Report to the 2011 Hawai'i State Legislature

Lead By Example State of Hawai'i Agencies' Energy Initiatives FY 2009-2010



State of Hawai'i Department of Business, Economic Development & Tourism January 2011

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EXECUTIVE SUMMARY

The Lead By Example (LBE) initiative began in 2006 in response to legislative and executive mandates to make government buildings, fleets, and personnel practices leaders in energy efficiency and conservation. These efforts acknowledge the high cost of electricity in Hawai'i; the energy security benefits of implementing alternative fuel use; and the many opportunities for increasing energy efficiency in new and existing state offices, facilities and schools. The legislation also required incorporating environmentally preferable purchasing into state operations. Fully implemented, the LBE initiative represents an important step in achieving long-term economic and environmental benefits for the state.

This report addresses activity during the fiscal year 2009-2010, but we would like to note that in September of this year, four years after initiating LBE, the American Council for an Energy-Efficient Economy nationally announced our LBE Program as part of their "18 State-Led Energy Efficiency Programs Recognized As Best In U.S." and that Hawai'i was in the "Five Top Energy-Efficiency Award Winning Programs." The State's LBE Program also was recognized by the Energy Services Coalition, a national organization supporting performance contracting, for our work on performance contracting.

The activities and outcomes of LBE are closely aligned with the Governor's *New Day in Hawaii*: Economy and Jobs, to "Make government lead by example....conserving energy, (and) being a good environmental steward...."; Energy, to "retain a major portion of the billions of dollars that we now spend on imported oil so we can reinvest it here at home....(and) lead an effort to make government buildings, fleets, and personnel practices leaders in energy conservation, which will save tax dollars over the long haul and lead the rest of the state by example."

During FY10 state agencies' energy consumption dropped 2.8% below FY09 and the state paid \$20M, or 12.1 %, less than FY09. When comparing FY10 against the 2005 baseline year, energy consumption dropped 5.1%, but, due to the increased cost for electricity, costs rose 38.5%.

Year-to-year figures from the beginning of LBE are as follows:

- FY05-FY06: consumption increased 2.4% (16M kWh), costs increased 24% (\$25M)
- FY06-FY07: consumption increased 1.1% (8M kWh), costs increased 3.1% (\$4M)
- FY07-FY08: consumption decreased 0.1% (-1M kWh), costs increased 21.8% (\$30M)
- FY08-FY09: consumption decreased 5.7% (-40M kWh), costs increased 1.2% (\$2M)
- FY09-FY10: consumption decreased 2.8% (-18M kWh), costs decreased 12.1% (-\$20M)

Overall, from baseline year 2005:

• FY05-FY10: consumption decreased 5.1% (-25M kWh), costs increased 38.5% (\$41M)

As noted above, the consumption decrease in FY10 continued a strong downward trend and marked the third straight year that state executive agencies cut energy use. FY10 also marked the first time state agencies were able to decrease costs from the previous year. This promising turnaround reflects the State's ongoing efforts in energy efficiency and renewable energy development to protect against escalating energy costs and to expedite energy security to protect Hawaii and our economy against the volatility of world oil markets. Overall costs closely have mirrored the rise and fall in the price of oil and electricity. Comparisons to the baseline year illustrate the challenge state agencies still face and highlight the importance of continued efforts to pursue energy efficiency and renewable energy opportunities.

The Governor's *A New Day In Hawaii* calls energy "Hawaii's most important economic enterprise." As indicated by the continued decreases in electrical consumption, State of Hawai'i executive branch agencies have led by example and were active during fiscal year 2010 with several energy conservation and renewable energy generation projects. Retrofitting existing buildings for energy efficiency and modifying operations strategies were the primary contributors to reducing electrical consumption and cost, but progress also was made in green building design, environmentally preferable purchasing, transportation and the adoption of renewable energy. Some highlights follow.

Efficiency

- The Energy Services Coalition, a national nonprofit organization dedicated to supporting performance contracting, recognized the State of Hawaii as the second in the nation in Energy Savings Performance Contracts for State Building Efficiency.
- With DBEDT as the lead, the State of Hawaii concluded its second National Governors Association Policy Academy program. In 2010 a team from Hawaii was selected, through a national competitive process, to attend a National Governors Association Center for Best Practices technical assistance session that focused on energy efficiency in state government and provided information on executing a performance contract. Participants included Department of Business, Economic Development, and Tourism; Department of Accounting and General Services; Department of Transportation; and the University of Hawaii, Community Colleges.
- Thirteen (13) state buildings have received ENERGY STAR® awards, acknowledging that they rank in the top 25% of similar buildings nationwide. Agencies are reviewing buildings to recertify existing buildings and to identify new buildings for certification.
- Seven (7) state buildings are Leadership in Energy and Environmental Design (LEED) certified. An additional 52 LEED projects are in the process toward the goal of certification.
- Thirteen (13) state buildings have been retro-commissioned to the investigation phase since 2008, an additional fifty-one (51) are in the process, and five (5) have been retro-commissioned or will be as part of LEED projects.
- State agencies have received more than \$5.1 million in efficiency rebates since 1996 from the Hawai'ian Electric Company (HECO) and its subsidiaries and from Hawaii Energy. In July 2009, Hawai'i Energy became the third-party public benefits fund administrator and began administering existing efficiency rebate programs which

previously were administered by the various utilities. These rebates combined have resulted in estimated cumulative dollar savings of over \$111 million and electricity savings of 570 million kilowatt-hours. This is enough to power about 77,235 households for a year.

- The Department of Accounting and General Services (DAGS) executed a \$33.4 M Phase I energy savings performance contract (ESPC) for ten (10) buildings in the Capitol District. DAGS also initiated the process to solicit proposals for a Phase II ESPC, which will cover 28 buildings. DAGS assisted the Department of Public Safety (PSD) with initiating an ESPC for two prisons and one jail and will continue assisting PSD with the development and execution of the project.
- The Department of Transportation (DOT) drafted an ESPC for 15 airports, five (5) harbors, and highways facilities.
- The University of Hawai'i Community Colleges (UH-CC) have all started the process to execute performance contracts that will implement major energy conservation measures in their portfolio of buildings.
- The Hawai'i State Public Library System (HSPLS), with the assistance of DAGS' Central Services and Public Works Divisions, finished retrofitting light fixtures with energy efficient electronic ballasts and super T-8 lamps for all 51 public libraries. DAGS also bid out and awarded window tinting projects for dozens of libraries statewide.
- The Department of Hawai'ian Home Lands (DHHL) has nearly completed a sustainable community in Wai'anae called Ka'ūpuni Village. This project consists of 19 affordable, net-zero energy homes that will include a number of green building features. Net-zero energy homes are homes in which the amount of energy produced on-site by renewable energy sources is equal to the amount of energy the building consumes.
- The Department of Health (DOH) is changing all lighting fixtures to electronic ballasts with super T-8 lamps and will include energy-efficient equipment in all HVAC retrofits. DOH also limits air conditioning and overhead lighting systems operations to core work hours.
- Several agencies have implemented or already participate in a variety of recycling programs.
- The Department of Education (DOE) lowered school baseline levels in their School Energy Conservation Program, which started in 2007. Under the program, historical data is used to establish baseline consumption. Actual consumption is compared monthly and schools pay for ½ the excess consumption or receive credit for ½ the reduction in consumption. Effective FY2010, baselines were reduced by 16% for schools with central chiller A/C systems and 6% for schools without.
- The Department of Business, Economic Development, and Tourism (DBEDT), in coordination with the U.S. Environmental Protection Agency (US EPA) and pursuant to Act 155, offered training and assistance for benchmarking to state agencies. Act 155 requires benchmarking of all state facilities by December 31, 2010. Benchmarking is a process which involves calculating the building's annual energy consumption per square foot, allowing buildings to be compared and identifying areas for improving energy efficiency.

- The Hawai'i Housing Finance and Development Corporation (HHFDC) installed a new HVAC plant during renovations at Kamake'e Vista that is equipped with a heat recovery system to heat hot water for the laundry facility that accommodates the two hundred twenty six (226) residential units.
- A total of 52 workshops and other events relating to LBE topics were held in FY09, attracting at least 2,475 participants, including many from state agencies. In some cases, DBEDT provided funds so that other executive agencies' staff members could attend the training.
- DBEDT applied for U.S. EPA Pollution Prevention (P2) funding to establish a green workforce development program that will expand DBEDT's existing Hawai'i Green Business Program and Green Government Challenge, two programs designed to help businesses and government agencies green their operations through the reduction of energy, water, and resource consumption.
- The State Building Code Council approved the 2006 International Energy Conservation Code (IECC) and modified the code to better suit the climate in Hawai'i, resulting in an estimated 15% efficiency improvement.
- DBEDT assisted with adoption of county building energy codes. IECC 2006 was adopted by Maui County in October 2009, Hawai'i County in October 2010, and the City and County of Honolulu in November 2009. Kaua'i County adopted IECC 2009 in May 2010.

Renewables

- Photovoltaics (PV) have been the primary renewable energy technology widely adopted by state facilities.
- DOT issued a request for proposals (RFP) for PV or other renewable energy generation systems at over 20 facilities statewide (15 airports, 5 harbors facilities, Foreign Trade Zone, and UH Coconut Island Marine Research Facility).
- DAGS is planning to install a 200 kilowatt (kW) PV system for the Kalanimoku Building located in the Capitol District.
- Four (4) DOE schools (Washington Middle School, Kawananakoa Middle School, Wheeler Middle School, and Konawaena Middle School) were recipients of 22 kW PV systems installed through a cooperative venture with electric companies.
- The University of Hawaii's Community Colleges are negotiating three (3) power purchase agreements for PV systems on O'ahu, Kaua'i, and Maui.
- DLNR's State Parks, in coordination with DLNR's Engineering Division, are designing a pilot project to utilize sustainable energy sources such as solar and wind to power lighting, well pumps, sewer pumps, and base yard facilities.
- UH Mānoa installed 15 kW of PV and is in the process of installing an additional 70 kW. A 500 kW system is planned for the Law School Library in 2011.
- 80 kW of PV was installed on the One-Stop Center building at Kaua'i Community College.
- UH Hilo will install PV systems on five buildings with a combined capacity of 231 kW. UH Hilo has a policy to include PV in all new construction projects.
- The Department of Agriculture (DOA) will put out for bid the design of a Hydropower Plant in Waimea, Hawai'i, which will reduce electrical pumping costs when completed.

- The Hawai'i Community Development Authority (HCDA) is exploring the installation of PV on the CFS3, Park Caretakers, and Net Shed buildings.
- The Natural Energy Laboratory of Hawai'i Authority (NELHA) is planning to release an RFP for the construction and operation of a 1 megawatt (MW) Ocean Thermal Energy Conversion (OTEC) plant.
- NELHA, in conjunction with the National Renewable Energy Laboratory (NREL), is pursuing development and installation of PV and a microgrid.
- DAGS bid and is currently awarding seven projects for the installation of PV systems at two libraries each on Kaua'i, O'ahu, and Maui and one on the Big Island.

Transportation

- State vehicles are already utilizing E-10 Unleaded gasoline which contains 10% ethanol. State law requires its sale.
- Many state vehicles are also flexible-fuel capable, and can use a higher percentage of ethanol if the higher blend becomes available.
- The state is developing a pricing preference for biodiesel, and several agencies are prepared to use it.
- UH has a small fleet of alternatively-fueled and hybrid vehicles.
- NELHA uses solar powered golf carts for transportation whenever possible.

Purchasing Practices

- Most departments already use life-cycle cost analyses, purchase efficient equipment such as those with the ENERGY STAR® label, and take advantage of utility rebates.
- The State Procurement Office (SPO) continues to provide price and vendor listings which include ENERGY STAR®, recycled, or environmentally preferred products.
- For products and supplies not included on the SPO price lists, purchasing agencies are required to preferentially order recycled products, oil products with greater recycled content, and biofuels.
- Information on recycled and environmentally preferable products (EPP) has been prepared by DBEDT. Lead By Example, in partnership with the SPO, also has hosted trainings on EPP that are available to state employees.
- DBEDT applied for U.S. EPA Pollution Prevention (P2) funding to establish a green workforce development program that will expand DBEDT's existing Hawai'i Green Business Program and Green Government Challenge, two programs designed to help businesses and government agencies green their operations through environmentally preferable purchasing.
- An annual survey designed to track the environmentally preferable purchasing practices of state agencies is coordinated by the Department of Health's (DOH) Office of Solid Waste Management. Please see Appendix 3 for a sample of the survey. The results show that state agency EPP in 2009 lead to greenhouse gas (GHG) savings equivalent to removing approximately 111 passenger vehicles from roadways for one year and energy savings equal to conserving about 20,389 gallons of gasoline in a year.

Leadership in Energy and Environmental Design

Hawai'i remains a member of the U.S. Green Buildings Council (USGBC), the non-profit entity which administers the Leadership in Energy and Environmental Design (LEED) program. DAGS is developing LEED application guidelines to be used by state agencies. There are currently over 20 LEED Accredited Professionals on staff at five state agencies; DAGS, DBEDT, DOE, DOT and UH. Others are in training for this goal. DBEDT continues to offer LEED training opportunities for state agency staff.

To date, seven state facilities have been certified as meeting LEED standards or have been completed and are awaiting certification by USGBC:

LEED Platinum

• Natural Energy Laboratory of Hawai'i Authority Gateway Energy Center LEED Gold

• UH Hilo Student Life Complex

• UH Mānoa Center for Microbial Oceanography Research and Education LEED Silver

• Frear Hall Residence Housing

LEED Certified

- DOE Waipahu Intermediate School Cafeteria
- UH Hilo 'Imiloa Astronomy Center of Hawai'i
- UH-Mānoa John A. Burns School of Medicine

A significant number of additional buildings which are anticipated to meet LEED Silver standards are either being planned or are in the design phase, while the following state facilities are currently under construction or construction bids have been awarded, and are expected to be rated by LEED:

- North Kohala Public Library (Gold)
- Mānoa Public Library (Silver)
- UH Hilo Sciences and Technology Center (Silver)
- UH Hilo Hawai'ian Language Building (Silver)
- UH Hilo Student Services Building (Silver)
- UH West O'ahu New Campus Development (Silver)
- UH Mānoa Campus Center (Silver)
- Maui Community College Science Facility (Silver)
- Windward Community College Library and Learning Center (Silver)
- Honolulu International Airport Lounge (Silver)
- Keaukaha Military Reservation (Silver)
- Ewa Makai Middle School (Silver)
- Baldwin High School Library (Silver)

LEAD BY EXAMPLE: STATE OF HAWAI'I EXECUTIVE AGENCIES' ACHIEVEMENTS IN ENERGY

This report responds to legislative and executive mandates issued in 2006, which require state agencies to implement a variety of energy programs now known as the Lead By Example (LBE) initiative. A number of requirements were established by Act 96, SLH 2006, Part III, which reflects Administrative Directive 06-01, issued by Governor Linda Lingle on January 20, 2006. Act 96 directs state agencies to improve energy, water and resource efficiency in state facilities, increase fuel efficiency, and use alternative fuels in state vehicles with the goal of stimulating growth today that will rebuild the local economy and realize savings far into the future.

In addition, we are continuing with the requirements of Act 160, Section 168.5, SLH 2006, to report state agencies' electricity consumption, the steps taken to reduce energy use, and their plans for future reductions. Although not mandated by law, the costs of purchasing utility electricity also have been compiled.

This LBE report provides data on electricity use and costs, as well as highlights of state agencies' energy activities under the LBE initiative. Executive agencies were invited to submit reports containing information required by law; these reports have been consolidated by the Department of Business, Economic Development, and Tourism (DBEDT). The consolidated reports, which are attached, list all agencies' actions, where applicable, under each section of Acts 96 and 160, SLH 2006.

The LBE effort was kicked off at a meeting of all cabinet members, convened by DBEDT, on May 11, 2006. Since that initial meeting, agencies developed a framework for planning, implementing and reporting energy efficiency activities. State agency personnel have been trained and received technical assistance as needed. The agencies have set energy-savings targets and are developing tools which will enable their goals to be reached.

Agency representatives formed an LBE Leadership Group to coordinate these actions, supported by three Working Groups. These Working Groups address Buildings, Transportation, and Environmental Practices and Procurement. Each Working Group develops plans and recommendations to be reviewed by the Leadership Group, which is composed of high-level representatives of executive departments and the University of Hawai'i. The Leadership Group members have the authority to ensure efficient communication and the commitment to develop effective policies and plans for each department.

<u>The LBE Initiative</u>

Fiscal year 2010, the fifth year of the LBE initiative, was impacted by the ongoing economic recovery and a limited state budget. State agencies faced cutbacks in personnel (staff levels and furloughs) as well as in operational budgets. While this slowed some projects, it also highlighted the importance of LBE and the program's intent of

transforming how state agencies use energy and resources in operations, facilities, and transportation. In years past, agencies have spent increasing portions of their budgets on energy. With the cutbacks experienced in 2010, many agencies were forced to find ways of reducing consumption to match their operational budgets.

New state buildings are being designed and constructed to higher efficiency standards and existing buildings are receiving equipment retrofits and are being retrocommissioned to ensure proper operation of energy systems. Several agencies are moving forward with performance contracting for groups of buildings and incorporating renewable energy technologies, such as photovoltaics (PV), in projects.

Executive agencies continued training their personnel in subjects such as building commissioning, performance contracting, financing, green building design and construction, energy-efficient equipment, and renewable energy generation. A total of 52 workshops and other events relating to LBE topics were held in FY10, attracting at least 2,475 participants, including many from state agencies. In some cases, DBEDT provided funds so that other executive agencies' staff members could attend the training.

Consistency in data collection and accuracy in recordkeeping have been some of the challenges of the LBE initiative. Starting in 2008 electricity consumption and billing information, with approval by the various agencies, was acquired directly from the utilities to be compiled and maintained by statisticians in DBEDT's Research and Economic Analysis Division (READ). Before 2008 each agency provided data from their own records. Compiling data from 26 agencies was less consistent than obtaining data from a sole source such as the utility. READ also requested utility data from before 2008 going back to 2005, the baseline year for LBE. As expected, there were slight discrepancies between the utility and agency data going back to 2005. Starting with last year's report, utility data was used for all years of the LBE initiative to provide a standard of consistency that did not exist in previous reports. Fiscal Year 2005 will continue to serve as the baseline year, but the data have been updated to reflect this new standard.

Table 1 outlines the targets for the LBE report that have been set in response to the legislative and administrative mandates noted above.

This report summarizes the achievements and activities of executive agencies as they "Lead By Example" in 2010. The 28 participating agencies include:

Department of Accounting and General Services (DAGS) Department of Agriculture (DOA) Department of the Attorney General (AG) Department of Budget and Finance (B&F) Department of Business, Economic Development and Tourism (DBEDT) Department of Commerce and Consumer Affairs (DCCA) Department of Defense (DOD) Department of Education (DOE) Department of Hawai'ian Home Lands (DHHL)

Department of Health (DOH) Department of Human Resources Development (DHRD) Department of Human Services (DHS) Department of Labor and Industrial Relations (DLIR) Department of Land and Natural Resources (DLNR) Department of Public Safety (PSD) Department of Taxation (DOTAX) Department of Transportation—Airports Division (DOT-Air) Department of Transportation—Harbors Division (DOT-Har) Department of Transportation—Highways Division (DOT-Hwy) Foreign Trade Zone (FTZ) Hawai'i Community Development Authority (HCDA) Hawai'i Health Systems Corporation (HHSC) Hawai'i Housing Finance and Development Corporation (HHFDC) Hawai'i Public Housing Authority (HPHA) Hawai'i State Public Library System (HSPLS) Hawai'i Tourism Authority—Convention Center (HTA/CC) Natural Energy Laboratory of Hawai'i Authority (NELHA) University of Hawai'i System (UH)

Action Item	Impact Short Term 0-3 yrs. (FY08)	Impact Long Term 10 yrs (FY2015)
Provide education programs on energy efficiency	3% reduction in kWh	6% reduction in kWh
R&M/O&M facilities in place as of FY05 (e.g., lighting retrofits, purchasing more efficient equipment)	6% reduction in kWh	20% reduction in kWh
LEED Silver for new construction	30% reduction in kWh for each new building built to LEED Silver	30% reduction in kWh for each new building built to LEED Silver
Increase energy efficiency and fuel diversification of State vehicles as of FY05	5% reduction in petroleum consumption	12% reduction in petroleum consumption
Increase availability of environmentally preferable products to state agencies	3% increase in availability of environmentally preferable products	12% increase in availability of environmentally preferable products
Increase procurement of environmentally preferable products	5% increase in procurement of environmentally preferable products	12% increase in procurement of environmentally preferable products

Table 1: Lead By Example Targets (Baseline FY 2005)

Executive Agency Electricity Consumption

650

600

FY05

FY06

In 2010 agencies consumed 643 million kilowatt-hours (kWh) of electricity, the lowest annual total since the Lead By Example initiative began and the result of three consecutive years of kWh decreases. Over those three years, state agencies have lowered electricity consumption by 59 million kWh, or 8.4%, since it peaked in 2007 at 702 million kWh. Starting in baseline year 2005, agencies used 678 million kWh. Initially, consumption increased 2.4% in 2006 and another 1.1% in 2007. The drop of 0.1% in 2008 marked the first decrease from a previous year and signaled that energy conservation efforts were beginning to impact overall consumption. With the 5.8% drop in consumption for 2009, the state achieved its largest single-year decline and realized the first real decrease in consumption, dropping 2.5% below 2005 baseline levels. The 2.8% reduction in 2010 continued the downward trend and brought total agency consumption to 5.1% below the 2005 baseline levels, a savings of 35 million kWh. Electricity use for State of Hawai'i executive agencies is depicted in Figure 1.



643.31

FY10

Figure 1: Comparison of State Agencies' Electricity Consumption in kWh

Energy use varies widely within individual agencies. In 2010 most agencies reported reductions in energy use; others noted minimal increases and a few used significantly more electricity. Four agencies account for most of the electricity used by the executive branch: the University of Hawai'i (UH) campuses, the Department of Education (DOE), the Airports Division of the Department of Transportation (DOT-Air), and the Department of Accounting and General Services (DAGS). All four agencies

FY07

FY08

FY09

reduced their consumption in 2010. From FY05 to FY10, 18 executive agencies were able to decrease their electricity consumption. Each agency's year-by-year kWh consumption is summarized in Figures 2 and 2(a).



Figures 2 and 2(a): Comparison of kWh Consumption by Agency by Year



Tables 2 and 3 provide information on individual agencies' electricity consumption and the changes from year to year since FY05. The reported number of kilowatt-hours consumed annually is provided in Table 2, while Table 3 presents the differences among years in kWh as well as percentage change. It should be noted that several agencies' utility records are consolidated into DAGS' report since DAGS manages their buildings. These include the departments of Budget and Finance (B&F), Human Resource Development (DHRD), Taxation (DOTAX), and most offices within the Department of Business, Economic Development, and Tourism (DBEDT).

Agency	FY05 kWh	FY06 kWh	FY07 kWh	FY08 kWh	FY09 kWh	FY10 kWh
AG	35,420	34,798	34,945	35,849	33,890	33,224
DAGS	49,230,992	49,779,316	51,797,308	52,245,047	45,519,417	42,576,283
DBEDT	496,413	358,760	610,347	546,138	546,359	729,112
DCCA	1,535,941	1,541,342	1,611,503	1,615,431	1,642,705	1,447,930
DHHL	2,283,061	2,494,168	2,989,292	3,391,736	3,694,566	3,404,418
DHS	3,857,967	4,007,321	4,046,162	3,924,563	3,717,370	3,586,914
DLIR	330,872	400,854	394,799	373,783	299,619	284,408
DLNR	3,454,292	3,454,427	3,628,338	3,648,394	3,480,072	3,024,661
DOA	2,825,754	2,920,780	3,309,250	2,845,190	2,327,260	2,127,374
DOD	6,703,102	6,913,967	7,129,678	6,932,392	6,392,223	6,155,416
DOE	143,384,951	144,128,064	148,414,237	147,987,700	138,927,520	133,201,033
DOH	25,726,039	25,496,454	25,404,262	25,887,669	26,216,375	24,971,055
DOT - Air	128,101,116	129,604,326	131,269,766	133,988,212	129,019,506	128,111,323
DOT - Har	10,315,114	10,702,082	11,374,640	11,325,990	9,550,867	8,123,410
DOT - Hwy	28,804,170	28,203,362	28,303,598	27,941,945	26,426,481	25,754,283
FTZ	921,920	1,044,160	1,011,840	1,033,600	895,680	934,400
HCDA	1,150,027	252,285	322,151	318,810	312,752	677,124
HHFDC	3,057,300	3,142,688	5,430,162	5,832,603	5,485,910	5,205,445
HHSC	20,127,174	18,553,340	18,804,930	18,146,647	17,914,301	18,172,891
HPHA	18,456,206	18,567,637	19,235,874	18,884,841	18,481,546	18,553,412
HSPLS	8,477,520	8,512,526	8,890,675	8,714,828	8,181,762	7,654,267
HTA - CC	7,389,600	8,715,000	8,056,800	7,848,600	6,525,600	5,777,400
NELHA	4,270,831	3,917,223	4,035,528	4,178,093	4,500,456	4,500,909
PSD	21,966,423	21,584,032	20,839,695	20,431,439	18,910,860	17,861,470
UH	185,299,794	200,215,505	195,556,630	193,639,569	182,226,984	180,442,128
Totals	678,201,997	694,544,416	702,502,409	701,719,068	661,230,080	643,310,297

Table 2: Utility Electricity Consumption by State Agencies

Agency	FY05- FY06	%	FY06- FY07	%	FY07- FY08	%	FY08- FY09	%	FY09- FY10	%	TOTALS FY05-FY10	%
AG	-622	-1.8	147	0.4	904	2.6	-1,959	-5.5	-666	-2.0	-2,196	-6.2
DAGS	548,325	1.1	2,017,992	4.1	447,739	0.9	-6,725,630	-12.9	-3,132,934	-6.9	-6,654,709	-13.5
DBEDT	-137,653	-27.7	251,587	70.1	-64,209	-10.5	221	0.0	182,753	33.4	232,699	46.9
DCCA	5,402	0.4	70,160	4.6	3,928	0.2	27,275	1.7	-144,215	-9.1	-88,010	-5.7
DHHL	211,107	9.2	495,124	19.9	402,444	13.5	302,830	8.9	-290,228	-7.9	1,121,357	49.1
DHS	149,354	3.9	38,841	1.0	-121,599	-3.0	-207,193	-5.3	-130,456	-3.5	-271,053	-7.0
DLIR	69,982	21.2	-6,055	-1.5	-21,016	-5.3	-74,164	-19.8	-15,211	-5.1	-46,464	-14.0
DLNR	135	0.0	173,911	5.0	20,056	0.6	-168,322	-4.6	-455,411	-13.1	-429,631	-12.4
DOA	95,026	3.4	388,470	13.3	-464,060	-14.0	-517,930	-18.2	-200,466	-8.6	-698,380	-24.7
DOD	210,865	3.1	215,711	3.1	-197,286	-2.8	-540,170	-7.8	-236,807	-3.7	-547,686	-8.2
DOE	743,113	0.5	4,286,173	3.0	-426,537	-0.3	-9,060,180	-6.1	-5,737,407	-4.1	-10,183,918	-7.1
DOH	-229,585	-0.9	-92,192	-0.4	483,407	1.9	328,706	1.3	-1,252,481	-4.8	-754,985	-2.9
DOT-Air	1,503,210	1.2	1,665,440	1.3	2,718,446	2.1	-4,968,706	-3.7	-908,183	-0.7	10,207	0.0
DOT-Har	386,968	3.8	672,558	6.3	-48,650	-0.4	-1,775,123	-15.7	-1,428,657	-15.0	-2,191,704	-21.2
DOT-Hwy	-600,808	-2.1	100,236	0.4	-361,653	-1.3	-1,515,465	-5.4	-685,407	-2.6	-3,049,887	-10.6
FTZ	122,240	13.3	-32,320	-3.1	21,760	2.2	-137,920	-13.3	38,720	4.3	12,480	1.4
HCDA	-897,742	-78.1	69,866	27.7	-3,341	-1.0	-6,058	-1.9	364,372	116.5	-472,903	-41.1
HHFDC	85,389	2.8	2,287,474	72.8	402,441	7.4	-346,693	-5.9	-280,465	-5.1	2,164,465	71.2
HHSC	-1,573,834	-7.8	251,590	1.4	-658,283	-3.5	-232,346	-1.3	258,590	1.4	-1,954,283	-9.7
HPHA	111,430	0.6	668,237	3.6	-351,033	-1.8	-403,295	-2.1	71,639	0.4	97,206	0.5
HSPLS	35,006	0.4	378,149	4.4	-175,847	-2.0	-533,066	-6.1	-527,486	-6.4	-823,244	-9.7
HTA-CC	1,325,400	17.9	-658,200	-7.6	-208,200	-2.6	-1,323,000	-16.9	-748,200	-11.5	-1,612,200	-21.8
NELHA	-353,608	-8.3	118,305	3.0	142,565	3.5	322,363	7.7	453	0.0	230,078	5.4
PSD	-382,391	-1.7	-744,337	-3.4	-408,256	-2.0	-1,520,579	-7.4	-1,212,891	-6.4	-4,104,954	-18.7
UH	14,915,711	8.0	-4,658,875	-2.3	-1,917,061	-1.0	-11,412,585	-5.9	-1,784,857	-1.0	-4,857,666	-2.6

 Table 3: Differences in Electricity Consumption (kWh) for Reported Years

Review of Electricity Use and Furloughs

While this year's drop in kWh consumption continues a positive trend, it is difficult to determine the primary reasons. In fiscal year 2010 many departments experienced cuts in operational budgets, personnel declines, and furloughs.

