Vision for the Future
Solutions for Today

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SUMMARY AND ABSTRACTS

Applied Research Units and Projects
1996 UCETF Program

ENERGY TASK FORCE
of the Urban Consortium

Prepared by

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OVERVIEW

The Urban Consortium (UC), created by PTI, is a network of jurisdictions with populations of over 250,000. The UC provides a platform for research and enterprise through its Energy, Environmental, Transportation, and Telecommunications and Information Task Forces. The UC provides a unique creative forum where elected and appointed officials and technical managers identify, test, and validate practical ways to improve the provision of public services and, where possible, generate new revenue opportunities.

Public Technology, Inc., is the non-profit technology organization of the National League of Cities, the National Association of Counties, and the International City/County Management Association. PTI creates and advances technology-based products, services, and enterprises in cities and counties nationwide.

Staffed by PTI, the UC addresses the critical needs of local governments through its Task Forces. The Urban Consortium Energy Task Force (UCETF) program has, since its inception, acted as a laboratory to develop, test solutions and share the resulting products or management approaches with the wider audience of local governments. It has addressed the overlap between energy and environment and economic development policy issues, and, is the nation's most extensive cooperative local government program to improve energy management and decision-making through applied research and technology cooperation.

Proposals to meet the specific objectives of the UCETF annual R&D program are solicited from major urban jurisdictions. Projects based on these proposals are then selected by the UCETF for direct conduct and management by staff of city and county governments. Projects selected for each year's program are organized in thematic units to assure effective management and ongoing peer-to-peer experience exchange, with results documented at the end of each program year.

Specific R&D Priorities

Developed to meet both the defined needs of cities and counties as well as national priorities, major topics within the 1996 program are (1) Transportation; (2) Utility and Industrial/Commercial & Government Buildings; (3) Energy Efficient Residential Buildings and Communities; (4) Sustainable Urban Energy Management; and (5) Technology Transfer.

Partnership Development

The UCETF has established partnerships with its city and county members, USDOE, energy utilities, and other organizations. Efforts have been placed on the expansion of these partnerships with the private industry, community organizations, state governments, national laboratories, and academia.

Technology Transfer

Successful projects are transferred to other cities and counties through specifically designed activities and reports, print and electronic media, videos, workshops and conferences.

This summary contains short descriptions of the projects and participants in the 1995/96 UCETF program. For more information about this program and other UCETF projects, contact:

Mike Lindberg, Chair
Commissioner of Public Affairs
1220 S. W. 5th Avenue, Suite 414
Portland, OR 97204
503/823-4145

Jack F. Werner, Jr./Ama Frimpong
Public Technology, Inc.
1301 Pennsylvania Avenue, NW
Washington, DC 20004
202/626-2400

UCETF 1995/96 PROGRAM YEAR UNITS AND PROJECT DESCRIPTIONS

SUSTAINABLE URBAN ENERGY MANAGEMENT

The United Nations World Commission on Environment and Development defines sustainability as development that meets the needs of the present without compromising the ability of future generations to meet their needs. The detrimental impacts of modern energy consumption practices cannot be reversed overnight, so sustainable energy planning must be an ongoing, dynamic activity. Sustainable urban energy systems encompass more than energy efficiency and conservation. Sustainability requires major restructuring of traditional institutions so that decisions are based on an equitable accounting of all costs borne today and in the future. At the implementation level, planning for a sustainable future means linking local energy policies and programs to broader community goals affecting our economic, social, and environmental well-being. A commitment to sustainability is a commitment to more responsible environmental decision-making. The following are the projects funded this year.

Denver Smart Places: Stapleton Development
Denver, CO

This is a continuation project from FY1995. The objective of this project is to put together an information resource guide for the Stapleton Development. This project's achievements will become part of the zoning, environmental regulations and incentive programs for the property. Objectives are to reduce the regulatory burden on new and expanding businesses and to reduce their startup, operation and maintenance costs to assure profitability.

