Madison	AL
HTA MONSANTO MICROWAVE	Huntsville	AL
HTA MONTE SANO MICROWAVE	Huntsville	AL
HTA MORGAN 46 KV SWITCH HOUSE	Morgan	AL

HTA MOULTON 161 KV SWITCH HOUSE	Moulton	AL
HTA MOULTON DISTRICT 46 KV SWITCH HOUSE	Moulton	AL
HTA MOUNT HOPE 46 KV SWITCH HOUSE	Mount Hope	AL
HTA MOUNT ROSZELL 46 KV SWITCH HOUSE	Mount Roszell	AL
HTA NANCE 161 KV SWITCH HOUSE	Courtland	AL
HTA NORTH HUNTSVILLE 161 KV SWITCH HOUSE	Huntsville	AL
HTA PENCE 46 KV SWITCH HOUSE	Pence	AL
HTA POPLAR CREEK 46 KV SWITCH HOUSE	Poplar Creek	AL
HTA PRICEVILLE 161 KV SWITCH HOUSE	Priceville	AL
HTA PRICEVILLE 46 KV SWITCH HOUSE	Priceville	AL
HTA RED BAY 161 KV SWITCH HOUSE	Red Bay	AL
HTA REYNOLDS 161 KV SWITCH HOUSE	Lister Hill	AL
HTA SCOTTSBORO 161 KV SWITCH HOUSE	Scottsboro	AL
HTA SECTION 46 KV SWITCH HOUSE	Section	AL
HTA SHOALS 161 KV SWITCH HOUSE	Sheffield	AL
HTA SOUTH CULLMAN 46 KV SWITCH HOUSE	South Cullman	AL
HTA STEVENSON 161 KV SWITCH HOUSE	Stevenson	AL
HTA THORTON TOWN MICROWAVE	Rogersville	AL
HTA TOWN CREEK 46 KV SWITCH HOUSE	Town Creek	AL
HTA TRINITY 500 KV PUMP HOUSE	Trinity	AL
HTA TRINITY 500 KV SWITCH HOUSE	Decatur	AL
HTA TRINITY TELE	Trinity	AL
HTA UNION GROVE 46 KV SWITCH HOUSE	Union Grove	AL
HTA VALLEY CREEK 115 KV SWITCH HOUSE	Bessemer	AL
HTA WHEELER HYDRO PLANT 161 KV SWITCH HOUSE	Town Creek	AL
HTA WILSON MOUNTAIN RADIO	Muscle Shoals	AL
JCT FINGER	Finger	TN
JCT JACKSON 500 KV SWITCH HOUSE	Oakfield	TN
JCT LIGHTFOOT 69 KV SWITCH HOUSE	Lightfoot	TN
JCT NEW CASTLE MICROWAVE	New Castle	TN
JCT ROCK SPRINGS MICROWAVE	Rock Springs	TN
JCT SAVANNAH 161 KV SWITCH HOUSE	Savannah	TN
JCT SELMER 161KV SWITCH HOUSE	Selmer	TN
JCT SOUTH JACKSON	Jackson	TN
JCT TRACE PARK MICROWAVE	Trace Park	TN
JKT ADAMSVILLE 69 KV SWITCH HOUSE	Adamsville	TN
JKT ALAMO 161 KV SWITCH HOUSE	Alamo	TN
JKT BELLS 69 KV SWITCH HOUSE	Bells	TN
JKT BETHEL SPRINGS 69 KV SWITCH HOUSE	Bethel Springs	TN
JKT BOLIVAR 161 KV SWITCH HOUSE	Bolivar	TN
JKT BOLIVAR DISTRICT 46 KV SWITCH HOUSE	Bolivar	TN
JKT BROADVIEW MICROWAVE	Broadview	TN
JKT BROWNSVILLE 161 KV SWITCH HOUSE	Brownsville	TN
JKT CHESTERFIELD TELE	Chesterfield	TN
JKT DOUBLE BRIDGES 161 KV SWITCH HOUSE	N/A	TN
JKT DYERSBURG 161 KV SWITCH HOUSE	Dyersburg	TN
JKT HALLS 69 KV SWITCH HOUSE	Halls	TN
JKT HENDERSON 161 KV SWITCH HOUSE	Henderson	TN
JKT HICKORY VALLEY 161 KV PUMP HOUSE	Chattanooga	TN
JKT HUMBOLDT 161 KV SWITCH HOUSE	Humboldt	TN
JKT JACKS CREEK 46 KV SWITCH HOUSE	Jacks Creek	TN

JKT JACKSON 500 KV SWITCH HOUSE	Jackson	TN
JKT JACKSON REGION OFFICE	Jackson	TN
JKT LEXINGTON 69 KV SWITCH HOUSE	Lexington	TN
JKT MIDDALE 69 KV SWITCH HOUSE	Middale	TN
JKT MILAN 161 KV SWITCH HOUSE	Milan	TN
JKT MILAN DISTRICT 69 KV SWITCH HOUSE	Milan	TN
JKT MILLEDGEVILLE 69 KV SWITCH HOUSE	Milledgeville	TN
JKT MONTGOMERY DISTRICT 69 KV SWITCH HOUSE	Montgomery	TN
JKT MORRIS 69 KV SWITCH HOUSE	Morris	TN
JKT MT. PETER	N/A	TN
JKT NATIONAL GUARD	N/A	TN
JKT NEWCASTLE MICROWAVE	Newcastle	TN
JKT NIXON 69 KV SWITCH HOUSE	Nixson	TN
JKT NORTON HILL MICROWAVE	Norton Hill	TN
JKT PARSONS 69 KV SWITCH HOUSE	Parsons	TN
JKT PICKWICK HYDRO PLANT 161 KV SWITCH HOUSE	Luka	TN
JKT PICKWICK MICROWAVE	Luka	TN
JKT RAMER 161 KV SWITCH HOUSE	Ramer	TN
JKT RIPLEY 161 KV SWITCH HOUSE	Ripley	TN
JKT ROLLINS 46 KV SWITCH HOUSE	Rollins	TN
JKT SAULSBURY 46 KV SWITCH HOUSE	Saulsbury	TN
JKT SELMER DISTRICT 69 KV SWITCH HOUSE	Selmer	TN
JKT SELMER TELE	Selmer	TN
JKT SOUTH JACKSON 161 KV SWITCH HOUSE	Jackson	TN
JKT SOUTH JACKSON MICROWAVE	Jackson	TN
JKT TOONE 46 KV SWITCH HOUSE	Toone	TN
JKT TRENTON 69 KV SWITCH HOUSE	Trenton	TN
JKT TULU 69 KV SWITCH HOUSE	Tulu	TN
JKT WHITEVILLE 46 KV SWITCH HOUSE	Whiteville	TN
JOF 500KV SWITCHGEAR HOUSE	New Johnsonville	TN
JOF BARGE UNLOADER 1	New Johnsonville	TN
JOF BARGE UNLOADER 2	New Johnsonville	TN
JOF CENTRAL ELECTRIC CONTROL	New Johnsonville	TN
JOF CHLORINE PLANT	New Johnsonville	TN
JOF COAL SAMPLING CREW BLDG.	New Johnsonville	TN
JOF COGEN TURBINE BLDG	New Johnsonville	TN
JOF CONVEYOR BC-1	New Johnsonville	TN
JOF CONVEYOR BC-11	New Johnsonville	TN
JOF CONVEYOR BC-12	New Johnsonville	TN
JOF CONVEYOR BC-13	New Johnsonville	TN
JOF CONVEYOR BC-16	New Johnsonville	TN
JOF CONVEYOR BC-17	New Johnsonville	TN
JOF CONVEYOR BC-2,9,10,14	New Johnsonville	TN
JOF CONVEYOR BC-3,8,15	New Johnsonville	TN
JOF CONVEYOR BC-4,20	New Johnsonville	TN
JOF CONVEYOR BC-6	New Johnsonville	TN
JOF CONVEYOR BC-7	New Johnsonville	TN
JOF CONVEYOR SWITCHYARD	New Johnsonville	TN
JOF CRUSHER BLDG.	New Johnsonville	TN
JOF CT CEMS 1	New Johnsonville	TN

JOF CT CEMS 2	New Johnsonville	TN
JOF DRAFT SYS. CONTROL BLDG	New Johnsonville	TN
JOF DRY CREEK PRIMARY 161 KV SWITCH HOUSE	Dry Creek	TN
JOF DUPONT 69 KV SWITCH HOUSE	Dry Creek	TN
JOF EMISSIONS CONTROL BLDG.	New Johnsonville	TN
JOF GRAY BLDG.	New Johnsonville	TN
JOF HUSTBURG 161 KV SWITCH HOUSE(CHEM METAL)	Hustburg	TN
JOF HYDROGEN PORTAL A	New Johnsonville	TN
JOF HYDROGEN PORTAL B	New Johnsonville	TN
JOF JOHNSONVILLE FOSSIL PLANT 500 KV SWITCH H	New Johnsville	TN
JOF MAIN CONTROL SHACK	New Johnsonville	TN
JOF MCEWEN - ENG GEN	Mcewen	TN
JOF MCEWEN 69 KV SWITCH HOUSE	Mcewen	TN
JOF MCEWEN MICROWAVE	Mcewen	TN
JOF NEW JOHNSONVILLE ENG GEN	New Johnsville	TN
JOF NEW JOHNSONVILLE MICROWAVE	New Johnsville	TN
JOF POWER HOUSE	New Johnsonville	TN
JOF RR HOPPER BLDG (ABANDONED)	New Johnsonville	TN
JOF SMOKE STACK	New Johnsonville	TN
JOF TRACE CREEK 161 KV SWITCH HOUSE	Trace Creek	TN
JOF UNIT 1 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 10 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 11 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 12 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 13 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 14 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 15 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 16 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 17 PEECC BLDG	New Johnsonville	TN
JOF UNIT 18 PEECC BLDG	New Johnsonville	TN
JOF UNIT 19 PEECC BLDG	New Johnsonville	TN
JOF UNIT 2 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 20 PEECC BLDG	New Johnsonville	TN
JOF UNIT 3 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 4 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 5 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 6 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 7 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 8 CONTROL HOUSE	New Johnsonville	TN
JOF UNIT 9 CONTROL HOUSE	New Johnsonville	TN
JOF WATER TREATMENT PLANT	New Johnsonville	TN
JOF WAVERLY 69 KV SWITCH HOUSE	Waverly	TN
JOT BANNER ELK 69 KV SWITCH HOUSE	Banner Elk	TN
JOT BEAN STATION 69 KV SWITCH HOUSE	Bean Station	TN
JOT BLUFF CITY 161 KV PUMP HOUSE	Bluff City	TN
JOT BLUFF CITY 161 KV SWITCH HOUSE	Bluff City	TN
JOT BOONE HYDRO PLANT 161 KV	Surgeon	TN
JOT BULLS GAP 69 KV SWITCH HOUSE	Bulls Gap	TN
JOT BUNKER HILL - GEN	Bunker Hill	TN
JOT BUNKER HILL MICROWAVE	Rogersville	TN
JOT CHURCH HILL 69 KV SWITCH HOUSE	Church Hill	TN

JOT CHURCH HILL MICROWAVE	Church Hill	TN
JOT COLONIAL HEIGHTS 69 KV SWITCH HOUSE	Colonial Heights	TN
JOT COSBY 161 KV SWITCH HOUSE	Cosby	TN
JOT CRANBERRY 161 KV SWITCH HOUSE	Cranberry	TN
JOT DANDRIDGE 69 KV SWITCH HOUSE	Dandridge	TN
JOT EAST NEWPORT 69 KV SWITCH HOUSE	Newport	TN
JOT ELIZABETHTON 161 KV SWITCH HOUSE	Elizabethton	TN
JOT ELIZABETHTON DISTRICT 69 KV SWITCH HOUSE	Elizabethton	TN
JOT ELIZABETHTON TELE	Elizabethton	TN
JOT ERWIN 69 KV SWITCH HOUSE	Erwin	TN
JOT FITTS GAP 69 KV SWITCH HOUSE	Fitts Gap	TN
JOT FPH 69 KV SWITCH HOUSE	Kingsport	TN
JOT GRAY 69 KV SWITCH HOUSE	Gray	TN
JOT GREENEVILLE IND PARK 161 KV SWITCH HOUSE	Greeneville	TN
JOT GREENLAND 69 KV SWITCH HOUSE	Greenland	TN
JOT HAMPTON 161 KV SWITCH HOUSE	Hampton	TN
JOT HOLSTON HIGH POINT RADIO	N/A	TN
JOT HOLSTON MOUNTAIN LOAD	Carter County	TN
JOT HOLSTON MOUNTAIN MICROWAVE	Carter County	TN
JOT JOHN SEVIER FOSSIL PLANT 161 KV SWITCH HO	Rogersville	TN
JOT JONESBORO 69 KV SWITCH HOUSE	Jonesboro	TN
JOT JUG 69 KV SWITCH HOUSE	N/A	TN
JOT LOCUST SPRINGS 69 KV SWITCH HOUSE	Locust Springs	TN
JOT LOWLAND 69 KV SWITCH HOUSE	Lowland	TN
JOT MILLIGAN COLLEGE 69 KV SWITCH HOUSE	Milligan	TN
JOT MITCHELL 69 KV SWITCH HOUSE	Mitchell	TN
JOT MORRISTOWN 161 KV SWITCH HOUSE	Morristown	TN
JOT MORRISTOWN DISTRICT 69 KV SWITCH HOUSE	Morristown	TN
JOT MORRISTOWN MICROWAVE	Morristown	TN
JOT MOUNTAIN CITY 69 KV SWITCH HOUSE	Mountain City	TN
JOT NEWLAND 69 KV SWITCH HOUSE	Newland	TN
JOT NEWPORT 161 KV SWITCH HOUSE	Newport	TN
JOT NEWPORT DISTRICT 69 KV SWITCH HOUSE	Newport	TN
JOT NOLICHUCKY HYDRO PLANT 69 KV SWITCH HOUSE	N/A	TN
JOT NORTH BRISTOL 161 KV SWITCH HOUSE	Bristol	TN
JOT NORTHEAST JOHNSON CITY 161 KV SWITCH HOUS	Johnson City	TN
JOT NORTHEAST SUBSTATION	Johnson City	TN
JOT OAK GROVE 69 KV SWITCH HOUSE	Oak Grove	TN
JOT PANDORA 69 KV SWITCH HOUSE	Pandora	TN
JOT PHIPPS BEND 500 KV SWITCH HOUSE	Surgoinsville	TN
JOT PHIPPS BEND IND PARK 69 KV SWITCH HOUSE	Surgoinsville	TN
JOT PINEY FLATS 69 KV SWITCH HOUSE	Piney Flats	TN
JOT POWER STORES - JCTY	N/A	TN
JOT ROGERSVILLE 69 KV SWITCH HOUSE	Rogersville	TN
JOT ROGERSVILLE MICROWAVE	Rogersville	TN
JOT RUTHTON 69 KV SWITCH HOUSE	Ruthton	TN
JOT RUTLEDGE 69 KV SWITCH HOUSE	Rutledge	TN
JOT SOUTH HOLSTON HYDRO PLANT 69 KV SWITCH HO	Bristol	TN
JOT SOUTH MORRISTOWN 69 KV SWITCH HOUSE	Morristown	TN
JOT SOUTHEAST JOHNSON CITY 69 KV SWITCH HOUSE	Johnson City	TN