After conducting an analysis, the degree to which these changes were responsible for overall reductions in state agency consumption was not conclusive. Furloughs reduced the number of state working days in FY10 by 17 days, from 247 days in FY09 to 230 days in FY10. Working day figures by month plus a comparison of 2009 and 2010 by monthly and daily average consumption can be found below in Table 4.

	Fiscal Yea	ar 2009		Fiscal Year 2010					
2009 Month	Business Days	kWh	kWh/day	2010 Month	Business Days	kWh	% Change	kWh/day	% Change
Jul-08	22	55,595,112	2,527,051	Jul-09	22	52,854,255	-4.93%	2,402,466	-4.93%
Aug-08	20	58,339,107	2,916,955	Aug-09	20	55,178,077	-5.42%	2,758,904	-5.42%
Sep-08	21	62,573,754	2,979,703	Sep-09	21	59,406,782	-5.06%	2,828,894	-5.06%
Oct-08	23	59,942,911	2,606,214	Oct-09	20	58,834,474	-1.85%	2,941,724	12.87%
Nov-08	17	57,350,158	3,373,539	Nov-09	17	57,113,877	-0.41%	3,359,640	-0.41%
Dec-08	22	55,990,143	2,545,007	Dec-09	20	53,881,462	-3.77%	2,694,073	5.86%
Jan-09	20	50,958,077	2,547,904	Jan-10	17	50,463,972	-0.97%	2,968,469	16.51%
Feb-09	19	51,460,501	2,708,447	Feb-10	17	50,927,982	-1.03%	2,995,764	10.61%
Mar-09	21	48,313,208	2,300,629	Mar-10	20	49,884,121	3.25%	2,494,206	8.41%
Apr-09	21	49,948,502	2,378,500	Apr-10	19	50,420,515	0.94%	2,653,711	11.57%
May-09	20	53,379,294	2,668,965	May-10	18	52,848,628	-0.99%	2,936,035	10.01%
Jun-09	21	57,715,419	2,748,353	Jun-10	19	51,496,153	-10.78%	2,710,324	-1.38%
Total	247	661,566,187	2,678,406	Total	230	643,310,297	-2.76%	2,797,001	4.43%

Table 4: Comparison of FY09 and FY10 Monthly and Daily Average Consumption

Furloughs Active

Looking only at furlough information, we reviewed the data. For all but two furlough months, total consumption was lower than in FY09. When comparing non-furlough months to furlough months in FY10, however, the data differs. As seen in Table 4 above, in the three months of FY10 with no furloughs (July 2009 – September 2009), kWh reductions from the same months in FY09 were 4.93%, 5.42%, and 5.06% respectively, showing savings of approximately 5% before furloughs began in October 2009. When furloughs started, however, these savings decreased to an average of 1.73% for the remainder of FY10 and in two months (March and April 2010) showed increases from FY09.

Looking at monthly kWh per day averages has similar results. In the three nonfurlough months of FY10 (July 2009 – September 2009), an average decrease of 5.14% in daily consumption was seen. With furloughs, in all but two months (November 2009 and June 2010), per day kWh averages were higher than in FY09, with an average increase of 8.23%. An analysis of five Capitol District buildings (Ke`elikolani, State Office Tower, Kalanimoku, Hale 'Auhau, and OR&L) managed by DAGS and occupied by various state agencies showed that there were no similarities in monthly or per day consumption patterns among the selected buildings or when compared to the overall consumption of the state.

Thus, the extent of furloughs impact on overall consumption is inconclusive. It is most likely that a combination of factors is responsible for the decrease in consumption in 2010. For example, in conjunction with energy efficiency and renewable energy development, weather differences could have changed the amount of cooling that was necessary or furlough schedules varied by department and buildings that house more than one department may have resulted in building systems not being entirely shut down on furlough days. Budget reductions also may have impacted program operations or eliminated programs which, consequently, affect energy consumption.

Electricity Costs by State Agencies

In 2010 state agencies spent \$145 million on electricity, \$20 million, or 12.1%, less than in 2009. This is the first time that overall costs have decreased since the Lead By Example initiative began, the result of declining consumption and a lower average per kWh cost during 2010. Totals for 2010, however, were still \$41 million, or 38.5%, higher than the amount agencies spent on electricity in baseline year 2005. Hawai'i's nearly 90% dependence on imported petroleum to produce electricity results in kWh prices heavily influenced by the volatility of world oil markets. Since LBE began, overall state agency electricity costs were driven higher each year by rising oil prices despite the kWh consumption decreases, which started in 2007. Electricity cost state executive agencies \$104 million in baseline year 2005. Costs jumped by \$25 million in 2006, another \$4 million in 2007, \$30 million in 2008, before peaking at a total cost of \$165 million in 2009, 57.4% above the baseline. The cost totals for the fiscal years from 2005 to 2010 are given in Figure 3.



Figure 3: Comparison of State Electricity Utility Costs FY05 to FY10

Since the beginning of LBE, agencies' energy bills have reflected the fluctuations in the price of oil and electricity. 2010 was no exception. Average electricity costs in Hawai'i declined 8.2% from the previous year. Energy savings have shielded the state from increasing oil prices and amplified declining oil prices. Figure 4 shows the relationship between the price of oil, the price of electricity, overall cost, and consumption as a percentage change from 2005 baseline figures.



Figure 4: Percent Change (over FY05) of Electricity Price, Cost, and Consumption

Agencies are actively addressing their energy consumption with methods such as retrofitting lights, tinting windows, replacing aging air conditioning systems, and assessing the potential for solar water heating. Some are also producing electricity with renewable energy systems that reduce the amount of electricity that is bought from the utility. Electricity costs for each agency are reported by fiscal year in Figure 5 and 5(a).



Figures 5 and 5(a): Cost of Purchased Electricity by Agency Showing Percentage Change from FY05 to FY10



Agencies' electricity costs for fiscal years 2005 through 2010 are shown in Table 5. Table 6 lists the differences in dollars paid for utility electricity from year to year and the percentage change between years.

Agency	FY05	FY06	FY07	FY08	FY09	FY10
AG	\$10,741	\$11,632	\$12,204	\$14,626	\$12,843	\$11,996
DAGS	\$7,482,710	\$9,092,737	\$9,310,630	\$11,667,310	\$11,194,778	\$9,499,992
DBEDT	\$115,698	\$89,907	\$124,219	\$139,262	\$158,482	\$186,947
DCCA	\$219,025	\$268,360	\$273,982	\$347,577	\$372,611	\$309,522
DHHL	\$489,457	\$628,026	\$811,507	\$1,031,764	\$1,128,085	\$946,675
DHS	\$682,243	\$847,648	\$869,025	\$1,011,941	\$1,004,178	\$896,555
DLIR	\$80,885	\$116,710	\$116,422	\$130,371	\$115,599	\$99,715
DLNR	\$705,898	\$841,123	\$889,243	\$1,057,708	\$1,044,212	\$860,711
DOA	\$545,360	\$647,465	\$789,592	\$793,773	\$649,987	\$559,057
DOD	\$1,163,226	\$1,422,139	\$1,492,829	\$1,741,314	\$1,703,990	\$1,487,429
DOE	\$25,567,384	\$30,610,076	\$31,805,744	\$38,173,389	\$38,403,638	\$33,966,349
DOH	\$3,934,069	\$4,728,875	\$4,759,470	\$6,022,990	\$6,681,536	\$5,771,076
DOT-Air	\$17,761,072	\$22,259,323	\$22,920,171	\$28,641,831	\$30,078,400	\$26,676,871
DOT-Har	\$1,648,777	\$2,044,297	\$2,136,409	\$2,663,999	\$2,422,304	\$1,939,602
DOT-Hwy	\$5,010,087	\$5,905,006	\$5,782,714	\$6,980,180	\$6,881,176	\$6,318,805
FTZ	\$134,290	\$180,726	\$174,446	\$221,373	\$206,781	\$200,512
HCDA	\$149,278	\$53,436	\$61,014	\$74,315	\$78,566	\$166,956
HHFDC	\$451,607	\$568,198	\$910,554	\$1,243,518	\$1,256,511	\$1,101,118
HHSC	\$3,982,094	\$4,415,497	\$4,801,818	\$5,866,179	\$6,007,542	\$5,181,870
HPHA	\$2,726,530	\$3,308,536	\$3,427,260	\$4,229,350	\$4,314,868	\$4,023,549
HSPLS	\$1,533,815	\$1,808,919	\$1,893,315	\$2,244,370	\$2,249,731	\$1,946,842
HTA-CC	\$1,104,124	\$1,520,889	\$1,411,445	\$1,717,207	\$1,582,841	\$1,356,185
NELHA	\$871,574	\$1,015,139	\$1,071,918	\$1,313,291	\$1,425,614	\$1,301,215
PSD	\$3,264,187	\$3,951,300	\$3,848,077	\$4,689,674	\$4,601,729	\$3,897,747
UH	\$25,206,974	\$33,613,946	\$34,221,881	\$41,121,936	\$41,486,486	\$36,468,378
Total	\$104,841,105	\$129,949,909	\$133,915,889	\$163,139,248	\$165,062,485	\$145,175,672

Table 5: Cost of Electricity Purchased by State Agencies

Agency	FY05- FY06	%	FY06- FY07	%	FY07- FY08	%	FY08- FY09	%	FY09- FY10	%	FY05- FY10	%
AG	892	8.3	571	4.9	2,422	19.8	-1,783	-12.2	-847	-6.6	1,255	11.7
DAGS	1,610,028	21.5	217,892	2.4	2,356,681	25.3	-472,533	-4.1	-1,726,902	-15.4	2,017,282	27.0
DBEDT	-25,792	-22.3	34,312	38.2	15,043	12.1	19,220	13.8	28,464	18.0	71,248	61.6
DCCA	49,335	22.5	5,622	2.1	73,595	26.9	25,034	7.2	-52,553	-14.5	90,497	41.3
DHHL	138,569	28.3	183,480	29.2	220,257	27.1	96,320	9.3	-181,446	-16.1	457,217	93.4
DHS	165,405	24.2	21,378	2.5	142,915	16.4	-7,762	-0.8	-107,623	-10.7	214,312	31.4
DLIR	35,825	44.3	-288	-0.2	13,948	12.0	-14,771	-11.3	-15,884	-13.7	18,831	23.3
DLNR	135,225	19.2	48,120	5.7	168,465	18.9	-13,497	-1.3	-183,501	-17.6	154,813	21.9
DOA	102,105	18.7	142,127	22.0	4,181	0.5	-143,787	-18.1	-91,165	-14.0	13,697	2.5
DOD	258,913	22.3	70,690	5.0	248,485	16.6	-37,324	-2.1	-216,561	-12.7	324,203	27.9
DOE	5,042,692	19.7	1,195,668	3.9	6,367,645	20.0	230,248	0.6	-4,440,801	-11.6	8,398,965	32.9
DOH	794,806	20.2	30,595	0.6	1,263,520	26.5	658,546	10.9	-911,871	-13.6	1,837,007	46.7
DOT-Air	4,498,251	25.3	660,848	3.0	5,721,661	25.0	1,436,569	5.0	-3,401,530	-11.3	8,915,799	50.2
DOT-Har	395,521	24.0	92,112	4.5	527,590	24.7	-241,695	-9.1	-482,943	-19.9	290,825	17.6
DOT-Hwy	894,919	17.9	-122,293	-2.1	1,197,467	20.7	-99,004	-1.4	-564,905	-8.2	1,308,717	26.1
FTZ	46,437	34.6	-6,281	-3.5	46,927	26.9	-14,592	-6.6	-6,268	-3.0	66,222	49.3
HCDA	-95,842	-64.2	7,579	14.2	13,301	21.8	4,251	5.7	88,390	112.5	17,678	11.8
HHFDC	116,590	25.8	342,356	60.3	332,964	36.6	12,993	1.0	-155,392	-12.4	651,752	145.0
HHSC	433,404	10.9	386,321	8.7	1,064,360	22.2	141,363	2.4	-825,672	-13.7	1,199,776	30.1
HPHA	582,006	21.3	118,724	3.6	802,090	23.4	85,518	2.0	-291,390	-6.8	1,297,019	47.6
HSPLS	275,104	17.9	84,396	4.7	351,055	18.5	5,361	0.2	-302,889	-13.5	413,027	26.9
HTA-CC	416,764	37.7	-109,443	-7.2	305,761	21.7	-134,366	-7.8	-226,656	-14.3	252,061	22.8
NELHA	143,565	16.5	56,779	5.6	241,373	22.5	112,323	8.6	-124,399	-8.7	429,641	49.3
PSD	687,113	21.1	-103,222	-2.6	841,597	21.9	-87,945	-1.9	-736,701	-15.9	633,560	19.4
UH	8,406,972	33.4	607,935	1.8	6,900,055	20.2	364,550	0.9	-5,018,108	-12.1	11,261,404	44.7

 Table 6: Differences in Cost of Electricity for Reported Years (\$)

As stated above, since the beginning of Lead By Example, oil prices have driven overall electricity costs higher despite agencies using less electricity. This dynamic is clearly illustrated in Figure 6 below.



Figure 6: Consumption and Cost Percentage Change from FY05 to FY10 by Agency

Since 2005 while 18 departments managed to decrease total electricity use, no agency was able to decrease costs. For example, the Department of Human Services (DHS), the Department of Defense (DOD), the Hawai'i State Public Library System (HSPLS), the Department of Land and Natural Resources (DLNR), the Department of Labor and Industrial Relations (DLIR) and the Department of Transportation – Harbors Division (DOT-Harbors), decreased their kWh consumption by 7.0%, 9.7%, 9.7%, 12.4%, 14%, and 21.2%, respectively, between 2005 and 2010, but their electricity bills all rose by more than 20% during the same period.

Efficiency in Buildings

In Hawai'i applying energy efficiency to the design, construction and operation of buildings is becoming a standard practice. The State of Hawai'i is active in several "green building" initiatives and now requires LEED Silver certification, to the extent possible, for new construction and major renovation. In addition to energy savings, LEED Silver standards dictate improved indoor environmental quality, which has been linked to reduced absenteeism, up to 16% increased productivity, 20% better test performance in schools, and an average of 2½ days earlier discharge from hospitals.¹

LEED is a program of the nonprofit U.S. Green Building Council (USGBC). DBEDT joined the Council in 2006; its membership on behalf of the State of Hawai'i allows all state employees access to USGBC publications and training sessions at a reduced cost, as well as exclusive online reports, participation in local USGBC chapter events, and reduced LEED project registration and certification fees. Although certification assures independent, third-party verification of a building's performance to LEED standards, some agencies are designing facilities to meet LEED criteria but do not plan to formally verify and certify them because of cost considerations. In 2005 there was only one LEED Accredited Professional (LEED AP) among the state agencies. Now, there are over 20 LEED APs on staff at five agencies: DBEDT, DOE, DOT, DAGS and UH. Other employees are in training to take the various LEED exams.

The following state buildings have either achieved LEED standards or are in process toward that goal. A number of these projects were already underway before the LBE initiative began.

LEED Platinum

- NELHA Hawai'i Gateway Energy Center (completed)
- NELHA Gateway Center office structure (planned)

LEED Gold

- UH-Hilo Student Life Complex (completed; certification pending)
- UH Institute of Marine Biology Coconut Island Biology Research Laboratories (design)
- UH Center for Microbial Oceanography Research and Education (complete)
- HSPLS North Kohala Public Library (complete; certification pending)

LEED Silver

- DAGS CSD Administrative Building (registered)
- DAGS Keaukaha Military Reservation Joint Military Center (under construction)
- DAGS Maui Public Safety Complex (design)
- DOE 'Ewa Makai Middle School campus (under construction)
- DOE Kīhei High School campus (RFP)
- DOE Wailuku Elementary School II (design)

¹ Source: Garzone, C. (2006). U.S. Green Building Council and the LEEDTM Green Building Rating System

- DOE Baldwin High School Library (under construction)
- DOH Hawai'i State Hospital new forensic facility (design)
- DOT-Air HNL Bus Maintenance Facility (planned)
- DOT-Air HNL Cargo Facility (planned)
- DOT-Air HNL Commuter Terminal (under design)
- DOT-Air HNL Concourse (under design)
- DOT-Air HNL Consolidated Car Rental Facility (designed)
- DOT-Air HNL Maintenance Facility (planned)
- DOT-Air HNL Mauka Concourse (under design)
- DOT-Air KOA Aircraft Rescue Fire Fighters Building (designed)
- DOT-Air KOA Commuter Terminal (designed)
- HSPLS 'Aiea Public Library (funded)
- HSPLS Koloa Public Library (sited)
- HSPLS Nānākuli Public Library (planning)
- HSPLS Mānoa Public Library (under construction)
- PSD Kaua'i Regional Complex (planned)
- PSD Maui Community Correctional Center relocation (design)
- PSD O'ahu Regional Complex (planned)
- PSD New transitional housing (planned)
- UH Information Technology Center (design)
- UH-Hilo Hawai'ian Language Building (design)
- UH-Hilo Sciences and Technology Center (under construction)
- UH-Hilo Student Services Building addition and renovation (under construction)
- UH-Hilo College of Pharmacy (planning and design)
- UH-Hilo Hawai'ian Language Building (designed, construction pending)
- UH-Hilo Student Services Building addition and renovation (design)
- UH-Mānoa Campus Center renovation and addition (under construction)
- UH-Mānoa College of Education (planned, pending funds)
- UH-Mānoa Edmonson Hall renovation (funded for design)
- UH-Mānoa Frear Hall Residence Building (completed; certification pending)
- UH-Mānoa Gartley Hall renovation (design)
- UH-Mānoa Kennedy Performance Arts Facilities (funded for design)
- UH-Mānoa Kuykendall Hall renovation (funded for design)
- UH-Mānoa Pacific Regional Biosafety Laboratory (funded for design and construction)
- UH- Mānoa Performing Arts Facility (design)
- UH-Mānoa School of Law addition and renovation (funded for planning)
- UH-Mānoa new classroom building (planning)
- UH-West O'ahu new Kapolei campus development (under construction)
- Honolulu Community College Advanced Technology Training Center (funded for design)
- Kapi'olani Community College Culinary Institute of the Pacific (design)
- Leeward Community College Education and Innovation Instructional Facility (funded for design)

- Maui Community College science facility (under construction)
- Windward Community College Library and Learning Center (under construction)

LEED Certified

- DOE Waipahu Intermediate School Cafeteria (completed)
- UH-Mānoa School of Medicine (completed)
- UH-Hilo 'Imiloa Astronomy Center of Hawai'i (completed)
- UH John A. Burns School of Medicine (completed)

LEED Commercial Interiors

• DOT-Air HNL Airport Lounge (awarded for construction)

DOE also has eight school facilities planned, designed or under construction that meet LEED Silver standards but will not pursue formal verification and certification due to cost concerns. *Hawai'i High Performance School Guidelines*, developed by DBEDT in cooperation with DOE, which provide guidance for design consultants, will still be used when applicable to achieve LEED requirements in school buildings. Sustainable design criteria similar to those of LEED are being incorporated by DAGS during the design phase of the Kapolei Judiciary Complex, within the constraints of project funding. DBEDT, working with DAGS, has developed guidelines for design and construction which can be applied toward meeting LEED requirements.

Act 155, signed into law in 2009, requires all existing state buildings that are either larger than 5,000 square feet or use more than 8,000 kWh of electricity per year to be benchmarked by December 31, 2010. Benchmarking is a process which involves calculating the building's annual energy consumption per square foot. Buildings are given an "energy usage intensity" (EUI) score, allowing buildings to be quickly compared and identify areas for improving energy efficiency. DBEDT has offered several training sessions on EPA's Portfolio Manager to state employees and assisted a number of agencies in completing the benchmarking. Portfolio Manager is an online tool available for benchmarking a building's energy use.

Benchmarking is also a way of evaluating whether buildings are potential candidates for ENERGY STAR® status. ENERGY STAR® is a joint program of the U.S. EPA and the U.S. Department of Energy to protect the environment and reduce costs through energy efficient products and practices. ENERGY STAR® certified buildings rank in the top quartile of an EPA performance rating system calculated from actual energy use of similar existing buildings in the nation. ENERGY STAR® certified buildings also must qualify for thermal comfort while meeting lighting, ventilation, and indoor air quality requirements.

Hawai'i has been an active member of EPA's ENERGY STAR® 10% Challenge program since 2005. The program identifies buildings where financially attractive energy efficiency improvements could reduce energy use by 10%, and then implements those changes through low-cost building tune-ups, lighting upgrades, and replacement of old equipment. Another benefit is the reduction of greenhouse gas emissions.

Increased benchmarking efforts in FY10 enabled the identification and certification of an additional seven (7) ENERGY STAR® buildings. To date, thirteen (13) state facilities have achieved ENERGY STAR® status; some of which have received annual certification more than once.

- Kakuhihewa Building (Kapolei State Building)
- Leiopapa A Kamehameha Building (State Office Tower)
- Abner Paki Hale Courthouse
- Hilo State Office Building
- Keoni Ana Building
- Waipahu Civic Center
- Kāne'ohe Elementary School
- Kāne'ohe Civic Center
- Wahiawā Civic Center
- OR&L Main
- AAFES Building
- King Kalākaua Building
- Hoʻopono

To ensure that buildings function as efficiently as possible, commissioning and retro-commissioning processes are being employed. Commissioning is applied to new buildings, while retro-commissioning optimizes an existing building's operation and maintenance. DAGS, for example, is retro-commissioning eleven (11) projects on four islands.

DAGS is also the state's lead agency for energy performance contracting, a proven method of implementing energy efficiency capital projects without requiring upfront funds. DAGS developed a prequalified list of Energy Service Companies and set of boilerplate documents which may be used by State and County agencies to solicit performance contracting proposals. In FY10 DAGS, in conjunction with DBEDT, worked with other agencies to plan to initiate performance contracts for DAGS Phase II and buildings owned/managed by DOT, FTZ, PSD and UHCC.

Rebates Save Money at State Facilities

Since 1996 many public agencies have taken advantage of rebate programs. In the past, the utilities had provided rebates for both retrofit and new construction in the areas of lighting, motors, and heating/ventilation/air conditioning (HVAC) and also supported customized approaches. In FY10 following state law, the Public Utilities Commission selected a third-party public benefits fund administrator, Hawai'i Energy, to take over the rebate programs.

More than \$5.1 million in rebates have been provided by the Hawai'ian Electric Company, Inc. (HECO), its subsidiaries, and Hawai'i Energy to State of Hawai'i executive agencies from 1996 through 2010. Savings in 2010 from retrofits and new construction was 70,332 MWh, enough to power 9,530 homes in Hawai'i for that year. The utility costs and energy savings are expected to grow to over \$215.4 million and 1,024,443 MWh, respectively, over the life of the energy-efficient equipment.² This is equivalent to approximately 138,813 households' annual electricity use.³





² For this report, it was assumed that the average life of appliances, custom, motor and cooling equipment is 15 years, while lighting is 14 years and water heating 10 years. (Source: 2004 HECO IRP, Appendix 11)

³ Figures representing number of households' annual electricity consumption were calculated using data from Hawai'i Energy, which shows that average household consumption per month in Hawai'i for 2010 is 615 kWh. The average annual consumption for Hawai'i households is approximately 7380 kWh. (Source: HECO)

The Department of Education and the University of Hawai'i system have been the largest beneficiaries of rebates, receiving over \$1.6 million and \$1.3 million respectively since 1996, as shown above in Figure 7. The "Housing" rebates were provided to the Housing and Community Development Corporation of Hawai'i (HCDCH), which was reorganized in 2005 into two agencies, HPHA and HHFDC.

The state agencies receiving rebates from the HECO utilities saved an additional \$169,354 to \$2.6 million per year on their electricity bills from 1996 to June 30, 2010. In total, the agencies have saved \$111.2 million during the same period.⁴ Annual cost savings for state executive agencies are depicted in Figure 8.



Figure 8: State Agency Rebate Savings (\$) from HECO since 1996

Since 1996, an estimated total of 570 million kWh have been saved through rebates at state facilities. This is enough to power approximately 77,235 households for a year.⁵ Annual electricity savings (kWh) due to state agency participation in utility efficiency rebate programs since 1996 are depicted in Figure 9.

⁴ This figure was calculated by adding up the estimated annual cost savings from 1996. Estimated annual cost savings were calculated by multiplying the kWh savings by the average cost of electricity per kWh (Source: Energy Information Administration) during each year going back to 1996. It should be noted that the annual savings are cumulative, since equipment installed in one year continues to offer savings over time.

⁵ Figures representing number of households' annual electricity consumption were calculated using data from the Energy Information Administration, which shows that average household consumption per month in Hawai'i for 2010 is 615 kWh. The average annual consumption for Hawai'i households is approximately 7380 kWh.



Figure 9: Annual State Executive Facilities' Energy Savings (kWh) from HECO Rebate Programs since 1996

In 2010, lighting retrofits accounted for approximately 42 million kWh of electricity savings, representing 62% of the total. Space cooling saved an additional 12.1 million kWh and custom retrofits saved 11.1 million kWh. Other rebates were provided for motors, water heating, and appliances. State agencies' 2010 energy savings due to utility rebate programs broken down by technology are depicted in Figure 10.

Figure 10: Rebate Energy Savings (kWh) by Technology in 2010



HECO's data show that a typical office building's electricity is primarily used for space conditioning. The combined burden of running systems for cooling, heating, ventilation and air-conditioning (HVAC) requires 43% of a typical office building's electricity. Lighting is responsible for about 27%. "Plug loads" such as computers, copiers, and other equipment consume an additional 17% while water heating accounts for 0.2%. Miscellaneous uses (e.g. elevators, water coolers) comprise the remaining 12.8%. These data, shown in Figure 11, highlight areas for energy conservation.



Figure 11: Typical Office Building Energy Use Breakdown⁶

When State of Hawai'i facilities on O'ahu are examined by type, campuses consisting of classrooms and offices consume about half of the electricity. Office buildings and the Honolulu International Airport each consume approximately 17% of the total. The public hospital system is also a significant consumer, accounting for around 6%. These data, provided by HECO, are shown in Figure 12.



Figure 12: State of Hawai'i Facilities on O'ahu, Electricity Consumption by Occupancy Type⁷

 ⁶ Source: Van Liew, T. (2003). HECO and Rebuild Hawaii: Energy Benchmarking Studies in Hawaii
 ⁷ Source: Cedric D.O. Chong and Associates. (2005). State of Hawaii Facilities on Oahu Energy Benchmarking Study

Roughly 80% of the more than 2,600 buildings owned and operated by the state government are on O'ahu.⁸ Figure 13 shows consumption by island. These data were supplied by HECO.



Figure 13: State Agency Consumption (kWh) by Island in 2010

⁸ Source: Cedric D.O. Chong and Associates. (2005). State of Hawai'i Facilities on O'ahu Energy Benchmarking Study

Highlights of Current State Energy Activities

Since the State of Hawai'i established its energy program in 1974, state agencies have undertaken a myriad of activities focusing on energy efficiency, conservation, and renewable energy. DBEDT's director, the state's Energy Resources Coordinator, is responsible for coordinating energy activities statewide.

These decades of programmatic action have positioned the Administration to rapidly implement the LBE initiative. The state's energy staff and many agencies' efforts have already built a solid foundation, completed some benchmarking and assessments, provided numerous opportunities for training, and executed a number of projects. Some of the recent achievements are described below.

Efficiency

The Energy Services Coalition, a national nonprofit organization dedicated to supporting performance contracting, recognized the State of Hawaii as the second in the nation in Energy Savings Performance Contracts for State Building Efficiency.

With DBEDT as the lead, the State of Hawaii concluded its second National Governors Association Policy Academy program. In 2010 a team from Hawaii was selected, through a national competitive process, to attend a National Governors Association Center for Best Practices technical assistance session that focused on energy efficiency in state government and provided information on executing a performance contract. Participants included DBEDT, DAGS, Department of Transportation; and the University of Hawaii Community Colleges.

