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HOTEL AND MOTEL WASTE REDUCTION

BACKGROUND:

In recent years, national, state and local attention has focused on solid waste issues. In response to this sensitivity to solid waste, Florida legislation set a 30% recycling goal in 1988 to be achieved by 1994. To reach that goal, all participants in Florida's economy were asked to do their share in reducing the amount of waste going to landfills. Community recycling programs were the focus of the state's first recycling programs. Since recycling was so new to industry, the Florida Department of Environmental Regulation (now Environmental Protection, DEP) made funds available for innovative commercial recycling programs.

Recognizing the energy implications of recycling, the Energy Extension Service with the support of the Central Florida Hotel and Motel Association wrote a proposal and received funding from the Florida Department of Environmental Protection to test and develop hotel/motel recycling procedures for different types of hotel properties and develop a recycling education program. Additional funding and support came from the Florida Cooperative Extension Service and its Energy Extension Service (EES) of the University of Florida, the Clean Florida

Commission, Keep Florida Beautiful and the recycling industry. The Business and Industry Recycling Program (BIRP) provided a link to the recycling industry. In 1993, Florida legislation recognized the importance of waste reduction and added this emphasis to the recycling goals.

DEVELOPMENT PROCESS:

Experience gained in over ten years of working with the hotel industry indicated that properties representing the hospitality array in Florida should be included in the pilot project. Thus, five types of hotels and one motel in the Orlando area were chosen for the program - Altamonte Springs Hilton & Towers, Comfort Inn Lake Buena Vista, Hilton at Walt Disney World Village, Holiday Inn International Airport, Twin Towers Hotel and Convention Center and Hyatt Orlando. The hotels ranged in size from 291 to 924 guest rooms representing resort, convention and business type properties. In addition, the hotels had different types of convention space, meeting rooms and other guest accommodations. A total of 3,753 guest rooms were included in the project. The hotels were unique in structure, clientele and characteristics, therefore, recycling procedures and employee programs had to be developed for each hotel.

Prior to implementing the program, a waste audit was done in the guest rooms in order to decide if recyclables could be collected by room attendants as they cleaned guest rooms. Each of the properties identified three guest rooms where the waste was weighed and

identified by type daily for seven days. The waste varied from 1/2 pounds to 28 1/2 pounds per day per guest room depending on the type hotel and number of guests staying in the rooms. During the process of developing and testing recycling procedures, data were collected to evaluate the impact hotel and motel recycling could have on the amount of solid waste going to the landfills. Other departmental wastes were also evaluated through purchasing records and by weights at the compactors. Overall waste at hotels with restaurant and banquet facilities averaged 260 pounds per room per month. (see Earle and Townsend 1991).

One hotel in the project generated 8 1/2 tons of waste per day. The audit helped establish the quantity and type of recyclable materials that were to be collected, sorted, weighed and processed. Newspaper, cardboard, office paper, aluminum, steel cans, glass, plastics, cooking oil and soap bars were the materials recycled. In addition, blankets, pillows, sheets and towels were picked up by a church group and distributed to families in crisis or need. Each hotel's recycling program was designed to incorporate recycling into daily procedures of operation for all employees. Employees were encouraged to develop recycling procedures for their specific jobs and encouraged to participate in the organization and operation of the recycling program in their hotel.

In ten months of the pilot project, more than 300 tons of solid waste were recycled from the participating hotels. This saved an incredible 15,000 cubic feet of landfill space. Another benefit of recycling was its public relations value. Hotel guests were almost unanimous in their praise of the recycling projects. The recycling program provided hotels with considerable savings in the cost of waste disposal. The savings ranged as high as \$300 per month

in small hotels/motels to as much as \$3,000 per month in the larger hotels. At one hotel, the number of times trash was hauled away each month was reduced from eight to four. At \$145 for each haul, the cost savings were significant. The amount of waste recycled varies at hotels, depending on the type of hotel, kind of activities and the degree of commitment by management and employees. In addition to the impact at the landfills, there are energy savings in product manufacturing, transportation and packaging.

Energy savings associated with commonly recycled materials were calculated by H.J. Whiffen, former Energy Specialist, EES. Over a 6-month time period, one property in the pilot project recycled almost 120 tons of material with an energy-saving value of over 1.25 billion Btu of energy. It takes 1.25 billion Btu of energy to make 125,000 kilowatt-hours of electricity. 125,000 kilowatt-hours of electricity is the energy consumed by 1,250 100-watt light bulbs burning continuously for almost 42 days. The consumption of 1.25 billion Btu of energy from coal adds 125 tons of carbon dioxide, a greenhouse gas, into the atmosphere. This energy consumption also places 3,340 pounds of sulfur dioxide and 1,400 pounds of nitrous oxides into the atmosphere. Nitrous oxides and sulfur dioxide contribute to the production of smog and acid rain.