JOT SULLIVAN 500 KV PUMP HOUSE	Piney Flats	TN
JOT SULLIVAN 500 KV SWITCH HOUSE	Sullivan	TN
JOT SULLIVAN COMM	Sullivan	TN
JOT SULLIVAN STATIC CONDENSOR	Sullivan	TN
JOT SURGOINSVILLE 69 KV SWITCH HOUSE	Surgoinsville	TN
JOT TANGLEWOOD 69 KV SWITCH HOUSE	Tanglewood	TN
JOT TUSCULUM 161 KV SWITCH HOUSE	Tusculum	TN
JOT TUSCULUM TELE	Tusculum	TN
JOT WASHINGTON COLLEGE 69 KV SWITCH HOUSE	Jonesborough	TN
JOT WATAUGA HYDRO PLANT 69 KV SWITCH HOUSE	Elizabethton	TN
JOT WEST ELIZABETHTON 69 KV SWITCH HOUSE	Elizabethton	TN
JOT WEST JOHNSON CITY 161 KV SWITCH HOUSE	Johnson City	TN
JOT WEST JOHNSON CITY DISTRICT 69 KV SWITCH H	Johnson City	TN
JOT WHITE PINE 161 KV SWITCH HOUSE	White Pine	TN
JOT WILBUR HYDRO PLANT 69 KV SWITCH HOUSE	Elizabethton	TN
JOT WINNER 69 KV SWITCH HOUSE	Winner	TN
JSF ASH SILO	Rogersville	TN
JSF ASH SILO SHED	Rogersville	TN
JSF BREAKER BUILDING VALVE HOUSE	Rogersville	TN
JSF BREAKERS	Rogersville	TN
JSF COAL SAMPLE BUILDING	Rogersville	TN
JSF CONTROL BLDG	Rogersville	TN
JSF CONVEYOR BC-1	Rogersville	TN
JSF CONVEYOR BC-2&3	Rogersville	TN
JSF CONVEYOR BC-7	Rogersville	TN
JSF CONVEYOR CONTROL BUILDING	Rogersville	TN
JSF CONVEYOR SWITCHGEAR BUILDING	Rogersville	TN
JSF ELECTRONIC EQUIPMENT BUILDING	Rogersville	TN
JSF FLY ASH BUILDING	Rogersville	TN
JSF HOPPER BUILDING	Rogersville	TN
JSF HYDROGEN TRAILER PORT 1	Rogersville	TN
JSF HYDROGEN TRAILER PORT 2	Rogersville	TN
JSF POWERHOUSE	Rogersville	TN
JSF SAMPLE BLDG.	Rogersville	TN
JSF SAMPLE PREP BLDG	Rogersville	TN
JSF SILO EQUIPMENT BUILDING	Rogersville	TN
JSF SMOKE STACK #1	Rogersville	TN
JSF SMOKE STACK #2	Rogersville	TN
JSF SPUD HUT #1	Rogersville	TN
JSF SPUD HUT #2	Rogersville	TN
JSF SPUD HUT CONTROL #1	Rogersville	TN
JSF SPUD HUT CONTROL #2	Rogersville	TN
JSF SPUD HUT CONTROL #3	Rogersville	TN
JSF SURGE BIN EQUIPMENT BUILDING #1	Rogersville	TN
JSF SURGE BIN EQUIPMENT BUILDING #2	Rogersville	TN
JSF TRANSFER STATION B	Rogersville	TN
JSF TRANSFER STATION C	Rogersville	TN
JSF WATER TREATMENT PLANT	Rogersville	TN
JTN AFP 161 KV SWITCH HOUSE	Memphis	TN
JTN ATOKA 161 KV SWITCH HOUSE	Atoka	TN

JTN CORDOVA 500 KV PUMP HOUSE	Cordova	TN
JTN COVINGTON COMM	Covington	TN
JTN DANCYVILLE 161 KV SWITCH HOUSE	Dancyville	TN
JTN FREEPORT 500 KV SWITCH HOUSE	Freeport	TN
JTN MASON 69 KV SWITCH HOUSE	Mason	TN
JTN MILLER 161 KV SWITCH HOUSE	Miller	TN
JTN MILLER DISTRICT 46 KV SWITCH HOUSE	Miller	TN
JTN SHELBY 500 KV PUMP HOUSE	Memphis	TN
JTN SHELBY 500 KV SWITCH HOUSE	Memphis	TN
JTN SHELBY TELE	Memphis	TN
JTN SOUTH MEMPHIS 161 KV SWITCH HOUSE	Memphis	TN
KCT CONTROL BUILDING	Scooba	MS
KCT DEMIN WATER BLDG	Scooba	MS
KCT FIRE PUMP BUILDING	Scooba	MS
KCT MAINTENANCE BUILDING	Scooba	MS
KCT UNIT 1 PEECC BLDG	Scooba	MS
KCT UNIT 2 PEECC BLDG	Scooba	MS
KCT UNIT 3 PEECC BLDG	Scooba	MS
KCT UNIT 4 PEECC BLDG	Scooba	MS
KIF ASBESTOS CHANGE FACILITY	Kingston	TN
KIF CENTRAL ELECTRICAL CONTROL BLDG	Kingston	TN
KIF COAL BLENDING ELECTRICAL EQUIP BLDG	Kingston	TN
KIF COAL EMPTYING STATION	Kingston	TN
KIF COAL LABORATORY	Kingston	TN
KIF CONTROL EMISSIONS LAB 1	Kingston	TN
KIF CONTROL EMISSIONS LAB 2	Kingston	TN
KIF CONTROL EMISSIONS LAB 3	Kingston	TN
KIF CONVEYOR BC-1	Kingston	TN
KIF CONVEYOR BC-13	Kingston	TN
KIF CONVEYOR BC-14	Kingston	TN
KIF CONVEYOR BC-17	Kingston	TN
KIF CONVEYOR BC-2	Kingston	TN
KIF CONVEYOR BC-3&4	Kingston	TN
KIF CONVEYOR BC-5&6	Kingston	TN
KIF CONVEYOR CONTROL AND CRUSHER BLDG	Kingston	TN
KIF EPRI OFFICE	Kingston	TN
KIF GUBMK BUILDINGS	Kingston	TN
KIF HOPPER BUILDING 1	Kingston	TN
KIF HOPPER BUILDING 2	Kingston	TN
KIF HYDROGEN STORAGE PORT 1	Kingston	TN
KIF HYDROGEN STORAGE PORT 2	Kingston	TN
KIF POWERHOUSE	Kingston	TN
KIF PPTR CONTROL BLDG 1	Kingston	TN
KIF PPTR CONTROL BLDG 2	Kingston	TN
KIF PPTR CONTROL BLDG 3	Kingston	TN
KIF PUMP BUILDING	Kingston	TN
KIF TRAIN STORAGE SHED	Kingston	TN
KIF TRANSFER STATION A	Kingston	TN
KIF TRANSFER STATION B	Kingston	TN
KIF TRANSFER STATION C	Kingston	TN
KIF TRANSFER STATION D	Kingston	TN

KIF WATER TREATMENT PLANT	Kingston	TN
KXT ALCOA TELE	Alcoa	TN
KXT ANDERSONVILLE 161 KV SWITCH HOUSE	Andersonville	TN
KXT ANDERSONVILLE MICROWAVE	Andersonville	TN
KXT BLOCKHOUSE 69 KV SWITCH HOUSE	N/A	TN
KXT CARYVILLE 161 KV SWITCH HOUSE	Caryville	TN
KXT CHANDLER 161 KV SWITCH HOUSE	Chandler	TN
KXT CHEROKEE HYDRO PLANT 161 KV SWITCH HOUSE	Jefferson City	TN
KXT COMBS KNOB MICROWAVE	Combs Knob	TN
KXT DOUGLAS HYDRO PLANT 161 KV SWITCH HOUSE	Dandridge	TN
KXT DUNCAN 69 KV SWITCH HOUSE	Duncan	TN
KXT FNH 161 KV SWITCH HOUSE	Fontana Village	NC
KXT FNH FONTANA RADIO	Fontana Village	NC
KXT FTL PLANT 161 KV SWITCH HOUSE	N/A	TN
KXT GREEN TOP MOUNTAIN MICROWAVE	N/A	TN
KXT HARRIMAN 161 KV SWITCH HOUSE	Harriman	TN
KXT HARRIMAN DISTRICT 69 KV SWITCH HOUSE	Harriman	TN
KXT HUNTSVILLE 161 KV STORAGE	Huntsville	TN
KXT JEFFERSON CITY 69 KV SWITCH HOUSE	Jefferson City	TN
KXT KINGSTON 69 KV SWITCH HOUSE	Kingston	TN
KXT KINGSTON FOSSIL PLANT 161 KV SWITCH HOUSE	Kingston	TN
KXT KNOXVILLE 161 KV SWITCH HOUSE	Knoxville	TN
KXT LAFOLLETTE 161 KV SWITCH HOUSE	Lafollette	TN
KXT LAFOLLETTE DISTRICT 69 KV SWITCH HOUSE	Lafollette	TN
KXT LAFOLLETTE TELE	Lafollette	TN
KXT LENOIR CITY 69 KV SWITCH HOUSE	Lenoir City	TN
KXT LONSDALE 161 KV SWITCH HOUSE	Knoxville	TN
KXT LONSDALE COMM	Lonsdale	TN
KXT MARYVILLE 69 KV SWITCH HOUSE	Maryville	TN
KXT NIXON ROAD 161 KV SWITCH HOUSE	Knoxville	TN
KXT NORRIS HYDRO PLANT 161 KV SWITCH HOUSE	Norris	TN
KXT NORTH GATLINBURG 161 KV SWITCH HOUSE	Gatlinburg	TN
KXT NORTH KNOXVILLE 161 KV SWITCH HOUSE	Knoxville	TN
KXT NORTHEAST HARRIMAN 69 KV SWITCH HOUSE	Harriman	TN
KXT ONEIDA 69 KV SWITCH HOUSE	Oneida	TN
KXT PIGEON FORGE 161 KV SWITCH HOUSE	Pigeon Forge	TN
KXT PINEVILLE 161 KV SWITCH HOUSE	Pineville	TN
KXT POWER STORES - KNOX	Knoxville	TN
KXT ROANE 500 KV SWITCH HOUSE	Roane	TN
KXT ROANE MOUNTAIN 161 KV SWITCH HOUSE	Harriman	TN
KXT ROANE MOUNTAIN MICROWAVE	Roane	TN
KXT SEVIERVILLE 69 KV SWITCH HOUSE	Sevierville	TN
KXT SHARPS RIDGE ENG GEN	Knoxville	TN
KXT SHARPS RIDGE MICROWAVE	Knoxville	TN
KXT SHOOKS GAP	Shooks Gap	TN
KXT SPEEDWELL 69 KV SWITCH HOUSE	Speedwell	TN
KXT SUNBRIGHT 69 KV SWITCH HOUSE	Sunbright	TN
KXT TWIN TOWERS MICROWAVE	N/A	TN
KXT VOLUNTEER COMM	Knoxville	TN
KXT WARTBURG 69 KV SWITCH HOUSE	Wartburg	TN