DAGS executed a Phase I energy savings performance contract (ESPC) for ten (10) buildings in the Capitol District. DAGS also initiated the process to solicit proposals for a Phase II ESPC, which will cover 28 buildings. DAGS assisted the Department of Public Safety (PSD) with initiating an ESPC for two prisons and one jail.

The Department of Transportation (DOT) drafted an ESPC for 15 airports, five (5) harbors, and highways facilities.

The University of Hawai'i Community Colleges (UH-CC) have all started the process to execute performance contracts that will implement major energy conservation measures in their portfolio of buildings.

The Department of Hawai'ian Home Lands (DHHL) has nearly completed a sustainable community in Wai'anae called Ka'ūpuni Village. This project consists of 19 affordable, net-zero energy homes that will include a number of green building features. Net-zero energy homes are homes where the amount of energy produced on-site by renewable energy sources is equal to the amount of energy the building consumes.

Several agencies have implemented or already participate in a variety of recycling programs.

Thirteen (13) state buildings have been retro-commissioned to the investigation phase since 2008, an additional fifty-one (51) are in the process, and five (5) have been retro-commissioned or will be as part of a LEED project.

The Department of Education (DOE) lowered school baseline levels in their School Energy Conservation Program, which started in 2007. Under the program, historical data is used to establish baseline consumption. Actual consumption is compared monthly and schools pay for $\frac{1}{2}$ the excess consumption or receive credit for $\frac{1}{2}$ the reduction in consumption. Effective FY2010, baselines were reduced by 16% for schools with central chiller A/C systems and 6% for schools without.

DBEDT, in coordination with the U.S. Environmental Protection Agency (US EPA) and pursuant to Act 155, offered training and assistance for benchmarking to state agencies. Act 155 requires benchmarking of all state facilities by December 31, 2010. Benchmarking is a process which involves calculating the building's annual energy consumption per square foot, allowing buildings to be compared and identifying areas for improving energy efficiency.

A total of 52 workshops and other events relating to LBE topics were held in FY09, attracting at least 2,475 participants, including many from state agencies. In some cases, DBEDT provided funds so that other executive agencies' staff members could attend the training.

DBEDT applied for U.S. EPA Pollution Prevention (P2) funding to establish a green workforce development program that will expand DBEDT's existing Hawai'i Green Business Program and Green Government Challenge, two programs designed to help businesses and government agencies green their operations through the reduction of energy, water, and resource consumption.

The State Building Code Council approved the 2006 International Energy Conservation Code (IECC) and modified the code to better suit the climate in Hawai'i, resulting in an estimated 15% efficiency improvement.

DBEDT assisted with adoption of county building energy codes. IECC 2006 was adopted by Maui County in October 2009, Hawai'i County in October 2010, and the City and County of Honolulu in November 2009. Kaua'i County adopted IECC 2009 in May 2010.

The Department of Agriculture (DOA) reduced airfare and related travel costs and staff time spent in meetings by implementing Skype-based tele-conferencing for the Moloka'i Irrigation System Water Users Advisory Board.
The Hawai'i State Public Library System (HSPLS) will finish construction on the new Mānoa Public Library, which has been ongoing since the ending of 2009. The library should be completed by mid-2011 and will achieve at least the LEED Silver rating.

Construction of the new North Kohala Public Library is nearly complete and will achieve at least the LEED Gold rating. It is currently two points plus into the LEED Platinum rating pending the completion of construction

HSPLS is also working with DAGS, Public Works Division and its Central Services Division to implement energy efficiency projects. HSPLS has completed retrofitting all 51 public libraries statewide with energy efficient electronic ballast and super T-8 lamps for all of its lighting fixtures. DAGS has bid out and awarded window tinting projects for dozens of libraries statewide.

Hawai'i Community Development Authority (HCDA) has established protocol for spills that pose danger of entering the harbor and stenciled the storm drains.

The Foreign Trade Zone (FTZ) replaced 300 watt incandescent light bulbs with energy efficient 40-60 watt CFL bulbs in the warehouse. The FTZ now utilizes only eight (8) CFL bulbs to light the warehouse at night for security purposes.

The Department of Health (DOH), in conjunction with the State Procurement Office, conducted an EPP (Environmentally Preferable Purchasing) survey.

DOH limits air-conditioning and overhead lighting operation in its buildings to only core work hours. DOH will also be converting all lighting fixtures to super T-8 lamps with electronic ballasts and will continue to delamp unnecessary lamps. All airconditioning retrofits will involve more energy efficient equipment.

The Department of Commerce and Consumer Affairs' (DCCA) I.T. staff is developing a power management strategy to reduce power consumption for computer systems and has embarked on a virtualization solution for server utilization. DCCA will continue to work with DAGS to identify energy efficiency initiatives and encourage employees to adopt energy conservation practices wherever practicable.

The Hawai'i Housing Finance and Development Corporation (HHFDC) installed a new HVAC plant during renovations at Kamake'e Vista that is equipped with a heat recovery system to heat hot water for the laundry facility that accommodates the two hundred twenty six (226) residential units.

HHFDC has directed all site managers to adhere to watering restrictions of hours and days per week for irrigating the green belt areas. Additionally, landscaping is to be limited to draught tolerant local plants. HHFDC's Pohulani Elderly high rise is in the Request For Proposal (RFP) development stage for replacement of the commercial HVAC plant with a functional heat recovery system to preheat hot water for the residential apartments.

The Department of Education (DOE) completed construction on heat abatement projects (using technologies other than AC) at Kahuku High School and 'Ewa Beach Elementary School. Commissioning at Ma'ili Elementary School is underway to identify alternatives for improving air conditioning performance and reducing electrical and water consumption. A pilot project is underway at Keone'ula Elementary School to recycle wet food waste from the cafeteria to pig farmers to determine if it will have a significant collateral effect on the volume of refuse waste.

University of Hawai'i's Sustainable Saunders group conducted an audit at Keone'ula Elementary School to assess energy efficiency, utilities management and a recycling/waste stream study.

DOE initiated a zero waste pilot project at Kalani High School. The pilot project aims to recycle all recyclable waste to minimize the school's waste stream. Schools are also establishing "Green Clubs" which promote the three Rs of sustainability: reduce; reuse; and recycle.

Hawai'i Air National Guard (DOD) have planned two daylighting projects for construction in FY11 at Wahiawā Armory and Bldg 117 in Kalaeloa.

The Department of Hawai'ian Homelands (DHHL) finished a LEED Silver project in the Kumuhau Subdivision that contains notable green features such as solar water heaters, rainwater catchment systems, and solar photovoltaic panels, which are standard in all homes. 45 native Hawai'ian families were awarded single family lots for this subdivision earlier this year and will move into the homes in early 2011.

A minimum of 400 low-income DHHL lessees will be able to receive solar water heating systems and/or CFL light kits thru a partnership between the Department of Hawai'ian Home Lands (DHHL), the Department of Business Economic Development and Tourism (DBEDT), and the Department of Labor and Industrial Relations (DLIR). The primary goal of this program is to reduce each household energy costs by 30% each year, create or sustain about 32 jobs in the local clean energy industry, and obtain comprehensive data on energy usage and cost savings on all participants of the program.

Hawai'i Health Systems Corporation's (HHSC) West Kaua'i Medical Center facility has incorporated a cogeneration plant to offset electrical and heating cost for the facility.

Renewables

DOT issued an RFP for PV or other renewable energy generation systems at over 20 facilities statewide (15 airports, 5 harbors facilities, Foreign Trade Zone, and UH Coconut Island Marine Research Facility).

UH – Community Colleges are negotiating three (3) power purchase agreements for PV systems on O'ahu, Kaua'i, and Maui.

DLNR's State Parks, in coordination with DLNR's Engineering Division, are designing a pilot projects to utilize sustainable energy sources such as solar and wind to power lighting, well pumps, sewer pumps, and base yard facilities.

UH Mānoa installed 15 kW of PV and is in the process of installing an additional 70 kW. A 500 kW system is planned for the Law School Library in 2011.

80 kW of PV was installed on the One-Stop Center building at Kaua'i Community College.

UH Hilo will install PV systems on five buildings with a combined capacity of 231 kW. UH Hilo has a policy to include PV in all new construction projects.

The Department of Agriculture (DOA) will put out for bid the design of a Hydropower Plant in Waimea, Hawai'i, which will reduce electrical pumping costs when completed.

The Natural Energy Laboratory of Hawai'i Authority (NELHA) is planning to release an RFP for the construction and operation of a 1 MW Ocean Thermal Energy Conversion (OTEC) plant.

DOT-Harbors entered into a power-purchase agreement involving a PV-based net-metering system at Nawiliwili Harbor, which provides for a reduction of fossil fuel use and price stability for the duration of the agreement.

DAGS bid and is currently awarding seven projects for the installation of PV systems at two libraries each on Kaua'i, O'ahu, and Maui and one on the Big Island.

HCDA is exploring the installation of a photovoltaic (PV) system on the CFS3, Park Caretakers and Net Shed buildings.

The FTZ is working in conjunction with DOT-Airports to procure and install a one megawatt (MW) PV solar system on the roof of the five acre facility. The project will allow the FTZ reduce its energy costs to zero for a twenty (20) year period.

The Natural Energy Laboratory of Hawai'i Authority (NELHA), in conjunction with the National Renewable Energy Laboratory (NREL), is pursuing the development

and installation of PV and a microgrid. Act 157 allows NELHA to generate, move about, and convey to adjacent properties electrical energy.

BioEnergy Hawai'i's planned 8.9 MW waste-to-energy generating plant at NELHA will cover all electrical requirements at NELHA as well as those of the airport.

The DOE's Washington Middle School, Kawananakoa Middle School, Wheeler Middle School, and Konawaena Middle School, have all been recipients of small 22kw PV systems installed at their schools through a cooperative venture with electric companies.

DHHL's Land Management Division recently entered into a partnership with Keahole Solar Power to lease land in Kalaeloa, O'ahu for the largest Micro-scaled Concentrating Solar Power project in the State of Hawai'i. The Kalaeloa Solar One project will produce 5 MW of renewable energy for the island of O'ahu.

DAGS installed a 200 kilowatt (kW) photovoltaic system for the Kalanimoku Building. Over 20 years the 200 kW of PV solar capacity will produce an estimated 5,377,911 kWh, the equivalent of powering 726 residences in Hawai'i for one year. It would also offset 9,233,873 lbs of C02, which is the equal to taking 767 cars off the road for one year.

Transportation

Not all state agencies have vehicle fleets. Those that do must comply with federal and state regulations relating to the purchase of efficient vehicles, and to purchase the most fuel-efficient vehicles that meet the needs of their programs.

State vehicles are already utilizing E-10 Unleaded gasoline, which contains 10% ethanol. State law requires its sale. Many state vehicles are also flexible-fuel capable, and are capable of using higher percentages of ethanol if they become available. UH has a small fleet of alternatively-fueled and hybrid vehicles.

The state is developing a pricing preference for biodiesel, and several agencies are prepared to use it. Currently, supplies of locally-produced biodiesel are very limited.

Act 156, signed into law in 2009, requires all state and county agencies, when purchasing new vehicles, to seek vehicles with reduced dependence on petroleum-based fuels that meet the needs of the agency. The act provides a priority list with highest priority going to electric or plug-in hybrid electric vehicles, then hydrogen or fuel cell vehicles, other alternative fuel vehicles, hybrid electric vehicles, and vehicles identified by the US EPA as "Fuel Economy Leaders."

NELHA uses solar powered golf carts.

Purchasing Practices

Most departments already utilize life-cycle cost analyses, purchase efficient equipment (such as those with the ENERGY STAR® label), and take advantage of utility rebates. DAGS already requires the projects which it manages to use highly efficient mechanical equipment. Utility rebates have typically been used to help offset the cost of purchasing and installing energy-efficient equipment.

The State Procurement Office (SPO) continues to provide price and vendor listings, which include ENERGY STAR®, recycled, or environmentally preferred products. For products and supplies not included on the SPO price lists, purchasing agencies are still required to preferentially order recycled products, oil products with greater recycled content, and biofuels.

DBEDT, in cooperation with the SPO and the U.S. Environmental Protection Agency (EPA), hosted training sessions on green purchasing and environmentally preferable products. These trainings were open to any state or county employee.

DBEDT applied for U.S. EPA Pollution Prevention (P2) funding to establish a green workforce development program that will expand DBEDT's existing Hawai'i Green Business Program and Green Government Challenge, two programs designed to help businesses and government agencies green their operations through environmentally preferable purchasing.

Information on recycled and environmentally preferable products (EPP) has been prepared by DBEDT and is available to state agencies. This includes lists of EPP available in Hawai'i, a case study of successful EPP efforts, an evaluation of procurement practices, and recommendations for specifications and bid requests to address EPP concerns.

An annual survey designed to track the environmentally preferable purchasing practices of state agencies is coordinated by the Department of Health's (DOH) Office of Solid Waste Management. The results show that state agency EPP in 2010 lead to greenhouse gas (GHG) savings equivalent to removing approximately 111 passenger vehicles from roadways for one year and energy savings equal to conserving about 20,389 gallons of gasoline in a year.

Plans for Future LBE Activities

Continued Efficiency Efforts

Continued improvements in efficiency and the use of renewable energy in state facilities are expected. Building on the solid foundation of assessments, training, benchmarking, energy performance contracts, and other activities undertaken in the past several decades, the administration will maintain its focus on modifying agency operations to improve efficiency. Gathering and assessing data, training staff, developing additional reference materials, enhancing inter-agency communications, identifying needs for additional skills and tools, and setting efficiency targets are all on the LBE agenda.

Need for Adequate Implementation Resources

State agencies are committed to the LBE effort, but future results depend on securing adequate implementation resources. Funds for capital improvements, maintenance, and retrofits must be appropriated for energy efficiency and renewable energy goals to be reached. High-priority projects include lighting, LEED commissioning, window tints and energy management controls, and renewable energy installations.

Agency Goals and Plans

As part of the LBE initiative, state agencies have clarified and prioritized their plans for future energy improvements. These plans include new construction, as well as retrofits and repairs. LBE Working Groups will be addressing the following tasks:

1) Data Collection:

- Develop a standardized data collection system to establish and refine baselines for various target areas: buildings, transportation, environmental practices and procurement.
- Develop standardized documents/formats for various data requirements.
- Train personnel to use the data tools; collect data for the various target areas.

2) Training and Education Activities:

- Conduct training/education for the various Working Group members (e.g., speakers, selected discussion topics, inter-Working Group meetings to promote information/idea exchanges.)
- Develop an education/promotional campaign for state personnel to implement and practice increased efficiency.
- Continue technical training and education efforts to support LBE.

3) Technical Assistance:

- Develop LEED projects and identify pilot projects.
- Develop commissioning and retro-commissioning projects.
- Conduct building assessments, including walk-through audits.
- Identify and certify ENERGY STAR® state buildings.

4) Evaluation:

- Continue assessment and discussion process to identify future tasks, such as development of evaluation criteria, data requirements, and training needs.
- Develop evaluation tools, quantitative and qualitative, such as conducting postoccupancy evaluations (objective and subjective) of LEED Silver Buildings or buildings with selected technology installations for energy efficiency improvements.
- 5) Policy Review and Recommendations:
 - Continue discussion on energy-efficiency-only budget requests to improve the request process and information provided.
 - Continue examination of potential policy recommendations from the Leadership Group, Buildings Working Group, Transportation Working Group, and the Environmental Practices and Procurement Working Group.

Individual Agency Responses

A compilation of the responses from most State of Hawai'i executive agencies may be found in the following section. Agencies were asked to report on their specific activities relating to Act 96 and Act 160, SLH 2006. Selected details from specific responses, such as vehicle fleet data, are attached as appendices.

DBEDT issued invitations to participate in this compiled report to all state executive branch departments, including attached agencies.

The following agencies did not respond, nor did they provide statutorily required data:

DOT-Hwy: Department of Transportation Highways HPHA: Hawai'i Public Housing Authority

The departments and offices which did respond include:

AG: Department of the Attorney General B&F: Department of Budget and Finance DAGS: Department of Accounting and General Services DBEDT: Department of Business, Economic Development & Tourism DCCA: Department of Commerce and Consumer Affairs DHHL: Department of Hawai'ian Home Lands DHRD: Department of Human Resource Development DHS: Department of Human Services DLIR: Department of Labor and Industrial Relations DLNR: Department of Land and Natural Resources DOA: Department of Agriculture DOD: Department of Defense DOE: Department of Education DOH: Department of Health DOT-Airports: Department of Transportation, Airports Division DOT-Harbors: Department of Transportation, Harbors Division DOTAX: Department of Taxation FTZ: Foreign Trade Zone HCDA: Hawai'i Community Development Agency HHFDC: Hawai'i Housing Finance and Development Corporation HHSC: Hawai'i Health Systems Corporation HSPLS: Hawai'i State Public Library System HTA-CC: Hawai'i Tourism Authority, Convention Center NELHA: Natural Energy Laboratory of Hawai'i Authority PSD: Department of Public Safety UH: University of Hawai'i system

Consolidated LBE Reports from State of Hawai'i Executive Agencies Fiscal Year 2009-2010 Relating to the Statutory Requirements of Act 96 and Act 160 of 2006

Act 96 SLH 2006: Buildings and Facilities

(1) Design and construct buildings meeting the Leadership in Energy and Environmental Design silver or two green globes rating system or another comparable state-approved, nationally recognized, and consensus-based guideline, standard, or system, except when the guideline, standard, or system interferes or conflicts with the use of the building or facility as an emergency shelter.

The following agencies did not reply to this section: DOT-Highways, HPHA

This section does not apply to the following agencies: AG, DCCA, DHRD, DOA, DOH, FTZ, HCDA, HTA-CC

This section does not apply to the following agencies because DAGS manages their facilities: B&F, DOTAX

DAGS: <u>Assessment</u>:

The Division of Public Works (PWD) already implemented and constructed a pilot project, Waipahu Intermediate School Cafeteria, which received a LEED Certified rating. Construction of this project was completed under the DOE due to Act 51. However, staffs from the Division of Public Works were actively involved in project.

DAGS has already gained experience and learned from the Waipahu Intermediate School Cafeteria project, including just becoming more familiar with LEED or sustainable design. Now, the department has at least one source to identify potential cost impacts from this pilot project.

The project only sought a LEED Certified rating due to budget constraints and to some degree the type of facility, which may not allow or provide for enough points in the LEED rating system without being unreasonable in the design and associated costs.

The PWD currently is working on four designated projects to achieve a LEED Silver rating. The four projects are:

- 1. <u>Mānoa Public Library Expansion and Site Improvements, DAGS Job No. 12-36-6364</u> This project has been bid and a construction contract in the amount of \$8,159,000 has been awarded. The project's building permit approvals were delayed, but finally approved in July 2009 and construction is scheduled to start in November 2009 and be completed in 2010.
- <u>New Kohala Public Library, DAGS Job No. 11-36-6367</u> This project has been bid and a construction contract in the amount of \$6,895,900 has been awarded. The project started construction in March 2009 and is scheduled to be completed in early to mid-2010.

- 3. <u>Keaukaha Military Reservation Joint Military Center, Phase 1, DAGS Job No. 21-14-7292</u> This is a design-build project which received design-build proposals on April 10, 2008. An award in the amount of \$50,768,000 to Nan, Inc. was made on June 10, 2008 and the notice to proceed was issued on August 11, 2008. The project has completed the design phase of the contract and started the construction phase in May 2009. Construction is scheduled to be completed in early 2011.
- 4. <u>Maui Regional Public Safety Complex, DAGS Job No. 15-27-5562</u> This project is currently under design. Initially the project was planned to be accomplished in two phases, with Phase 1 estimated at approximately \$50 million and Phase 2 estimated at over \$150 million. The project now will be designed and constructed in one phase and the estimated cost is approximately \$234 million.

STRATEGY:

The previously described projects are part of DAGS' developing long term strategy. For the immediate strategy, the Division of Public Works will implement projects in accordance with Act 96, SLH 2006 "to the extent possible."

PWD's general strategy in defining and applying "to the extent possible" is to take the following steps:

1st level: Look for and implement sustainable design practices and elements that PWD does already, thus no impact on operation/function and cost.
2nd level: Look for and implement sustainable design practices and elements that PWD may not have normally done, but can do without negative impact to cost and negative impact to operation/function of the facility.
3rd level: Look for and <u>possibly</u> implement sustainable design practices and elements that PWD may not currently do that are not very costly and improve operation/function of the facility. Associated costs, benefits, budget and maybe even schedule will start to become factors in deciding whether to implement.
4th level: Look for and <u>possibly</u> implement requirements that PWD may not currently do and will impact cost and will improve operation/function of the facility. Associated

will impact cost and will improve operation/function of the facility. Associated costs, benefits, budget and schedule will be factors in deciding whether to implement.

Part of the strategy also includes knowing what not to do:

PWD shouldn't implement sustainable design practices and elements that do not offer any real value. PWD does not want to implement sustainable design requirements to get LEED points just to achieve a rating that does not provide a real value even if the project budget would allow it.

As PWD gains the experience and knowledge from the projects that will occur over the year, PWD intends to develop a LEED or generically stated, Sustainable Design and Commissioning application guideline and programmatic support for PWD and possibly other State agencies.

DAGS has retro-commissioned thirteen (13) state buildings up to the investigation phase, assisted on an additional two (2) judiciary buildings, and are in the process of retro-commissioning fiftyone (51) public libraries. Five (5) buildings (Kapolei Judiciary Complex, Kohala Public Library, Keaukaha Military Reservation–Joint Military Center, Manoa Public Library, and Waipahu Intermediate School Cafeteria) are being retro-commissioned as part of LEED projects.

DBEDT: DBEDT does not design and construct buildings. However, DBEDT has been active in promoting green building, offering LEED training and technical assistance for LEED projects to other state agencies and the public sector, and the adoption of energy efficient building codes.

On behalf of the State of Hawai'i, DBEDT renewed its membership with the US Green Building Council (USGBC). DBEDT co-sponsored a variety of LEED-related training sessions, from onehour brown bag seminars at the AIA-Honolulu to full-day workshops co-sponsored by the USGBC Hawai'i Chapter on LEED Green Building Design & Construction and LEED Green Building Operations & Maintenance and continues to serve on the USGBC Hawai'i Chapter's Education and Green Schools Committees. DBEDT has helped coordinate and co-sponsor LEED workshops to prepare state personnel and others to take the Green Building Certification Institute's (GBCI) Green Associate and other accredited professional (AP) examinations to become LEED Green Associates and LEED APs. As a result, there are currently 20 LEED APs among the state personnel compared to only one in 2005.

Green Building Services, under a Green Building Technical Assistance Contract with DBEDT/SID, presented to State of Hawai'i agency representatives a LEED for Existing Building Operations and Maintenance (LEED EB O&M) Volume Certification Education Program Manual for State facilities. The LEED EB O&M Manual indicates how and what tools to use to measure and track progress toward the State of Hawai'i achieving LEED EB O&M Silver rating in their existing facilities.

DBEDT also sponsored and coordinated a two-day LEED Version 3 and LEED EB O&M Training Program and Building Assessment for state agency representatives. The speakers and topics were well-received by over forty (40) representatives from five (5) agencies. Trainees received a binder/training manual and discussed their progress toward achieving LEED silver. The group discussed opportunities and challenges for future capital improvements and policy development to support greener and more energy efficient facilities.

Green building and LEED-related documentation and technical assistance was provided through Green Building Services, consultant to the State of Hawai'i and DOT-Airports, for a LEED Commercial Interior Lounge Project at Honolulu International Airport. This project is targeting LEED-Commercial Interior (LEED-CI) Silver level and will be complete by the end of 2010. This will be the State of Hawai'i's first LEED-CI Silver level and DOT-Airports project.

DBEDT participated in monthly meetings for the AIA-Honolulu's Committee on the Environment and the Urban Land Institute's Sustainability Committee and was also invited to be co-Chair of the General Contractors' Association of Hawai'i's new Sustainable Construction and Renewable Energy (SCRE) Committee. Through participation in these committees and networks, DBEDT was able to develop additional LEED- and green building related educational opportunities for both public and private sector participants to raise the bar in educating project managers and consultants as well as building owners, managers, and facilities managers in the value of green building.

DBEDT also received SEP ARRA funding in support of developing additional green building technical assistance to continue the work initiated under the previous state general funded contracts outlined above. DBEDT/SID issued RFPs and selected contractors to assist the State of

Hawai'i in both energy efficiency and green building technical assistance projects in state facilities.

DBEDT staff provided testimony at the Land Use Commission hearings in support of a LEED Silver level requirement for new large scale residential and mixed use developments on O'ahu, Maui and the Big Island that requested a land use reclassification from agriculture to urban. This was in support of the State of Hawai'i Clean Energy Initiative (HCEI) and the goal to achieve 70% clean energy by 2030.

DBEDT helped with the adoption of a statewide building energy code based on the International Energy Conservation Code (IECC) 2006, adopted in June 2010. Hawai'i-specific amendments included the more stringent IECC 2009 building commissioning requirements and including non-conditioned building and homes. It is estimated that the amendments rendered Hawai'i's IECC 2006 more stringent than the model code by an improved efficiency of 15%. DBEDT also assisted with adoption of county building energy codes. IECC 2006 was adopted by Maui County in October 2009, Hawai'i County in October 2010, and the City and County of Honolulu in November 2009. Kaua'i County adopted IECC 2009 in May 2010.

DHHL: The Land Development Division started several projects this year with the BuiltGreen and ENERGY STAR® program.

- The 403-unit Kanehili Subdivision in East Kapolei has the following: solar water heating with a HECO approved 120 gallon water heater with automatic timer; 16 SEER air conditioner; a programmable humidistat to control humidity in the home for maximum energy savings; lcynene open cell spray foam insulation in the attic and R-11 insulation in the exterior walls which protects the entire home from outside noise, air infiltration, dust pollens, and allergens; dual glazed/low E high performance vinyl windows offering extreme durability and superior UNV protection; a compact fluorescent system providing a longer bulb life span, lower operating costs, and lower temperature output; dual flush toilets; ENERGY STAR® rated appliances complement the energy savings program. Phase 1 of this project is currently in construction, with approximately 30+ families already moved in.
- 2. A DHHL Sustainable Community, Ka'ūpuni Village, is nearing completion. This project consists of 19 affordable, net zero energy homes on 3.3 acres of land in Wai'anae, O'ahu. The project will include a number of green building features throughout the residences and community center. Among them are photo voltaic systems, efficient water and electrical fixtures, natural day lighting, ENERGY STAR® appliances, low e dual glaze windows and ceilings, green building materials and resources, recycling centers, community gardens and aquaculture.
- 3. The Kumuhau Subdivision is a LEED Silver project that will contain notable green features, which are standard in all homes. These features include solar water heaters, rainwater catchment systems, and solar photovoltaic panels. 45 native Hawai'ian families were awarded single family lots for this subdivision earlier this year.
- 4. In accordance with the American Recovery and Reinvestment Act (ARRA), DHHL was awarded \$10.2 million dollars to be used for infrastructure development and house construction for native Hawai'ian families that are eligible to reside on Hawai'ian home lands and whose total household income is below 80% of area median income level. Approximately 60% of the ARRA funds received were used for these eligible activities in Ka'ūpuni Village and approximately 40% of these funds were used for eligible activities in East Kapolei II.
- 5. All future home developments will focus on being energy efficient.

The Land Management Division (LMD) continues to encourage general lessees and licensees to plan and design their facilities to meet the same energy efficient programs. DHHL-LMD recently entered into a partnership with Keahole Solar Power to lease land in Kalaeloa, O'ahu for the largest Micro-scaled Concentrating Solar Power project in the State of Hawai'i. The Kalaeloa Solar One project will produce 5 megawatts of renewable energy for the island of O'ahu. The Kalaeloa Solar One's MicroCSP technology uses mirrored reflectors and optics to intensify solar energy, which in turn increases the system's energy efficiency. The solar panels track the sun throughout the day which increases the amount of energy the system produces annually and the system includes thermal storage which enables energy to be produced during cloudy conditions or at night.

The Hawai'ian Homes Commission has adopted DHHL's Ho'omaluo Energy Policy in January 2009. This policy enable native Hawai'ians and the broader community working together to lead Hawai'i's effort to achieve energy self-sufficiency and sustainability.

DHS: The Department of Human Services (DHS) will continue to coordinate all building and facility projects with the Department of Accounting and General Services (DAGS) to ensure that all construction and repairs and alterations projects are in compliance with the applicable standards and guidelines.