Partners and Participants

This project's financial partners are: The City and County of Denver, Stapleton Redevelopment Foundation, Public Service Company of Colorado, Governor's Office of Energy Conservation, Environmental Protection, Region VIII, Electric Power Research Institute. Advisory partners are: Environmental Defense Fund, LBL, NREL, Colorado Public Utilities Commission, Colorado Air Quality Control Commission, Regional Air Quality Council, Denver Regional Council of Governments, Colorado Department of Transportation, Colorado Department of Public Health and Environment, and Colorado Air Quality Control Commission.

Project Director: Steven J. Foute, Director
Project Manager: David Skiles
Environmental Protection Division
Department of Environmental Health
1391 Speer Boulevard, Suite 700
Denver, CO 80204-2558
303/285-4055; Fax:303/285-5621

Solar Powered LED Applications in Cold Weather Climates
Hennepin County, MN

This project will test potential applications for solar power and light emitting diode (LED) lamps in red flashing traffic lights. These test results will identify potential use or LED lamps and solar powered generation on other signs and signals throughout the County. The project will identify the energy efficiency and cost savings as a result from a switch from regular lights to LED lamps. The study will also identify differences in maintenance required for the two types of flashers. It will also identify the feasibility of using solar power for lighting applications.

Participants and Partners

National Renewable Energy Laboratory will provide assistance in the testing and design of the solar battery system and LED lamps. The University of Minnesota will provide assistance in the monitoring of the project.

Project Director: Larry Blackstad, Community Works Manager
Project Manager: James Grube, Transportation Division Engineer
Training and Employment Assistance
300 South Sixth Street
Minneapolis, MN 55487
612/348-5859; Fax: 612/348-3932

Refrigerant Recycling Management Plan
Houston, TX

Abstract

This project will evaluate methods to obtain refrigerant inventories, schedule HVAC equipment replacement, maintain HVAC equipment (stationary and mobile), and manage refrigerants in order to formulate a workable strategic refrigerant recycling management plan and use the savings to minimize refrigerant cost. This will require extensive analysis of the methodologies developed for replacing HVAC equipment and develop new methodologies for vehicular equipment as well as analyzing maintenance procedures for both. Focus will be on commercial and office buildings and other municipal facilities such as libraries, fire and police stations, parks and recreation centers as well as refrigerant recycling in motor vehicle air conditioning.

Partners and Participants

In-kind contributions from: The Houston Lighting and Power Company, Building Owners and Managers, Association of Energy Engineers, Texas A&M University School of Engineering, NAFA local chapter, AIA local chapter.

Project Director: Felix Johnson
Project Manager: Richard Somerville
Energy Management, Finance & Administration
500 Jefferson, Suite 1800
Houston, TX 77002
713/658-4517; Fax:

Energy Efficiency Technology Partnership
Memphis, TN

Abstract:

It is difficult for public sector programs to effectively provide energy efficiency services to a large, diverse commercial sector. This project works toward a sustainable urban energy system by "getting technologies off the shelf, out of the laboratory, and into buildings", by developing partnership between several government agencies and local contractors. This project's strategy focuses on encouraging HVAC, mechanical and electrical contractors to provide energy efficiency technology and services to commercial customers; and, developing the capacity of contractors to help their commercial customers make energy efficient technology choices.

Participants and Partners

Memphis Energy Management Section (EM) and the Economic Development Section (ED) will work together to identify the mechanical and electrical contractors which are candidates for partnership. EM will coordinate planning of meetings and develop marketing materials and activities with Tennessee Small Business Development Center (TSBDC) for the partnership. TSBDC will also conduct commercial energy audits with contractors and provide evaluation services for the proposed energy retrofits.

Project Director: Dexter Muller, Director
Project Manager: Cliff Norville
Division of Planning and Development
125 N. Main Street, Room 468
Memphis, TN 38103
901/576-7197; Fax: 901/576-7188

Affordable Super-Insulated Straw Bale Model Homes
Tucson, AZ

Abstract:

The straw bale wall system is an inexpensive way to super insulate the walls of homes (R-55). This method has been used successfully for a long time. It is a building technology that offers a wide array of advantages with few drawbacks. It uses an annually renewable, readily obtainable agricultural waste product to build the only truly affordable, super-insulated wall system available today. The City of Tucson and Pima County anticipate adopting the first prescriptive building code in the country for straw bale construction as an appendix to the 1994 Uniform Building Code. This inclusion in the Code will make this construction type more acceptable to the financing and insurance community. Two demonstration straw bale buildings will be constructed: one will be an affordable single family residence, purchased by a qualified low-income buyer, the second will also be a residential but open to the public for education and information purposes and can also serve as a community center. Both buildings will be monitored for energy usage over a period of one year.