KXT WESTBOURNE 69 KV SWITCH HOUSE	Westbourne	TN
KXT WILDWOOD 69 KV SWITCH HOUSE	Wildwood	TN
KYH POWERHOUSE/DAM	Gilbertsville	KY
LCT DEMIN WATER BLDG	Brownsville	TN
LCT FIRE PUMP BLDG	Brownsville	TN
LCT OPERATIONS BUILDING	Brownsville	TN
LCT UNIT 1 PEECC BLDG	Brownsville	TN
LCT UNIT 10 PEECC BLDG	Brownsville	TN
LCT UNIT 11 PEECC BLDG	Brownsville	TN
LCT UNIT 12 PEECC BLDG	Brownsville	TN
LCT UNIT 2 PEECC BLDG	Brownsville	TN
LCT UNIT 3 PEECC BLDG	Brownsville	TN
LCT UNIT 4 PEECC BLDG	Brownsville	TN
LCT UNIT 5 PEECC BLDG	Brownsville	TN
LCT UNIT 6 PEECC BLDG	Brownsville	TN
LCT UNIT 7 PEECC BLDG	Brownsville	TN
LCT UNIT 8 PEECC BLDG	Brownsville	TN
LCT UNIT 9 PEECC BLDG	Brownsville	TN
LCT WHSE & SHOP BLDG	Brownsville	TN
MFK BENTON 161 KV SWITCH HOUSE	Benton	KY
MFK BENTON CITY 69 KV SWITCH HOUSE	Benton	KY
MFK CALVERT 161 KV SWITCH HOUSE	Calvert City	KY
MFK CALVERT TELE	Calvert	KY
MFK CLINTON 161 KV SWITCH HOUSE	Clinton	KY
MFK COLDWATER 69 KV SWITCH HOUSE	Coldwater	KY
MFK EAST MURRAY 69 KV SWITCH HOUSE	Murry	KY
MFK FULTON 69 KV SWITCH HOUSE	Fulton	KY
MFK GRAND RIVER RADIO/MICROWAVE	Grand Rivers	KY
MFK HARDIN 69 KV SWITCH HOUSE	Hardin	KY
MFK HICKMAN 69 KV SWITCH HOUSE	Hickman	KY
MFK HICKMAN MICROWAVE	Hickman	KY
MFK HICKORY GROVE 69 KV SWITCH HOUSE	Hickory Grove	KY
MFK HORNBEAK RADIO/MICROWAVE	Hornbeak	KY
MFK LYNN GROVE MICROWAVE	Lynn Grove	KY
MFK MARSHALL 500 KV SWITCH HOUSE	Calvert City	KY
MFK MARTIN 161 KV SWITCH HOUSE	Martin	TN
MFK MARTIN RADIO	Martin	KY
MFK MARTIN STEAM PLANT	Martin	KY
MFK MAYFIELD 161 KV SWITCH HOUSE	Mayfield	KY
MFK MAYFIELD DISTRICT 69 KV SWITCH HOUSE	Mayfield	KY
MFK MAYFIELD PSC RADIO	Mayfield	KY
MFK MILBURN 69 KV SWITCH HOUSE	Milburn	KY
MFK MOSCOW 161 KV SWITCH HOUSE	Moscow	KY
MFK MURRAY 161 KV SWITCH HOUSE	Murray	KY
MFK MURRAY DISTRICT 69 KV SWITCH HOUSE	Murray	KY
MFK MURRAY TELE	Murray	KY
MFK NATIONAL CARBIDE 161 KV SWITCH HOUSE	Calvert City	KY
MFK PADUCAH 161 KV SWITCH HOUSE	Paducah	KY
MFK PADUCAH TELE	Paducah	KY
MFK PILOT OAK 69 KV SWITCH HOUSE	Pilot Oak	KY
MFK SHAWNEE REPEATER STATION	West Paducah	KY

MFK SOUTH CALVERT 161 KV SWITCH HOUSE	Calvert City	KY
MFK WEST MURRAY 69 KV SWITCH HOUSE	Murray	KY
MFT BEECH GROVE MICROWAVE	Beech Grove	TN
MFT EAST MCMINNVILLE 161 KV SWITCH HOUSE	McMinnville	TN
MFT EAST MURFREESBORO 161 KV SWITCH HOUSE	Murfreesboro	TN
MFT EAST SHELBYVILLE 161 KV SWITCH HOUSE	Shelbyville	TN
MFT EAST SHELBYVILLE 46 KV SWITCH HOUSE	Shelbyville	TN
MFT FRANKLIN 500 KV SWITCH HOUSE	Tullahoma	TN
MFT GREAT FALLS HYDRO PLANT 161 KV SWITCH HOU	Great Falls	TN
MFT LEBANON 161 KV PUMP HOUSE	Lebanon	TN
MFT LEBANON 161 KV SWITCH HOUSE	Lebanon	TN
MFT LEBANON CITY 46 KV SWITCH HOUSE	Lebanon	TN
MFT LIVINGSTON 161 KV SWITCH HOUSE	Livingston	TN
MFT MANCHESTER 161 KV SWITCH HOUSE	Manchester	TN
MFT MCMINNVILLE 161 KV SWITCH HOUSE	Mcminnville	TN
MFT MOBILE TRANSFORMER NO. 6 69 KV SWITCH HOU	N/A	TN
MFT MORRISON 161 KV SWITCH HOUSE	Morrison	TN
MFT MURFREESBORO 161 KV SWITCH HOUSE	Murfreesboro	TN
MFT MURFREESBORO MAINTENANCE BUILDING	Murfreesboro	TN
MFT MURFREESBORO RADIO	Murfreesboro	TN
MFT RUSSELL HILL MICROWAVE	Russell Hill	TN
MFT SHELBYVILLE 46 KV SWITCH HOUSE	Shelbyville	TN
MFT SMITHVILLE 161 KV SWITCH HOUSE	Smithville	TN
MFT SMITHVILLE RADIO	Smithville	TN
MFT SMYRNA 161 KV SWITCH HOUSE	Smyrna	TN
MFT SMYRNA TELE	Smyrna	TN
MFT SOUTH JACKSON 161 KV GENERATOR BLDG	Jackson	TN
MFT SPARTA 46 KV SWITCH HOUSE	Sparta	TN
MFT TRIUNE 161 KV SWITCH HOUSE	Tuiune	TN
MFT TULLAHOMA 46 KV SWITCH HOUSE	Tullahoma	TN
MFT UNIONVILLE 46 KV SWITCH HOUSE	Unionville	TN
MFT WARTRACE 161 KV SWITCH HOUSE	Wartrace	TN
MFT WATERTOWN 161 KV SWITCH HOUSE	Watertown	TN
MFT WEST COOKEVILLE TELE	Cookeville	TN
MFT WEST SPARTA 161 KV SWITCH HOUSE	Sparta	TN
MFT WILSON 500 KV SWITCH HOUSE	Mt. Juliet	TN
MFT WINCHESTER 161 KV SWITCH HOUSE	Winchester	TN
MFT WOODBURY 161 KV SWITCH HOUSE	Woodbury	TN
MHH DIESEL GENERATOR BLDG	Oak Ridge	TN
MHH POWERHOUSE/DAM	Oak Ridge	TN
NHD NTH COMPRESSOR AND BLOWER BUILDING	Blairsville	GA
NHD NTH POWERHOUSE	Blairsville	GA
NJH DIESEL GENERATOR BUILDING	So. Pittsburg	TN
NJH POWERHOUSE/DAM	So. Pittsburg	TN
NLC POWERHOUSE	Greeneville	TN
NOH POWERHOUSE/DAM	Norris	TN
NSC ADAMS 69 KV SWITCH HOUSE	Adams	TN
NSC ASHLAND CITY 69 KV SWITCH HOUSE	Ashland City	TN
NSC BOGOTA 69 KV SWITCH HOUSE	Bogota	KY
NSC BRUCETON 69 KV SWITCH HOUSE	Bruceton	KY

NSC CAMDEN 161 KV SWITCH HOUSE	Camden	KY
NSC CENTRAL PIKE 161 KV SWITCH HOUSE	Central Pike	TN
NSC CHARLOTTE 69 KV SWITCH HOUSE	Charlotte	TN
NSC CLARKSVILLE 161 KV SWITCH HOUSE	Clarksville	TN
NSC CLARKSVILLE DISTRICT 69 KV SWITCH HOUSE	Clarksville	TN
NSC CLARKSVILLE WATER TOWER/COMM	Clarksville	TN
NSC CUMBERLAND FOSSIL PLANT 500 KV SWITCH HOU	Cumberland City	TN
NSC CUMBERLAND FURNACE 69 KV SWITCH HOUSE	Cumberland City	TN
NSC DAVIDSON 500 KV PUMP HOUSE	Nashville	TN
NSC DAVIDSON 500 KV SWITCH HOUSE	Nashville	TN
NSC DAVIDSON 500 KV TELE	Nashville	TN
NSC DICKSON 161 KV SWITCH HOUSE	Dickson	TN
NSC DICKSON 161 KV TELE	Dickson	TN
NSC DICKSON DISTRICT 69 KV SWITCH HOUSE	Dickson	TN
NSC DONELSON MICROWAVE	Nashville	TN
NSC DOVER 69 KV SWITCH HOUSE	Dover	TN
NSC DRESDEN 69 KV SWITCH HOUSE	Dresden	KY
NSC ERIN 161 KV SWITCH HOUSE	Erin	TN
NSC FRANKLIN 161 KV SWITCH HOUSE	Franklin	TN
NSC GERMANTOWN MICROWAVE	Nashville	TN
NSC GLEASON 69 KV SWITCH HOUSE	Gleason	KY
NSC GREEN BRIER 69 KV SWITCH HOUSE	Green Brier	TN
NSC GREENFIELD 69 KV SWITCH HOUSE	Greenfield	KY
NSC HENDERSONVILLE 161 KV SWITCH HOUSE	H'Ville	TN
NSC HUNTINGDON 161 KV SWITCH HOUSE	Huntingdon	KY
NSC HUNTINGDON DISTRICT 69 KV SWITCH HOUSE	Huntingdon	KY
NSC KENTON 69 KV SWITCH HOUSE	Kenton	KY
NSC KINGSTON SPRINGS 161 KV SWITCH HOUSE	Kingston	TN
NSC LONE OAK 69 KV SWITCH HOUSE	Loan Oak	TN
NSC MCKENZIE 69 KV SWITCH HOUSE	McKenzie	KY
NSC MODEL MICROWAVE	N/A	TN
NSC MONTGOMERY 500-KV RADIO	Montgomery	TN
NSC MONTGOMERY 500-KV-PUMP HOUSE	Montgomery	TN
NSC NEW PROVIDENCE 69 KV SWITCH HOUSE	New Providence	TN
NSC NEWBERN 161 KV SWITCH HOUSE	Newbern	KY
NSC NORTH NASHVILLE 161 KV SWITCH HOUSE	Nashville	TN
NSC NORTH NASHVILLE TELE	Nashville	TN
NSC ORLINDA	Orlinda	TN
NSC PARIS 161 KV SWITCH HOUSE	Paris	KY
NSC PIN HOOK 500 KV SWITCH HOUSE	Pin Hook	TN
NSC PIN HOOK COMM	Pin Hook	TN
NSC PLEASANT VIEW 69 KV SWITCH HOUSE	Pleasant View	TN
NSC POMONA 161 KV SWITCH HOUSE	Pomona	TN
NSC RADNOR 161 KV SWITCH HOUSE	Nashville	TN
NSC RIDGELY 69 KV SWITCH HOUSE	Ridgely	KY
NSC RUTHERFORD 161 KV SWITCH HOUSE	Rutherford	KY
NSC SHADY GROVE 69 KV SWITCH HOUSE	Shady Grove	TN
NSC SOUTH NASHVILLE 161 KV SWITCH HOUSE/NASH	Nashville	TN
NSC SOUTH NASHVILLE MICROWAVE	Nashville	TN
NSC SOUTH NASHVILLE TELE	Nashville	TN
NSC SPRINGFIELD 161 KV SWITCH HOUSE	Springfield	TN