DLIR: The Department of Labor and Industrial Relations (DLIR) does not own or manage any buildings. The majority of DLIR personnel are housed in building facilities constructed and managed by the Department of Accounting and General Services (DAGS). The remaining DLIR personnel are out-stationed in privately-owned buildings. The DAGS Leasing Branch secures all rental lease agreements for DLIR occupants housed in privately-owned buildings. In addition, the DLIR does not have any plans to design or construct new buildings or facilities at this time.

The DLIR will continue to learn about energy efficiency and environmental designs. As DLIR staff gains more knowledge in energy efficiency and environmental designs, appropriate steps will be taken to incorporate these standards into ours. The DLIR will work with the appropriate DAGS divisions to incorporate energy efficiency measures to reduce energy consumption.

DLNR: DLNR's facility portfolio is limited. Most buildings owned by DLNR are composed of base yards, harbor facilities, and park restrooms. DLNR incorporates energy saving concepts into all of its owned facilities as appropriate. Energy saving concepts includes the use of solar water heaters, natural ventilation and lighting, use of energy efficient lights, and water savings using waterless urinals or low flush toilets. Additionally, DLNR has begun to incorporate energy savings practices into design projects such as recycling existing asphalt and concrete pavement into backfill material. DLNR evaluates the feasibility of implementing energy conservation measures when capital improvement projects are designed. As DLNR staffs learn more about energy efficiency and environmental design, they will incorporate these concepts into building and facility design and renovations.

DLNR continues to work with the Department of Business, Economic Development, and Tourism (DBEDT) in a statewide collaboration on energy efficiency, as a member of DBEDT's Lead by Example Leadership Group. DLNR will continue to work with the Leadership Group on ideas to implement energy savings across the state. As department staff learns more about such initiatives, they will incorporate such guidelines into DLNR standards.

DOD: The Hawai'i Army National Guard follow federal military construction mandates, key energy directives include:

- EPAct05
- Executive Order 13423
- EISA07
- Executive Order 13514

All new building construction is to meet or exceed LEED Silver standards.

DOE: The Department of Education (DOE) now designs all new buildings or facilities to meet the LEED silver standard. In addition, all architectural and engineering consultants who prepare the design specifications are required to have a LEED certified AP on their project team. 'Ewa Makai Middle School, which is now under construction, will be the first new DOE school to seek formal LEED Silver certification. Other on-going designs that adhere to LEED Silver or better standards include the Wailuku Elementary II and Kīhei High School.

During the past fiscal year, the Department has initiated a number of significant projects valued between \$7-\$10 million dollars that are designed to LEED standards. These include a new gymnasium under construction for Pahoa High School; new classroom buildings at Na'ālehu Elementary, Kea'au Middle School, and Campbell High School; a new administration building for Kalāheo Elementary; and finally, a new library for Baldwin High School and a new cafeteria for Lahainaluna High School, both of which are presently in the bidding process.

Although not specifically covered by Act 96, the DOE is moving toward the application of LEED standards to enhance sustainability and user comfort for major renovation and upgrade projects in existing buildings. These efforts include: (1) requirement for all new portable classrooms to comply with guidelines set by the California High Performing Schools (CHPS) program; (2) installation of "cool roofs" through the use of various coating and reflective materials, whenever roof repairs and replacement occurs; and (3) installation of solar powered lights in parking lots, solar powered night security lights on building exteriors and walkways, and solar powered attic fans in teacher housing units. The DOE has also begun to implement web-based controls for air conditioning systems to allow for centralized control of these systems, which lead to a higher efficiency, while lowering user intervention. Proven technologies such as desiccant wheels that remove moisture from air condition spaces more efficiently are being deployed with chilled water systems or separately to supplement packaged air conditioning systems. Solar tubes have been retrofitted for some classroom spaces in an effort to reduce lighting loads and to bring more natural daylight promoting student performance.

DOT-Harbors: DOT-Harbors trains staff on LEED methodology, requires design consultants and construction contractors to be knowledgeable of and able to comply with Act 96 SLH 2006, ensures that all designs for new construction meet LEED silver certification and develop program milestones to encourage 100% implementation over a period of time.

HHFDC: HHFDC staff has continued to attend Webinar training and informational seminars sponsored by BIA, BOMA CAI, & IREM to gain knowledge about Sustainability, ENERGY STAR®, & LEED qualifications for existing buildings. HHFDC also subscribes to Building Energy Performance News online at (<u>building_energy_performance@bepinfo.com</u>) as a daily input of sustainability news from around the globe.

HHSC:

- Hilo Medical Center (HMC) For all new construction HMC will assess the cost of LEED building criteria. If the cost of LEED building design exceeds the budget of the project, the project will incorporate as many energy conservation measures (ECMs) as possible. For long range planning, HMC will include LEED design costs whenever possible.
- Kona Community Hospital Any further building expansion or remodels will use the LEED concept.
- **Samuel Mahelona Memorial Hospital** Requested funds for the master planning of the overall facility.
- **O'ahu Region** For all new construction, the O'ahu Region of HHSC will assess the cost of LEED building criteria. If the cost for LEED design exceeds the budget of the project, then the project will incorporate as many energy conservation measures as possible. For long range planning, the O'ahu Region will try to include LEED design costs whenever possible.
- West Kaua'i Medical Center Requested funds for the master planning of the overall facility.

HSPLS: The construction of the new Mānoa Public Library is ongoing since the ending of 2009. In spite of the many delays due to permitting, weather, sub-contractor issues, etc. the construction should be completed by mid-2011 with the grand opening to follow before the end of 2011. The construction contract of \$8,159,000 was awarded to Allied Pacific Builders, Inc. and the project will achieve at least the LEED Silver rating.

The Construction of the new North Kohala Public Library is almost complete and the grand opening is planned to the public before the end of this year, 2010. The construction contract of \$6,895,900 was awarded to Isemoto Contracting Co., Ltd. and the project should achieve the LEED Gold rating. It is currently two points plus into the LEED Platinum rating.

NELHA: NELHA is home to a LEEDS Platinum-rated building, the recipient of numerous international and national awards for its greenness. Study groups from around the world visit it to gain knowledge and understanding of how they can implement green technologies as exemplified by this building into their designs. As yet, no Hawai'ian groups come to see or visit for the same purpose except for a few very small ones led by the original architects. NELHA has not built any buildings since Gateway. The Gateway Center hosted over 4,000 visitors in fiscal 2010, who visited to learn more about green energy and NELHA.

PSD: Department of Public Safety (PSD) and Department of Accounting and General Services (DAGS) are currently in the process of designing a 300,000 square-foot replacement complex for the Maui Community Correctional Center to meet LEED-Silver guidelines. Additionally, PSD and DAGS are providing directions to design consultants involved with major repair and alteration projects to seek operating systems improvements that meet or exceed model energy code requirements.

UH: ASSESSMENT:

- UH Mānoa Campus Center Renovation and Addition currently under design with goal for LEED Silver.
- UH Mānoa Gartley Hall Renovation currently under design with goal for LEED Silver.
- UH Mānoa New Classroom Building currently under planning with goal for LEED Silver.
- UH West O'ahu New campus development in Kapolei currently under design; and registered as a LEED project with the USGBC with goal for LEED Silver.
- UH Hilo Student Life Center has been completed; and LEED Gold pending USGBC approval.

- UH Hilo Hawai'ian Language Building currently under design with goal for LEED Silver.
- UH Hilo Sciences and Technology Building currently under construction with goal for LEED Silver.
- UH Hilo Student Services Building Addition and Renovation currently under design with goal for LEED Silver.
- UH Hilo College of Pharmacy
- Hawai'i CC UH Center at West Hawai'i
- Maui CC Science Facility currently under design with goal for LEED Silver; but with possibility to achieve LEED Gold.
- Kapi'olani CC Culinary Institute of the Pacific facilities at the former Cannon Club site along Diamond Head currently under design with the goal of LEED Silver.
- Leeward CC Education and Innovation Instructional Facility currently under design with goal for LEED Silver.
- Windward CC Library and Learning Center facility currently under design with goal for LEED Silver.
- Honolulu CC Advanced Technology Training Center funded for design with a goal for LEED Silver.
- Systemwide Information Technology Center currently under design with goal for LEED Silver.

STRATEGY:

The University of Hawai'i will continue to apply the LEED rating system in all Capital Improvement Program new and major renovation projects. Sustainability guidelines are being included in the development for all campus long range development plans and project development reports. In general the goal is for LEED Silver rating certification and if the goal cannot be attained due to budget constraints, other sustainable design principles will be incorporated into the new or major renovation projects.

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(2) Incorporate energy-efficiency measures to prevent heat gain in residential facilities up to three stories in height to provide R-19 or equivalent on roofs, R-ll or equivalent in walls, and high-performance windows to minimize heat gain and, if air conditioned, minimize cool air loss. R-value is the constant time rate resistance to heat flow through a unit area of a body induced by a unit temperature difference between the surfaces. R-values measure the thermal resistance of building envelope components such as roof and walls. The higher the R-value, the greater the resistance to heat flow. Where possible, buildings shall be oriented to maximize natural ventilation and day-lighting without heat gain and to optimize solar for water heating. This provision shall apply to new residential facilities built using any portion of state funds or located on state lands.

The following agencies did not reply to this section: DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies: B&F, DHRD, DLNR, DOA, DOH, DOT-Harbors, FTZ, HCDA, HSPLS, HTA-CC, NELHA

This section does not apply to the following agencies because DAGS manages their facilities: AG, DCCA, DLIR, DOTAX

DAGS: The PWD very rarely will be involved in residential facilities, however energyefficiency measures to prevent heat gain can apply to any facility. These measures are already taken into design consideration when applicable.

STRATEGY

The strategy for PWD on these measures is finding ways to improve, starting just simply by being more aware of these energy-efficiency measures, doing better review of designs, and considering new products and technologies.

DBEDT: DBEDT was involved with a number of activities that sought to incorporate energy efficiency measures in facilities statewide.

With support from National Governor's Association (NGA), State of Hawai'i representatives from DBEDT and the Department of Hawai'ian Home Lands (DHHL) traveled to Alexandria, Virginia in January 2010 and to Racine, Wisconsin, in July 2010, to participate in the 2010 Energy Policy Academy on Building Efficiency Retrofit Programs with representatives from other states. The State of Hawai'i's delegates discussed energy efficient building retrofit programs such as the State of Hawai'i's Energy Action Plan and projects in support of improving energy efficiency in new and existing state facilities, increasing the use of renewable energy technologies for state facilities, and the State of Hawai'i's "Lead By Example" program to help meet the goals of HCEI. Using the following strategies supported by the NGA, the State of Hawai'i focused on the following:

- Working with state agencies to promote and support Energy Savings Performance Contracting and Power Purchase Agreements.
- Working with workforce development groups to establish a training program for energy audits, efficiency, and retrofitting residential and commercial units
- Working with the financial sector and the counties in the State of Hawai'i to develop new financing models to support energy efficiency retrofits and renewable energy installations

As mentioned above, DBEDT staff provided testimony at the State of Hawai'i's Land Use Commission hearings in support of not only a LEED Silver level, but also an ENERGY STAR® requirement (which includes the use of energy efficiency measures such as insulation, cool roofs, high performance windows and solar hot water) for new large scale residential and mixed use developments on O'ahu, Maui and the Big Island that requested a land use reclassification from agriculture to urban.

DBEDT coordinated the annual Build & Buy Green Conference & Expo at the Hawai'i Convention Center, held in May 2010, which was attended by approximately 300 participants and 50 exhibitors, including 73 from state agencies. Topics included greening affordable housing, green schools, green campuses, greening existing facilities, (including many that are and will be LEED certified, silver, gold and platinum levels) as well as net-zero energy homes and green and net-zero energy communities. The HCEI and related policies and projects were presented during a track of breakout sessions during the conference. DBEDT underwrote the costs for state employees to attend.

DBEDT staff also presented a description of Hawai'i's rapid energy code progress at the 2010 Energy Codes Workshop, sponsored by the US Department of Energy, in Charlotte, North Carolina. Staff held 11 meetings of the International Energy Conservation Code Subcommittee of the Hawai'i State Building Code Council. The Subcommittee successfully recommended passage of the amended IECC 2006, which was adopted by the State, Maui, Honolulu and Hawai'i Counties. Kaua'i County adopted IECC 2009. The amendments crafted by the Committee render Hawai'i's code more stringent than the model code. The Subcommittee also amended IECC 2009, which was made more stringent than the model IECC 2009 by including provisions from IECC 2012. Staff arranged for an International Codes Council engineer to train County plan checkers and building inspectors on IECC 2006 provisions. Staff also delivered presentations on IECC 2006 to several building design associations.

DBEDT sends out notices and incentives to the various Lead By Example Working Groups to invite them to attend training and education opportunities such as for LEED, ENERGY STAR®, Build and Buy Green, and Rebuild Hawai'i Consortium meetings.

DHHL: DHHL will continue to promote, design, and build new affordable homes using the green technologies to ensure building of new energy and resource efficient homes in Hawai'i.

DHS: As applicable, DHS will continue to coordinate these activities with DAGS to effect energy efficient measures.

DOD: Educating design personnel and A&E teams to include insulatory component to roof repair projects. Currently planning a pilot building with foam insulation, to include data loggers to measure & verify (Bldg 306, Ft. Ruger). Reviewing ENERGY STAR® windows, main concerns are that many HI-ARNG buildings are on State Historic Preservation Office (SHPO) list. Two daylighting projects are planned for construction in FY11 (Wahiawā Armory and Bldg 117, Kalaeloa)

DOE: The DOE designs all roofs on new facilities to meet the R-19 or equivalent insulation standard. The DOE also installs additional insulation when re-roofing older roofs to meet the R-19 standard or equivalent insulation standard where feasible. New schools are designed to meet LEED Silver standards and combine the use of insulation with proper building orientation to maximize natural ventilation, day light use, and solar water heating applications as appropriate.

The DOE designs all new schools and facilities to meet the R-11 or equivalent insulation standard but does not retrofit walls of existing buildings unless there is a clear cost benefit or requirement for the health and safety of occupants. However, facilities with large air conditioning systems that serve multiple classrooms are being retrofitted through insulation and energy efficient windows to minimize heat gain and cool air loss where feasible.

In addition, the DOE has begun a number of pilot projects to look into the feasibility of various heat abatement strategies other than air conditioning. These efforts include a heat abatement project at 'Ewa Beach Elementary School which has just completed construction and a heat abatement pilot project at Kahuku High School that is presently under construction. These projects have taken advantage of various heat reduction strategies to lower operating costs, while increasing comfort levels. Specific strategies deploy the use of ceiling fans, heat reflective paint, cool roofs, insulation, thermal walls, landscaping, solar light tubes, larger window spaces, etc. Appropriate heat related measurements will be taken and once analysis of these pilot projects is completed, the DOE will have a better idea of which combination of applications would be most beneficial to address those situations where heat reduction is a significant and immediate concern.

HHFDC: HHFDC has three high rise buildings: Recently, two buildings, Pohulani Elderly in 2008/2009, and Kamake'e Vista in 2009/2010, have undergone some major renovations with the roof top covering system being replace on both buildings. Three factors were applied when designing the jobs.

1.) A new foam board, cut for slope, was applied as the base for the single ply membrane. This also added an additional insulation barrier reducing radiant heat transfer into the top floor apartments.

2.) The color was changed from a light gray to a highly reflective white.

3.) Exterior wall surface colors were changed to a lighter color than previously installed in an effort to be more reflective, thus reducing heat absorption.

HHFDC's third building Kauhale Kaka`ako is being evaluated and scheduled for is renovation in the near future with the same roof top membrane replacement. Maximizing the R-Factor of the structural form base will be a strong evaluation point when releasing the design specification.

During the renovations at the Kamake'e Vista a new HVAC plant was installed with a heat recovery system to heat the hot water for the laundry facility that accommodates the two hundred twenty six (226) residential units.

HHSC:

- **Hilo Medical Center (HMC)** When renovations to existing facilities are planned, HMC will incorporate energy efficiency measures to prevent heat gain, where applicable.
- Kona Community Hospital In budget year 2011 roofing will be replaced with Firestone TPO product. The roofing being replaced will be over the emergency room, operating room and admitting areas. The Firestone TPO product meets these guidelines.
- **Samuel Mahelona Memorial Hospital** The facility will be incorporating the value R-19 when it starts the re-roofing next year.
- **O'ahu Region** When any renovations to existing residential facilities are planned, the O'ahu Region will incorporate energy efficiency measures to prevent heat gain whenever possible.
- West Kaua'i Medical Center The facility will be incorporating the value R-19 when it starts the re-roofing next year.

PSD: PSD is focused on initiating "investment-grade" surveys throughout its correctional system. Additionally, it intends to build an Energy Savings Management (Information System) and will collect, analyze and report specifics of energy savings over the upcoming years.

UH: ASSESSMENT:

- UH Mānoa Existing resident halls are not air-conditioned. The new Frear Resident Housing includes air-conditioning with individual unit controls to minimize energy consumption.
- UH Hilo Existing resident halls are not air-conditioned.
- Maui CC Existing resident halls are not air-conditioned and are closed. Facilities to be repurposed.

STRATEGY:

The University of Hawai'i System will continue to apply the LEED rating system in all Capital Improvement Program new and major renovation projects. The design principles for energy-

efficiency measures to prevent heat gain will be incorporated into the building to the extent possible.

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(3) Install solar water heating systems where it is cost-effective, based on a comparative analysis to determine the cost-benefit of using a conventional water heating system or a solar water heating system. The analysis shall be based on the projected life cycle costs to purchase and operate the water heating system. If the life cycle analysis is positive, the facility shall incorporate solar water heating. If water heating entirely by solar is not cost-effective, the analysis shall evaluate the life cycle, cost-benefit of solar water heating for preheating water. If a multi-story building is centrally air conditioned, heat recovery shall be employed as the primary water heating system. Single family residential clients of the Department of Hawai'ian Home Lands and any agency or program that can take advantage of utility rebates shall be exempted from the requirements of this paragraph so they may continue to qualify for utility rebates for solar water heating.

The following agencies did not reply to this section: DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies: DCCA, DOH, DOT-Harbors, FTZ, HCDA, HSPLS

This section does not apply to the following agencies because DAGS manages their facilities: AG, B&F, DHRD, DOTAX

DAGS: <u>Assessment</u>

Typical DAGS managed State Office Buildings do not utilize enough hot water to make installation of solar water heating systems "cost-effective".

STRATEGY

The DAGS overall strategy is to continue encouraging our "clients (other State agencies that seek technical support and assistance from DAGS)" to consider using solar water heating systems in their projects, whenever feasible or advantageous to the State.

DBEDT: DBEDT does not design or construct any facilities, but continues to provide technical assistance to state agencies. This includes assistance on solar water heating, to entities such as the Department of Hawai'ian Home Lands (DHHL) on projects, such as work done through an MOU with DHHL for the use of ARRA funding to the State of Hawai'i to install solar water heaters in 400 DHHL homes.

DHHL: The State of Hawai'i received \$2.9 million in economic stimulus American Recovery and Reinvestment Act (ARRA) funds to provide DHHL lessees with energy efficiency retrofits to their homes to reduce energy consumption and costs. A minimum of 400 low-income DHHL lessees will be able to receive solar water heating systems and/or CFL light kits thru a partnership between the Department of Hawai'ian Home Lands (DHHL), the Department of Business Economic Development and Tourism (DBEDT), and the Department of Labor and Industrial Relations (DLIR).

The primary goal of this program is to reduce each household energy costs by 30% each year which equates to 5 barrels of oil per year. A second goal is to create or sustain about 32 jobs in the local clean energy industry. A third goal is to obtain comprehensive data on energy usage and cost savings on all participants of the program.

DHS: As applicable, DHS will continue to coordinate these activities with DAGS to maximize energy efficiency and cost effectiveness.

DLIR: An assessment of electricity usage was completed for seven of the DLIR offices that are not maintained by DAGS Central Services. The assessment of the seven offices covered the period July 1, 2005 through June 30, 2010. Based on our review, seven offices utilized a total of 1,674,758 kilowatt hours resulting in a total cost of \$554,744.65.

Based on the energy usage, the DLIR will plan to do the following:

1. DLIR will work with DAGS to insure that best energy saving practices are incorporated into reminder memoranda as required to address energy conservation.

2. DLIR will work with DAGS to incorporate some of the following energy saving measures:

- Replace AC air handlers with more efficient energy equipment models.
- Replace old toilets and sinks with low flow fixtures (toilets and sinks).
- Replace old lighting fixtures and ballast.
- Request that DAGS Leasing Branch conduct energy efficiency analyses in privatelyleased buildings and work with landlords to replace old toilets, sinks, air conditioners, and lights.
- Replace light switches with motion sensors.
- Replace paper towel dispensers with hand blowers.
- Purchase ENERGY STAR® efficient equipment.
- Request that DAGS install solar electrical panels on the building roof to utilize unused space while reducing the energy consumption.

3. The DLIR will work with DAGS on the replacement of the building air conditioner air handlers to insure that best energy saving practices are incorporated.

DOA: Very few HDOA facilities have a need for water heating systems, however, for certain appropriate retro-commissioning projects, HDOA will consider the cost-benefit of incorporating a solar water heating system.

DOD: In FY10, Solar Water Heating was installed at Bldg 300, Ft. Ruger. Many Armory buildings do not have enough usage to payback. Life Cycle Cost Analysis (LCCA) was done on a few buildings.

DOE: The DOE school cafeteria kitchens use gas water heaters and boilers. Gas water heating is economically more efficient than electric water heating, thus limiting opportunities. However, the DOE will start a pilot study to determine the life-cycle costs for solar water heating for a school cafeteria and/or locker rooms, either to replace gas water heating or to preheat water. Other water heating opportunities will be looked at, such as heat recovery from existing walk-in refrigeration compressors, both to preheat water and to increase efficiencies of the walk-in cooling.

HHFDC: At eight (8) of nine (9) affordable housing properties, tenants have direct individual billing from the respective electric supply companies. Still, it is important for the owners to gain the best advantages for the tenants. Presently, we have solar water heating systems installed on one project. All 200 affordable (townhouse) housing units at La`ilani Housing in the Kailua-Kona area of the Big Island are fitted with roof top mounted solar collectors coupled to individual apartment hot water heaters. The original installations are considered first generation types that have been in operations for nearly 20 years. Over the past several years failed units have been replaced with better quality, more efficient units, thus lowering the tenant's utility bill making their final total housing budget more affordable.

The five (5) remaining low rise apartment buildings on the Big Island (2), Maui (1), O'ahu (2) and two (2) high rise apartment buildings on O'ahu are being surveyed for hot water heating alternatives. Because of the initial monetary outlay, these projects, if approved, will be completed in phases. Because of space constraints, it has been determined that the best immediate solution is to insure that ENERGY STAR® replacement products are installed.

The one (1) remaining high rise building, Pohulani Elderly on O'ahu, is in the Request For Proposal (RFP) development stage for replacement of the commercial HVAC plant with a functional heat recovery system to preheat hot water for the residential apartments. At this time a remote control mechanism has been installed to limit the hours of operation on the HVAC that supplies State of Hawai'i office spaces.

Presently, the Pohulani Elderly Building has an open deck space on the third floor, on the south side of the building. HHFDC is continuing to evaluate the possible installation of a "Photovoltaic" system or a vertical wind turbine system. This would supplement the electrical power supply. The biggest limitation/restriction is enough open space.

HHSC:

- **Hilo Medical Center** When planning replacement projects that would fall under the criteria described above, HMC will install solar water heating if it is cost effective.
- Kona Community Hospital No future plans to install solar water heating.
- **O'ahu Region** The O'ahu Region shall evaluate the benefit of solar water heating for their facilities whenever improvements are planned or funded.
- Samuel Mahelona Memorial Hospital The facility has addressed this with on-demand hot water system for the long term care and is currently reviewing plans for the on demand hot water and steam for the kitchen facility.
- West Kaua'i Medical Center The facility has incorporated a co-generation plant to offset electrical and heating cost for the facility.

HTA-CC: HTA has reviewed with the Hawai'i Convention Center management its existing hot water systems to see if solar hot water could be added. Based on the limited frequency the hot water is needed and the large quantities that are needed on short notice during those periods of

time, solar hot water isn't practical for their application. There would be no cost savings, only added cost.

NELHA: NELHA installed solar water heating systems years ago and has also air-conditioned all of its buildings for many years using cold deep seawater. NELHA is the world leader in implementing this strategy. Current estimate is that for four relatively small buildings, the use of seawater air conditioning saves NELHA \$20,000 - \$25,000/ month in electricity expense.

NELHA and the Kona International Airport continue to be in discussion about NELHA providing the airport with "cold" when its new enclosed terminals are opened. Architects and engineers working on that project recognize the tremendous cost savings that can be had through use of this strategy. This vital project will save the state awesome amounts of money that otherwise will be spent buying electricity to air condition the airport, as seawater a/c has been shown to save 50% to 80% of the cost of conventional air conditioning.

PSD: PSD and DAGS have instructed the design team of the Maui Regional Public Safety Complex (MRPSC) to incorporate into the design the use of both solar and photovoltaic systems to significantly reduce overall utility expenditures. Moreover, with the incorporation of an ESM system to monitor energy consumption, PSD will be able to furnish, in great detail, the metrics of such actions on a timely basis.

UH: No new installation of hot water system.

STRATEGY:

The University of Hawai'i Systemwide will continue to apply the LEED rating system in all Capital Improvement Program new and major renovation projects. The design principles for solar water heating systems where it is cost effective will be incorporated into the building to the extent possible.

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(4) Implement water and energy efficiency practices in operations to reduce waste and increase conservation.

The following agencies did not reply to this section: DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies because DAGS manages their facilities: DOTAX

AG: All departmental staff have been provided tips on energy efficient practices and information on the benefits of energy efficiency. With the assistance of DAGS, signs have been posted to remind staff to turn off computers, lights, and other equipment when exiting. Water leaks are to be reported to the Administrative Services Office immediately, including sprinkler systems and outdoor faucets.

B&F: The Department encourages employees to initiate and implement energy efficient practices (i.e. turning off office lights when not in use or when leaving for the day, turning off computer terminals at the end of the day, distributing ENERGY STAR® saving tips, etc.). The Department stresses the importance of energy saving efforts initiated by DAGS and DBEDT.

DAGS: As funding has become available, the department has initiated various energy conservation/efficiency projects for DAGS facilities Statewide. The projects are in various stages of design and construction. These projects include: the replacement of aging air conditioning and elevator equipment; retrofitting with energy efficient electronic ballasts and super T-8 lamps; delamping; the installation of protective tinting on building windows to reduce heat gain; the installation of low-flow plumbing fixtures; and the installation of electric hand dryers. Some of these projects are in various stages and include:

- 1. De-lamping (removing fluorescent lamps while providing adequate lighting as recommended by industry standards). The work is complete with over 15,000 lamps removed.
- 2. Replacing 32W lamps with high efficiency 25W lamps. The work is complete with over 48,000 lamps replaced.
- 3. Replace existing 40W exit signs with 1W LED exit signs. The work is complete with over 1,000 signs replaced.
- 4. Modifying operating procedures to ensure lights in common areas are turned off at the end of the day.
- 5. Replacing existing urinals (minimum 1 gallon per flush) with ultra low flow urinals (1 pint per flush) which will provide 89% water savings. The work is complete with 222 urinals replaced.
- 6. Replacing existing faucets with low flow sensor faucets that only turn on when needed and reduce the water flow rate. The work is complete with over 570 faucets replaced.
- Replacing existing water closets (minimum 3 gallons per flush) with low flow water closets (1.3 gallons per flush). The work is complete with over 390 water closets replaced.
- 8. Installation of rain sensors to the irrigation systems at Ke'elikōlani, Hale 'Auhau, Kekūanūoa, Hawai'i State Library, ''Iolani Palace, State Capitol, No. 1 Capitol District, Leiopapa A. Kamehameha, and Eternal Flame. Submeters that measure the water usage for irrigation purposes have also been installed at Ke'elikōlani, Hale 'Auhau, Kekūanūoa, No. 1 Capitol District, Kinau Hale, Vineyard Parking Structure, Washington Place CSD Base Yard and Waipahu Civic Center.

Initiated in FY 2009, the contract for an Energy Savings Performance Project for 10 Facilities in the Capitol District, which includes the State Capitol, was executed. This project will provide over \$34 million worth of improvements and services with a guaranteed annual savings of at least \$3 million in utility and operating costs over a 20 year period.

Under an amendment to the ongoing Energy Savings Performance Contract, which was executed in July 2010 (using about \$3 million in awarded Federal "American Recovery and Reinvestment Act of 2009, Energy Efficiency and Conservation Block Grant" or ARRA-EECBG funds), DAGS had a photovoltaic (PV) system installed on the Kalanimoku Building roof.