Participants and Partners

City of Tucson Community Services Division, EPRI, Tucson Electric Power, Development Center for Appropriate Technology, Permaculture Drylands Institute, Lawrence Berkeley Labs, Civano/Solar Village, University of Arizona. The contributions are both in cash and in-kind.

Project Director: Joe Comella, Director
Project Manager: Bruce Woodrock
Community Services Department
1501 N. Oracle Road
P. O. Box 27210
Tucson, AZ 85726-2710
602/791-4123 ext. 127

TECHNOLOGY TRANSFER

The Urban Consortium Energy Task Force (UCETF) places a high priority on the transfer of results from its previous and other related projects. Methods of transfer may include the hosting of meetings, response to technical inquiries, interactive on-line electronic networking, reports, etc. Technology transfer proposals may achieve one of the following three objectives: Replication of project results. Adaptation of project principles, Creation of technology transfer tools.

Urban Energy Empowerment Consortium
Lansing, MI

Abstract:

This project seeks to bring together an Urban Energy Empowerment Consortium consisting of members of the public and private industry to create a synergy among Citizens, Businesses, Government, Education Institutions, Energy Engineers, Financial Institutions and Developers for the revitalization of the City of Lansing.

Participants and Partners

The City of Lansing will contribute in-kind -- personnel etc., Michigan State University, Department of Resource Development, for research expertise, Board of Water & Light will be a cost-sharing partner. They will also assist in providing incentive programs for development/redevelopment projects to utilize more efficient electrical/HVAC equipment, and water saving devices. Financial Institutions will make energy loans for sustainable energy systems available to governmental, commercial & residential customers. Public Service Commission has committed to make available technical staff and grant/loans for participants.

Project Director: Lenora K. Jadun, Director
Project Manager: Murray Britton
Public Service Department
124 W. Michigan Avenue
Lansing, MI 48933
517/483-4455

Establishing a Revolving Energy Fund for Efficiency Improvements in Local Governments
Phoenix, AZ

Abstract:

The objective of this project is to highlight the process used by the City of Phoenix in establishing the energy conservation savings reinvestment plan, the valuable lessons learned over the years, and the new direction of the program.

Participants and Partners

The Results Center will contribute cash as well as in-kind contribution. The City of Phoenix will provide staff labor.

Project Director: William J. Murphy, Energy/Facility Management Administrator
Project Manager: Dimitrious Laloudakis
Public Works Department
2631 South 22nd Avenue
Phoenix, AZ 85009
602/262-7897

Energy Efficiency Demonstration, Evaluation and Training Module
Cedar Rapids, IA

Abstract:

The objective of this project is to create a functional, hands-on energy efficiency demonstration, evaluation and training module in the historic City Hall facility. The creation of a functional energy efficiency module will provide the ideal environment for training sessions and technology assessment for other city department facilities personnel and other local governmental agencies including area school systems, and private sector businesses within the region.

Participants and Partners

IES Utilities, Inc., supplier of natural gas, electricity etc. will provide instructors for the workshop sessions and contribute towards the purchase of equipment, The National Energy Consultants will provide consulting and training services.

Project Director: William Hoekstra
Project Manager: Titof Acquice
50 2nd Avenue Bridge
Cedar Rapids, IA 52401
319/364-8805

Alternative Fuel Vehicle Show and Fleet Managers Conference
Portland, OR

Abstract:

This project's objective is to create an AFV "sideshow" at the annual Portland Auto Show to present actual AFVs and afv products to Fleet Managers and others. Most fleet managers only have concepts of alternate fuel vehicles. This will be an actual hands-on presentation.

Partners and Participants

Oregon Department of Energy, Portland General Electric, Pacific Power, Northwest Natural Gas, Association of Professional Energy Managers, Portland Area Auto Dealers Association. These organizations will offer in-kind contribution of individual time on the Advisory Committee.