NSC SPRINGFIELD COMM	Springfield	TN
NSC SPRINGFIELD DISTRICT 69 KV SWITCH HOUSE	Springfield	TN
NSC TREZEVANT 69 KV SWITCH HOUSE	Trezevant	KY
NSC TROY 69 KV SWITCH HOUSE	Troy	KY
NSC UNION CITY 161 KV SWITCH HOUSE	Union City	KY
NSC UNION CITY MICROWAVE	Union City	KY
NSC VANLEER MICROWAVE	Vanleer	TN
NSC WEAKLEY 500 KV SWITCH HOUSE	Weakley	KY
NSC WEAKLEY MICROWAVE	Weakley	KY
NSC WEST NASHVILLE 161 KV SWITCH HOUSE	Nashville	TN
NSC WHITE BLUFF 69 KV SWITCH HOUSE	White Bluff	TN
NSC WHITE HOUSE 69 KV SWITCH HOUSE	N/A	TN
OC1 O1H DIESEL GENERATOR BUILDING	Parksville	TN
OC1 O1H POWERHOUSE/DAM	Parksville	TN
OC2 O2H OIL PURIFICATION BUILDING	Copperhill	TN
OC2 O2H PENSTOCK VALVE HOUSE	Copperhill	TN
OC2 O2H POWERHOUSE/DAM	Copperhill	TN
OC2 O2H TRASH RACK HOUSE	Copperhill	TN
OC2 O2H WATER LEVEL GAUGE HOUSE	Copperhill	TN
OC2 O2H WATER TREATMENT PLANT	Copperhill	TN
OC2 O2H WELL PUMP HOUSE	Copperhill	TN
OC3 O3H DAM/GALLERY	Copperhill	TN
OC3 O3H POWERHOUSE/CONTROL BAY	Copperhill	TN
OC3 O3H VALVE HOUSE	Copperhill	TN
PAF 500 KV MAINT BLDG	Drakesboro	KY
PAF AMMONIA UNLOADING CONTROL	Drakesboro	KY
PAF BARGE UNLOADER	Drakesboro	KY
PAF BC-4 SAMPLE BUILDING	Drakesboro	KY
PAF BC-46 RECLAIM HOPPER	Drakesboro	KY
PAF BREAKER A	Drakesboro	KY
PAF BREAKER B	Drakesboro	KY
PAF CEMS 1	Drakesboro	KY
PAF CEMS 2	Drakesboro	KY
PAF CEMS 3	Drakesboro	KY
PAF CLORINATION BLDG	Drakesboro	KY
PAF COAL WASH EQUIP. BLDG. #2	Drakesboro	KY
PAF COAL WASH FIRE PROTECTION ROOM	Drakesboro	KY
PAF COAL WASH FIRE PUMP HOUSE	Drakesboro	KY
PAF COAL WASH PLANT	Drakesboro	KY
PAF COAL WASH POND EQUIP. BLDG. #1	Drakesboro	KY
PAF COAL WASH PUMP BUILDING	Drakesboro	KY
PAF COAL WASH SAMPLE BLDG	Drakesboro	KY
PAF CONAC BLDG.	Drakesboro	KY
PAF CONDITIONER BLDG #1	Drakesboro	KY
PAF CONDITIONER BLDG #2	Drakesboro	KY
PAF CONVEYOR BC-1	Drakesboro	KY
PAF CONVEYOR BC-10	Drakesboro	KY
PAF CONVEYOR BC-12	Drakesboro	KY
PAF CONVEYOR BC-13,14	Drakesboro	KY
PAF CONVEYOR BC-14A	Drakesboro	KY

PAF CONVEYOR BC-14B	Drakesboro	KY
PAF CONVEYOR BC-18	Drakesboro	KY
PAF CONVEYOR BC-19	Drakesboro	KY
PAF CONVEYOR BC-2	Drakesboro	KY
PAF CONVEYOR BC-20	Drakesboro	KY
PAF CONVEYOR BC-28,29,30	Drakesboro	KY
PAF CONVEYOR BC-3	Drakesboro	KY
PAF CONVEYOR BC-31,44	Drakesboro	KY
PAF CONVEYOR BC-32	Drakesboro	KY
PAF CONVEYOR BC-33,34	Drakesboro	KY
PAF CONVEYOR BC-35	Drakesboro	KY
PAF CONVEYOR BC-36,37	Drakesboro	KY
PAF CONVEYOR BC-4	Drakesboro	KY
PAF CONVEYOR BC-42	Drakesboro	KY
PAF CONVEYOR BC-42A	Drakesboro	KY
PAF CONVEYOR BC-42B	Drakesboro	KY
PAF CONVEYOR BC-43	Drakesboro	KY
PAF CONVEYOR BC-45	Drakesboro	KY
PAF CONVEYOR BC-46	Drakesboro	KY
PAF CONVEYOR BC-47	Drakesboro	KY
PAF CONVEYOR BC-49	Drakesboro	KY
PAF CONVEYOR BC-50	Drakesboro	KY
PAF CONVEYOR BC-51	Drakesboro	KY
PAF CONVEYOR BC-52, 53	Drakesboro	KY
PAF CONVEYOR BC-54	Drakesboro	KY
PAF CONVEYOR BC-55	Drakesboro	KY
PAF CONVEYOR BC-9,11	Drakesboro	KY
PAF CONVEYOR RC-1	Drakesboro	KY
PAF EMERGENCY POND PUMP	Drakesboro	KY
PAF FEH 10	Drakesboro	KY
PAF FEH 2	Drakesboro	KY
PAF FEH 6	Drakesboro	KY
PAF FEH 7	Drakesboro	KY
PAF FEH 8	Drakesboro	KY
PAF FEH 9	Drakesboro	KY
PAF FGD COMPRESSOR BLDG.	Drakesboro	KY
PAF FGD CONTROL BLDG	Drakesboro	KY
PAF FGD MCC BLDG.	Drakesboro	KY
PAF FGD PUMP BLDG	Drakesboro	KY
PAF FGD SLURRY KIOSK1	Drakesboro	KY
PAF FGD SLURRY KIOSK2	Drakesboro	KY
PAF FPV ROOM	Drakesboro	KY
PAF FUEL OIL BOOSTER PUMP	Drakesboro	KY
PAF HOPPER TRAIN BLDG.	Drakesboro	KY
PAF HYDROGEN PORTAL	Drakesboro	KY
PAF INSTRUMENT SHOP	Drakesboro	KY
PAF LIMESTONE CONV. CNTR.	Drakesboro	KY
PAF LIMESTONE KIOSK	Drakesboro	KY
PAF LIMESTONE PREP BLDG.	Drakesboro	KY
PAF NEW SMOKE STACK	Drakesboro	KY

PAF OLD SMOKE STACK 1	Drakesboro	KY
PAF OLD SMOKE STACK 2	Drakesboro	KY
PAF POWER HOUSE	Drakesboro	KY
PAF PPTR CONTROL BLDG.	Drakesboro	KY
PAF PPTR UNIT 3A	Drakesboro	KY
PAF PPTR UNIT 3B	Drakesboro	KY
PAF SAMPLE BLDG. BC-32	Drakesboro	KY
PAF SCRUBBER #1	Drakesboro	KY
PAF SCRUBBER #2	Drakesboro	KY
PAF SILO	Drakesboro	KY
PAF SILO 6 (2 SILOS)	Drakesboro	KY
PAF SILO 6 EQUIP. BLDG.	Drakesboro	KY
PAF SURGE HOPPER BLDG.	Drakesboro	KY
PAF SWITCH GEAR CONTROL ROOM	Drakesboro	KY
PAF TRANSFER B	Drakesboro	KY
PAF TRANSFER G	Drakesboro	KY
PAF TRANSFER STATION A	Drakesboro	KY
PAF TRANSFER STATION H	Drakesboro	KY
PAF TRANSFER STATION J	Drakesboro	KY
PAF TRANSFER STATION M	Drakesboro	KY
PAF TRANSFER STATION N	Drakesboro	KY
PAF TRANSFER STATION P	Drakesboro	KY
PAF TRANSFORMER BLDG.	Drakesboro	KY
PAF VACUUM FILTER BUILDING	Drakesboro	KY
PAF VALVE STATION #1	Drakesboro	KY
PAF VALVE STATION #2	Drakesboro	KY
PAF WATER TEST BLDG.	Drakesboro	KY
PHM ACKERMAN 69 KV SWITCH HOUSE	Ackerman	MS
PHM HANDLE 46 KV SWITCH HOUSE	Handle	MS
PHM LOUISVILLE 161 KV SWITCH HOUSE	Louisville	MS
PHM MACON 161 KV SWITCH HOUSE	Macon	MS
PHM NOXAPATER 161 KV SWITCH HOUSE	Noxapater	MS
PHM PHILADELPHIA 161 KV SWITCH HOUSE	Philadelphia	MS
PHM PHILADELPHIA MICROWAVE	Philadelphia	MS
PHM PHILADELPHIA WAREHOUSE RADIO	Philadelphia	MS
PHM SEBASTOPOLE 161 KV SWITCH HOUSE	Sebastopole	MS
PHM STURGIS DISTRICT 69 KV SWITCH HOUSE	Sturgis	MS
PKH POWERHOUSE/DAM	Luka	TN
RAC ALTAMONT 69 KV SWITCH HOUSE	Altamont	TN
RAC COALMONT 161 KV SWITCH HOUSE	Coalmont	TN
RAC DUNLAP 69 KV SWITCH HOUSE	Dunlap	TN
RAC JASPER 161 KV SWITCH HOUSE	Jasper	TN
RAC KIMBALL 161 KV SWITCH HOUSE	Kimball	TN
RAC MONTEAGLE 69 KV SWITCH HOUSE	Monteagle	TN
RAC NICKAJACK HYDRO PLANT 161 KV SWITCH HOUSE	South Pittsburg	TN
RAC PALMER 69 KV SWITCH HOUSE	Palmer	TN
RAC PIKEVILLE 161 KV SWITCH HOUSE	Pikeville	TN
RAC RPS DISCHARGE STRUCTURE PUMPING STATION	Tiftonia	TN
RAC RPS POWER STORAGE BUILDING	Tiftonia	TN
RAC RPS POWERPLANT CHAMBER AND TUNNELS	Tiftonia	TN

RAC RPS SERVICE EQUIPMENT BUILDING	Tiftonia	TN
RAC RPS SURGE CHAMBER AND TUNNEL	Tiftonia	TN
RAC RPS SWITCHYARD CONTROL BUILDING	Tiftonia	TN
RAC RPS VENTILATION FAN BUILDING	Tiftonia	TN
RAC SOUTH PITTSBURG 69 KV SWITCH HOUSE	South Pittsburg	TN
RAC TRACY CITY 69 KV SWITCH HOUSE	Tracy City	TN
RAC WHITWELL 69 KV SWITCH HOUSE	Whitwell	TN
RACCOON MTN PS PLANT 500 KV (161 KV)	Tiftonia	TN
RACCOON MTN PUMP HOUSE	Chattanooga	TN
SHF 500 KV	West Paducah	KY
SHF AFBC BOILER BLDG	West Paducah	KY
SHF AFBC CONTROL BLDG	West Paducah	KY
SHF AFBC PILOT PLANT 161 KV SWITCH HOUSE	West Paducah	KY
SHF BAG HOUSE U1	West Paducah	KY
SHF BAG HOUSE U10	West Paducah	KY
SHF BAG HOUSE U2	West Paducah	KY
SHF BAG HOUSE U3	West Paducah	KY
SHF BAG HOUSE U4	West Paducah	KY
SHF BAG HOUSE U5	West Paducah	KY
SHF BAG HOUSE U6	West Paducah	KY
SHF BAG HOUSE U7	West Paducah	KY
SHF BAG HOUSE U8	West Paducah	KY
SHF BAG HOUSE U9	West Paducah	KY
SHF BLOWER BLDG	West Paducah	KY
SHF CEMS 1&2	West Paducah	KY
SHF CEMS 3&4	West Paducah	KY
SHF CEMS 5&6	West Paducah	KY
SHF CEMS 7&8	West Paducah	KY
SHF CEMS 9&10	West Paducah	KY
SHF CHEMICAL LAB	West Paducah	KY
SHF COAL BARGE UNLOADER 1	West Paducah	KY
SHF COAL BARGE UNLOADER 2	West Paducah	KY
SHF COAL YD. CONVEYOR CNTRL. BLDG. 2	West Paducah	KY
SHF COMPRESSOR BLDG.	West Paducah	KY
SHF CONTROL BLDG	West Paducah	KY
SHF CONVEYOR BC-1	West Paducah	KY
SHF CONVEYOR BC-11	West Paducah	KY
SHF CONVEYOR BC-12	West Paducah	KY
SHF CONVEYOR BC-13	West Paducah	KY
SHF CONVEYOR BC-14	West Paducah	KY
SHF CONVEYOR BC-2	West Paducah	KY
SHF CONVEYOR BC-3&4	West Paducah	KY
SHF CONVEYOR BC-5	West Paducah	KY
SHF CONVEYOR BC-6&7	West Paducah	KY
SHF CONVEYOR BC-L1	West Paducah	KY
SHF CONVEYOR BC-L2	West Paducah	KY
SHF CONVEYOR BC-L3	West Paducah	KY
SHF CONVEYOR BC-L4	West Paducah	KY
SHF CONVEYOR CNTRL 2	West Paducah	KY
SHF CRUSHER BLDG	West Paducah	KY

SHF DEMINERALIZATION BLDG 1	West Paducah	KY
SHF DEMINERALIZATION BLDG 2	West Paducah	KY
SHF DUST CONTAINMENT BLDG.	West Paducah	KY
SHF FIRE AND RESCUE BLDG	West Paducah	KY
SHF HOPPER BLDG.	West Paducah	KY
SHF LARGE SMOKE STACK #1	West Paducah	KY
SHF LARGE SMOKE STACK #2	West Paducah	KY
SHF LIMESTONE COND. BLDG	West Paducah	KY
SHF MET BLDG	West Paducah	KY
SHF OLD SMOKE STACK 1	West Paducah	KY
SHF OLD SMOKE STACK 10	West Paducah	KY
SHF OLD SMOKE STACK 2	West Paducah	KY
SHF OLD SMOKE STACK 3	West Paducah	KY
SHF OLD SMOKE STACK 4	West Paducah	KY
SHF OLD SMOKE STACK 5	West Paducah	KY
SHF OLD SMOKE STACK 6	West Paducah	KY
SHF OLD SMOKE STACK 7	West Paducah	KY
SHF OLD SMOKE STACK 8	West Paducah	KY
SHF OLD SMOKE STACK 9	West Paducah	KY
SHF POWERHOUSE	West Paducah	KY
SHF SAMPLE PREP BUILDING	West Paducah	KY
SHF STORAGE TANK CNTRL BLDG.	West Paducah	KY
SHF STORAGE TANK PUMP HOUSE	West Paducah	KY
SHF SURGE HOPPER BUILDING 1	West Paducah	KY
SHF SURGE HOPPER BUILDING 2	West Paducah	KY
SHF SWITCHGEAR CNTRL BLDG.	West Paducah	KY
SHF TRANSFER STATION 6&7	West Paducah	KY
SHF W.T.P. SWITCHGEAR 1	West Paducah	KY
SHF W.T.P. SWITCHGEAR 2	West Paducah	KY
SHF WASTE SILOS	West Paducah	KY
SHF WATER TREATMENT PLANT	West Paducah	KY
SHH INTAKE AND ACCESS TUNNEL	Bristol	TN
SHH POWERHOUSE	Bristol	TN
SQN 500 KV	Soddy Daisy	TN
SQN AUX.BLDG	Soddy Daisy	TN
SQN CONTROL BLDG.	Soddy Daisy	TN
SQN DIESEL GEN. BLDG.	Soddy Daisy	TN
SQN INTAKE PUMP.STAT.	Soddy Daisy	TN
SQN REACTOR BLDG.	Soddy Daisy	TN
SQN TURBINE BLDG.	Soddy Daisy	TN
TFH AERATION AND COMPRESSOR BUILDING	Winchester	TN
TFH DIESEL GENERATOR BUILDING	Winchester	TN
TFH INTAKE STRUCTURE	Winchester	TN
TFH POWERHOUSE/DAM	Winchester	TN
TFH SPILLWAY EMERGENCY GENERATOR BUILDING	Winchester	TN
TLH DAM	Lenoir City	TN
TLH EMERGENCY GENERATOR BUILDING	Lenoir City	TN
TPM AMORY 161 KV SWITCH HOUSE	Amory	MS
TPM AMORY DISTRICT 46 KV SWITCH HOUSE	Amory	MS
TPM ASHLAND 46 KV SWITCH HOUSE	Ashland	MS