In addition to DAGS facilities, DAGS Central Services Division and PWD has worked with the Hawai'i State Public Library System (HSPLS) in implementing energy efficiency practices. The status of projects being accomplished by DAGS for the HSPLS is:

- 1. Completed retrofitting with energy efficient electronic ballast and super T-8 lamps for libraries statewide;
- 2. Bid and currently awarding window tinting projects for certain libraries statewide;
- 3. Bid and currently awarding seven projects for the installation of PV systems at two libraries on Kaua'i, O'ahu, and Maui and one library on Hawai'i Island.
- 4. Begun to implement retro-commissioning at libraries statewide

DAGS, on behalf of the Department of Public Safety (PSD), has initiated an Energy Savings Performance Contract project for various PSD facilities.

DBEDT: DBEDT encourages water and energy efficient practices in operations through the Hawai'i Green Business Program, a statewide certification and recognition program for entities that are implementing programs to reduce energy, water and waste in their offices and building operations. The program uses checklists which also serve as a tool to guide entities toward greener office practices. Checklists have been created for hotels and resorts, offices and retail, restaurants and food service, as well as government entities. The program is jointly administered by DBEDT, the Department of Health (DOH), the City and County of Honolulu Recycling Office and Board of Water Supply. A significant portion of the certification programs are dedicated to water and energy efficiency as well as recycling and pollution prevention. This year, nine (9) hotels, three (3) restaurants, two (2) offices, and two (2) government agencies were recognized under the program. For more information on the Hawai'i Green Business Program, see: http://Hawai'i.gov/dbedt/info/energy/resource/greenbusiness.

DCCA: Maintained a schedule whereby the landscape is watered during the evening hours and water time limited to 5 minutes at each station. Monitored cost and consumption data for air-conditioning usage; air-conditioning shut down during weekends, holidays and furlough days. Reviewed temperature data and made adjustments to correct areas of inefficiencies. Continued to monitor and adjust lighting sensors in our main office building for optimum levels of operation. Continued practice of using compact fluorescents for all exterior lighting. Disseminated DAGS memorandum on energy and other conservation measures.

DAGS energy projects:

- Installation of sinks with low-flow fixtures and sensor faucets
- Installation of low-flush and sensor-controlled toilets and urinals
- Replaced higher wattage lamps with the new super T-8 lamps changing the watts from 32 to 25 in retrofitted lighting fixtures
- Monitored lighting schedule in common areas and made adjustments accordingly
- Maintained de-lamped hallways
- Where practicable, encouraged the use of desk lamps in lieu of overhead lighting in private offices

As a result of in-house energy conversation measures undertaken by DAGS, the King Kalākaua Building has received the Environmental Protection Agency's (EPA) ENERGY STAR® Designation.

DHHL: DHHL plans to circulate educational pamphlets to homesteaders and staff on water and energy efficiency practices to encourage waste minimization and increase conservation.

DHRD: The department continues to encourage all employees to implement energy conservation practices. Examples include turning off hallway and elevator lobby area lights at

the end of the day; and turning off copier machines and computers rather than leaving the equipment on sleep mode.

The Department of Accounting and General Services (DAGS) implemented the following water and energy conservation initiatives for the Leiopapa A. Kamehameha (LAK) building, which this department occupies: (a) modified air conditioning hours of operations; (b) installed occupancy sensors in offices and restrooms; (c) installed lighting improvements to make the system more efficient; and (d) replaced toilets with low flush models.

DHS: DHS continues to issue water and energy conversation procedures for buildings and offices, in coordination with procedures issued by DAGS.

DLIR: An assessment of electricity usage was completed for seven of the Department of Labor and Industrial Relations (DLIR) offices that are not maintained by DAGS Central Services. The assessment of the seven offices covered the period July 1, 2005 through June 30, 2009. Based on DLIR's review, seven offices utilized a total of 1,674,758 kilowatt hours resulting in a total cost of \$554,744.65. Based on the energy usage, the DLIR plans to do the following:

- 1. DLIR will work with DAGS to insure that best energy saving practices are incorporated into reminder memoranda as required to address energy conservation.
- 2. DLIR will work with DAGS to incorporate some of the following conservation measures:
 - Replace old toilets and sinks with low flow fixtures (toilets and sinks).
 - Replace old lighting fixtures.
 - Request that DAGS Leasing Branch conduct energy efficiency analyses in privatelyleased buildings and work with landlords to replace old toilets, sinks, air conditioners, and lights.
 - Replace light switches with motion sensors.
 - Replace paper towel dispensers with hand blowers.

DLNR: The Department installs low-flow fixtures (toilets and sink faucets) to replace older fixtures, which use more water, as Department facilities are renovated. Additionally, some remote restrooms use composting toilets, which require very little water. The Department has installed waterless urinals in some boat harbor improvements. Additionally, the DLNR is participating in DAGS' Energy Savings Performance Contract to generate utility savings through computer power management. This project is being implemented through our IT office and they will be installing desktop power management software in PCs in the Kalanimoku building. Expected completion date is September 2010.

Staff are reminded to turn off equipment when not in use, keep blinds closed, and report equipment malfunctions. Energy efficient light bulbs are used where feasible and timed sensors have been installed to allow automatic shutoff of lights. Additionally, natural ventilation and lighting are used in most comfort stations/restrooms. When purchasing new equipment the Department tries to purchase energy efficient machines when available, such as energy efficient copiers, etc. The Department also tries to remind staff to turn off computers and other appliances that are not in use or at the end of the day.

The Department initiated water conservation and awareness education: (1) DLNR press release asking the public to conserve water, (2) Governor's memorandum to all State agencies asking for water conservation in State grounds and facilities.

DOA:

- Completed work on electrical cable replacement and began work on the SCADA system which will allow for remote regulation of valves and gates on the Moloka'i Irrigation System; will result in improved water and energy management and reduced staff travel for maintenance purposes.
- 2. Reduced airfare and related travel costs and staff time spent in meetings by implementing Skype-based tele-conferencing for the Moloka'i Irrigation System Water Users Advisory Board.
- 3. Continued to retrieve information electronically on gas consumption and odometer readings from DAGS Automotive Management Division, Tesoro and Hawai'i Petroleum. Continue to use vehicle refueling log for programs that have vehicles that refuel at places other than DAGS, Tesoro and Hawai'i Petroleum.
- Continued to retrieve information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawai'i Petroleum.
- 5. Monitored and compiled kWh consumption data and cost for electricity for FY10.
- 6. Distributed DAGS memo requesting employees to conserve energy and to report any water waste from open faucets, leaky plumbing fixtures, and broken and/or inefficiently run irrigation systems.
- 7. Developed spreadsheet to compare FY 2010 data to FY 2008, FY 2009 on electricity kWh consumption and percentage increase/decrease from previous year and distributed to program managers for their review and information.

DOD: Building Energy Monitor program established in 2008. Staff to report leaks ASAP.

DOE: The DOE has an internal system that enables the comprehensive managing of all utilities – electricity, water, sewage disposal, and gas – for all schools through a central office with the anticipated goal to monitor and track utilities for high usage.

As of July 1, 2007 a School Energy Conservation Program has been in effect for all DOE schools. The Program takes a school's historical average of electrical energy use and compares this average to actual electrical consumption monthly. Adjustments are made to the historical average (baseline) to account for any new load changes such as new facilities, equipment, and/or energy conservation measures. Schools pay for $\frac{1}{2}$ of the energy cost for energy consumption above the baseline and receive a "rebate" for $\frac{1}{2}$ the energy cost energy consumption below the baseline biannually.

Immediate steps for conservation programs continue and are listed as follows:

- 1. Continue with implementation of LEED Silver for new and major construction projects.
- 2. Continue training for LEED New Construction and LEED for Schools as updated by USGBC.
- 3. Continue with installation of low-flow bathroom fixtures whenever fixtures require replacement.
- 4. All incandescent lamps will be replaced with compact fluorescent lamps (CFL).
- 5. Continue meetings with vendors seeking new energy conserving technologies. Continuation with pilot (test) studies of new promising technologies.
- 6. Establishment of a Water Conservation "Steering Committee" or "Task Force" within the Office of Business Services School Facilities and Support Services to expedite conservation activities between branches and within the DOE as a whole.

7. Open discussion with the Board of Water Supply to seek innovation water conservation concepts, projects, and/or studies such as Irrigation Management Control System, plant species, drip irrigation, and captured rainwater.

Immediate steps for school conservation (Electricity) are listed below:

- Set air conditioning so that the room temperature is 76 degrees.
- Air conditioning is not turned on until 7:00 a.m. or (if the air conditioning unit is turned on and off manually) until the room temperature reaches 74 degrees, which ever comes later, and turned off no later than 4:30 p.m.
- Use timers to turn off 75 percent of night lights between the hours of 10:00p.m. and 6:00a.m.
- By June 15, 2009, replace all appliances (refrigerators, microwave ovens, toasters, coffee makers, rice cookers, etc.) in classrooms and offices with ENERGY STAR® rated appliances. Personal appliances should be limited to no more than one of each on each floor of a building. All other personal appliances were removed by December 31, 2008.
- Purchase or lease only ENERGY STAR® rated computers, copiers, printers, and servers.
- Turn off computers, printers, and copiers at the end of the day.
- As of July 1, 2009, all schools with central chiller A/C will need to reduce their energy usage by 16% via baseline reduction. All other schools will have their baseline reduced by 6%.

Immediate steps for school conservation (Water) are listed below:

- All schools and offices shall cut back on water usage by at least 10 percent. Water lawns early in the morning or late in the afternoon or evening.
- Timers on automatic sprinklers shall be adjusted to water the lawns on Sundays, Tuesdays, and Thursdays, either before 9:00 a.m. or after 5:00 p.m.
- Manually water lawns on Mondays, Wednesdays, and Fridays, either before 9:00 a.m. or after 5:00 p.m.
- Car wash fundraisers shall be curtailed.
- Flooding water beds or shooting down lanai areas is highly discouraged.
- Planned development of a water usage tracking system that overlaps high water usage tracking system employed by the Board of Water Supply. This tracking system will identify slow developing leaks that can go undetected by BWS under their tracking system.

DOH: The DOH in conjunction with the State Procurement Office issued the attached EPP (Environmentally Preferable Purchasing) letter and survey to all State agencies. The DOH continues to limit air conditioning operation in its buildings to only core work hours. See attached letter- Change of Air Conditioning Hours for DOH Offices in Appendix 2. The DOH continues to limit overhead lighting operation in its buildings to only core work hours. Desk lamps must be used outside of these hours.

DOT-Harbors: <u>Water efficiency:</u>

- Install, where practical, low flow toilets, low flow shower heads, and faucet aerators as practical
- Install timers or require staff to conduct irrigation and watering of plants during early morning or evenings to reduce water lost to evaporation.
- Develop program milestones to encourage 100% implementation over a period of time.

Energy efficiency:

• Install timers onto HVAC and/or motion detectors onto lighting systems and other equipment facilities as appropriate.

- Install tinting to windows and glass doors as appropriate.
- Monitor lighting levels and use natural window/skylight lighting as if sufficient.
- Turn off lights in room not in use.
- Installed more energy efficient AC unit for the Harbors Division Administration building.
- Develop program milestones to encourage reduction of energy consumption over a period of time.

FTZ: The FTZ had two forty ton chiller units installed about seven years ago and one fifty ton chiller unit installed four years ago. The chiller units were purchased and installed based on a 2001 Energy Feasibility Study of the Foreign-Trade Zone No. 9 prepared by Global Engineering & Construction, LLC. Approximately by 40 new individual air conditioning units with high efficiency motors were purchased and installed in 2007 also based on the 2001 Energy Feasibility Study of the Foreign-Trade Zone No. 9. The FTZ uses T8 fluorescent lights in its administrative and tenants' offices.

The FTZ had a lighting specialist, Sterling Nakano, discuss with staff the options for replacing the incandescent light bulbs in the warehouse with energy efficient CFL bulbs. The FTZ converted the warehouse CFL lighting, reducing the need for lighting down to just eight high-efficiency CFL bulbs which are now used as security lighting.

The FTZ is working in conjunction with DOT-Airports to procure and install a photovoltaic (PV) solar system on the roof of the five acre facility. If this project is completed it will allow the FTZ to utilize a one megawatt PV system to generate electricity for the facility, effectively reducing the FTZ energy costs to zero for the following twenty (20) year period.

HCDA: HCDA installed a surfractant injection system within Kaka'ako Waterfront and Makai Gateway parks that should result in savings of water consumption of up to 60%.

HHFDC: All site managers have been directed to adhere to watering restriction hours and days per week for irrigating the green belt areas. Additionally, they have been instructed to limit landscaping to drought tolerant local plants. During the recently completed renovations of Kamake'e Vista some grass and landscaped planter areas were removed allowing for more open deck space for the keiki to play and tenants to enjoy. This also increases the watertight integrity of the deck surface which is the ceiling for the parking garage below. HHFDC staff and management vendors are monitoring all utilities used: water, electric and gas. Any and all abnormal movements are to be investigated and explained.

HHSC:

- Hilo Medical Center (HMC) When replacing items that use water (e.g., toilets, shower heads, etc.) and in planning new construction projects, HMC shall incorporate the use of low flow toilets and shower heads where possible. In addition, consideration will be given to the use of non-chemical water treatment devices in cooling towers to help reduce water usage.
- **O'ahu Region** The O'ahu Region facilities have replacing existing water closets with low water flush water closets at both facilities. Also, sprinkler heads are repaired whenever the grounds staff is made aware of leaks.
- Kona Community Hospital In 2010 potable water line was re routed and chilled water used for the Varian Linear Accelerator and to date are saving approximately 160,000 gallons savings per month.
- **Samuel Mahelona Memorial Hospital** The facility is currently reviewing ways of reducing water and energy efficient by installing timers on water sprinkler system and

possible installation of lighting timers. The facility has incorporated an energy efficient Split A/C unit system to extend the life of current systems and protect it from the corrosion of the salt air.

• West Kaua'i Medical Center – The facility currently has timers on the irrigation systems to minimize water waste. The center is also working with the community to explore the possibility of utilizing R-1 water for irrigation of grounds. The facility has incorporated a co-generation plant to offset electrical and heating cost for the facility.

HSPLS: HSPLS is working with DAGS, Public Works Division and its Central Services Division to implement many energy efficiency projects over the past two years. All 51 public libraries statewide have been retrofitted with energy efficient electronic ballasts and super T-8 lamps for all of its lighting fixtures. DAGS has bid out and awarded window tinting projects for dozens of libraries statewide. DAGS bid and is currently awarding seven projects for the installation of Photo Voltaic systems at two libraries each on Kaua'i, O'ahu, and Maui and one on the Big Island. They are also currently awarding and implementing retro-commissioning projects for a number of libraries depending on the available CIP budget. The Benchmarking of public buildings as required in Act 155, SLH 2009 is also included with these retro-commissioning projects using the ENERGY STAR® portfolio management or equivalent tool for all public libraries meeting these criteria.

HTA-CC: Water conservation practices continue to be in place at the Hawai'i Convention Center and HTA-CC continues to look into other methods including rain catchment. Landscaping has converted gardens to xeriscape planting for water conservation. Additionally, new super T-8 retrofits and replacement bulb and ballast packages have been installed in the exhibition halls, ballroom, administrative areas, and the fire stairwells.

NELHA: NELHA uses seawater air conditioning wherever practicable, even in its pump station control rooms. The cost of installing such equipment, most of which is built in NELHA's own shops, is negligible compared to the savings it can generate. NELHA uses timed irrigation systems, produces much of its own drinking water, turns off lights when nobody is in a room. Computers are shut down when not in active use. In some areas, NELHA uses seawater to water grass areas instead of potable water.

To the maximum possible extent – especially in view of furloughs --, NELHA uses a flexible work week schedule – 4X10's for the water quality control laboratory and a similar schedule for CEROS employees. This has greatly reduced employee fatigue and helped to generate energy savings in terms of motor vehicle fuel for the island. We would definitely be capable of introducing even more flexible hours for approximately one-half of the staff.

NELHA's average monthly HELCO electrical bill is about \$125,000. The only items in that bill over which NELHA has control are lights, computers, and A/C in its own buildings (All other electricity is used to pump and distribute seawater to the commercial tenants at NELHA and NELHA has no control over their usage, which results in HELCO demand charges since use of water is unrestricted). NELHA can influence only about \$20,000 per month of the total energy consumption at the facility. The practices NELHA instituted years ago and follows include: turning off bathroom lights when the room is not in use, turning off office lights during the lunch hour and whenever outside light is adequate by which to see, turning off computers when not in use, operating the Gateway buildings without inside lighting and relying on ambient outside light to the greatest possible extent.

In conjunction with the National renewable Energy Laboratory (NREL), NELHA is pursuing development and installation of PV and a microgrid.

PSD: PSD is in the process of implementing a "pilot" project that will "re-cycle" gray water effluent at a significantly reduced temperature delta. This project will install energy saving equipment at the Halawa Medium Security Facility and will not only reduce the fuel gas consumption associated with heating water for laundry purposes; but, will reduce the actual water being used in the laundering process.

Moreover, PSD will also conduct a "pilot" project which regulates incoming voltages to ensure equipment downstream receives an optimal share of power, specific with their respective needs. This, it is hoped, would provide adequate current to equipment for the facility operating systems to ensure optimal life expectancy on the equipment as well as more effectively consuming the power being sent to the facility and thereby staying within the rate structure negotiated with the utility.

UH: <u>ASSESSMENT</u>:

- **Systemwide** Energy and water-efficient retrofits in routine renovations are applied where feasible.
- UH Mānoa Continues to perform between \$20 million and \$30 million in energy retrofits per fiscal biennium. These retrofits have allowed UH Mānoa to achieve an average annual consumption reduction of 6% per year since FY2009.
- **UH Hilo** No new plans.
- **UH West O'ahu** No new plans.
- Hawai'i CC No new plans.
- Honolulu CC Plans to sub-meter the irrigation system.
- Kapi'olani CC Plans to sub-meter the irrigation system.
- Leeward CC Currently in planning stages of a rainwater recovery system whereby the campus would convert an existing dive tank pool to a water catchment basin to irrigate the lower campus; and plans to sub-meter the irrigation system.
- Kaua'i CC No new plans.
- **Maui CC** Installed waterless urinals in the Student Center building and in planning stages to replace existing urinals to waterless and existing toilets to low flush system. In planning stages to install a weather station to reduce use of campus irrigation during wet weather.
- Windward CC Sub-metered cooling towers and campus irrigation system.

STRATEGY:

The University of Hawai'i Systemwide will continue to implement water conservation and energy efficiency practices in operations through its repairs and maintenance programs.

Act 96 SLH 2006: Buildings and Facilities

(5) Incorporate principles of waste minimization and pollution prevention, such as reducing, revising, and recycling as a standard operating practice in programs. This includes programs for waste management in construction and demolition projects, and office paper and packaging recycling programs.

The following agencies did not reply to this section: DOT-Airports, DOT-Highways, HPHA

AG: All purchasing staff have been advised to first consider recycled materials, especially paper, when reviewing and processing purchase requisitions. AG's offices continue to utilize the recycle bins in the copier rooms, and within each division boxes are provided for recycling paper. Staff have also been trained to save and transmit documents electronically, whenever possible.

B&F: The Department participates in an office paper recycling program.

DAGS: A recycling program for office paper and cardboard has been started at the Waipahu Civic Center, making a total of 14 major state office buildings with recycling programs in place.

- If funds are available, the recycling of discarded computers and related electronic equipment will be continued.
- The installation of high efficiency hand dryers in restrooms is currently in progress. The operating cost of the hand dryers is 94% less than the cost of hand towels and highly reduces the waste produced at each facility. About 230 hand dryers are anticipated to be installed.
- The installation of Large Roll Hand Towel Dispensers has been completed for locations where we were not able to install hand dryers. These produce less waste due to reduced towel usage.

DBEDT: DBEDT promotes the Green Government Challenge to agencies that are implementing programs to reduce energy, water and waste in their offices and building operations. The program uses checklists which also serve as a tool to guide agencies toward greener office practices, systems and products. DBEDT facilities in the Capitol District are offer paper, cardboard and beverage container recycling.

DCCA:

- DCCA encourages the use of recycled paper and blue recycle bins are used to facilitate recycling. Recycled paper is picked up weekly by a vendor contracted through DAGS.
- In coordination with DAGS, paper towel dispensers in restrooms have been replaced with hand dryers wherever practicable.
- The department participated in an e-waste recycling and disposal event sponsored by UH.

DHHL: Staff has been encouraged to recycle office paper and other recyclables whenever possible. The Land Development Division is encouraged to incorporate waste management programs in their development/construction contracts to minimize waste and pollution prevention.

DHRD: The department recycles office paper, cardboard boxes, used printer cartridges, and telephone books.

DHS: DHS continues to implement waste minimization and recycling procedures, consulting with the appropriate agencies such as DAGS and DOH.

DLIR: In FY10, the DLIR received an Environmental Preferable Purchasing (EPP) survey. The results of the consolidated survey results will be forwarded to the Department of Health in accordance with the required deadline. The following are the mandated Federal and State laws, and the applicable Administrative Directives.

- 1. Resource Conservation and Recovery Act (RCRA), Section 6002, 42 U.S.C. 6962. The RCRA requires state and local government agencies and their contractors receiving appropriated federal funds to purchase EPA-designated recycled content products.
- 2. Section 103D–1005(b) of the Hawai'i Revised Statutes. Section 103D-1005(b) requires state purchasing agencies and encourages county purchasing agencies to:
 - Apply preferences to purchase of products with recycled content;
 - Be consistent with RCRA Section 6002, E/O. 13101 and its progeny;
 - Ensure, to the maximum extent economically feasible, the purchase of materials that may be recycled or reused when discarded and to avoid the purchase of products deemed environmentally harmful.
- 3. Administrative Directive 06-01, signed by Governor Lingle in January 2006, requires State agencies to purchase environmentally preferable products that reduce their impact on the environment and improve indoor environmental quality. Also included are ENERGY STAR® and low toxicity products.

The DLIR will continue to utilize the SPO price list and require all programs to purchase recycled and environmentally preferable products.

DLNR: DLNR encourages its staff to implement office paper, computer equipment, printer ink cartridges recycling, and such a program as are in place. DLNR has begun to incorporate energy savings practices into design projects such as the recycling of existing asphalt and concrete pavement into backfill material.

DOA:

- 1. Continued to work with DAGS to have Island Recycling on O'ahu pick up 2 bins of white paper once a month that employees place in recycling bins.
- 2. Continued to collect empty soda cans for recycling.

DOD: Executive Order 13514 mandates increased waste diversion and pollution reduction. In FY10, HI-ARNG contracted a vendor to develop an Integrated Solid Waste Management Plan. A prior FY03 ISWMP is outdated. Recycle bins and areas are located at major sites.

DOE: Construction projects which incorporate LEED standards require strategies for waste management and recycling of construction materials. The recycling of office paper and packaging is being explored, however, the additional cost of such programs do not make recycling feasible at this time due to budget restrictions. More schools on O'ahu participated in the Honolulu City and County community recycling bin program for 2009. In addition, schools are incorporating recycling activities into their fundraising programs.

DOH: The DOH continues to promote recycling in all of its offices. Presently, white and colored office paper, newspaper and cardboard are collected. Bins and weekly pickup are provided at Kinau Hale and AAFES locations. Unwanted furniture, supplies, and electronics are reused through the excess property/surplus program. Some used fluorescent lamps were reused by prison facilities and state hospitals.

DOT-Harbors: DOT-Harbors requires double-sided printing from copiers and printers as practical, provides recycling bins for aluminum cans, bottles, plastic and papers where

convenient, and develops program milestones to encourage 100% implementation over a period of time.

DOTAX: DOTAX's standard operating practices includes recycling of printer toner cartridges.

FTZ: The FTZ recycles cans and paper products. Products to be recycled are captured and taken to the recycle center once a quarter.

HCDA: HCDA has incorporated recycling of bottles, cans, plastic and paper within its office. In demolition projects, contractor is encouraged to separate and recycle materials whenever practical. During fiscal year, HCDA relinquished one of its state vehicles. At Kewalo Basin harbor, HCDA has established protocol for spills that pose danger of entering the harbor and stenciled the storm drains.

HHFDC: HHFDC continues to use standard office paper labeled "30 % post-consumer content" as well as insuring that restroom paper products are labeled as being recycled paper. HHFDC has an industrial strength shredder for the disposal of sensitive information papers and has boxes strategically located throughout the offices to deposit waste paper for proper disposal. All properties are instructed and inspected to be following the same guidelines listed above. All construction vendors are given directions by the associated architects and engineers in their specifications to conserve, recycle and preserve during demolitions and construction projects.

HHSC:

- Hilo Medical Center (HMC) HMC implemented the recycling of 1, 2 and 5 plastics in August 2009. Already in place since FY2008 was the recycling of HI-5 bottles and plastics. HMC also recycles its confidential documents through vendor Access Information Management. Steps are being taken to procure future contracts with recycle friendly waste disposal vendors that separate mixed recyclables, according to Hawai'i County standards.
- Kona Community Hospital In 2009 and 2010 the waste stream has been re-developed and stream lined to include battery recycling, cardboard recycling and future plans to close down the bio hazard waste incinerator. Equipment is taken out of service and donated to third world counties. Limiting excessive printed paper at meetings as well as recycling junk mail.
- Samuel Mahelona Memorial Hospital No construction is currently taking place at SMMH. We currently have a cardboard recycling program and work with the county when recyclable or other than recyclable waste can be disposed of. We also have a confidential paper recycling program in place.
- **O'ahu Region** The O'ahu Region facilities have implemented recycling as standard operating practice.
- West Kaua'i Medical Center Currently has a cardboard recycling program and works with the county when recyclable or other than recyclable waste can be disposed of. The center also has a confidential paper recycling program in place.

HSPLS: HSPLS participates with DAGS' recycling program for office paper and cardboard pickup for all our libraries and offices. The two new library projects mentioned in (1) include waste management as a major component in achieving LEED certifications.

HTA-CC: The Hawai'i Convention Center continues to have an extensive recycling program for both administrative areas and events. They partner with show management to maximize the recycling of event material and donate excess food to charities that use it to feed the homeless. Items collected for recycling include paper, cardboard, plastic, aluminum, glass, telephone books,

foam core boards, toner cartridges, batteries, copper, metal, computer e-waste, pallets, and construction waste. Purchasing decisions support sustainable practices such as purchasing product in bulk to minimize individual packaging and purchasing from suppliers who recycle delivery containers such as cardboard boxes and plastic trays.

NELHA: NELHA recycles everything recyclable. Recyclable trash from beach park trash containers is stolen on a nightly basis by human scavengers. We store old equipment (including computers, software, pipe, pump parts, old vehicles, etc.) for potential re-use. Everything that can be rebuilt and re-used is done so (rebuilding our own motors and pumps saves thousands of dollars annually --- when one considers that a simple impeller for a 200 hp pump costs \$18,000, one can image the cost to have the overhaul done through outside services. NELHA's boneyard is a source of much valuable material that can be used for patches, repairs, and other needs; for example, replacement parts as in many instances replacement parts of much of NELHA's equipment cannot even be purchased any longer as the manufacturers have ceased servicing the equipment.

PSD: All correctional facilities within the Hawai'i system have made both staff and residents aware of the need to intelligently address waste management issues.

UH:

- Systemwide
 - From May 4 to August 31, 2009, UH Informational Technology Services (ITS) assisted Apple Computer In promoting a free electronics recycling program for any accredited K-12 or Higher Education institutions throughout the state. 70,500 pounds of electronics were collected from UH campuses alone for earth-friendly recycling, preventing the dumping of toxic materials into Hawai'i's waste system. Please see information about this recycling program in Appendix 2.
 - ITS administers the web-based UH Online Swap Meet, allowing transfer of equipment and materials between UH departments; minimizing waste and fostering procurement savings. Please see information on Online Swap Meet in Appendix 2.
 - ITS maintains the UH Disposal Guidelines for Unused Computer Equipment webpage which lists re-use/donation/recycling options for electronics, along with links to the four County recycling offices in the state. The webpage is accessible to the general public, extending UH's awareness of the importance of responsible recycling to all Hawai'i residents.
 - ITS monitors local electronics recycling options and communicates information concerning commercial recycling businesses, collection events, and other recycling opportunities via the ITS homepage, e.g., the Best Buy recycling program.
- UH West O'ahu faculty, staff and students do an informal voluntary recycling of HI-5 aluminum cans, and plastic bottles are recycled by the janitorial staff. UHWO continues to recycle white and mixed color paper collected in the mailroom. Paper is recycled at the Community Recycling Center Program bin located at Leeward Community College. Faculty, staff and students do an informal voluntary recycling of HI-5 aluminum cans and plastic bottles that are recycled by the janitorial staff. UHWO continues to recycle white and mixed color paper collected in the mailroom.
- University of Hawai'i at Mānoa 1018.56 tons of waste went to H-Power, 384.33 tons went to the landfill, 286.94 tons of green waste went to Hawai'ian Earth, 573.88 tons of green waste was turned into mulch by the grounds crew and used in the landscape, 135.39 tons of paper and cardboard were recycled, 64.89 tons of metal was recycled, and 157 tons of e-waste was recycled. UH Mānoa disposed of a total 2620.99 tons of waste, 1218.10 of which

was recycled, meaning that 46.47% of the campus waste collected was recycled. This does not include the UH volunteer HI-5 recycling program which is open to Registered Independent Organizations, and UH staff and faculty implementing workplace recycling programs on campus. The program has sponsored more than 150 bins and technical support to organizations on campus that are interested in recycling as a fund raiser or community service. On-going campus-wide recycling program that recycles cans, plastics, paper products, and green waste.