Project Director: Susan Anderson
Project Manager: Curt Nichols
Portland Energy Office
1211 SW 5th Avenue, #1170
Portland, OR 97204
503/823-7222

Sustainable Municipal Buildings Pilot Project
San Francisco, CA

Abstract:

This project aim at transferring the City of Austin's sustainable municipal buildings program, particularly, the methodology and major concepts of the Sustainable Building Guidelines, to a San Francisco municipal building. This project will produce plans and specifications for a "green" City building; it will provide guidelines for City architects and engineers to more easily incorporate these elements into future projects; it will develop and strengthen an institutional vehicle for inter-departmental cooperation on sustainability issues; and, it will provide the City's Commission on the Environment with a case study to draw on in formulating sustainable policy recommendations to the Board of Supervisors.

Participants and Partners

The City of Austin will provide the essential base information and methodology for the design of sustainable buildings; Bureau of Architecture in San Francisco will assist with the selection of the pilot facility and perform the design, integrating the sustainable design recommendations into the pilot facility project; San Francisco's environmental departments will contribute their expertise; Solid Waste Management will work with the consultant to review the City of Austin's documents and ensure that recycling recommendations and information apply to San Francisco. Other participants are the Bureau of Environmental Regulation and Management, and the Commission on the San Francisco Environment.

Project Director: John F. Deakin, Director
Project Manager:
Bureau of Energy Conservation
1155 Market Street, 4th Floor
San Francisco, CA 94103
415/554-3180 Fax: 415/554-3181

Solar Assisted Air Conditioning and Dehumidification System Applications
Cuba Rojo/Maya Guez, PR

Abstract:

Solar assisted air conditioning systems have been proven to be economically feasible elsewhere for dry climates. However, high latent loads are commonly present in the Caribbean. The University of Puerto Rico has engaged in a long term effort to determine the feasibility of solar-assisted air conditioning and dehumidification system in Puerto Rico and the Caribbean. Results from this research program will pave the way for further commercialization of the technology. The full research consists of three major phases; preliminary technology assessment; development of design tools, and testing of a pilot system. This research project will investigate the necessary design parameters for the operation of a pilot solar-assisted air conditioning and dehumidification system in Puerto Rico.

Participants and Partners

Puerto Rico Energy Affairs Administration; US Fish and Wildlife Service; Sandia National Laboratory; University of Puerto Rico.

Project Director: Rafael L. Llompart, Administrator
Project Manager: Dr. Jorge E. Gonzalez
Energy Affairs Administration
P. O. Box 5887
Puerta de Tierra, PR 00906
809/721-4370

Evaluating Telecommuting as a Management Tool
Seattle, WA

Abstract:

The purpose of this project is to demonstrate the effectiveness of telecommuting as a management tool and to develop an incentive and rationale which encourages the use of telecommuting as an alternative to the use of single-occupant vehicles for commuting, thereby reducing congestion and vehicle miles traveled which contribute to deteriorating air quality.

Participants and Partners

The city of Seattle, Seattle City Light, The Washington State Energy Office, and the Economic Development Council of Seattle and King County, are cost sharing partners.

Project Director: Elizabeth A. Rankin
Project Manager: Kathleen Anderson
Seattle Engineering Department
Room 410 Municipal Building
600 Fourth Avenue
Seattle, WA 98104
206/684-0818

TRANSPORTATION - ALTERNATIVE VEHICLE FUELS

In contrast to other sectors of the economy, which use a variety of fuels from different sources, our transportation system depends almost exclusively on petroleum. Over-dependence on non-domestic oil supplies endangers not only our national security, but also our environment. The environmental impact of petroleum use is thus a significant and growing concern. Alternative transportation fuels are one tool to meet the direct statutory and regulatory requirements that impact our communities. The following are some of the projects aimed at helping to implement some programs aimed to achieve the Clean Air Act of 1992.

Hydrogen Fuel Cell Technology Validation Program for Urban Bus Application
Chicago, IL

Abstract:

This is a three-year project to further the commercial development and demonstrate the use of five 40-foot transit buses powered by Proton Exchange Membrane. (PEM) fuel cells. Fuel cells combine hydrogen and oxygen to form pure water. An intermediate step in this reaction produces electrons that constitute electric current and can run an on-board electric motor to propel the bus. This is a truly "zero-emission" power source. PEM-powered buses also do not need to carry caustic or dangerous substances such as methanol or phosphoric acid.