TPM BALDWYN 161 KV SWITCH HOUSE	Baldwyn	MS
TPM BATESVILLE 161 KV SWITCH HOUSE	Batesville	MS
TPM BELDEN 46 KV SWITCH HOUSE	Belden	MS
TPM BELMONT 46 KV SWITCH HOUSE	Belmont	MS
TPM BLUE MOUNTAIN 46 KV SWITCH HOUSE	Blue Mountain	MS
TPM BOONEVILLE 161 KV SWITCH HOUSE	Booneville	MS
TPM BOONEVILLE DISTRICT 46 KV SWITCH HOUSE	Booneville	MS
TPM BRUCE 161 KV SWITCH HOUSE	Bruce	MS
TPM BRUCE 69 KV SWITCH HOUSE	Bruce	MS
TPM BRUCE RADIO STATION	Bruce	MS
TPM BURNSVILLE 161 KV SWITCH HOUSE	Burnsville	MS
TPM CHARLESTON 26 KV SWITCH HOUSE	Charleston	MS
TPM COFFEEVILLE 161 KV SWITCH HOUSE	Coffeeville	MS
TPM CORINTH 161 KV SWITCH HOUSE	Corinth	MS
TPM CORINTH DISTRICT 46 KV SWITCH HOUSE	Corinth	MS
TPM ECRU 46 KV SWITCH HOUSE	Ecru	MS
TPM ENTERPRISE 46 KV SWITCH HOUSE	Enterprise	MS
TPM FULTON 161 KV SWITCH HOUSE	Fulton	MS
TPM FULTON DISTRICT 46 KV SWITCH HOUSE	Fulton	MS
TPM GRAHAM - KIE 255	Graham	MS
TPM GRAHAM MICROWAVE	Union County	MS
TPM GUNTOWN 161 KV SWITCH HOUSE	Guntown	MS
TPM HICKORY FLAT 46 KV SWITCH HOUSE	Hickory Flat	MS
TPM HOLLY SPRINGS 161 KV SWITCH HOUSE	Holly Springs	MS
TPM HOLLY SPRINGS TELE	Holly Springs	MS
TPM KIRKVILLE 46 KV SWITCH HOUSE	Kirkville	MS
TPM LAMAR ENG GEN	Lamar	MS
TPM LAMAR KIE 241	Lamar	MS
TPM LAMAR MICROWAVE	Holly Springs	MS
TPM NASA 161 KV SWITCH HOUSE	Iuka	MS
TPM NEW ALBANY 161 KV SWITCH HOUSE	New Albany	MS
TPM NEW ALBANY TELE	New Albany	MS
TPM NORTH SARDIS 161 KV SWITCH HOUSE	Sardis	MS
TPM NORTHEAST CORINTH 161 KV SWITCH HOUSE	Corinth	MS
TPM NORTHWEST TUPELO 46 KV SWITCH HOUSE	Tupelo	MS
TPM OKOLONA 161 KV SWITCH HOUSE	Okolona	MS
TPM OKOLONA DISTRICT 46 KV SWITCH HOUSE	Okolona	MS
TPM OXFORD 161 KV SWITCH HOUSE	Oxford	MS
TPM OXFORD TELE	Oxford	MS
TPM PONTOTOC 161 KV SWITCH HOUSE	Pontotoc	MS
TPM RIENZI 46 SWITCH HOUSE	Rienzi	MS
TPM RIPLEY 161 KV SWITCH HOUSE	Ripley	MS
TPM SARDIS 161 KV SWITCH HOUSE	Sardis	MS
TPM SHANNON 46 KV SWITCH HOUSE	Shannon	MS
TPM SOUTH TUPELO 46 KV SWITCH HOUSE	Tupelo	MS
TPM STATELINE 161 KV SWITCH HOUSE	Tupelo	MS
TPM TERRAPIN MTN RADIO	Sardis	MS
TPM TISHOMINGO 46 KV SWITCH HOUSE	Tishomingo	MS
TPM TUPELO 161 KV SWITCH HOUSE	Tupelo	MS
TPM TUPELO COMM	Tupelo	MS

TPM UNION 500 KV SWITCH HOUSE	Union	MS
TPM UNION COMM	Union	MS
TPM WALNUT 46 KV SWITCH HOUSE	Walnut	MS
TPM WATER VALLEY 161 KV SWITCH HOUSE	Water Valley	MS
TPM WOODALL MOUNTAIN MICROWAVE	Iuka	MS
TPM YELLOW CREEK NP CONST 161 KV SWITCH HOUSE	N/A	MS
WAH WTH CONTROL BUILDING	Elizabethton	TN
WAH WTH ELECTRICAL EQUIPMENT BUILDING	Elizabethton	TN
WAH WTH OIL PURIFICATION BUILDING	Elizabethton	TN
WAH WTH POWERHOUSE	Elizabethton	TN
WBF FUEL HANDLING	Spring City	TN
WBF HOPPER BLDG	Spring City	TN
WBH CONTROL BLDG	Spring City	TN
WBH POWERHOUSE/DAM	Spring City	TN
WBN AUXILLARY BUILDING AUX	Spring City	TN
WBN CONTROL BUILDING CB	Spring City	TN
WBN DIESEL GENERATOR BUILDING DG-1	Spring City	TN
WBN DIESEL GENERATOR BUILDING DG-2	Spring City	TN
WBN INTAKE PUMPING STATION-INTAKE	Spring City	TN
WBN MAKEUP WATER TREATMENT PLANT MWP	Spring City	TN
WBN NEW FIRE HALL	Spring City	TN
WBN REACTOR BUILDING REAC	Spring City	TN
WBN TURBINE BUILDING TB	Spring City	TN
WCF ABANDONED LOOKING WAREHOUSE	Bridgeport	AL
WCF ABANDONED SCALE HOUSE	Bridgeport	AL
WCF AMMONIA CONTROL ROOM	Bridgeport	AL
WCF BALL MILL BLDG	Bridgeport	AL
WCF BALL MILL BLDG ADDITION	Bridgeport	AL
WCF BARGE UNLOADER 1	Bridgeport	AL
WCF BARGE UNLOADER 2	Bridgeport	AL
WCF BC-1	Bridgeport	AL
WCF BC-10&11	Bridgeport	AL
WCF BC-12&13	Bridgeport	AL
WCF BC-2	Bridgeport	AL
WCF BC-3&4	Bridgeport	AL
WCF BC-5	Bridgeport	AL
WCF BC-L1 & L3	Bridgeport	AL
WCF BC-L2	Bridgeport	AL
WCF BC-L4	Bridgeport	AL
WCF BC-L5 & L6	Bridgeport	AL
WCF BREAKER BLDG	Bridgeport	AL
WCF BRIDGEPORT 69 KV SWITCH HOUSE	Bridgeport	AL
WCF CEMS A-1	Bridgeport	AL
WCF CENTRAL ELECTRIC CONTROL	Bridgeport	AL
WCF COAL SAMPLE BLDG	Bridgeport	AL
WCF CONVEYOR CONTROL & CRUSH	Bridgeport	AL
WCF CRANE OPERATOR BLDG	Bridgeport	AL
WCF ELECTRICAL EQUIPMENT BLDG	Bridgeport	AL
WCF EMISSIONS CONTROL	Bridgeport	AL
WCF FABIUS MINE #3 46 KV SWITCH HOUSE	Bridgeport	AL

WCF FEH (NEW)	Bridgeport	AL
WCF FEH 1	Bridgeport	AL
WCF FEH 11	Bridgeport	AL
WCF FEH 2	Bridgeport	AL
WCF FEH 3	Bridgeport	AL
WCF FEH 4	Bridgeport	AL
WCF FEH 5	Bridgeport	AL
WCF FEH 7	Bridgeport	AL
WCF FEH 8	Bridgeport	AL
WCF FEH 9	Bridgeport	AL
WCF FLAT ROCK 46 KV SWITCH HOUSE	Bridgeport	AL
WCF HOPPER BLDG	Bridgeport	AL
WCF INTAKE DUCTS U1	Bridgeport	AL
WCF INTAKE DUCTS U2	Bridgeport	AL
WCF INTAKE DUCTS U3	Bridgeport	AL
WCF INTAKE DUCTS U4	Bridgeport	AL
WCF INTAKE DUCTS U5	Bridgeport	AL
WCF INTAKE DUCTS U6	Bridgeport	AL
WCF INTAKE DUCTS U7	Bridgeport	AL
WCF INTAKE DUCTS U8	Bridgeport	AL
WCF LIVE STORAGE SILO	Bridgeport	AL
WCF MAINTENANCE BLDG U-7	Bridgeport	AL
WCF MAINTENANCE BLDG UNIT 8 SCRUBBER	Bridgeport	AL
WCF MEAD 161 KV SWITCH HOUSE	Bridgeport	AL
WCF OXYGEN BLOWER BLDG	Bridgeport	AL
WCF PLANT A POWERHOUSE	Bridgeport	AL
WCF PLANT B POWERHOUSE	Bridgeport	AL
WCF PRECIPITATOR CONTROL BLDG 1	Bridgeport	AL
WCF PRECIPITATOR CONTROL BLDG 2	Bridgeport	AL
WCF PUMP HOUSE	Bridgeport	AL
WCF SAMPLE PREP BLDG 2	Bridgeport	AL
WCF SCALE HOUSE 2	Bridgeport	AL
WCF SCRUBBER EQUIP BLDG U-8	Bridgeport	AL
WCF SECURITY PORTAL B	Bridgeport	AL
WCF SMOKE STACK	Bridgeport	AL
WCF SMOKE STACK PLANT A	Bridgeport	AL
WCF SMOKE STACK UNIT 7	Bridgeport	AL
WCF SMOKE STACK UNIT 8	Bridgeport	AL
WCF STEVENSON 69 KV SWITCH HOUSE	Stevenson	AL
WCF SWITCHYARD CONTROL BLDG	Bridgeport	AL
WCF TRANSFER STATION 13	Bridgeport	AL
WCF TRANSFER STATION B	Bridgeport	AL
WCF TRANSFER STATION LA	Bridgeport	AL
WCF TRANSFER STATION LB	Bridgeport	AL
WCF TRANSFER STATION LC	Bridgeport	AL
WCF UNIT 7 SCRUBBER MAINTENANCE	Bridgeport	AL
WCF VALLEY HEAD 46 KV SWITCH HOUSE	Bridgeport	AL
WCF WATER TREATMENT PLANT	Bridgeport	AL
WCF WELL CONTROL BLDG	Bridgeport	AL
WCF WIDOWS CREEK FOSSIL PLANT 500 KV	Bridgeport	AL