UHM Building and Grounds Management is collaborating with the College of Tropical Agriculture and Human Resources on a worm bin project to look at reducing food waste in UHM cafeterias and food service locations on campus and is actively looking for better ways to recycle. Campus food service vendors are making the switch to compostable take out trays and utensils.

- UH Hilo
 - Waste paper actively reused for internal non-official communications. UH system has adopted a policy that all official communication with students is by e-mail, greatly reducing the paper mail being generated and sent.
 - Implemented a new and active MIXED recycling process, where all types of paper, plastic #1,2,5, clean metal cans, and glass are all recycled vs. taken to the land fill. The old program involved SORTED recycling, and the new mixed recycling process should more than double the amount recycled to an estimated 132,000 cubic feet of waste now being diverted from the landfills.
 - Active beverage redemption program where HI-5 containers are collected and managed by the student clubs and service organizations on campus.
 - Practice is to buy recycled goods that meet the EPA's current guidelines, including reduction in packaging and buying in bulk quantities where practical.
 - Just completed another round of e-waste recycling, sending back 9 pallets of computers at an estimated weight of 4,500 pounds.
- **UH Community Colleges** There are individual campus efforts to minimize waste and prevent pollution.
- Leeward CC Campus-wide paper recycling program initiated during the 2008-09 academic year with the placement of paper recycling containers and bins in every office and classroom across campus.
- Maui CC College is working on becoming a member of ASHRAE.

Act 96 SLH 2006: Buildings and Facilities

(6) Use life cycle cost-benefit analysis to purchase energy efficient equipment such as ENERGY STAR® products and use utility rebates where available to reduce purchase and installation costs.

The following agencies did not reply to this section: DOT-Airports, DOT-Highways, HPHA

AG: All staff involved in purchasing equipment have been advised of the ENERGY STAR® program and must document reasons for not purchasing ENERGY STAR®, when available.

B&F: The Department will include the use of life cycle cost-benefit analysis where applicable.
DAGS:

- 1. Mechanical equipment (i.e. A/C, pumps, etc.) have long been required by DAGS to be of the high efficiency type and utility rebates have been used to help offset installation and higher pricing costs for the energy efficient products. In FY 2008, DAGS worked with HECO to improve internal procedures to insure utility rebates are not missed and currently have those procedures in place.
- 2. DAGS considers cost/benefit analysis for replacing existing A/C systems with new, more efficient, systems even prior to the existing systems reaching their expected life span.
- 3. ENERGY STAR® equipment, where available, will be a standard requirement for all construction.

DBEDT: DBEDT has and continues to advocate for ENERGY STAR® Product Awareness and Procurement, which includes the following activities:

- Conducting ENERGY STAR[®] product procurement workshops to promote purchasing of ENERGY STAR[®] products by State of Hawai'i and local government housing as well as other state, federal agencies, and the territories.
- Providing technical assistance to housing, local government, state and/or federal agency representatives in purchasing ENERGY STAR® products.
- Promoting other training opportunities such as on-line ENERGY STAR® webcasts in areas such as ENERGY STAR® Procurement and Products, and Computer Power Management.
- Providing technical assistance to support labeling ENERGY STAR® State of Hawai'i buildings. DBEDT also arranges and promotes training in ENERGY STAR® Portfolio Manager, an online tool for comparing building performance with similar buildings nationwide and provides building managers information that helps prioritize investment.
- Coordinating participation and attendance of various state agency representatives at the training sessions.

DCCA: DCCA uses life cycle cost-benefit analysis to evaluate computer equipment purchases such as servers and PCs. The department continues its practice of purchasing ENERGY STAR® products for all available computer equipment, and as applicable will purchase ENERGY STAR® products when replacing office equipment.

DHHL: Fiscal Office and staff involved in purchasing equipment for the office and development projects are encouraged to look at ENERGY STAR® products and use rebates where available to reduce purchase and installation costs. Futhermore, our new development, Ka'ūpuni Village, is built with the latest ENERGY STAR® appliances available.

DHRD: The department uses the State Procurement Office price/vendor lists for procurement of most of its equipment. Copiers that are leased and computers that are purchased are ENERGY STAR® products.

DHS: DHS procurement procedures include requirements for purchasing energy efficient products such as ENERGY STAR®, and as applicable will utilize available utility rebates.

DLIR: The DLIR programs are required to purchase ENERGY STAR® products and will continue to check whether utility rebates are available and can be utilized in the purchase of the products as part of the procurement procedure/policy.

DLNR: DLNR uses life cycle cost-benefit analysis to purchase energy efficient equipment such as ENERGY STAR® products, and uses utility rebates where available to reduce purchase and installation costs.

DOA: ASO sent reminder to staff of department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines, and practices with goal to minimize energy, fuel, and water consumption and implement resource-efficient operations including purchasing energy efficient equipment such as ENERGY STAR® products and use utility rebates where available. HDOA purchased one ENERGY STAR® air conditioner in FY10.

DOD: Per mandates: All equipment is specified ENERGY STAR® rated or energy efficiency equivalent.

DOE: The DOE is encouraging all schools and offices to purchase ENERGY STAR® or any energy efficient alternative equipment that passes life cycle cost-benefit analysis. The DOE applies for and receives utility rebates for various energy efficient equipments being installed during construction projects. The total rebates the DOE received for equipments installed during FY 2008-2009 was about \$93,625 with an annual kWh reduction of 1,719,300. DOE will continue to seek utility rebates for on-going project work and seek establishment of utility rebates for new energy efficient technologies.

DOH: When needed, the DOH has been replacing older air conditioning window units with new ENERGY STAR® products. Programs seem to procure ENERGY STAR® TM computers and computer-related devices on an as-needed basis.

DOT-Harbors: DOT-Harbors trains staff on Life Cycle Cost Analyses and on available ENERGY STAR® technologies and replaces existing equipment with comparable ENERGY STAR® equipment.

DOTAX: DOTAX uses life cycle costs to evaluate equipment procurements and will use utility rebates where available to reduce purchase and installation costs.

FTZ: The FTZ purchased six new energy-efficient computers this year replacing older, less energy efficient models.

HCDA: HCDA has instructed property manager in projects where HCDA is general partner to replace light fixtures, air conditioners, stoves and refrigerators with energy efficient fixtures.

HHFDC: HHFDC continues to require all property / site managers to purchase ENERGY STAR® products whenever applicable. When ENERGY STAR® products are not available their substitutes are evaluated on a cost / efficiency basis.

HHSC:

- Hilo Medical Center (HMC) Wherever possible, the purchase of equipment shall include a requirement in the procurement process that the products purchased are ENERGY STAR® compliant. In addition, all benefits (e.g., utility rebates, etc.) shall be exercised when offered as a part of the purchase program.
- Kona Community Hospital Many refrigerator and washer/ dryer units purchase meet the ENERGY STAR® standard.

- **Samuel Mahelona Memorial Hospital** SMMH currently purchases ENERGY STAR® products when applicable such as window a/c units and appliances.
- **O'ahu Region** The O'ahu Region has incorporated in its procurement process the acquisition of ENERGY STAR® products and other energy saving equipment whenever possible.
- West Kaua'i Medical Center WKMC currently purchases ENERGY STAR® products when applicable such as window a/c units and appliances.

HSPLS: HSPLS, in working with DAGS, has always used life cycle cost-benefit analysis for replacing all of our air conditioning systems with more energy efficient ones (including ENERGY STAR® products) sometimes even prior to these older systems reaching their expected useful life span. HSPLS continues to work very closely with DAGS and all the utility companies across the State to insure that all available rebates are not missed and are processed as quickly as possible. These rebates are applied against all related future utility and servicing costs.

HSPLS utilizes ENERGY STAR® products where applicable and practical at all of our public libraries and facilities.

HTA-CC: Currently ENERGY STAR® lighting products have been installed in the exhibition halls, ballroom, administrative areas and fire stairwells. New ENERGY STAR® pumps have been installed on the potable cold water system. All five projects have received HECO rebates. Priority is given to ENERGY STAR® ratings when purchasing small appliance products.

NELHA: These steps have been taken by NELHA for many years. Wireless monitoring equipment was recently installed at our three pump stations and staff wrote a complex computer program to enable remote monitoring of the stations' activities. This has helped NELHA to schedule maintenance on a much more efficient schedule and eliminate much downtime. In time, being able to remotely control operation of the pump stations may result in energy savings for the island through less staff travel to and from NELHA during non-working hours to restore service when a station(s) goes off line due to power interruptions or other causes. Utility rebates have been used whenever available. Analysis of utility bills recently resulted in NELHA receiving a \$63,000 rebate from HELCO.

PSD: All correctional facilities, as well as other PSD operational programs, are being encouraged to take full advantage of potential energy savings being offer by energy efficient equipment.

UH:

• Systemwide

In all new and major renovation projects a life cycle cost-benefit analysis for mechanical and electrical systems are included in the project basis of design report. Campuses continue to work with the local electric company in their rebate program to purchase energy efficient airconditioning and lighting through the campuses repairs and maintenance programs.

The University continues to purchase ENERGY STAR® products from the SPO vendor lists for copier and facsimile machines and personal computers and printers. UH ITS coordinated publication of an "InfobITS" newsletter article, "Sustainability in the Workplace", with Earth Day 2009 events, April 22, 2009. Advice in the article focused on conservation of energy/resources while reducing negative indoor environmental impact and improving environmental quality via:

- Purchase/management of ENERGY STAR® rated products
- Efficient use of lighting/cooling resources (natural/purchases)
- "Smart" power strips for regulation of "phantom" power usage
- Effective power management of general office equipment (computers, photocopiers, scanners, fax machines, cordless phones, PDAs, battery chargers).

The University of Hawai'i systemwide will continue to apply the LEED rating system in all Capital Improvement Program new and major renovation projects.

In all new and major renovation projects a life cycle cost-benefit analysis for mechanical and electrical systems are included in the project basis of design report. Campuses continue to work with the local electric company in their rebate program to purchase energy efficient airconditioning and lighting through the campuses repairs and maintenance programs.

• UH Community Colleges

All vendors are required to utilize, and where appropriate, replace and upgrade all appliances and refrigeration devices with equipment that is ENERGY STAR® rated. They are in the process of contracting with Energy Savings Companies (ESCOS) to reduce overall campus consumption of electricity over the next several years by increasing the energy efficiency of campuses through improvements in monitoring, maintenance systems, and installing new energy efficient devices, as well as in the use of installing renewable energy projects in photovoltaic, wind, and possibly bio-fuel technologies. ESCOS will be required to provide a cost benefit analysis in the replacement of all HVAC systems, electrical monitoring equipment and installation of new energy efficient devices, as well as in the purchase of equipment versus power purchase agreement approach for the installation of renewable energy projects to insure overall cost savings over the length of their contracts.

• UH Hilo

- Practice is to decommission old inefficient refrigerators, air conditioners, ice makers, dehumidifiers, and replace them with energy efficient models that meet the ENERGY STAR® criteria.
- Participates in HECO rebates for energy efficiency involving air conditioning, efficient lighting, building management computerized controls, motion sensors, at a combined value of over \$100,000 in rebates thus far.
- Continues to work with HECO in their rebate program to purchase energy efficient airconditioning and lighting through the campuses repairs and maintenance programs.
- **UH Mānoa** Received over \$50,000 in HECO rebates from the use of energy efficient HVAC and lighting products.
- Maui CC College has implemented a campus policy that requires all programs to purchase "ENERGY STAR®" rated equipment or appliances if the item is rated by the US-DOE, ENERGY STAR® program.

Act 96 SLH 2006: Buildings and Facilities

(7) Procure environmentally preferable products, including recycled and recycled-content, biobased, and other resource-efficient products and materials.

The following agencies did not reply to this section: DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies: HCDA

AG: Recycled paper is required, unless previously approved by the Administrative Services Office. Staff are aware of the policy to utilize environmentally friendly products; however, there is very minimal use of hazardous materials within the department.

B&F: The Department currently purchases environmentally preferred products as contained in the SPO price lists.

DAGS: Cleaning products with the Green Seal or equal certification are currently available through WSCA Industrial Supplies Price List.

The State Procurement Office (SPO) continues to provide to Executive Departments, other jurisdictions, and the counties, the SPO Price and Vendor List utilizing ENERGY STAR®, recycled, or environmentally preferred products (EPP). Prior to re-solicitation for new contract terms, assessments of current contract specifications and review of market availability are conducted to ensure energy efficient products and supplies are made available through the SPO Price and Vendor lists.

For products and supplies not covered by SPO Price and Vendor list, purchasing agencies are required to utilize the following preferences:

- Recycled Products, HRS 103D-1005
- Biofuel preference, HRS 103D-1012
- Preference for oil products with greater recycled content, HRS Chapter 103D, Part XIII

DBEDT: DBEDT procured office and copy paper with 35% post-consumer recycled content and other office products with recycled content and assisted other agencies in getting samples of recycled content paper for testing. DBEDT continued to encourage compliance with environmentally preferable purchasing guidelines set forth in Ch 196-9, HRS.

To this end, DBEDT convened the Lead By Example initiative's Environmentally Preferable Purchasing (EPP) Working Group to brief agency and departmental managers about how 'green purchasing' helps minimize waste and offers cost, energy, and resource efficiency benefits. DBEDT staff will work with the State Procurement Office to add more EPP products to the procurement list.

DBEDT staff, in partnership with the Environmental Protection Agency (EPA), also conducted training on Environmentally Preferable Purchasing to state employees through the State Procurement Office training series. Over 30 staff from different agencies attended to learn best practices for identifying and purchasing "green" office and institutional products through state procurement methods and quantifying the savings in terms of energy costs, and resource efficiency. More training sessions are planned for the future.

DBEDT provided input into the annual EPP Survey conducted by DOH and DAGS SPO to assess the FY 2010 environmental purchasing efforts of the state agencies. DBEDT has disseminated results of past surveys via EPP workshops and the Lead By Example report to improve awareness of purchasing patterns between agencies.

Information and resources on EPP including price lists, certification programs, fuel-efficient vehicle models, and EPP-related nonprofit organizations are listed on <u>www.lbeHawai'i.com</u> (Lead By Example webpage) for state agencies and consumers.

DCCA: DCCA purchases energy efficient ENERGY STAR®, recycled, or environmentally preferred products, and supplies available through the SPO Price and Vendor lists whenever possible.

DHHL: The Fiscal Office has been requested to look into buying environmentally preferred products and material whenever available.

DHRD: The department purchases environmentally preferable products as contained in the State Procurement Office price/vendor lists. Office paper and toner cartridges are examples of items purchased that are recycled content products.

DHS: DHS continues to coordinate with the State Procurement Office (SPO) to ensure that price list products satisfy environmentally preferable product requirements.

DLIR: The DLIR policy mandates the purchase of recycled paper and the utilization of the State Procurement Offices Price List (SPO PL) for all purchases where products are available through the SPO PL. The DLIR issued a departmental instructional memo to insure conformance with the results of the EPP Survey.

DLNR: DLNR encourages the use of recycled products with contractors. DLNR also adheres to the allowed 10% price preference for bids using recycled products in accordance with Section 103D-1005, Hawai'i Revised Statutes.

• Division of Aquatic Resources (DAR)

DAR purchases and uses biodegradable soaps. In particular, DAR uses these products in the Northwest Hawai'ian Islands, where there are strict policies on this and any other discharge of durable wastes.

DOA: ASO sent reminder to staff of department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines, and practices with goal to minimize energy, fuel, and water consumption and implement resource-efficient operations including promoting 4 Rs – reduce, recycle, reuse and re-buy, and encouraging use of the Department of Business, Economic Development and Tourism Environmental Product Guide for listing of environmentally preferred products. HDOA purchased only recycled copy paper.

DOD: Per mandates: Environmental preferable products are specified.

DOE: Recycled copier paper is an option for schools to purchase. Joint effort with DBEDT for pilot testing of environmentally preferable cleaning products has resulted with testing at one school. More effort is planned to introduce more testing at more locations with eventual changes to cleaning products procurement as determined effective.

DOH: The DOH continues to promote this practice. For example, many offices purchase white paper with 30% minimum post-consumer content. Other green purchasing products include: sanitary tissue products, newsprint, paperboard and packaging products, toner cartridges, steno/message pads, Post-ItTM notepads, desktop calendars, pencils, and classification folders.

DOT-Harbors: DOT-Harbors implements said procurement, uses recycled copier paper, and develops program milestones to encourage 100% implementation over a period of time.

DOTAX: DOTAX coordinates with the State Procurement Office in the purchase of environmentally preferable products including recycled and recycled-content, bio-based, and other resource-efficient products and materials.

FTZ: All paper products to include copy and bond paper, paper towels, toilet paper, et al are purchased through the State Bid List and contain the recommended post consumer content.

HHFDC: As stated earlier it continues to be HHFDC's goal to recycle and use recycled paper whenever possible. Not only is paper a priority, but the simple recycling of plastic bottles and aluminum cans from the lunchroom reduces our impact at the landfill. All copier and printer cartridges are recycled and refilled. New cleaning products that are <u>bio-degradable</u> are used.

HHSC:

- Hilo Medical Center (HMC) HMC procurement process incorporates the acquisition of environmentally preferable, recycle and recycled-content bio-based, resource efficient products and materials where the expense to obtain these products is cost efficient for the organization.
- Kona Community Hospital The dietary department has been phasing out plastic and styrofoam and has begun using recycled paper and cardboard products.
- Samuel Mahelona Memorial Hospital Currently has a cardboard recycling program and works with the county when recyclable or other than recyclable waste can be disposed of. A confidential paper recycling program in place.
- **O'ahu Region** The O'ahu Region has incorporated in its procurement process the acquisition of environmentally preferable products whenever possible.
- West Kaua'i Medical Center Currently has a cardboard recycling program and works with the county when recyclable or other than recyclable waste can be disposed of. A confidential paper recycling program in place.

HSPLS: HSPLS has started procuring and utilizing environmentally preferable products where practical and applicable at all public libraries and facilities.

HTA-CC: The Hawai'i Convention Center continues to mandate that sustainable products be given preference in procurement so as to be environmentally friendly at all times. They currently use napkins and box lunch bags made from recycled material. Plates, food containers utensils and cups are made from bio-degradable products.

NELHA: NELHA has purchased recycled content paper products for many years. NELHA also has looked at refilling its own printer cartridges and/or changing out printers (when current ones are worn out) for models requiring less ink. NELHA has cannibalized old computers for RAM and DRAM memory units in order to keep outdated equipment functional and avoid its replacement.

NELHA personnel are extremely environmentally conscious and highly motivated to contribute to a better environment. Staff in some departments works 4X10 workdays in order to economize on transportation fuel (some ride bicycles to work) and reduce carbon emissions on the island. Staff are encouraged to re-use paper, by printing on the back side of previously printed paper for draft reports and the like. Likewise, using the back sides of accounting tapes and other savings moves are encouraged.

NELHA investigated purchasing just bio-diesel to run our fleet of trucks and electrical generators, although the bio-diesel would be quite a bit more expensive in the large quantities NELHA

requires. Fortunately, one existing tenant and one prospective tenant intend to produce bio-diesel for commercial testing purposes and production. In the near future therefore, NELHA may have a source of this environmentally friendly product for use in its generators and diesel equipment such as front end loaders, standby truck-mounted generators, and pump station stand-by generation equipment.

PSD: PSD utilizes the price lists issued by the State Procurement Office for its requirements for Office Supplies, Coarse Paper Products. These price lists do incorporate products that are environmentally preferable. The procurement of environmentally preferable products is under review for various commodities not addressed in a SPO price list.

UH:

- Systemwide
 - LEED (Leadership in Energy & Environmental Design) requirements are included in all new University construction projects.
 - The University continues to participate in various SPO price and vendor lists that include recycled products.
 - The University continues to participate in the SPO price list for bulk gasoline and gas credit card services.
 - The University is a participant in the WSCA Industrial Supplies vendor list from which many environmentally preferable products have been purchased.
 - All Invitations for Bids issued by the University of Hawai'i include a Recycled Products Preference (Reference: Section 103D-1005, HRS, and Subchapter 4, Chapter 3-124, HAR).
- UH West O'ahu Currently leasing a Xerox copier that is an ENERGY STAR® product. A television that was used for classroom instruction that was broken beyond repair, was replaced with an ENERGY STAR® television. Seven (7) recyclable picnic tables were purchased during the 2009-2010 academic year.
- Leeward CC As part of campus-wide effort to replace the entire inventory of aging outdoor furniture, LCC procured 39 recyclable benches and tables during the 2008-09 academic year. This is part of a multi-phase effort to have all outdoor seating be of recyclable materials.
- UH Hilo
 - Toilet paper and hand towels that are purchased meet current EPA guidelines of 40% post consumer recycled content.
 - Plastic benches and picnic tables purchased are made from recycled plastic.
- UH Mānoa Has an extensive dining and food service recycling and bio-based program. Over 80% of all paper goods used by UH Mānoa Building services comes from recycled paper products.
- Maui CC The College is working on becoming a member of ASHRAE and the Culinary Program uses biodegradable food cartons, forks, knives and spoons in its foodservice operation.

Act 96 SLH 2006: Transportation Vehicles and Fuel

(1) Comply with Title 10, Code of Federal Regulations, Part 490, Subpart C, "Mandatory State Fleet Program", if applicable.

The following agencies did not reply to this section: B&F, DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies because they do not have a fleet: AG, DCCA, DHRD, DLNR, DOTAX, FTZ, HCDA, HHFDC, HSPLS, HTA-CC

The following agencies are in compliance, with no additional comments necessary: DHHL, DLIR, DOA, DOD, DOH

DAGS: Strategy: DAGS Automotive Management Division (AMD) has determined it is in compliance with federal requirement by purchasing only new alternative fuel vehicles. Vehicle purchases continue to comply with 10 CFR, Part 490, on alternative fuel E85 vehicles. Covered Fleet Vehicle purchases conducted by the State Procurement Office (SPO) continue to comply with 10 CFR, Part 490, on alternative fuel E85 vehicles and Non-Covered Fleet Act 96 Part IV, HRS section 103D-412, Energy Efficient Vehicles. During FY 10, AMD did not purchase any vehicles due to the State's fiscal situation. For FY 2011 and 2012, AMD has a \$475,000 ARRA grant through DBEDT to purchase electric vehicles.

DBEDT: DBEDT does not have a covered fleet, but is facilitating the transformation of Hawai'i's transportation and vehicle sector and helping the state become less dependent on liquid petroleum fuels. DBEDT worked to accelerate the adoption of electric drive vehicles and related charging equipment in Hawai'i by coordinating the following tasks:

- The signing of an MOA with the Department of Accounting and General Services to transfer ARRA funds from DBEDT to DAGS for the purpose of acquiring electric, plug-in hybrid electric, advanced technology, or alternative fuel vehicles and electric charging infrastructure. Funds may also be used to assist State and County agencies to comply with Act 156 of 2009, which requires that electric vehicle parking be designated in all lots with over 100 public parking spaces by December 31, 2011, and that at least one space in each lot be equipped to provide electric vehicle charging capability.
- The creation of a Hawai'i Electric Vehicle (EV) Ready Program website. For more information, please see: <u>www.electricvehicle.Hawai'i.gov</u>
- The Rebuild Hawai'i HCEI Electric Vehicle Technical Workshop, an informational session on technical and policy aspects related to the introduction of electric vehicles in the state, which attracted over 300 industry and public attendees.
- An agreement with CT&T, a Korean-based electric vehicle manufacturer. The agreement supports CT&T's plans to bring a electric vehicle assembly and sales facility to the State of Hawai'i in the near future
- An agreement with Nissan North America. The partnership marks Nissan's first definitive agreement in the United States and will help to foster the adoption of electric-vehicle technology. The Nissan LEAF, all-electric vehicle, will be available in Hawai'i beginning in January 2011.

The establishment of an Electric Vehicle Rebate and Grant Program. The EV Ready Rebates of up to \$4,500 will be available for each new, highway-capable electric or plug in hybrid electric

vehicle. Rebates of up to \$500 will be available for the purchase and installation of each new electric vehicle charger; and, if an electric vehicle purchase includes the installation of a charger, a combined rebate of up to \$5,000 will be available. The EV Ready Grant program will provide grants to attract and partially fund the deployment of full-speed electric vehicles, electric vehicle charging equipment, and supporting efforts in Hawai'i via larger, more integrated projects than funded through the rebate program. Anticipated projects include: Fleet development: Electric, Plug-in Hybrid Electric Vehicles, or other advanced technology or alternative fuel vehicles. Development, implementation and installation of charging station networks or refueling equipment. Development and implementation of electric, advanced technology or alternative fuel vehicle to electric grid interactions or utility integration issues.

DHS: DHS continues to coordinate with DAGS-Automotive Management Division (AMD) to ensure that vehicle purchases comply with the applicable requirements.

DOE: The DOE has organized its fleet program by complex areas and offices. Based on this organization, only the Office of School Facilities and Support Services meet the requirements to be designated as a "covered fleet."

DOT-Harbors: More work needs to be done in this area. Attempt to purchase alternative energy vehicle ran into budget problems as these vehicles cost more than conventionally powered vehicles.

HHSC:

• **Hilo Medical Center (HMC)** - When purchasing *NEW* vehicles, HMC will purchase energy efficient models (hybrids, four-cylinder models) where possible. When purchasing used vehicles from the DAGS Surplus Property Office, HMC will consider the vehicles that are available at the time of purchase, and will look for the most efficient models to purchase from the Surplus Property Office.

NELHA: NELHA has two ancient diesel trucks. The fleet (the youngest of which was a 1995 gasoline-powered truck) was updated with 2005 and 2006 gasoline powered vehicles. It should be noted that, as an operating entity, NELHA has need of heavy equipment, most of which is not yet even manufactured to meet the above specifications and would, if available, be very cost-prohibitive to purchase.

PSD: While PSD is a law enforcement entity that is exempt from Title 10, in past procurements has followed the intent of Act 96 (2006) where applicable. Examples are purchasing vehicles that are "Flex Fuel" capable – where they can run properly on either regular gas or E-85.

For fiscal year ending 2010, PSD did not purchase any "new" vehicles for its facilities.

UH: UH-Hilo complies with the Federal Regulation for Mandatory State Fleet Program. UH-Hilo has only one vehicle on O'ahu where these requirements apply, and that vehicle is equipped to run off "flex fuel," per regulations.

Act 96 SLH 2006: Transportation Vehicles and Fuel

(2) Comply with all applicable state laws regarding vehicle purchases.

The following agencies did not reply to this section: B&F, DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies because they do not purchase vehicles: AG, DCCA, DHRD, FTZ, HHFDC

This section does not apply to the following agencies because DAGS manages their vehicle purchases: HCDA, HTA-CC

The following agencies are in compliance with no additional comments necessary: DHHL, DOA, DOD, DOE, DOH, DOTAX, HHSC, HSPLS, PSD

DAGS: Assessment: AMD and SPO review departmental request to purchase passenger vehicles.

Strategy: HAR Section 3-122-13, Development of specifications and HRS Section 103D-412, Energy-efficient vehicles, provides guidance to State and county purchasing agencies on the purchase and leasing of vehicles. The SPO, AMD, and DBEDT have developed guidelines for the purchase of vehicles including energy-efficient vehicles. These guidelines are available on the DBEDT website: <u>http://Hawai'i.gov/dbedt/info/energy/efficiency/state/</u>

DBEDT: DBEDT is aware of and complies with vehicle purchasing requirements. Amendments to vehicle purchasing requirements related to efficiency are disseminated to other agencies through the Lead By Example working groups.

DHS: DHS continues to coordinate with AMD to ensure that vehicle purchases comply with the applicable requirements.

DLIR: The DLIR owns the following vehicles:

1999 Ford Windstar 1994 Chevrolet Astrovan

The DLIR does not have immediate plans to purchase another vehicle in the near future; however, the department will adhere to the applicable state laws regarding vehicle purchases if and when we do

DLNR: DLNR will continue to work with the Department of Business, Economic Development, and Tourism (DBEDT) in a statewide collaboration on energy efficiency, as a member of DBEDT's Lead by Example Leadership Group. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOT-Harbors: SPO procedures are followed including purchasing using HePS.