Participants and Partners

Chicago Transit Authority, Ballard Power Systems, SAIC, Praxair, Illinois Department of Transportation, Illinois Institute of Technology, have pledged in-kind or financial support.

Project Director: Dwight Bailey
Project Manager:
Department of Environment
30 N. LaSalle Street, Suite 2500
Chicago, IL 60602
312/744-8901

E-85 Refueling Infrastructure
Des Moines, and **Polk County, IA**

Abstract:

This is a coordinated effort of several partners in developing a refueling infrastructure for E-85 fleet vehicles in Des Moines (in conjunction with Polk County, IA), Indianapolis, IN and Hennepin

County, MN. These three commercial E-85 refueling facilities will form an important part of the E-85 Initiative developed by the Governors' Ethanol Coalition and the National Corn Growers Association. This project will promote the purchase of E-85 vehicles by helping to establish the necessary commercial E-85 refueling infrastructure

Participants and Partners

The Governors' Ethanol Coalition and the National Corn Growers Association have combined to form the E-85 Vehicle Coalition, for the purpose of promoting E-85 vehicles and establishing an E-85 refueling infrastructure. The E-85 Vehicle Coalition will work closely with the state and local governments involved with the project, as well as with the ethanol industry and the local petroleum retailers, to ensure that the project is successful. Over $800,000 has been committed by USDOE, the National Corn Growers Association, the Governors' Ethanol Coalition, seven Midwestern states, and local corn growers associations.

Project Director: Richard Clark, Ag. City Manager
Project Manager: Sherman Yehl
Office of the City Manager
400 E. First Street
Des Moines, IA 50309
515/283-4141 Fax: 313/237-1300

The Atlanta Olympic Report: A Study of Alternative vs. Conventional Fuel Use in a High-Traffic Environment During the 1996 Olympics.
Atlanta, GA

Abstract:

Atlanta is a non-attainment city required to comply with the Clean Air Act Amendments. The 1996 Olympics will provide an optimum environment to analyze the economics and efficiency of a broad selection of alternative fuels when used in high-volume, high traffic applications. The participants in this study will either provide or gather data to be compiled on vehicles fueled in CNG, Propane, Methanol, Electricity, and Conventional fuels. The result will provide a research document to be utilized by corporations, local and federal government entities and utilities to aid in compliance with the Clean Air Act Amendments.

Partners and Participants:

The City will provide data and labor to implement the project. Petroleum Source will contribute the use of additional fuel outlets including a major alternative fueling station in Atlanta that supplies methanol, CNG, propane, unleaded and diesel fuels. PSSG will contribute considerable man-power to operate the system.

Project Director: Jonathan Dodd, Transportation Director
Project Manager: Lynn Rabun (1-800-334-7548)
Bureau of Motor Transportation Services
23 Claire Drive, SE
Atlanta, GA 30315
404/622-7681 Fax:

AFV Training Program for DC Public Schools
Washington, DC

Abstract:

This focus of this project is to develop an alternative fuel vehicle training curriculum for the District of Columbia Public School Phelps Career High School Automotive Training Program. The DC Energy Office (DPW/DCEO) will design an alternative fuel vehicle training component to the existing training program at Phelps with a focus on developing a pool of mechanics in the Washington metropolitan area trained to perform general maintenance and repairs on alternative fuel vehicles.

Partners and Participants

The Metropolitan Washington Council of Governments Alternative Fuel Public Private Partnership will provide technical advice and support within the region in developing a training component that focuses on the needs of area government fleets. Other participants are: PEPCO, Washington Gas, George Mason University, Electric Transportation Coalition, American Methanol Institute, and other industry companies and organizations.

Project Director: Sharon Cooke
Project Manager: Rita McKen
DC Energy Office
613 G Street, NW, Suite 500
Washington, DC 20001
202/727-1800 Fax: 202/717-9582

Preparing Local Regulations for Tomorrow's Electric Vehicle
Santa Barbara County

Abstract

The California Air Resources Board Low Emission Vehicle Rule requires that, beginning in 1998, 2% of all vehicles sold in California by major manufacturers be zero emission. The only technology at the moment that meets that criterion is the battery-powered electric vehicles. The county proposes to prepare a report that addresses local regulatory barriers to introducing EVs and related charging facilities, and promoting EV-related regulatory incentives at the local level of government. There are national and state groups that are currently addressing some of the related issues. In such cases, effort would be focused on disseminating and, as appropriate, exploiting the results of these efforts for local application.