IMPLEMENTATION AND PROGRAM REFINEMENT:

Subsequently additional funding was provided by the Florida Department of Environmental Protection to assist the Energy Extension Service in refining the materials, and in cooperation with the Florida Hotel and Motel Association, conducting the program statewide. This allowed us to test the materials with additional audiences and improve their

utility. The employee training video, container labels and employee recycling guide were developed in three languages - English, Spanish and Haitian. Experience gained during the last two years has proven valuable in further refinement that led to the development of the Recycling in Hotels and Motels, a Guide for Recycling Managers.

With hotels and motels recycling and looking for other methods of reducing their waste disposal costs, the University of Florida by working with the Florida hotel industry, recently completed an educational module directed at source reduction utilizing a hotel's purchasing power. The project, conducted by Marie Hammer, Solid Waste Specialist, Home Economics and Jo Townsend, Energy Extension Agent, Hospitality Program, was a joint effort of the United States Environmental Protection Agency, Region IV and the University of Florida's Cooperative Extension Service (FCES) and its Energy Extension Service (EES).

The Hotel/Motel EcoPurchasing program looked at present purchasing practices of hotel managers and purchasing managers to determine if the amount of waste generated by products was considered before a purchasing decision was made. Purchasing recommendations for hotel/motel offices and housekeeping, food and beverage and laundry departments were made and included in the educational module. The module provides basic information on choosing products which produce less waste, toxicity and saves energy. Innovative businesses, such as hotels and motels are beginning to incorporate EcoPurchasing and recycling strategies to reduce the amount of waste to be disposed of at landfills. EcoPurchasing utilizes purchasing power to control the amount and the toxicity of a facility's potential waste stream.

Hotels and Motels are a major component of Florida's number one industry, tourism. In Florida there are about 5000 hotel/motel properties with approximately 300,000 rooms. A recent study reported in *Florida Trend* indicated significant growth in new room planned for 1994 construction. This indicates the substantial impact these waste management practices could have on hotel/management operation, waste discarded for landfilling or incinerating, energy resources and environmental quality.

PROGRAM RESOURCES:

Each hotel/motel recycling program must be specifically designed to accommodate the hotel's procedures of operation, hotel activities and structural design. The guidebook derived from the pilot project and two years of additional experience, is designed to accompany a video recently developed for the recycling program. Worksheets to assist in setting up a hotel/motel recycling program were also developed. A complete educational module to assist hotel management in organizing a hotel recycling program is available. The **Hotel and Motel Recycling Module** includes:

- **Recycling in Hotels and Motels, a Guide for Recycling Managers - Guidebook**
- **How to Organize a Hotel and Motel Recycling Program - video (English, Spanish and Creole)**
- **Recycling posters - posters for departmental recycling centers**
- **Recycling container labels - white stick-on labels for use on inside collection and storage containers (English, Spanish and Creole)**

- **Recycling information** - recycling instructions for employees to use in their work stations (English, Spanish and Creole)

- **Guest room recycling information** - recycling instructions for guests

EcoPurchasing in Hotels and Motels Module is a companion to the **Recycling In Hotel and Motels Module**. The EcoPurchasing module provides information to assist hotel purchasing managers in organizing a source reduction program. This module includes:

- **EcoPurchasing in Hotels and Motels, a Guide for Hotel and Motel Purchasing Managers** - Guidebook
- **EcoPurchasing poster** - a poster containing purchasing tips
- **EcoPurchasing in Hotels and Motels** - video

Extension agents who want to add POW programming with Florida's leading industry on energy, water and waste management programs may contact the Florida Energy Extension Service Office, University of Florida, P.O. Box 110940, Gainesville, FL 32611, 904/392-5684. Educational materials produced by the Florida Energy Extension Service are available for self-help of hotel owners and managers and others interested in organizing and implementing energy management programs that employ

recycling and ecopurchasing. To purchase materials they may contact:

Instructional Materials Service
University of Florida
P.O. Box 110540
Gainesville, FL 32611-0540
(904) 392-0502
(904) 392-9585 - FAX

Reference: Jonathan F.K. Earle and Jo M. Townsend, Florida's Pilot Hotel/Motel Recycling Project. Report submitted to the Florida Department of Environmental Protection, Tallahassee, Florida, November, 1991.

What's New for You

"Managing Waste in Hotel & Motel Operations". A brochure that describes this program for those potentially interested.

"Guidelines for Selecting a Contractor" - EES-105 factsheet describes procedures for selecting a reliable, efficient contractor that will prevent aggravation and save money and resources.

"Electric Cars" - EES-308 trifold brochure discusses vehicle emissions and how using electric cars can reduce these emissions and outlines on-going programs at UF and elsewhere.



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