NELHA: All vehicles have been purchased in compliance with state laws. When purchasing any operating vehicles, NELHA first checks with DAGS, SPO, DBEDT, etc. to ascertain the very latest requirements and procedures that must be used, thus saving personnel time and cost.

UH: UH-Hilo complies with all State Laws regarding vehicle purchases. As UH-Hilo is on the Big Island, there are exemptions allowed due to the unavailability of alternative fuels. UH-Hilo's gasoline contract keeps track of all fuel purchases and mileage to provide an ongoing assessment of fuel efficiency. UH-Hilo also keeps mileage logs in all vehicles.

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(3) Once federal and state vehicle purchase mandates have been satisfied, purchase the most fuelefficient vehicles that meet the needs of their programs; provided that life cycle cost-benefit analysis of vehicle purchases shall include projected fuel costs.

The following agencies did not reply to this section: B&F, DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies: AG, DCCA, DHRD, DOD, FTZ, HCDA, HHFDC, HTA-CC

The following agencies are in compliance, with no additional comments necessary: DOH, HHSC

DAGS: Assessment: The AMD and SPO review will provide opportunity to comply with the policy to procure the most fuel-efficient vehicles.

Strategy: This review will mandate agencies to be compliant with law.

DBEDT: DBEDT is aware of and complies with vehicle purchasing requirements and is seeking models to simplify life-cycle cost benefit analysis for purchasing purposes. EIA fuel cost projections researched by DBEDT for use in Life Cycle Cost analysis have been distributed to other agencies via the Lead By Example initiative.

DHHL: DHHL shall consider all aspects, such as fuel consumption, capacity, and need, in addition to price, to reach the decision on the purchase.

DHS: DHS continues to coordinate with AMD and SPO to ensure that vehicle purchases meet fuel efficiency requirements in relation to operational needs.

DLIR: The DLIR's two vehicles are in sound operational condition, and as such, there are no plans to replace the vehicles in the near future. Prior to purchasing a vehicle in the future, the department will insure that any vehicle purchase satisfies federal and state mandates and is the most fuel efficient vehicle that meets the needs of our program.

DLNR: DLNR will continue to work with the Department of Business, Economic Development, and Tourism (DBEDT) in a statewide collaboration on energy efficiency, as a member of DBEDT's Lead by Example Leadership Group. DLNR continues to seek the advice

of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: ASO reminded staff of the department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with the goal to minimize energy, fuel and water consumption and implement resource-efficient operations including purchasing the most fuel efficient vehicle that meets the needs of the program once federal and state vehicle purchase mandates have been met. HDOA did not purchase any vehicles during FY10.

DOE: The DOE is complying with all state laws regarding vehicle purchases through our Procurement and Contracts Branch. It is anticipated fuel-efficient hybrids will be purchased when available to meet the needs of their programs.

DOT-Harbors: Current budget constrains mean that replacement of older, less fuel-efficient cars is being postponed.

DOTAX: DOTAX will purchase the most fuel-efficient vehicle that meets the needs of its programs and will include a life cycle cost-benefit analysis, including projected fuel costs, in vehicle procurements.

HSPLS: HSPLS has continued to purchase the most fuel-efficient vehicles for the delivery and transportation need of its programs. Currently there are no hybrid or electric vehicles with the required capacity for our book delivery vans. HSPLS will continue to research and seek out any new energy efficient vehicles that can meet the needs of the libraries.

NELHA: See (1) above. No change from the past three years in this regard.

PSD: PSD awards to the lowest responsive, responsible bidder for its agencies.

UH: UH-Hilo has a "Vehicle Acquisition Request" process that includes an analysis of considering alternative transportation methods as well as life cycle costs (purchase, fuel, maintenance). UH uses a 10-year useful life cycle per APMs.

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(4) Purchase alternative fuels and ethanol blended gasoline when available.

The following agencies did not reply to this section: B&F, DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies: AG, DCCA, DHRD, DOD, FTZ, HCDA, HHFDC, HTA-CC

The following agencies are in compliance, with no additional comments necessary: DOH, DOTAX, HHSC, HSPLS

DAGS: SPO Price List No. 07-20 Gasoline Fueling and Credit Card Services – Hawai'i, Kaua'i, Maui, O'ahu, includes the requirement to establish monthly reports from the vendors of

purchases by each cardholder. SPO is including in the new contract the option to supply biodiesel blended fuel (pump price) when the current contract expires.

SPO Price List contract for Gasoline & Diesel Fuel, Bulk Delivery (09-16 Hawai'i, 09-17 Maui, 09-18 O'ahu, and 09-19 Kaua'i) are for purchases of ethanol-blended gasoline, E-10, and ultra low sulfur diesel fuel, by all agencies on a statewide basis. The available information will be used to determine total gasoline purchases and expenditures by each purchasing agency. In each contract, the State has the option to convert from petroleum diesel fuel to biodiesel blended fuel at one or more locations by providing ninety (90) days written notice to the Contractor. Prior to re-solicitation, review of market availability of biodiesel fuels are conducted to ensure alternative fuels are made available through the SPO Price and Vendor lists contracts

DBEDT: DBEDT intends to purchase alternative fuels when available.

To facilitate the development of a local biofuels industry in Hawai'i, DBEDT is working with various stakeholders, including landowners, biomass growers, conversion technology proprietors, refiners, distributors, and end users.

DHHL: DHHL shall continue to use gasoline from Tesoro to fuel our vehicles.

DHS: DHS continues to coordinate with SPO on purchasing alternative fuels from established price lists.

DLIR: The assessment performed by the DLIR indicates that all alternative fuels were purchased from DAGS Automotive Management Division. The DAGS Automotive Management motor pool alternative fuel meets the alternative fuel ethanol blend requirement.

DLNR: DLNR purchases fuel from vendors as selected by the State Procurement Office in compliance with the Procurement Code. This often includes gas stations that offer ethanol 10 blended gasoline. DLNR is not aware of adequate vehicles that operate on alternative fuel effectively for the type of performance needed. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: No biodiesel fuel was purchased in FY10

DOE: For light duty vehicles, only ethanol-blended gasoline is currently available. For diesel fuel vehicles, bio-diesel fuel is being considered where practical.

DOT-Harbors: DOT-Harbors purchases environmentally friendly fuels when available and practical. DOT-Harbors also needs to purchase vehicles capable of using alternative fuels.

DOTAX: DOTAX purchases ethanol blended gasoline through DAGS Automotive.

HSPLS: Comptroller Memorandum No. 2005-13 dated May 17, 2005 requires all State departments to purchase only regular 87 octane gasoline.

NELHA: Ethanol blended gasoline is the only gasoline available on this island.

We are looking at purchasing bio-diesel from our tenants who will be manufacturing it in the near future in great quantities.

PSD: Purchase Regular E-10 as available

UH:

- **Kapi'olani CC** With its students in its STEM program, demonstrated the creation of biodiesel fuel from used waste cooking oil. The cooking oil was waste oil from the cafeteria. The fuel has been successfully used on campus in a reconfigured gas powered cart. The demonstration project involved the STEM students, culinary arts students and maintenance staff. Based upon current estimates, enough bio-diesel fuel can be created to run the cart for the entire year.
- **UH-Hilo** Purchases "regular" grade gasoline 87% octane, which includes up to 10% man made gas in the blend.

Fleet use of biodiesel (gallons purchased) and total cost (\$):

The following agencies did not reply to this section: AG, B&F, DBEDT, DHHL, DHS, DOH, DOT-Airports, DOT-Highways, DOTAX, FTZ, HPHA

This section does not apply to the following agencies: DCCA, DHRD, DLIR, DOD, HCDA, HHFDC, HTA-CC

The following agencies reported that no biodiesel fuel was purchased in FY10: DAGS, DLNR, DOA, DOT-Harbors, HHSC, HSPLS

DOE: Biodiesel is not available due to state fuel pricelist. Also, limited locations for biodiesel purchasing make it very difficult to establish a purchasing program.

NELHA: None available for purchase.

PSD: Cannot determine whether biodiesel is being utilized.

UH: UH-Hilo has no specific data on biodiesel purchases.

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(5) Promote efficient operation of vehicles.

The following agencies did not reply to this section: B&F, DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies because they do not own any vehicles: AG, DCCA, DHRD, FTZ,

The following agencies are in compliance, with no additional comments necessary: DOD, DOH, HHSC

DAGS: Assessment: DAGS provides guidelines in the general operation of vehicles including a compressive Preventive Maintenance (PM) Schedule for its vehicles.

STRATEGY: DAGS Motor Pool offers PM services to all state vehicles under 8500 GVW.

DBEDT: DBEDT distributes guidelines for energy-efficient vehicle operations to members of the department and to other agencies along with a mileage and fuel tracking log.

DHHL: Drivers are reminded to follow posted speed limit signs and practice safe driving. Recommended Driving and Vehicle Maintenance Tips are attached with each mileage log.

DHS: DHS continues to coordinate with AMD on the issuance of vehicle operation procedures.

DLIR: The DLIR vehicles are serviced by the DAGS Automotive Management Division Motor Pool on a regular basis. Both of the DLIR vehicles are in sound condition and operate at maximum efficiency. The vehicles' operational efficiency can be certified and recertified by the DAGS Automotive Management Division.

DLNR: DLNR encourages maintenance and regular service of vehicles. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: ASO reminded staff of department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with goal to minimize energy, fuel and water consumption and implement resource-efficient operations including tips on efficient operation of vehicles.

DOE: No formal programs have been developed by the Department of Education.

DOT-Harbors: DOT-Harbors needs to do more research and develop an implementation plan.

DOTAX: DOTAX will promote efficient operation of vehicles through an educational campaign.

HCDA: HCDA encourages staff to walk to properties/appointments whenever possible.

HHFDC: HHFDC personnel are reminded to operate state motor vehicles within the posted speed limits and to avoid sudden accelerations thus decreasing the efficiency of operation. This same theory is also asked of our individuals in their private automobiles as their contribution towards a clean environment.

HSPLS: HSPLS monitors servicing and maintenance of vehicles on an average of 3,000 miles or 3 months for preventive maintenance. O'ahu operations currently use a service repair vendor that has begun the use of bio-based engine oils.

HTA-CC: HTA encourages car pooling when using the State of Hawai'i vehicle and HCC specifically logs all trips and mileage for its (3) assigned vehicles.

NELHA: One of the strategies used is having employees use their own vehicles for travel around NELHA, into town and back on business, and so forth. This eliminates the use of state vehicles and saves money as most employees are not willing to fill out the necessary paperwork to get reimbursement for their travels. When it comes to work vehicular use, use of solar powered golf carts is encouraged whenever possible. Use of trucks is encouraged only when long trips to Gateway or the 55" pump station are required or heavy equipment parts need to be transported. The solar-powered golf carts are not adequate for these types of trips. When trucks are used, it is requested that as many people fit into the cab of the truck as there are seatbelts, thus saving on multiple vehicular usage to the greatest extent possible. One good practice is to put notices on the driver's side dash board: "Is this trip necessary?"

PSD: In an effort to comply with this Act, PSD has issued a department wide memorandum promoting the efficient use of vehicles.

UH: UH-Hilo's "Vehicle Acquisition Request" process includes an analysis of vehicle sharing as a viable alternative. UH-Hilo also has a small motor pool operation where any UH program can "rent" a vehicle for official use; thus 5 vans are shared by all programs, including Hawai'i Community College at times.

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(6) Use the most appropriate minimum octane fuel; provided that vehicles shall use 87-octane fuel unless the owner's manual for the vehicle states otherwise or the engine experiences knocking or pinging.

The following agencies did not reply to this section: B&F, DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies: AG, DCCA, DHRD, DOD, FTZ, HHFDC

The following agencies are in compliance, with no additional comments necessary: DAGS, DBEDT, DLIR, DLNR, DOE, DOH, HCDA, HHSC, HSPLS, HTA-CC

DBEDT: This instruction will be distributed department-wide.

DHHL: Twenty-five out of DHHL's twenty-seven vehicles use 87-octane gasoline. The other two (cargo and a dump truck) on Moloka'i require diesel fuel. DHHL shall enforce this policy and confirm that all vehicles use 87-octane gasoline.

DHS: DHS continues the implementation of the present policy requiring the use of 87 octane fuel.

DOA: ASO reminded staff on department's Energy and Water Conservation and Resource Efficiency Program, which provides policies, guidelines and practices with the goal to minimize energy, fuel and water consumption and implement resource-efficient operations, including using the 87 octane fuel unless the owner's manual for the vehicle states otherwise or the engine experiences knocking or pinging.

DOT-Harbors: DOT-Harbors purchases environmentally friendly fuels when available and practical.

DOTAX: DOTAX uses the most appropriate minimum octane fuel, provided that vehicles shall use 87-octane fuel unless the owner's manual for the vehicle states otherwise or the engine experiences knocking and pinging.

NELHA: No vehicles require higher than 87 octane gasoline or 45 octane diesel fuel. The diesel trucks can pass vehicle safety checks, so are not authorized for use on state or county roads. The diesel electric generators are stationary units, which with the off-highway trucks, means the purchase of off-road diesel, saving a considerable sum as a result.

PSD: PSD follows Comptroller's Memo 2005-13, which prohibits the use of mid-grade or premium gasoline unless prior approval by the Comptroller's Office is received.

UH: UH-Hilo's practice is to only use 87-octane fuel. The only exceptions are where recommended by manufacturers, and for 2 stroke lawn equipment to reduce premature breakdowns.

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(7) Beginning with fiscal year **2005-2006** as the baseline, collect and maintain, for the life of each vehicle acquired, the following data:

The following agencies did not reply to this section: B&F, DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies: AG, DCCA, DHRD, DOD, FTZ, HCDA, HHFDC

The following agencies are working toward achieving compliance, or are in the process of creating a system to monitor this data: DOH, DLNR

The following agencies collect and maintain data on their own, and are in compliance: DAGS, DBEDT, DHS, DOA, DOE, DOTAX, HSPLS, HTA-CC, UH

The following agencies provided a spreadsheet that contains specific data: DHHL (Appendix 4), DOE (Appendix 5), DOT-Harbors (Appendix 6), PSD (Appendix 7)

(A) Vehicle acquisition cost:

DLIR: 1999 Ford Windstar acquired on 1-23-01 for \$17,500.00 1994 Chevrolet Astrovan acquired on 5-3-01 for \$5,900.00

HHSC: O'ahu Region

- Leahi Hospital
 - FY 07 2001 Gold Dodge Stratus \$5,200 2001 Blue Dodge Stratus - \$5,000

- FY 08 2004 Chevy Malibu \$8,200
 - 2001 Dodge Caravan \$4,500
- Maluhia
 - FY 5 1998 Chevy Astro Van \$5,500
 - FY 7 2000 Dodge Stratus \$4,500
 - FY 7 2002 Ford Taurus SE \$6,500
 - FY 8 1998 Ford Bus Handi-van Donation
 - FY 8 2001Chevy Truck \$13,044
 - FY 9 2008 Chevy Silverado Flatbed \$28,919
 - FY 9 2002 Chevy Venture Van Blue \$5,600
 - FY 9 2002 Chevy Venture Van Green \$5,600
 - FY 9 2004 Chevy Classic \$5,400

Kona Community Hospital

- Dodge 2001 Flatbed model 2500
 Date purchased 12/02/09 for 5,700.00 from SOH
- Ford Cargo Van 1986 White Date donated 9/17/09 from KCH Foundation - Value 300.00

Hilo Medical Center

License Plate No.	Year	Make	Model	Vehicle Acquisition Cost
SH 4686	1987	CHEVROLET	VAN	12,793.07
SH 6490	1988	DODGE	AMBULANCE	34,716.92
SH 7003	1984	CHEVROLET	TRUCK	1,783.37
SH 7109	1994	FORD	VAN	36,911.58

License Plate No.	Year	Make	Model	Vehicle Acquisition Cost
SH D184	1989	FORD	VAN	5,764.91
SH 9265	1992	DODGE	TRUCK	5,642.96
SH B536	2000	DODGE	STRATUS	5,447.31
SH B538	2000	DODGE	STRATUS	5,447.31
SH B617	1998	CHEVROLET	VAN	6,240.92
SH B703	1997	CHEVROLET	VAN	9,495.26
SH B704	1997	CHEVROLET	VAN	9,495.27
SH C414	2002	OLDSMOBILE	ALERO	6,883.07
SH C415	2002	OLDSMOBILE	ALERO	6,883.08
SH C413	2002	OLDSMOBILE	ALERO	6,883.08
SH C846	2001	DODGE	STRATUS	4,991.63
SH C847	2002	OLDSMOBILE	ALERO	6,883.08
SH C848	2002	DODGE	INTREPID	6,391.62
SH D144	2003	OLDSMOBILE	ALERO	6,204.64
SH D183	1992	CHEVROLET	CAPRICE	16,758.35

(B) United States Environmental Protection Agency rated fuel economy:

DLIR: 1999 Ford Windstar: 17 mpg City and 23 mpg Highway 1994 Chevrolet Astrovan: 17 mpg City and 22 mpg Highway

HHSC: O'ahu Region

Leahi Hospital 2001 Dodge Stratus

2001 Dodge Stratus – 20 to 28 MPG 2001 Dodge Stratus – 20 to 28 MPG 2004 Chevy Malibu – 22 to 30 MPG 2001 Dodge Caravan – 16 to 23 MPG

• Maluhia

1998 Chevy Astro Van – 14 to 18 MPG 2000 Dodge Stratus - 19 to 27 MPG 2002 Ford Taurus SE - 18 to 25 MPG 1998 Ford Bus Handi-van - 16 to 23 MPG 2001 Chevy Truck - 13 to 17 MPG 2008 Chevy Silverado Flatbed - 15 to 20 MPG 2002 Chevy Venture Van Blue - 16 to 22 MPG 2002 Chevy Venture Van Green - 16 to 22 MPG 2004 Chevy Classic - 21 to 31 MPG

Hilo Medical Center

License Plate No.	Year	Make	Model	Fuel Economy (MPG)
SH 4686	1987	CHEVROLET	VAN	14-16
SH 6490	1988	DODGE	AMBULANCE	12-14
SH 7003	1984	CHEVROLET	TRUCK	14-16
SH 7109	1994	FORD	VAN	14-16
SH D184	1989	FORD	VAN	14-16
SH 9265	1992	DODGE	TRUCK	14-16
SH B536	2000	DODGE	STRATUS	20-28
SH B538	2000	DODGE	STRATUS	20-28
SH B617	1998	CHEVROLET	VAN	14-16
SH B703	1997	CHEVROLET	VAN	14-16
SH B704	1997	CHEVROLET	VAN	14-16
SH C414	2002	OLDSMOBILE	ALERO	21-32
SH C415	2002	OLDSMOBILE	ALERO	21-32
SH C413	2002	OLDSMOBILE	ALERO	14-16
SH C846	2001	DODGE	STRATUS	20-28
SH C847	2002	OLDSMOBILE	ALERO	21-32
SH C848	2002	DODGE	INTREPID	18-26
SH D144	2003	OLDSMOBILE	ALERO	21-32
SH D183	1992	CHEVROLET	CAPRICE	14-16

(C) Vehicle fuel configuration, such as gasoline, diesel, flex-fuel gasoline/E85, and dedicated propane:

DLIR: 1999 Ford Windstar – Gasoline/E85 1994 Chevrolet Astrovan – Gasoline/E85

HHSC: Gasoline for all vehicles.

(D) Actual in-use vehicle mileage:

DLIR: <u>FY 2006</u>

- 1999 Ford Windstar 2096.1 Miles
- 1994 Chevrolet Astrovan 248.0 Miles FY 2007
- 1999 Ford Windstar 1616.6 Miles
- 1994 Chevrolet Astrovan 166.3 Miles FY 2008
- 1999 Ford Windstar 1541.70 Miles
- 1994 Chevrolet Astrovan 148.40 Miles FY 2009
- 1999 Ford Windstar 1190.2 Miles
- 1994 Chevrolet Astrovan 504.0 Miles

HHSC: O'ahu Region

- Leahi Hospital 2001 Dodge Stratus 4,249 miles 2001 Dodge Stratus 4,074 miles 2004 Chevy Malibu 992 miles
 - 2001 Dodge Caravan 618 miles
- Maluhia

1998 Chevy Astro Van – 1,342 miles 2000 Dodge Stratus - 2,746 miles 2002 Ford Taurus SE - 2,189 miles 1998 Ford Bus Handi-van - 1,493 miles 2001Chevy Truck - 5,947 miles 2008 Chevy Silverado Flatbed - 408 miles 2002 Chevy Venture Van Blue - 459 miles 2002 Chevy Venture Van Green - 442 miles 2004 Chevy Classic - 154 miles

Kona Community Hospital

- 2001 Dodge Flatbed 10,000 miles
- I986 Cargo Van 500 miles

Hilo Medical Center

License				
Plate No.	Year	Make	Model	FY2010 Mileage
SH 4686	1987	CHEVROLET	VAN	112,056
SH 6490	1988	DODGE	AMBULANCE	47,791
SH 7003	1984	CHEVROLET	TRUCK	67,686
SH 7109	1994	FORD	VAN	60,002
SH D184	1989	FORD	VAN	76,535
SH 9265	1992	DODGE	TRUCK	64,464
SH B536	2000	DODGE	STRATUS	73,045
SH B538	2000	DODGE	STRATUS	87,226
SH B617	1998	CHEVROLET	VAN	61,954
SH B703	1997	CHEVROLET	VAN	37,483
SH B704	1997	CHEVROLET	VAN	29,133
SH C414	2002	OLDSMOBILE	ALERO	53,673
SH C415	2002	OLDSMOBILE	ALERO	72,486
SH C413	2002	OLDSMOBILE	ALERO	58,470
SH C846	2001	DODGE	STRATUS	41,960
SH C847	2002	OLDSMOBILE	ALERO	51,659
SH C848	2002	DODGE	INTREPID	34,672
SH D144	2003	OLDSMOBILE	ALERO	50,555
SH D183	1992	CHEVROLET	CAPRICE	127,460

HSPLS: 123,311 miles

(E) Actual in-use vehicle fuel consumption:

DLIR: <u>FY 2006</u>

- 1999 Ford Windstar 226.7 Gallons
- 1994 Chevrolet Astrovan 21.7 Gallons FY 2007
- 1999 Ford Windstar 176.4 Gallons
- 1994 Chevrolet Astrovan 20.6 Gallons FY 2008
- 1999 Ford Windstar 169.00 Gallons
- 1994 Chevrolet Astrovan 20.8 Gallons <u>FY 2009</u>
- 1999 Ford Windstar 129.00 Gallons
- 1994 Chevrolet Astrovan 60.40 Gallons

HHSC: O'ahu Region

- Leahi Hospital
 2001 Dodge Stratus 193 gallons
 2001 Dodge Stratus 194 gallons
 2004 Chevy Malibu 41 gallons
 2001 Dodge Caravan 34 gallons
- Maluhia 1998 Chevy Astro Van – 129 gallons

2000 Dodge Stratus - 115 gallons 2002 Ford Taurus SE - 123 gallons 1998 Ford Bus Handi-van - 124 gallons 2001Chevy Truck - 199 gallons 2008 Chevy Silverado Flatbed - 24 gallons 2002 Chevy Venture Van Blue - 27 gallons 2002 Chevy Venture Van Green - 26 gallons 2004 Chevy Classic - 7 gallons

Hilo Medical Center

License Plate No.	Year	Make	Model	Total Fuel Used (Gallons) in FY2010
SH 4686	1987	CHEVROLET	VAN	72.23
SH 6490	1988	DODGE	AMBULANCE	51.79
SH 7003	1984	CHEVROLET	TRUCK	165.71
SH 7109	1994	FORD	VAN	805.39
SH D184	1989	FORD	VAN	99.39
SH 9265	1992	DODGE	TRUCK	253.44
SH B536	2000	DODGE	STRATUS	269.96
SH B538	2000	DODGE	STRATUS	337.41
SH B617	1998	CHEVROLET	VAN	365.40
SH B703	1997	CHEVROLET	VAN	Insufficient data
SH B704	1997	CHEVROLET	VAN	Insufficient data
SH C414	2002	OLDSMOBILE	ALERO	Insufficient data
SH C415	2002	OLDSMOBILE	ALERO	474.99
SH C413	2002	OLDSMOBILE	ALERO	55.49
SH C846	2001	DODGE	STRATUS	444.08
SH C847	2002	OLDSMOBILE	ALERO	235.53
SH C848	2002	DODGE	INTREPID	465.27
SH D144	2003	OLDSMOBILE	ALERO	187.50
SH D183	1992	CHEVROLET	CAPRICE	59.85

HSPLS: 7,561.9 gallons

(F) Actual in-use annual average vehicle fuel economy:

DLIR: FY 2006

- 1999 Ford Windstar 9.25 Miles Per Gallon
- 1994 Chevrolet Astrovan 11.43 Miles Per Gallon <u>FY 2007</u>
- 1999 Ford Windstar 9.16 Miles Per Gallon
- 1994 Chevrolet Astrovan 8.07 Miles Per Gallon

Note: Decrease of 3.36 miles per gallon resulted from mechanical problems with the vehicle. The mechanical problems reduced the vehicle's total miles driven in FY07 by a total of 81.7 miles (248 miles in FY06 to 166.3 in FY07), a 33 percent reduction. The inability to drive the vehicle accounts for decrease in the miles per gallon of 33 percent. The mechanical problems which prohibited the use of vehicle have been repaired by the DAGS Automotive Division.

FY 2008

- 1999 Ford Windstar 9.12 Miles Per Gallon
- 1994 Chevrolet Astrovan 8.87 Miles Per Gallon <u>FY 2009</u>
- 1999 Ford Windstar 9.23 Miles Per Gallon
- 1994 Chevrolet Astrovan 8.34 Miles Per Gallon

HHSC: O'ahu Region

Leahi Hospital
 2001 Dodge Stratus – 22 mpg
 2001 Dodge Stratus – 21 mpg
 2004 Chevy Malibu – 24 mpg
 2001 Dodge Caravan – 18 mpg

• Maluhia

1998 Chevy Astro Van – 10 mpg 2000 Dodge Stratus - 23 mpg 2002 Ford Taurus SE - 18 mpg 1998 Ford Bus Handi-van - 12 mpg 2001Chevy Truck – 14 mpg 2008 Chevy Silverado Flatbed - 17 mpg 2002 Chevy Venture Van Blue - 17 mpg 2002 Chevy Venture Van Green - 17 mpg 2004 Chevy Classic - 22 mpg

License Plate No	Vear	Make	Model	Actual FY2010
SH 4686	1987	CHEVROLET	VAN	9
SH 6490	1988	DODGE	AMBULANCE	4
SH 7003	1984	CHEVROLET	TRUCK	12
SH 7109	1994	FORD	VAN	6
SH D184	1989	FORD	VAN	5
SH 9265	1992	DODGE	TRUCK	2
SH B536	2000	DODGE	STRATUS	19
SH B538	2000	DODGE	STRATUS	18
SH B617	1998	CHEVROLET	VAN	10
SH B703	1997	CHEVROLET	VAN	Insufficient data
SH B704	1997	CHEVROLET	VAN	Insufficient data
SH C414	2002	OLDSMOBILE	ALERO	Insufficient data
SH C415	2002	OLDSMOBILE	ALERO	18
SH C413	2002	OLDSMOBILE	ALERO	NA
SH C846	2001	DODGE	STRATUS	17
SH C847	2002	OLDSMOBILE	ALERO	14
SH C848	2002	DODGE	INTREPID	16
SH D144	2003	OLDSMOBILE	ALERO	16
SH D183	1992	CHEVROLET	CAPRICE	18

Hilo Medical Center

HSPLS: 16.31 miles/gallons

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(8) Beginning with fiscal year **2005-2006** as the baseline with respect to each agency that operates a fleet of thirty or more vehicles, collect and maintain, in addition to the data in paragraph (7), the following:

The following agencies did not reply to this section: B&F, DOT-Airports, DOT-Highways, HPHA

This section does not apply to the following agencies: AG, DBEDT, DCCA, DHRD, DHS, DLIR, DOD, DOTAX, FTZ, HCDA, HHFDC, HHSC, HSPLS, NELHA

The following agencies collect and maintain data on their own, and are in compliance: DAGS, DHHL, DLNR, DOA, DOE, PSD, UH

The following agency is in the process of implementing a system to collect and maintain data: DOH

(A) Information on the vehicles in the fleet, including vehicle year, make, model, gross vehicle weight rating, and vehicle fuel configuration:

See above

(B) Fleet fuel usage, by fuel:

UH: UH-Hilo's gasoline contract provides for usage information. All UH-Hilo vehicles run off 87-octaine gasoline unless recommended by manufacturer or powered by diesel.

(C) Fleet mileage:

UH: UH-Hilo is growing, and so are vehicle needs. But UH-Hilo is more efficient each year, offering more programs for more students, so the average mileage per student is going down due to efficient operations.