WEH OIL PURIFICATION BUILDING	Town Creek	AL
WEH POWERHOUSE/DAM	Town Creek	AL
WEH SWITCHYARD FIRE EQUIPMENT BUILDING	Town Creek	AL
WIH POWERHOUSE/DAM	Elizabethton	TN
WLH CHEMICAL PLANT PS 46 KV SWITCH HOUSE	Muscle Shoals	AL
WLH LEIGHTON 46 KV SWITCH HOUSE	Leighton	AL
WLH LEXINGTON RADIO	Lexington	AL
WLH PLANT 161 KV SWITCH HOUSE	Muscle Shoals	AL
WLH PWR SERVICE BLDG 46 KV SWITCH HOUSE	Muscle Shoals	AL
WLH PWR SERVICE SHOP #4 46 KV SWITCH HOUSE	Muscle Shoals	AL
WLH STATE LINE MICROWAVE	Tuscumbia	AL
WLH TUSCUMBIA MICROWAVE	Tuscumbia	AL
WPM ABERDEEN	Aberdeen	MS
WPM ABERDEEN 161 KV SWITCH HOUSE	Aberdeen	MS
WPM ABERDEEN DISTRICT 46 KV SWITCH HOUSE	Aberdeen	MS
WPM ARTESIA 46 KV SWITCH HOUSE	Artesia	MS
WPM BOLIVAR	Bolivar	TN
WPM BONICORD	Bonicord	TN
WPM CALEDONIA 46 KV SWITCH HOUSE	Caledonia	MS
WPM CALHOUN CITY 161 KV SWITCH HOUSE	Calhoun	MS
WPM CHESTERFIELD 161 KV SWITCH HOUSE	Chesterfield	TN
WPM CLARKSBURG 161 KV SWITCH HOUSE	Clarksburg	TN
WPM COLUMBUS 161 KV SWITCH HOUSE	Columbus	MS
WPM COLUMBUS AIR FORCE BASE 46 KV SWITCH HOUS	Columbus	MS
WPM COLUMBUS DISTRICT 46 KV SWITCH HOUSE	Columbus	MS
WPM COUNCE 161 KV SWITCH HOUSE	Counce	TN
WPM COVINGTON 161 KV SWITCH HOUSE	Covington	TN
WPM DEKALB 161 KV SWITCH HOUSE	Dekalb	MS
WPM EAST COLUMBUS 161 KV SWITCH HOUSE	Columbus	MS
WPM EUPORA 161 KV SWITCH HOUSE	Eupora	MS
WPM HANDLE 161 KV SWITCH HOUSE	Handle	MS
WPM HICKORY VALLEY 161KV SWITCH HOUSE	Hickory Valley	TN
WPM HINZE RADIO/MICROWAVE	Louisville	MS
WPM HOOKER 46 KV SWITCH HOUSE	Hooker	MS
WPM HOUSTON 161 KV SWITCH HOUSE	Houstan	MS
WPM LEAKE 161 KV SWITCH HOUSE	Carthage	MS
WPM LENA RADIO/MICROWAVE	Lena	MS
WPM LOUISVILLE 161 KV SWITCH HOUSE	Louisville	MS
WPM LOWNDES 500 KV SWITCH HOUSE	Lowndes	MS
WPM LUDLOW 46 KV SWITCH HOUSE	Ludlow	MS
WPM MABEN 46 KV SWITCH HOUSE	Maben	MS
WPM MIDWAY 161 KV SWITCH HOUSE	Louisville	MS
WPM MONROE COUNTY 46 KV SWITCH HOUSE	Monroe	MS
WPM OLIVE BRANCH 161 KV SWITCH HOUSE	Olive Branch	MS
WPM PHILADELPHIA	Philadelphia	MS
WPM PRAIRIE 46 KV SWITCH HOUSE	Prairie	MS
WPM SAND HILL MICROWAVE	Sand Hill	MS
WPM SCOTT 115 KV SWITCH HOUSE	Ludlow	MS
WPM SMITHVILLE 161 KV SWITCH HOUSE	Smithville	MS
WPM SOUTH MACON 161 KV SWITCH HOUSE	Macon	MS

WPM SOUTHWEST STARKVILLE 46 KV SWITCH HOUSE	Starkville	MS
WPM STARKVILLE (OLD) 161 KV SWITCH HOUSE	Starkville	MS
WPM STARKVILLE DISTRICT 46 KV SWITCH HOUSE	Starkville	MS
WPM STURGIS 161 KV SWITCH HOUSE	Sturgis	MS
WPM VAN VLEET RADIO/MICROWAVE	Van Vleet	MS
WPM WEST POINT 500 KV PUMP HOUSE	Westpoint	MS
WPM WEST POINT 500 KV SWITCH HOUSE	West Point	MS
WPM WEST POINT DISTRICT 46 KV SWITCH HOUSE	Westpoint	MS
WPM WEST POINT PSC RADIO	Westpoint	MS
WPM WEYERHAUSER 161 KV SWITCH HOUSE	Columbus	MS

Attachment 6

Guidance for Preparing the Federal Agency Energy Management Implementation Plan for FY 2005

The Implementation Plan should be formatted as described below. The format generally follows the outline for the Annual Report. Although the Implementation Plan will be submitted as an attachment to the Annual Report, the Plan should be considered a stand-alone document. Therefore, please do not refer to the Annual Report for Section I, Part A, or for any other part of the Plan that you feel may be redundant with the Annual Report. This Plan should be brief and should describe only activities planned for the next fiscal year.

I. Management and Administration. This section will describe (1) the agency's establishment of an energy management infrastructure and (2) the agency's plans to use management tools in implementing Executive Order 13123.

The TVA Energy Policy (Policy) was approved by the TVA Board on April 19, 1995. The Policy describes TVA's commitment to achieving leadership in efficient and environmentally sound energy management. The Policy also facilitates TVA's compliance with legal and regulatory energy use reduction policies and associated environmental goals and procedures. TVA's Energy Plan (Attachment 8) was written to implement the Policy. TVA develops, evaluates, and updates performance goals and measures in strategic plans such as the Energy Plan.

TVA formed the Agency Energy Management Committee (AEMC) to facilitate compliance with Federal statutes, Executive Orders, Federal regulations, TVA energy and related environmental management objectives, and obligations under the Environmental Protection Agency (EPA) Green Lights Program (GL), EPA Energy Star Buildings Program (ESB), and Energy Star Program (ES). The AEMC is comprised of representatives from each TVA organization responsible for energy management and associated environmental considerations in facility and general operations inside the agency. The AEMC will continue to provide an avenue for sharing lessons learned and replicating success. The AEMC will continue to meet every other month during FY 2004.

TVA will continue to evaluate energy efficiency in its facilities through assessments and surveys carried out through each responsible organization and under the strategy of the Energy Plan. TVA has developed an evaluation sheet to record energy conservation measures. These measures are then loaded into the agency energy management database for automated retrieval and analysis. During FY 2004 TVA plans to evaluate facilities, when necessary, in accordance with Executive Order 13123.

A. Energy Management Infrastructure

1. **Senior Agency Official.** Identify the agency's senior energy official and describe the official's role and responsibilities.

   LeAnne Stribley is the designated senior energy official and Executive Vice President of Administration.

   Stephen L. Brothers manages the TVA Internal Energy Management Program (IEMP) and is the senior manager of Energy Legislation and Management located within Facilities Management under Administration.

   David R. Zimmerman is the manager of Sustainable Design located within Energy Legislation and Management.

2. **Agency Energy Team.** Identify the members of the team and describe the team's responsibilities.

   TVA formed the AEMC to facilitate compliance with federal statutes, Executive Orders, federal regulations, TVA energy and related environmental management objectives, and obligations under the EPA's GL program, EPA's ESB program and EPA's ES program. The AEMC serves as the agency energy team. This committee is comprised of representatives from each TVA organization responsible for energy management and associated environmental considerations in facility and general operations inside the agency. The AEMC provides an avenue for sharing lessons learned and replicating success. The members are:

   - **Stephen L. Brothers, chairperson for the AEMC;**
   - **Paula R. McManus, Fleet Management;**
   - **David R. Zimmerman, Sustainable Design;**
   - **David W. Stewart, Fossil;**
   - **Aaron B. Nix, Facilities Management Environmental;**
   - **William R. McNabb, Facilities Management O&M;**
   - **Jay T. Grafton, Nuclear;**
   - **Terry L. Rutledge, Nuclear alternate;**
   - **Teresa S. Wampler, River System Operations and Environment;**
   - **David R. Dinse, Public Power Institute;**
   - **Tommy K. McEntyre, River Operations;**
   - **Bryan H. Jones, Information Services;**
   - **Jonnie A. Cox, Facilities Management Projects;**
   - **David A. Gordon, Heavy Equipment;**
   - **Judy G. Driggans, Chief Financial Officer representative;**
   - **Barry M. Gore, Transmission and Power Supply;**
   - **V. Edward Hudson, Demand Side Management Program;**
   - **Justin C. Maierhofer, Communications and Government Affairs;**
   - **David R. Chamberlain, Customer Service and Marketing;**
   - **Tina I. Broyles, Transmission and Power Supply alternate; and**
   - **Sherri R. Collins, General Counsel.**

B. Management Tools

1. **Awards (Employee Incentive Programs).** Describe the agency's plans to use employee incentive programs to reward exceptional performance in implementing Executive Order 13123.

   TVA utilizes pay for performance as one method to reward employees' efforts toward meeting agency goals. One of the benefits to TVA's agency goals is savings attributed to the implementation of cost effective energy and related environmental projects. An example of one pay for performance goal is reduction in cost per square foot for building operation which includes energy consumption.

2. **Performance Evaluations.** Describe agency plans to include successful implementation of provisions of Executive Order 13123 in the position descriptions and performance evaluations of members of the agency energy team and facility/energy mangers.

   To the extent employees are responsible for activities that are related to the objectives of Executive Order 13123, their job descriptions contain reflective line items and their performance is evaluated in terms of the extent to which they accomplish such goals.

3. **Training and Education.** Describe plans to ensure that all appropriate personnel receive training for energy management requirements. Describe plans to develop and implement agency outreach programs that include education, training, and promotion of ENERGY STAR[7] and other energy efficient products for Federal purchase card users.

   The AEMC continues to work on ways to inform TVA employees of how their daily activities influence energy and associated environmental impacts in TVA. The AEMC had its annual employee awareness display on tour during October. In conjunction with the tour, an energy-related article was published in TVA's newspaper, "Inside TVA."

   TVA trains employees to accomplish objectives of the IEMP. Updates are provided on current federal requirements and regulations to employees, managers, and TVA customers when requested. Energy management and associated environmental training is provided to managers and employees as needed. Employee awareness activities are used to educate employees on how they impact energy and the environment through their daily activities at work and home. TVA also educates staff in both energy and environmental related topics through the TVA University.

4. **Showcase Facilities.** Describe plans to construct or renovate exemplary facilities that the agency plans to designate as Showcase Facilities. Discuss why the facilities will be considered Showcase Facilities (i.e., discuss the facility design, the improvements made in energy or water efficiency, the use of renewable energy, etc.).

   The TVA Chattanooga Office Complex (COC) continues to be TVA's designated showcase facility. The COC was completed in 1986 and encloses approximately 1.2 million square feet of floor area. It integrates the use of passive energy strategies, energy management practices, and environmental programs and activities. Occupants' daily activities have been recognized as a major component in facility performance. Energy and environmental awareness programs have been established to inform the occupants of the impacts their actions have on this performance. The combinations of original design elements, energy and environmental activities, and aggressive energy reduction operation and maintenance efforts have resulted in the COC becoming a model facility. TVA plans to continue with the COC as its designated showcase facility for FY 2005.

II. Implementation Strategies. The purpose of this section is to describe plans to use strategies to reduce energy consumption and improve energy efficiency. It is not expected that each agency will employ every strategy; rather, each strategy identified in Executive Order 13123 is listed as a subsection to remind agency officials of the existence of these strategies and to encourage their use where practical and life-cycle cost effective. If certain strategies will not be used, please explain why not.

TVA has implemented numerous energy management measures through its operation and maintenance activities and building retrofits. Through operations, maintenance and renovation, controls are placed on lighting and other energy consuming equipment, and inefficient lighting is replaced when these actions are determined to be life-cycle cost effective. TVA has also installed energy management control systems (EMCSs) in the majority of its corporate facility space and considers the use of EMCSs for all facilities when their use is life-cycle cost effective. Energy management measures will continue to be implemented through operations and maintenance activities and through the capital budget process during FY 2005.

As part of its operations and maintenance function, TVA has an emergency curtailment procedure which facilitates the reduction of energy use in its buildings during energy emergencies.

A. Life-Cycle Cost Analysis. Outline plans to institute procedures to ensure the use of life-cycle cost analysis in making investment decisions about in products, services, construction, and other projects to lower the Federal Government's costs and to reduce energy and water consumption. Report on plans to implement the 10-Year Simple Payback Rule. (Under EPACT, energy conservation projects that will pay back investment costs within 10 years must be undertaken).

TVA's Energy Plan provides that life-cycle analysis will be used in making investment decisions regarding energy conservation measures.

B. Facility Energy Audits. Describe the number/percentage of agency facilities that will be audited for energy and water efficiency during the next fiscal year. (Approximately 10% of facilities should be audited each year). Describe the prioritization criteria for audits (e.g., oldest facilities, most energy intensive facilities, etc.).

TVA has evaluated its building inventory for potential energy conservation measures. These facilities will be re-evaluated in accordance with the Executive Order 13123 and TVA's Memorandum of Understanding with the EPA. Ongoing energy surveys and building assessments are planned for FY 2005.

C. Financing Mechanisms. Provide narrative information related to the planned use of Energy-Savings Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs).

Funding procedures for energy management and related environmental projects are reviewed through the IEMP and the AEMC. Recommendations and comments are submitted to the proper organizations. Projects for facilities are primarily funded through renovation, operation, maintenance, and modernization efforts. Projects covered under general operations are ranked for economic benefit compared to other TVA projects to determine funding availability and implementation status and are funded mainly through the capital budgeting process.

D. ENERGY STAR[7] and Other Energy-Efficient Products. Describe steps to be taken to promote the purchase of ENERGY STAR[7] products and/or products that are in the upper 25 percent of energy efficiency as designated by FEMP. Note whether energy efficient criteria will be incorporated into all guide specifications and product specifications developed for new construction and renovation. Also note whether such criteria will be incorporated into product specification language. (See the ENERGY STAR[7] products and Agreen@ products web sites by GSA [www.fss.gsa.gov/environ], DOE [www.eere.energy.gov/femp/technologies/eeproducts.cfm], and EPA [www.energystar.gov/products])

TVA's Energy Plan provides that TVA will strive, when cost-effective, to meet the Energy Star Building criteria for energy performance and indoor environmental quality in its eligible facilities to the maximum extent practicable, as described by section 403(c) of Executive Order 13123. This necessarily includes purchasing Energy Star and other energy efficient products whenever feasible. TVA continues its efforts to buy materials that have positive environmental qualities.