Partners and Participants

The Air Pollution Control District, Department of Planning & Development, Building and Safety Division, Fire Marshall, Office of Emergency Services, and the General Services Department of the County of Santa Barbara. The Southern California Edison, Electric Transportation Coalition, Electric Vehicle Association of the Americas, Electric Power Research Institute, the California

Energy Commission will provide technical and in-kind assistance, and many others referred to in the workplan.

Project Director: Douglas K. Anthony
Project Manager: Kathryn McNeal Pfeifer
Planning & Development, Energy Division
1226 Anacapa Street, 2nd Floor
Santa Barbara, CA 93101-2010
805/586-2040 Fax: 805/586-2522

UTILITY & INDUSTRIAL/COMMERCIAL & GOVERNMENT ENERGY EFFICIENCY

The utility industry today is facing the need to shift to the use of least-cost or integrated resource planning (IRP). This approach integrates supply-side and demand-side options to create a resource mix that satisfies both short-and long-term needs for the least cost. At the same time, local governments need to improve the efficiency of energy use in government facilities, the industrial sector and the very inefficient commercial building stock in many urban areas. Relevant R&D and technology implementation initiatives can reduce energy consumption and emission of greenhouse gases in the above-mentioned sectors. It is important that these opportunities be approached on multiple fronts. The following are the 1996 projects addressing some of the issues.

Competitive Franchise Study
Barnstable County, MA

Abstract:

This study will provide applied research for local governments interested in competitive franchise. A report will be produced containing sections on the background of local utility franchise contracts, the mechanisms for competitive franchises, a full discussion of contract issues and a sample RFP and Contract, discussion of stranded investment issues and a discussion on compatibility of the competitive franchise with other proposed restructuring.

Participants and Partners

The primary partners will be Barnstable County, the Cape and Islands Self-Reliance Corporation, the City of Chicago and the National Consumer Law Center. Others are the Towns of Barnstable, Falmouth, Brewster, Eastham, Harwich, Sandwich, Wellfleet and Truro; the Massachusetts Municipal Association, the University of Massachusetts, the Massachusetts Department of Pubic Utilities, the Federal Energy Regulatory Commission and a coalition of non-profit energy groups from New England.

Project Director: Margaret Downey, Resource Development Manager
Project Manager: Darlene Pratt
Barnstable County
P. O. Box 427
Barnstable, MA 02730
508/362-2511 Fax: 508/362-4136

Two-Step Electric Demand Reduction
Pittsburgh, PA

Abstract:

The purpose of this project is to demonstrate the savings resulting from the implementation of a two-step program for reducing electrical demand peaks -- replacing heating and air-conditioning systems with a York "Triathlon" natural gas heating and cooling system. The existing natural gas emergency generator will be wired into the building's electrical system so that it will come one whenever the SCBA compressors are running or whenever the demand exceeds a certain level.

Participants and Partners

Equitable Gas Company

Project Director: Elaine Sadowski, Facilities Management Coordinator
Project Manager:
Department of General Services
526 City-County Building
Pittsburgh, PA 15219
412/255-2626 Fax: 412/255-8602

From Kilowatts to Megawatts: Utilizing Alternative Delivery Systems for Large-Scale Energy Savings
San Francisco, CA

Abstract:

This project is to evaluate alternative project delivery and management systems for implementing large scale, multi-year, multiple facility, energy retrofit projects. If municipal energy efficiency is to make a significant contribution to the urban economy, to improved local air quality and to solving global environmental problems, then the pace of energy retrofitting of existing local government buildings must be greatly accelerated. The for San Francisco, of which this project is a key element, is to develop a project management and financing capability that will enable the City to rapidly implement the $15-20 million dollars of energy retrofits necessary to capture the conservation potential a recent study has confirmed. This project will provide guidance on alternative methods of energy project management and financing; including the use of private sector energy service companies and other non-profit equivalents. It will provide the pros and cons on the use of non-traditional project delivery systems; direction on when they are appropriate; guidance on selecting the right management alternative; and direction on developing appropriate contract materials and management procedures.