E. ENERGY STAR© Buildings. Report the number and percentage of buildings that, in the next fiscal year, are expected to meet the ENERGY STAR© Building criteria and to be officially designated ENERGY STAR© Buildings. (Buildings must rank in the top 25 percent in energy efficiency relative to comparable commercial and Federal buildings to be eligible for the ENERGY STAR© Buildings designation. See www.energystar.gov).

TVA will continue to evaluate its buildings for compliance with Energy Star Building criteria. During FY 2005, TVA plans to evaluate one to two facilities for compliance with Energy Star Building criteria.

F. Sustainable Building Design. Report whether sustainable building design principles will be incorporated into the siting, design, and construction of new facilities. (See www.wbdg.org for a description of sustainable building design principles).

TVA is building on past sustainable efforts by incorporating sustainable design criteria into renovation and new construction efforts. A "Sustainable Check List" and "Sustainable Design Guideline" have been drafted. All of these efforts are being incorporated into an agency sustainable program under TVA's IEMP. The guideline as part of an overall TVA energy process will be reviewed during FY 2005.

G. Energy Efficiency in Lease Provisions. Describe how energy and water efficiency will be considered when agencies enter into new leases or renegotiate/extend existing leases (e.g., preference for buildings with sustainable design and development, preference for certified ENERGY STAR© Buildings, etc.)

Where applicable, TVA will use model lease provisions based on those recommended by the GSA, and such provisions will be incorporated into new and renewed leases provided they are cost-effective. The model lease provisions address energy and water efficiency.

H. Industrial Facility Efficiency Improvements. Highlight planned activities to explore efficiency opportunities in energy-intensive facilities. This may include activity in the following areas: steam systems, boiler operation, air compressor systems, industrial processes, fuel switching, cogeneration, and other efficiency and renewable energy technologies.

TVA will continue its current activities to investigate areas for improvement in industrial facility efficiency during FY 2005.

I. Highly Efficient Systems. Describe plans for new construction and/or retrofit projects for which combined cooling, heating, and power systems will be installed. Report whether local natural resources will be surveyed to optimize use of available biomass, geothermal, or other naturally occurring energy sources.

TVA will continue to investigate ways to improve system efficiency and will look for options which include biomass through FY 2005.

J. Off-Grid Generation. Describe plans for installing new solar hot water, solar electric, solar outdoor lighting, small wind turbines, fuel cells, and other off-grid alternatives.

TVA is a utility; hence, it generally does not engage in off-grid generation. However, TVA does consider such facilities when life-cycle cost effective.

K. Renewable Energy Purchases. Describe agency plans to encourage the purchase of electricity and thermal energy generated from renewable sources.

Through the TVA GPS program, TVA purchases renewable energy for use in its Knoxville Office Complex, Chattanooga Office Complex and Huntsville office. TVA will continue these efforts through FY 2005.

L. Electrical Load Reduction Measures. Describe agency plans for implementing electrical load reduction measures to be taken during power emergencies to cut electricity consumption in buildings and facilities. (See www.eere.energy.gov/femp/about/legislation_directive.cfm.)

As part of its operation and maintenance function, TVA has an emergency curtailment procedure which facilitates the reduction of energy use in its buildings during energy emergencies.

M. Water Conservation. Highlight activities to be undertaken to improve water efficiency. Discuss plans to develop and implement Water Management Plans and Best Management Practices for efficient use of water (Note: See the guidance document entitled *Water Efficiency Improvement Goal for Federal Agencies* on FEMP's Web site [www.eere.energy.gov/femp/pdfs/eoguidancedoc.pdf]).

TVA will continue to implement best management practices in FY 2005 when life-cycle cost effective. Some of the buildings not yet surveyed for the application of best management practices will be evaluated during FY 2005.

Attachment 7

REPORTING UNITS AND CONVERSION FACTORS FOR FEDERAL ENERGY MANAGEMENT REPORTING

Standard Buildings/Facilities
Industrial, Laboratory, and Other Energy-Intensive Facilities
Exempt Facilities

Fuel Type	*Reporting Units*	*BTUs per Reporting Unit*	*Joules per Reporting Unit*	*GigaJoules (GJ) per Reporting Unit*
Electricity	Megawatt Hour (MWH)	3,412,000	3,599,660,000	3.59966
Fuel Oil	1,000 Gallons	138,700,000	146,328,500,000	146.3285
Natural Gas	1,000 Cubic Feet	1,031,000	1,087,705,000	1.087705
LPG/Propane	1,000 Gallons	95,500,000	100,752,500,000	100.7525
Coal	Short Ton	24,580,000	25,931,900,000	25.9319
Purchased Steam	Billion Btu (BBtu)	1,000,000,000	1,055,000,000,000	1,055.0
Other	Billion Btu (BBtu)	1,000,000,000	1,055,000,000,000	1,055.0

Vehicles/Equipment

Fuel Type	*Reporting Units*	*BTUs per Reporting Unit*	*Joules per Reporting Unit*	*GigaJoules (GJ) per Reporting Unit*
Auto Gas	1,000 Gallons	125,000,000	131,875,000,000	131.875
Diesel	1,000 Gallons	138,700,000	146,328,500,000	146.3285
LPG/Propane	1,000 Gallons	95,500,000	100,752,500,000	100.7525
Aviation Gas	1,000 Gallons	125,000,000	131,875,000,000	131.875
Jet Fuel	1,000 Gallons	130,000,000	137,150,000,000	137.150
Navy Special	1,000 Gallons	138,700,000	146,328,500,000	146.3285
Other	Billion Btu (BBtu)	1,000,000,000	1,055,000,000,000	1,055.0

Other Conversion Factors

100 Cubic Feet (Ccf) = 748 Gallons
1 Acre-Foot = 325,851 Gallons
1 Liter = 0.264 Gallons
1 Cubic Meter = 264 Gallons

Attachment 8

12/14/04

TVA ENERGY POLICY

TVA is committed to being a leader in the efficient and environmentally sound use of energy. Through the adoption of an energy plan TVA facilitates compliance with legally and regulatorily required energy reduction goals and procedures. Delegation of authority is given to the Chief Operating Officer or that official's designee to develop a plan to achieve the objectives of this Policy and subsequently to modify the Plan when necessary.

COVER PAGE FOR THE TVA AGENCY ENERGY PLAN

This Plan is coordinated through TVA's Internal Energy Management Program (IEMP).

Contact:

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Phone: 423-751-7369
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REVISIONS, DATES and REASON:

Revision 1, May 27, 1997. Revisions were made to incorporate new regulations, the joining of the Energy Star Building Program and the Motor Challenge, and to facilitate the move of the IEMP from Customer Group under the COO to Facilities Services under the CAO.

Revision 2, September 10, 1998. Revisions were made to incorporate changes in organizational names and changes to regulations.

Revision 3, December 15, 1999. Revisions were made to incorporate changes in regulations.

Revision 4, October 23, 2000. Revisions were made to incorporate changes in regulations including Executive Order 13123 and Executive Order 13149.

Revision 5, December 26, 2001. Revisions were made to incorporate changes in organizational names and changes to regulations.

Revision 6, December 20, 2002. Revisions were made to incorporate changes in organizational names and changes to regulations including Executive Order 13221.

Revision 7, December 23, 2003. Revisions were made to incorporate changes in organizational names and updates to the Plan.

Revision 8, December 14, 2004. Revisions were made to incorporate changes in organizational names and updates to the Plan.

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TVA AGENCY ENERGY PLAN (revised 12/03)

ENERGY PLAN

I. Introduction/Background

The following plan (hereafter "the Plan") has been established to meet Federal statutory and regulatory requirements and the requirements of TVA's Green Lights agreement with the Environmental Protection Agency (hereafter "the EPA"), the Energy Star Building Program, the DOE Motor Challenge, and to comply with the annual implementation plan requirements of section 302 of Executive Order (E.O.) 13123, 13221 and 13149. Our intention is to make TVA a Federal agency role model and leader in the wise management and use of energy. This Plan will be implemented by Chief Officers and Vice presidents (heads of TVA major groups). The TVA Senior Energy Official, through the IEMP, will coordinate the implementation of the Plan. This Plan promotes, recommends, and outlines the wise use of energy in TVA's operations and in energy intensive equipment purchased for use inside the Agency. The Plan covers all organizations which are responsible for use of energy or purchase of energy consuming equipment. The Plan and supporting organizational energy management plans are intended to meet or exceed the energy reduction goals required under Federal law, regulations, executive orders, and the voluntary goals TVA has established as a participant in EPA's Green Lights, Energy Star Buildings, Energy Star and DOE's Motor and Compressor Challenge Programs.

II. Organization

A. Implementation of Plan and Dissemination of Information

The Agency Energy Management Committee (AEMC), under the sponsorship of the TVA Senior Energy Official, will be responsible for implementing this Plan and the clearing house for information regarding energy responsibility to the various TVA Groups. The AEMC shall be the team described in section 305 of E.O. 13123.

B. Organizational Plans

Each Group shall establish its own plan, when appropriate, to meet or exceed the goals and objectives described under the Plan. These plans shall be updated and maintained to show how each organization intends to accomplish its goals and objectives. Plans and updates will be submitted to the IEMP through organization's representatives on the AEMC at least annually, or when revisions are made, for reporting to DOE. Reports will be made to the EPA and other federal agencies as requested or required.

III. Major Plan Components

A. Strategy

TVA has established the following goals and schedule to comply with Federal laws, memorandums of understanding (MOU), regulations, and executive orders to make TVA a more energy efficient and environmentally friendly agency:

A. Strategy (continued)

1. Goals and Schedule

a) Through life-cycle cost-effective energy measures, reduce its greenhouse gas emissions attributed to subject facility energy use by thirty percent by FY 2010, as discussed in section 201 of Executive Order 13123.

b) Reduce overall energy consumption in TVA owned and leased buildings subject to the National Energy Conservation Policy Act, as amended and implementing Executive Orders and regulations from FY 1985 to FY 2005 by 30 percent (BTU/SQ FT/YR), and 35 percent by the year FY 2010 to the extent to which this reduction by FY 2005 and FY 2010 is cost effective. Implement all cost-effective energy and water Energy Conservation Opportunities (ECOs) with a less than 10-year payback by the year FY 2005 for all subject TVA-owned buildings. A building is defined as: "any enclosed structure that consumes energy and is not on wheels."

c) Reduce energy consumption of subject industrial and laboratory facilities by at least 20 percent by the year FY 2005 and 25 percent by FY 2010, as compared with FY 1990, to the extent that those measures are cost-effective, as noted by E.O. 13123 Section 203.

d) Design all new TVA buildings (those designed after July 31, 1989) to be energy efficient, sustainable, and in compliance with 10 C.F.R. Part 435. Have new buildings designs meet Energy Star standards where practicable and life cycle cost effective. Have acquired buildings comply with 10 C.F.R. 435/434, if cost effective.

e) Conduct lighting surveys on all TVA buildings and reduce lighting energy use at least 50 percent without compromising lighting quality as part of the EPA Green Lights Program. Implement appropriate lighting upgrades, with a 10-year payback or less, covering 100 percent of TVA's surveyed gross square footage by FY 2005. This will not apply to those parts of TVA buildings which are exempt from the TVA/Green Lights agreement pursuant to Addendum 1 Section 1.B of the agreement.

f) Strive to extend the use of renewable energy within its subject facilities and in its activities by implementing renewable energy projects and by obtaining electricity from renewable sources, as described in E.O. 13123 Section 204. Utilize TVA renewable and green programs to achieve E.O. requirements.

g) Through life-cycle cost-effective measures, reduce energy consumption and associated environmental impacts within its subject facilities, as described in E.O.13123 Section 205.

h) Strive to reduce total energy use and associated greenhouse gas and other air emissions, as measured at the source, as described in E.O. 13123 Section 206.

A. Strategy (continued)

1. Goals and Schedule

   i) Implement best management practices to reduce water consumption and associated energy use in subject facilities to reach goals to be established under E.O. 13123 Section 503 (f), to the extent that these measures are cost-effective, as described in E.O. 13123 Section 207.

   j) Annually report progress in meeting the goals and requirements of E.O. 13123 to the President, as described in Section 303 of the E.O.

   k) Applicable to those facilities which are covered by the National Energy Conservation Policy Act, as amended and E.O. 13123, enter and participate in a Federal Energy Star Program Partnership Memorandum of Understanding (MOU) as an attachment to the current Federal Energy Star Buildings Program and Green Lights MOU with the Department of Energy and Environmental Protection Agency. Under the Federal Energy Star Buildings Program Partnership MOU, TVA will generally agree aggressively to pursue all life-cycle cost-effective energy efficient building systems upgrades in its existing facilities and will generally agree to design all new facilities in compliance with applicable codes and regulations, particularly 10 C.F.R. Part 435/434, subpart A or its successor.

   l) Participate in the DOE Motor and Compressor Challenge programs under which TVA will participate in a coordinated effort to encourage increased market penetration of more efficient electric motor and compressor systems. This will include TVA receiving reliable product and system information from DOE, customers and other Federal Agencies, helping develop new information based on communication with other organizations and experience in TVA facilities, and may entail TVA being recognized for developing more efficient and effective motor and compressor systems.

   m) Obtain, where applicable, alternative fuel vehicles (AFVs) and or hybrid vehicles as provided by the Energy Policy Act of 1992 (EPAct 92) and, to the extent to which it applies, E.O. 13149.

   n) Continue to conduct energy and water audits for its subject facilities each year, either independently or through Energy Savings Performance Contracts or utility energy-efficiency service contracts, as described in section 402 of E.O. 13123.

   o) When entering and/or renewing leases, as provided by section 403 (e) of E.O. 13123, to the extent wherever life-cycle cost-effective and legally permitted, TVA will seek to incorporate provisions in each lease that promote sustainability and minimize the cost of energy and water. Consideration shall be given to providing cost-effective preferences to buildings carrying the Energy Star Building label.

A. Strategy (continued)

p) Designate exemplary new and existing facilities with significant public access and exposure as showcase facilities to highlight energy or water efficiency and renewable energy improvements, as described in Section 406 (e) of the E O.

1. Goals and Schedule

q) In accordance with section 304 of E.O. 13123, designate a senior official to be responsible for achieving the goals of this policy. Such official shall be appointed to the Interagency Energy Policy Committee (656 Committee/Senior Officials).

r) Strive, where cost-effective, to meet the Energy Star criteria for energy performance and indoor environmental quality in its eligible facilities to the maximum extent practicable by the end of FY 2002, as described by E.O. 13123 Section 403 (c).

s) Re-survey appropriate buildings every five years.

t) Explore efficiency opportunities in its subject industrial facilities for steam systems, boiler operation, air compressor systems, industrial processes, and fuel switching, including cogeneration and other efficiency and renewable energy technologies, as described in E.O. 13123 Section 403 (f).

u) Implement district energy systems, and other highly efficient systems, in new construction or retrofit projects when life-cycle cost-effective, as described in Section 403 (g) of E.O. 13123.

v) Strive to improve the design, construction, and operation of its mobile equipment and implement all life-cycle cost-effective energy efficiency measures that result in cost savings while improving mission performance, as discussed in Section 405 of E.O. 13123.

w) Strive to use management strategies, such as employee incentive programs, as described in Section 406 of E.O. 13123, to achieve the objectives of the E.O.

x) In accordance with E.O. 13221 purchase standby power equipment which meets the standards of the E.O. where life cycle cost effective and when practical.

2. Building Design and Renovation

a) Sustainable Building Design. Apply sustainable design principles developed by DOD and GSA pursuant to Section 403 (d) of E.O. 13123 to the siting, design, and construction of its subject new facilities. Apply these and other cost effective principals through the TVA Sustainable Design Program.

A. Strategy (continued)

b) New Building Design. All design firms doing building design work on TVA buildings must certify compliance at the contract execution. This statement shows that the firm will adhere as required to 10 C.F.R. 434/435 and any other energy regulation applicable to the particular building type under design. At the conclusion of the design, the responsible design organization will complete, sign, and submit a 10 C.F.R. Part 435 Compliance Form to the IEMP.

2. Building Design and Renovation

c) Existing Building Renovation. Energy and water surveys will be conducted to discover potential energy conservation opportunities (ECOs) and best management practices (BMPs) for water. The life-cycle cost-effective recommendations from these surveys will be implemented in existing buildings. Also, buildings will be evaluated for cost effective sustainable options.

B. Implementation

ECOs, BMPs, and sustainable options will be considered for implementation if after completion of the life-cycle cost analysis the project is shown to be cost effective and has a less than 10-year payback.

To ensure effective Policy implementation, reports on progress toward energy reduction goals, BMPs, and sustainable options achieved are required to be submitted to the IEMP by all TVA organizations affected at least annually.

TVA will use all practical means to ensure its programs, projects, and activities protect and enhance the quality of the human and natural environment. At the earliest practicable time, when a proposed project has environmental impacts, the office proposing an action under this plan will initiate environmental review.

C. Identify and Prioritize Projects

Life-Cycle-Cost effective ECOs, BMPs, and sustainable options will be reviewed and ranked for implementation based on their Savings to Investment Ratio (SIR), their Internal Rate of Return (IRR), and their impact on TVA's mission. The projects will be prioritized for implementation based on best return on investment and necessity to support TVA's mission and responsibility to its customers.

D. Funding Strategy

All ECOs, BMPs, and sustainable options analyzed shall be evaluated using the guideline of NIST Handbook 135, Life-Cycle-Costing Manual for the Federal Energy Management Program. Those cost-effective ECOs, BMPs and sustainable options having a 10-year or less payback and a savings to investment ratio greater than one will be budgeted for and implemented contingent on their support to TVA's mission and responsibility to its customers. For ECOs on TVA buildings not covered under EPAct 92, but considered under Green Lights (Energy Star), cost effectiveness shall be based on current TVA financial standards and business practices.

D. Funding Strategy (continued)

The following funding options will be considered when implementing ECOs, BMPs, and sustainable options:

1. Direct funding from TVA operating capital,

2. Utility sponsored demand side management programs,

3. Energy Savings Performance Contracts and Shared Savings Agreements, and

4. Federal Energy Efficiency Fund.

E. Other Activities

TVA will consider implementation of all cost-effective operation and maintenance energy management projects in its day-to-day energy management activities. Water flow restriction devices and other activities which would conserve and preserve our water resources will be considered for implementation. TVA will demonstrate and implement energy efficient electrical equipment in its internal operations where appropriate and will promote their use to its customers. TVA will implement an energy awareness campaign annually to obtain employee assistance in reducing energy use. TVA will also continue its sustainable design efforts through the direction of the Sustainable Design Program.

IV. Tracking and Reporting

A. Implementation Procedures

If an ECO has a less than five-year payback and meets TVA's IRR, as defined by TVA's CFO, this ECO will be considered for implementation during the next budget cycle. Water conservation objectives and sustainable options will be considered for implementation when, after life-cycle-cost analysis, their payback is less than ten years.

B. Progress Toward Meeting Objectives

All TVA organizations which have responsibility for energy and water consumption in buildings or operations will report this usage to the IEMP.

1. Quarterly Reporting

a) On a quarterly basis, unless otherwise specified, organizations which have identified or implemented ECOs, BMPs, and/or sustainable options will report this information to the IEMP.

2. Annual Reporting

a) On an annual basis, all organizations which have responsibilities over energy and/or water use in operations or buildings will describe energy management or conservation programs, projects, or operations performed during that fiscal year and those projects, programs, and operations planned for the next fiscal year. The date for submission for this information will be no later than 60 calendar days after the end of the fiscal year.

3. Other Reporting

a) Individual organizations may implement reporting requirements within their organizations in order to monitor usage in an effort to enhance performance.

b) Organizations may receive copies of the reports sent to DOE upon request. All other reports generated to assist TVA in its effort to be a leader in energy management and conservation will be available upon request.

C. General

All TVA employees and organizations are encouraged to reduce energy and water waste. New and innovative ideas and techniques for the reduction of energy and water waste and better energy management should be communicated to the IEMP so the information can be shared throughout TVA. In selection of equipment, electrical alternatives shall be chosen whenever cost-effective and whenever possible. TVA buildings will be used to demonstrate the application of innovative energy and water efficient technologies.

V. Special Problems

Organizations having special problems meeting The Plan should submit a description of those problems to the IEMP for review. Any problems needing DOE attention will be communicated annually in TVA's annual report to DOE.

VI. Additional Provisions

A. TVA FLEET EFFICIENCY STRATEGY (see attached)

Background:

This strategy defines TVA’s commitment to vehicle fleet and transportation efficiencies as described in EPAct 92 and Executive Order 13149. The strategy is an internal part of the decision making process for fleet purchases and operations for TVA.

Responsibilities:

Administration: Program administrator and owner of the fleet efficiency strategy; goal setting, etc. Transportation Services will coordinate the implementation of the strategy in TVA through the Agency Energy Management Committee. Committee members representing this program include Fleet Management, Kathy Ellis and Heavy Equipment, David Gordon:

a) LeAnne Stribley is the designated Senior Energy Official and Executive Vice President of Administration.
b) Stephen L. Brothers manages the TVA Internal Energy Management Program (IEMP) and is chairperson for the Agency Energy Management Committee.
c) David R. Zimmerman is the manager of the TVA Sustainable Design Program.

Attachment 9

Tennessee Valley Authority
Compliance Strategy
for E.O. 13149

October 4, 2002
Revised: November 4, 2004

Tennessee Valley Authority Compliance Strategy for E.O. 13149

Executive Summary

TVA's mission includes generating and transmitting electric power to fulfill the needs of almost eight million users throughout TVA's seven-state service territory, and specifically includes the major objective of selling the power at rates as low as feasible. All TVA operations (including but not limited to 29 hydroelectric plants, 15 fossil-fueled plants, three nuclear plants, and 17,000 miles of transmission lines and facilities) are independently funded by power sales and by power revenue bonds (which are not obligations of, nor backed by, the United States); TVA receives no appropriated funds. Consistent with its mission requirements and its independent corporate status, TVA intends to comply with EO 13149 to the extent feasible. TVA has a long history of demonstrating stewardship toward energy reduction and fuel efficiency and will continue to work toward meeting fuel reduction and vehicle efficiency.

TVA's fleet strategy is to examine current vehicle use and replacement and where possible, choose replacement vehicles that are most efficient. TVA, as a major provider of electricity will continue to make use of alternative fueled vehicles (AFVs) including those that use electric power and acquire additional vehicles to meet requirements under EPAct92. TVA has recognized the value of hybrid electric vehicle technology in reducing fuel consumption, increasing versatility, and promoting electric propulsion and has included these vehicles in its fleet. TVA created a hybrid-fleet program in FY 2002 which is a partnership effort between TVA's Energy Management and Fleet Management organizations. In FY 2004, TVA added seven hybrid gas/electric vehicles and 13 AFV's to its fleet bringing the total number of hybrid vehicles to 20 and AFV's to 36.

In FY 2004 TVA reported in its "Federal Agency Annual Report on Energy Management" the following data:

- Annual MPG Sedans – 28.2
- Annual MPG Light Trucks (4x2) – 15.2
- Annual MPG Light Trucks (4x4) – 13.4

I-1. TVA Petroleum Use

Petroleum use for covered vehicles will continue to be reported in FAST however, gasoline and diesel fuel usage for FY 2004 and associated cost is listed below. This data includes fuel used by light duty, medium duty and heavy duty vehicles. The source of this data is the "TVA Energy Management Annual Report for FY 2004"

- Gasoline – 2,620,800 gallons. Cost: $3,925,200
- Diesel Fuel – 932,200 gallons. Cost: $1,324,200

To increase MPG for FY 2005 TVA plans to purchase higher miles per gallon vehicles where possible including additional hybrid vehicles. Fuel saving activities will be reported each year in the TVA Energy Management Annual Report.

I-2. TVA Fleet Characteristics and AFVs

TVA vehicles are spread across its seven-state service area. Due to the nature of TVA operations, such as the facts that TVA power plants and transmission facilities are generally located in rural areas and that much TVA travel originating in urban areas is to distant areas (for example, between Knoxville, TN, and Muscle Shoals, AL), most TVA vehicles are used primarily outside of metropolitan statistical areas as described in EPAct92. Also, significantly for purposes of EPAct92 Alternative Fueled Vehicle requirements, TVA has no central fueling facilities in metropolitan statistical areas. Further, as coordinated with DOE, TVA vehicles used in maintaining the reliable operation of the power system appear to be within the intent of EPAct92 exemptions such as for emergency or off-road vehicles. Based on these facts, EPAct92 does not impose significant AFV purchase requirements on TVA but, TVA nonetheless does intend to continue to add to its current fleet of AFVs. Annual fleet characteristics for vehicles covered under EPAct92 will be reported in FAST.

I-3. TVA Fleet Strategy to Reduce Fuel Use and Increase Efficiency

TVA's fleet strategy is to replace vehicles with those that are more efficient where practical. To facilitate this effort TVA has produced several guides accessible to employees as needed, which graphically compare the fuel use and operating costs of existing TVA fleet vehicles.

TVA will continue to utilize various transportation options related to increasing efficiency including the use of personal vehicles, short term rental cars, short term leases and assigned vehicles. This information will also be made available to employees to determine the best method of transportation based on trip duration and miles driven.

TVA examines current vehicle use and replacement and where possible, chooses replacement vehicles that are most efficient. TVA being a major provider of electricity will continue to make use of alternative fueled vehicles that use electric power and acquire additional vehicles to meet requirements under EPAct92. TVA recognizes the value of hybrid electric vehicle technology in reducing fuel consumption, increasing versatility, and promoting electric propulsion. TVA has added hybrid vehicles to its fleet and will continue to do so.

TVA's Agency Energy Management Committee (AEMC) facilitates compliance with federal statutes, Executive Orders, federal regulations, TVA energy and related environmental management objectives, and obligations under the Environmental Protection Agency's (EPA) Green Lights Program (GL), EPA's Energy Star Buildings Program (ESB) and EPA's Energy Star Program (ESP). The AEMC serves as the agency energy team. This committee is comprised of representatives from each TVA organization responsible for energy management and associated environmental considerations in facility and general operations inside the agency. The AEMC provides an avenue for sharing lessons learned and replicating success, including fuel use and increased vehicle efficiency. This committee meets every other month.