Participants and Partners

The State Office of Energy Assessments, the California Energy Commission, and the Bay Area Energy Office Coalition will make in-kind contributions. There will also be in-kind contribution form the Bureau of Energy Conservation.

Project Director: John F. Deakin, Director
Project Manager:
Bureau of Energy Conservation
1155 Market Street, 4th Floor
San Francisco, CA 94103
415/554-3180 Fax: 415/554-3181

Standardized VAV System Control for Optimal Energy Efficiency
Montgomery County, MD

Abstract:

In developing, testing and applying new technologies to increase energy efficiency and reduce greenhouse gas emission, local governments find some difficulties in the understanding of the proper control and coordination of the advanced technological options now available in a typical commercial VAV HVAC systems. This project is to assist the proper deployment of several efficient HVAC technologies by overcoming this central roadblock. A standardized VAV control sequence will be developed in an unambiguous symbolic form to optimize system energy efficiency. Supporting standardized specifications for sensors, dampers, and air-handlers will be provided.

Participants and Partners

The Electric Power Research Institute and Potomac Electric Power Company will support technical assistance and monitoring of the project. Landis & Gyr Powers, a major controls manufacturer, will provide in-kind technical support, assist formulation of control criteria and review products produced by the project.

Project Director: Paul Tseng, Chief of Engineering Services
Project Manager: Ronald J. Balon, Senior Energy Engineer
Department of Facilities and Services
Capital Projects Management Division
110 North Washington Street, Third Floor
Rockville, MD 20850
301/217-6091 Fax: 301/217-6003

Induction Lighting for Public Buildings
Philadelphia, PA

Abstract:

This project is to analyze and develop applications for optimal use of induction lighting technology in public buildings, through review of existing European applications, and through actual demonstration installations of Philips QL induction lamp systems at City of Philadelphia facilities. Induction lighting is a relatively new lighting technology that provides for high-energy efficiency, in addition to extremely high life expectancy as compared to standard lighting systems. The cost of lighting maintenance in high ceiling and other relatively inaccessible areas is an on-going problem in public buildings. Induction lighting provides for extremely long life (rated in excess of 60,000

hours) and high color rendering while providing lamp efficiency similar to existing high color rendering fluorescent of HID lighting.

Participants and Partners

Philips Lighting, Inc., Somerset, New Jersey will supply QL lamps, provide technical support, assist in QL lamp application development, conduct product testing, and contribute $11,250 towards fair market value of QL lamps used in this project. Wila Lighting, Inc. Miami, FL. will provide lamp fixture design and engineering services, and will contribute $11,250 toward fair market value of lighting fixtures; PECO Energy Company will provide laboratory testing services of QL lamps and lamp/fixture systems at the corporate laboratories in Valley Forge, PA.

Project Director: John M. O'Connell, Chief Engineer
Project Manager:
Municipal Energy Office
1401 J. F. Kennedy Boulevard, Suite 600
Philadelphia, PA 19102-1665
215/686-3905

Performance Based Franchise Agreements and Aggregated Energy Purchases
Portland, OR

Abstract:

This project is to review Portland's existing electric franchises and licensing procedures and develop a clear and shared vision with utilities for the benefit of regulators, citizens, the city, and utility companies. The equity and appropriateness of charges in the rate schedule for Portland's largest electric account, street lighting, will be reviewed. Will begin discussions with the two electric utilities to review present franchises and license provisions.

Participants and Partners

The League of Oregon Cities is the leading state organization representing local government. Northwest Power Planning Council plays a role in shaping regional energy policy; the Oregon Department of Energy, Street Lighting Division of the Office of Transportation, Cable and Franchise Management; Batelle Pacific Northwest Laboratory are all partners contributing $ and in-kind services.

Project Director: Susan Anderson
Project Manager: Curt Nichols
Portland Energy Office
1211 SW 5th Avenue, Suite 1170
Portland, OR 97204
503/823-7222 Fax: 503/823-5370