(D) Overall annual average fleet fuel economy and average miles per gallon of gasoline and diesel:

UH: UH-Hilo's gas contract provides mileage and gas consumption information. Older vehicles are decommissioned and replaced with new, more fuel efficient vehicles, which increases the fuel efficiency.

Renewable Energy and Resource Development

All affected agencies and programs are directed to review internal policies, rules, and practices regarding permitting requirements affecting renewable energy development. To the extent possible, permitting policies and practices should be streamlined to expedite implementation of renewable energy projects. It is requested that agencies prepare a report to my office identifying the specific steps they have taken to expedite the approval of renewable energy projects.

The following agencies did not reply to this section: AG, B&F, DAGS, DBEDT, DCCA, DHHL, DHRD, DHS, DLIR, DOA, DOD, DOE, DOH, DOT-Airports, DOT-Highways, DOTAX, FTZ, HCDA, HHSC, HSPLS, HTA-CC, NELHA, PSD, UH

DLNR: DLNR continues to review internal policies, rules, and practices regarding permitting requirements affecting renewable energy development. To the extent possible, DLNR streamlines permitting policies and practices to expedite implementation of renewable energy projects. Three of these permitting processes are detailed below.

DLNR issuance of Conservation District Use Permits

The Office of Conservation and Coastal Lands (OCCL) oversees activities within the Conservation District. OCCL is proposing new rules state as follows: "Hydroelectric, wind generation, ocean thermal energy conversion, wave, solar, geothermal, and other renewable power generation facilities from natural resources; includes generation, conversion, and transmission facilities and access roads. Renewable energy projects that are property sited and minimize impacts to natural, cultural, and recreational resources shall be expedited in the application review and decision-making process." Thus, renewable energy projects can be located within the Conservation District. Under the new proposed rules, renewable energy projects can be located within the Conservation District with approval by way of a Conservation District Use Permit. Language is also proposed that would require the Department to expedite projects that minimize impacts to natural, cultural, and recreational resources. OCCL initiated the rulemaking process in 2010 and therefore these proposed changes may take effect in the near future.

DLNR issuance of Incidental Take Licenses

In order to be in compliance with both state and federal endangered species laws, energy and resource development projects that impact threatened and endangered species must be issued an Incidental Take License by both DLNR and the United States Fish and Wildlife Service (USFWS). Both agencies require that project proponents complete a Habitat Conservation Plan (HCP) prior to the issuance of the take licenses. In order to minimize procedural burdens on the applicants, DLNR works cooperatively with USFWS in concurrently processing the request for take licenses. After notice in the periodic bulletin of the Office of Environmental Quality Control, a public hearing is held on the islands affected, which is, whenever possible, held jointly with USFWS. The Board of Land and Natural Resources (BLNR) may approve the federal HCP without requiring a separate version if the federal HCP satisfies all the criteria of the state endangered species statutes. All state agencies, to the extent feasible, work cooperatively to process applications for HCPs on a consolidated basis including concurrent processing of any state land use permit application that may be required. In order to further streamline the process of approving an HCP and the issuance of an Incidental Take License, the state established the

Endangered Species Recovery Committee that serves as a consultant to the BLNR by reviewing all HCPs and making recommendations regarding whether they should be approved.

DLNR Revised Application to Lease State Lands

For instances when Renewable Energy Producers are interested in leasing state lands, the Application Form has been revised to comply with Section 171-95 (a) (2)(3)(c), HRS. Land Division takes steps to process the request in a timely manner. Staff coordinates the Applicants' request for a lease with OCCL, DOFAW, OHA, and other government agencies. Then, staff obtains approval from the Land Board for the issuance of a direct lease.

HHFDC: HHFDC is still evaluating the possible installation of a "Photovoltaic" system or the vertical wind turbine system at the Pohulani Elderly building to supplement our electrical power supply. Our biggest limitation/restriction is open space.

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(1) Energy consumption in kilowatt hours for the past year (July 1, 2008, to June 30, 2009) FY '08 (kWh consumption);

Data were received directly from the electric utilities and are presented in Table 2.

FY '08 (paid for kWh consumption);

Data were received directly from the electric utilities and are presented in Table 4.

The following agencies provided this information in addition to utility data: HHFDC (Appendix 1)

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(2) Steps taken to inventory, investigate, plan, and implement energy reduction efforts.

The following agencies did not reply to this section: DOT-Highways, HPHA

AG: The department continues to issue reminders to staff to "Switch it off," keep blinds closed, and report equipment malfunctions. AG has also instituted a practice to leave off unnecessary hallway lights. All new equipment purchases must be ENERGY STAR® or approved by Administrative Services Office if not ENERGY STAR®.

B&F: Please see items 4, 5, 6 and 7 under "Act 96 SLH 2006: Buildings and Facilities" above.

DAGS: During fiscal year 2008 and 2009, eleven pilot retro-commissioning projects has been initiated on O'ahu, Hawai'i, Maui and Kaua'i to develop strategies that would result in energy savings. All of these projects have completed the investigation phases with all minor repairs completed. The Major repair/recommendations require substantial funding and have been incorporated into the DAGS CIP project plans; work will be completed as funds become available.

DAGS-PWD is doing an Energy Saving Performance Contracting (ESPC) project, for 10 DAGS facilities, and the retro-commissioning reports were provided to the contractor and they are incorporating some of the work into their project.

DAGS has also begun implementing a second ESPC project that will include the remainder of the DAGS facilities. In addition:

- *1.* DAGS, on behalf of the HSPLS started to implement retro-commissioning on all libraries statewide during FY 2010, to the extent funding is available.
- 2. DAGS, on behalf of the Department of Public Safety (PSD), has initiated an ESPC project for various PSD facilities.

DBEDT: DBEDT is active in inventorying major energy efficiency and renewable energy projects in the state and collecting state facility data. As of 2008, DBEDT obtained releases from the various agencies to receive their utility data direct from the utility to allow DBEDT to consolidate consumption and cost data and track agency progress. Using this data, which went back to 2005, DBEDT established a baseline year and ran analysis for each additional year.

The Strategic Industries Division (SID), in collaboration with the Research Economic Analysis Division (READ), developed a state facilities database with the goal of including all facility specs collected during benchmarking (see below), utility (electricity and water) consumption and cost data, demand-side management rebates, indoor environmental quality data, and info on any improvement projects.

DBEDT also monitors the development of renewable energy and energy reduction projects in the state and their impact on our Renewable Energy and Energy Efficiency Portfolio Standards (HRS §269-96, Act 155). The project database is currently under development and will be maintained by DBEDT.

DBEDT submitted a nomination for Hawai'i's Lead By Example program to the American Council for an Energy-Efficiency Economy (ACEEE), which recognized the program as one of four national recipients of the State Program Awards. The award reflects strong efforts among Hawai'i state agencies to quantifiably implement energy efficiency measures at state facilities. Reduction in energy consumption from fiscal year 2008 to fiscal year 2009 was 5.8%, resulting in an estimated savings of \$10M.

Quarterly Rebuild Hawai'i Consortium meetings were held on March 10, 2010, and June 2, 2010, at the Hawai'i Convention Center Auditorium. More than 135 representatives of federal, state, and local government, as well as gas and electric utilities, K-12 educational facilities, University of Hawai'i, Hawai'i Pacific University, non-profits, professional organizations, and the private sector attended. The meetings focused on energy efficiency and renewable energy projects, achievements and lessons learned. The Rebuild Hawai'i Consortium is a statewide networking and information-sharing group that includes highly skilled and motivated public/private sector participants. Membership continues to grow (currently over 500) and the information and professional relations developed as a result of the networking opportunities afforded by Rebuild Hawai'i are considered very valuable to those who participate in the quarterly meetings.

DCCA: Assisted DAGS with a survey to determine the number of individual offices where it is practical to use desk lamps. In areas where there is adequate natural lighting, the use of desk

lamps or other forms of task lighting in lieu of overhead lighting could generate electricity cost savings. Where practicable, divisions were encouraged to use desk lamps where practicable.

Continued to work with DAGS to monitor and review AC temperature data and made adjustments to air-conditioning system controls to correct areas of inefficiencies.

DHHL: DHHL will continue to keep an inventory of department electric meters, departmental operations and construction.

DHRD: The department continues to encourage all employees to implement energy conservation practices. Examples include turning off hallway and elevator lobby area lights at the end of the day; and turning off copier machines and computers rather than leaving the equipment on sleep mode.

The Department of Accounting and General Services (DAGS) implemented the following water and energy conservation initiatives for the Leiopapa A. Kamehameha (LAK) building, which this department occupies: (a) modified air conditioning hours of operations; (b) installed occupancy sensors in offices and restrooms; (c) installed lighting improvements to make the system more efficient; and (d) replaced toilets with low flush models.

DHS: DHS is a participating department in the State's Lead By Example program. As a part of this statewide project, DHS is developing a plan to implement energy reduction efforts.

DLIR: An assessment of electricity use was completed for seven of the Department of Labor and Industrial Relations (DLIR) offices that are not maintained by DAGS Central Services. The assessment of the seven offices covered the period July 1, 2005 through June 30, 2009. Based on our review, the seven offices utilized a total of 1,674,758 kilowatt-hours, resulting in a total cost of \$554,744.65.

Based on the energy usage, the DLIR plans to do the following:

- 1. DLIR will consult with DAGS and issue a department memorandum reminding all offices of the need to adhere to energy efficiency practices such as turning off electrical lights, printers, copier machines, etc., when not in use.
- 2. Continue to request assistance from DAGS to provide analysis of the seven affected DLIR program offices. Based on DAG'S analysis, develop a plan work to with DAGS and DLIR offices to develop and implement energy saving measures to reduce electricity usage.
- 3. Assess each office's space need requirements and consider consolidation of offices.

The DLIR participated in an Environmental Preferable Purchasing (EPP) survey mandated under the following Federal and State laws, and the applicable Administrative Directives:

- 1. Resource Conservation and Recovery Act (RCRA), Section 6002, 42 U.S.C. 6962. The RCRA requires state and local government agencies and their contractors receiving appropriated federal funds to purchase EPA-designated recycled content products.
- 2. Section 103D–1005(b) of the Hawai'i Revised Statutes. Section 103D-1005(b) requires state purchasing agencies and encourages county purchasing agencies to:

- Apply preferences to purchase of products with recycled content;
- Be consistent with RCRA Section 6002, E/O. 13101 and its progeny;
- Ensure, to the maximum extent economically feasible, the purchase of materials that may be recycled or reused when discarded and to avoid the purchase of products deemed environmentally harmful.
- 3. Administrative Directive 06-01 signed by Governor Linda Lingle in January 2006 requires State agencies to purchase environmentally preferable products that reduce their impact on the environment and improve indoor environmental quality. Also included are ENERGY STAR® and low toxic products as examples of environmentally preferable products.

The DLIR plan includes the following:

- The DLIR will continue to utilize the results of the EPP survey to structure and plan for the period July 1, 2009 to June 30, 2010. In addition, the department will continue to utilize the SPO price list and require all programs to purchase recycled and environmentally preferable products.
- DLIR programs will continue to include ENERGY STAR® products as part of the procurement approval process. In addition, the department will also include in our procurement procedure a policy to check whether utility rebates are available and can be utilized in the purchase of the products.
- The DLIR policy mandates the purchase of recycled paper and utilization of the State Procurement Offices Price List (SPO PL) for all purchase where products are available through the SPO PL. The DLIR will issue a departmental instructional memo to continue to insure conformance with the results of the EPP Survey as an integral part of the procurement policy.

The gasoline usage and cost of fuel for the two vehicles owned by the DLIR were derived by manually reviewing all invoices submitted by the DAGS Automotive Management Division and preparing a spreadsheet.

The DLIR plan includes the following:

• The DLIR owns the following vehicles:

1998 Ford Windstar 1994 Chevrolet Astrovan

DLIR does not have immediate plans to purchase another vehicle in the near future; however, DLIR will adhere to the applicable state laws regarding vehicle purchases.

• The DLIR's two current vehicles are in sound operational condition and as such, there are no plans to replace the vehicles in the near future. Prior to purchasing a vehicle in the future, the DLIR will insure that any vehicle purchase satisfies federal and state mandates and will purchase the most fuel efficient vehicle that meets the needs of our program.

DLNR: Division of State Parks (SP)

SP continues its implementation of energy efficiency and conservation strategies started in FY 2009 for park facilities that include the retrofitting and replacement of existing lighting fixtures and systems; installation of new fixtures and EnergyStar appliances; repairing and replacing electrical and water systems to reduce energy and water leakage and waste. Other efforts include funding energy efficiency measures for the "Iolani Palace climate control systems that is anticipated to start in 2011.

In coordination with DLNR's Engineering Division, a pilot project will be designed for utilizing sustainable energy sources such as solar and wind for certain park facilities such as water and sewer systems, lighting and energy needs. Potential project areas include Kōke'e State Park, Kaua'i; Wailuā River State Park, Kaua'i; Polihale State Park, Kaua'i; and Mauna Kea State Recreation Area, Hawai'i.

DOA:

- 1. Continued to work with DAGS Central Services Division in identifying possible energy efficiency projects.
- Continued to retrieve information electronically on gas consumption and odometer readings from DAGS Automotive Management Division, Tesoro and Hawai'i Petroleum for FY10. Continued to use vehicle refueling log for program that have vehicles that refuel at places other than DAGS, Tesoro and Hawai'i Petroleum.
- Continued to retrieve information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawai'i Petroleum for FY10.
- 4. Monitored and compiled kWh consumption data and cost for electricity for FY10.
- 5. Reminded staff of department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices intended to minimize energy, fuel and water consumption and implement resource-efficient operations. Includes department's target consumption goals for electricity, fuel and environmentally preferred products.
- 6. Distributed DAGS memo requesting employees to conserve energy and to report any water waste from open faucets, leaky plumbing fixtures, and broken and/or inefficiently run irrigation system.
- 7. Developed spreadsheet to compare data in FY 2008, FY 2009, and FY 2010 on electricity kWh consumption and percentage increase/decrease from previous year and distributed to program managers for their review and information.
- 8. Provided guidelines for staff at each HDOA facility regarding AC hours of operation and to turn off lights and equipment when not in use.

DOD: Per Federal mandates: Building energy audits to be performed on 25% of buildings annually or all buildings every 4 years. FY10, energy audits performed by department staff. Reviewing ENERGY STAR® Portfolio Manager and utility energy service contracts (UESC) energy assessment.

Projects reviewed for energy efficiency efforts: HVAC, controls, lighting.

DOE: The DOE has developed an internal system that enables the comprehensive managing of all utilities – electricity, water, sewage disposal, and gas – for all schools through a central office. As of March 1, 2007, the payment for all utilities was centralized into one office. DOE is able to track and establish programs that monitor utility use by schools specifically identifying (schools) with higher than anticipated consumption.

Immediate steps for conservation programs continue and are listed as follows:

- Continue with implementation of LEED Silver for new and major construction projects. Continued training for *LEED New Construction* and *LEED for Schools* as up-dated by USGBC.
- Continue with installation of low-flow bathroom fixtures whenever fixtures require replacement.
- All incandescent lamps will be replaced with compact fluorescent lamps (CFL).
- Continue meetings with vendors seeking new energy conserving technologies. Continuation with pilot (test) studies of new promising technologies.
- Establishment of a Water Conservation "Steering Committee" or "Task Force" within the Office of Business Services School Facilities and Support Services to expedite conservation activities between branches and within the DOE as a whole.
- Open discussion with the Board of Water Supply to seek innovation water conservation concepts, projects, and/or studies such as Irrigation Management Control System, plant species, drip irrigation, and captured rainwater.

Immediate steps in DOE Policy for school conservation are listed below:

Electricity:

- Set air conditioning so that the room temperature is 76 degrees.
- Do not turn on any air conditioning until 7:00a.m. or (if the air conditioning unit is turned on and off manually) until the room temperature reaches 74 degrees, which ever comes later, and turn off all air conditioning no later than 4:30p.m.
- Use timers to turn off 75 percent of night lights between the hours of 10:00p.m. and 6:00a.m.
- By June 15, 2009, replace all appliances (refrigerators, microwave ovens, toasters, coffee makers, rice cookers, etc.) in classrooms and offices with ENERGY STAR®-rated appliances. Personal appliances should be limited to no more than one of each on each floor of a building. All other personal appliances shall be removed by December 31, 2008.
- Purchase or lease only ENERGY STAR®-rated computers, copiers, printers, and servers.
- Turn off computers, printers, and copiers at the end of the day.
- As of July 1, 2009, all schools with central chiller air conditioning will need to reduce their energy usage by 16% via baseline reduction. All other school will have their baseline reduced by 6%.

Water:

- All schools and offices shall cut back on water usage by at least 10 percent. Water lawns early in the morning or late in the afternoon or evening.
- Timers on automatic sprinklers shall be adjusted to water the lawns on Sundays, Tuesdays, and Thursdays, either before 9:00 a.m. or after 5:00 p.m.
- Manually water lawns on Mondays, Wednesdays, and Fridays, either before 9:00 a.m. or after 5:00 p.m.
- Car wash fundraisers shall be curtailed.
- Flooding water beds or shooting down lanai areas is highly discouraged.
- Develop a water usage tracking system that overlaps high water usage tracking system employed by the Board of Water Supply. This tracking system will identify slow developing leaks that can go undetected by BWS under their tracking system.

DOH: The DOH is aware of energy saving measures. DOH implements and initiates these measures whenever possible.

DOT-Harbors: A program to ensure that inventorying, investigations, and plans and implementations are effective and in compliance with regards to Act 160 is largely accomplished through our CIP and special maintenance projects.

DOTAX:

- DOTAX continues to follow Energy Conservation best practices as outlined by the Director of Taxation in his memorandum dated March 1, 2006.
- DOTAX continues to monitor and control usage of after hour and weekend air conditioning.

FTZ: The FTZ has replaced the current warehouse lighting with energy efficient 40-60 watt CFL bulbs which replaced the less efficient 300 watt incandescent light bulbs. The FTZ now utilizes only eight (8) CFL bulbs to light the warehouse at night for security purposes

HCDA: There are no plans to expedite approval processes as already HCDA has Administrative Rules that mandate decisions be made within a set amount of time or else permits are automatically approved; however HCDA is:

- Currently requiring, as a permit condition, private developers to consult with HECO, DBEDT Energy Division, and the Board of Water Supply on ways to conserve/preserve resources; and
- Considering, as part of its Mauka Area Plan & Rules incorporation of LEED standards as a requirement of all development – public or private – in its Kaka'ako Community Development District. Same is true at Kalaeloa.

HHFDC: A cost (material / installation) study has been completed on all O^cahu island affordable housing projects managed by HHFDC. The survey encompassed all common area lighting. The results are that these are large ticketed items that will be completed in phases. HHFDC is continuing to convert tube type fluorescent lamps from the T-12 to T-8 size. All screw-in incandescent bulbs will be changed to screw-in CFLs of equivalent size. Most EXIT signs have been retro-fitted with LED assemblies. Some garage spaces are hard to get to and exterior lights have been altered or replaced with induction lamps / fixtures. As many of these phased projects as possible were completed by the end of the 2009 calendar year. This was done so HHFDC could reap the benefits of the HECO rebate program. Already, an average decrease of greater than five percent (5.0%) on overall electrical usage in our first half year of the installations has been seen. With the use of the rebates and usage reduction it is anticipated that the cost payback could be less than three (3) years. Outer island project managers are being tasked with inquiring with their respective utility companies as to the possible rebate programs that they can participate in as an effort to improve energy consumptions.

HHSC:

- Hilo Medical Center (HMC) Hilo Medical Center will implement an energy audit when funds are available, and will implement actions recommended by the energy audit based on availability of resources.
- Kona Community Hospital Currently looking at power factor saving with capacitor bank for reduction in electrical rates. Continually monitoring water consumption and any methods needed to improve waste. Energy reduction plan at night with interior lighting.

- Samuel Mahelona Memorial Hospital The facility has updated its electrical system to include 480 volt systems.
- **O'ahu Region** Looking into implementing energy audits and commissioning on all facilities when funds are available. The energy audits will assist each facility with recommendations to reduce energy. Commissioning will help to calibrate all working equipment to manufacturer's recommended settings which would improve efficiency and reduce energy usage.
- West Kaua'i Medical Center The facility has incorporated a co generation plant to offset electrical and heating cost for the facility. The center is also working with the local businesses to utilize recycled water for irrigation of hospital grounds and started communication with the county water supply to sub meter our water consumption.

HSPLS: See Response to Act 96 SLH 2006: Buildings and Facilities. HSPLS is working with DAGS, Public Works Division and its Central Services Division to implement many energy efficiency projects over the past two years. All 51 public libraries statewide have been retrofitted with energy efficient electronic ballast and super T-8 lamps for all of its lighting fixtures. DAGS on HSPLS' behalf has bid out and awarded window tinting projects for dozens of libraries statewide. DAGS bid and is currently awarding seven projects for the installation of Photo Voltaic systems at two libraries each on Kaua'i, O'ahu, and Maui and one on the Big Island. They are also currently awarding and implementing retro-commissioning projects for a number of libraries depending on the available CIP budget. The Benchmarking of public buildings as required in Act 150, SLH 2009 is also included with these retro-commissioning projects using the ENERGY STAR® portfolio management or equivalent tool for all public libraries meeting these criteria.

HTA-CC: HTA and HCC continue reviewing all CIP projects to implement where possible renewable energy or energy efficient programs and projects wherever available.

NELHA: NELHA is planning to release a RFP for construction and operation of a 1 MW OTEC plant. Act 157 allows NELHA to generate, move about, and convey to adjacent properties electrical energy. Bioenergy Hawai'i's 8.9 MW generating plant at NELHA would cover all NELHA electrical requirements as well as those of the airport.

PSD: PSD is currently exploring "Energy-Savings Management" systems that are able to access various facility operating system component, collect energy data, transmit same to a "central information hub" for analyses, and; prepare (and share) appropriately formatted reports of the baseline energy data consumed; the current consumption of energy by operating system and facility to ascertain cost savings over time and whether or not PSD is "on track" to meeting the Governor's policy objectives in this area.

UH:

- UH Mānoa in cooperation with the UH Mānoa Center for Smart Buildings has conducted and audit of re-lamping opportunities. UH Mānoa has completed a detailed Facilities Condition Assessment of 59 of its largest buildings and has identified over one hundred and fifty energy conservation projects.
- **UH Hilo** The University has completed a project to have night lights remotely monitored and controlled via a computer network to save energy.
- UH West O'ahu No new initiatives. Lights are turned off when rooms are not in use. Air conditioning and light timers are adjusted during no class periods.
- **UH Community Colleges** No new plans.

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(3) A **plan** or alternatives to reduce energy consumption in the future.

The following agencies did not reply to this section: DOT-Airports, DOT-Highways, HPHA

AG: AG is constantly looking to employees and DAGS for further ideas to implement for energy savings. The department is working with DAGS to have air conditioning systems evaluated and updated, if deemed necessary. AG has also worked with DAGS to reduce lighting in lesser used areas and hallways and assisted them to replace lights with energy efficient light bulbs.

B&F: The Department will continue to encourage all employees to initiate and implement energy efficient practices (i.e. turning off office light when not in use or when leaving for the day, turning off computer terminals at the end of the day, distributing ENERGY STAR® saving tips, etc.). The Department, as well as all other departments, is working with DBEDT and DAGS in this effort to identify and implement energy reduction initiatives.

DAGS:

- 1. Retro-commissioning projects for various DAGS facilities statewide (pending funds; ongoing training and partnering with HECO and in conjunction with DBEDT; submetering where feasible and funds are available; updating and implementing additional policies; and keeping abreast of the latest energy reducing innovations and practices.
- 2. 100 kilowatt photovoltaic (PV) system is under construction at the Kalanimoku Building.

DBEDT: Act 207, SLH 2008, gives DBEDT the authority to coordinate and facilitate the permitting for renewable energy projects with capacity to generate 5MW or more or 1M gallons of biofuel per year. DBEDT is required to create a "Permit Plan" for qualified renewable energy facilities, coordinate with all permitting agencies to address permitting hurdles, approve any environmental review, and approve all permits if not issued within 12 to 18 months after acceptance of the final environmental review document. At least three developers have entered into the HRS 201N siting process, and DBEDT has assisted countless other renewable energy developers through the permitting process. DBEDT's role is as a liaison between other state agencies and the private sector.

DBEDT, with the help of private contractors, has also developed permitting guidebooks identifying all the potential permits a renewable energy developer would need. On the HCEI website, DBEDT has made available all the necessary permit applications and provides practical information to help guide developers through the permitting process.

DBEDT is also developing methods such as a loan loss reserve and Property Assessed Clean Energy (PACE) loan program for financing energy efficiency projects.

DCCA: The department's I.T. staff is developing a power management strategy to reduce power consumption for computer systems and has embarked on a virtualization solution for server utilization. The department will also continue to work with DAGS to identify energy

efficiency initiatives and encourage employees to adopt energy conservation practices wherever practicable.

DHHL: DHHL conducts in-house energy programs to inform all staff to reduce energy consumption using guidelines and recommendations from the educational leaflet from the US Department of Energy.

DHRD: The department will continue to encourage all employees to implement energy conservation practices and will work with DAGS to identify energy efficiency initiatives.

DHS: DHS is a participating department in the State's Lead By Example program. As a part of this statewide project, DHS is developing a plan to reduce future energy consumption.

DLIR: Based on its energy use, the DLIR plans to do the following:

- 1. Continue to consult with DAGS and issue a department memorandum reminding all offices of the need to adhere to energy efficiency practices such as turning off electrical lights, printers, personal computers, copier machines, etc., when not in use.
- 2. Continue to request assistance from DAGS to provide analysis for the seven affected DLIR program offices. Based on DAGS' analysis, DLIR will continue to develop plans to develop and implement energy saving measures to reduce electricity use.
- 3. Assess each office's space need requirements and consider consolidation of offices.

4. Conduct self-audits of DLIR offices to identify and reduce energy consumers such as small appliances and electronic equipment.

5. Work with DAGS on the installation of solar electrical panels on the unused roof space to reduce the energy cost.

DLNR: The 'Iolani Palace State Monument climate control project as noted in the FY 2009 report is anticipated to result in a 310,000 KWH savings amounting to over \$43,000. The project is in the process of obtaining approval and agreement with the State Department of Accounting and General Services (DAGS) to house the HVAC chiller plant in the State Archives Building. The system will service both the Palace and Archives Building. The Division of State Parks acknowledges DAGS implementation of performance contracting for its facilities and will coordinate to ensure that the system will not jeopardize its energy efficiency efforts. DLNR anticipates construction to start in 2011.

DOA:

- 1. As funding allows, initiate lighting and window tinting operating projects and retrocommissioning CIP projects.
- 2. Send out reminders to employees to practice energy and water conservation measures.
- 3. As funding allows, replace air conditioning systems and units with energy efficient ones.
- 4. As funding allows, upgrade to more efficient pumps and motors on irrigation systems.
- 5. As funding allows, install timers and other electronic controls on selected irrigation systems.
- 6. Promote car-pooling and bicycling.
- 7. Reduce operating hours of air conditioning system.
DOD: Some projects are per Command direction. Energy efficiency and reduction is a major concern. General repair and maintenance reviewed for energy efficiency measures.

Multiple HVAC designs are in process to replace old and inefficient systems. Energy Management Systems are being planned at several "energy hogs". Lighting retrofits: replacing T12 with T8s, replacing high pressure sodium (HPS) with compact fluorescent (CFL), metal halide (MH) or light-emitting diode (LED).

Training schedules implemented to reduce a/c runtime.

FY10, two PV projects executed.

FY11, six renewable energy projects being designed and reviewed.

DOE: Plans for future energy consumption reduction include both Energy Conservation Measures and Effort with Renewable Energy.

Energy Conservation Measures

- Energy Audits: The Energy Conservation Coordinator will continue with on-site school assistance for energy audits and educational exchange.
- "School Energy Conservation Program": Continue with the program that rewards schools who have reduced energy usage as compared to a baseline.
- Facilities Development Pilot Studies: Various types of technologies are available that may reduce energy use for DOE. However, their adaptability, suitability, etc. for use with DOE remains an element of risk management. Certain technologies compete for a desired effect however may be dramatically different in cost and application. Examples could be reflecting solar energy versus insulation, separate dehumidification versus selection more efficient air conditioning. To date multiple technologies have been implemented by DOE that now needs follow-up study and reports to determine Best Practices for future facilities development work standardization.
- Heat Abatement Testing: Continue with on-going efforts to install and analyze various methods to reduce heat gain and increase comfort for portable classrooms with projects at Lokelani, 'Ewa Beach and Kahuku. Eventual roll-out of proven and cost effective technologies and methods will be implemented as standard retrofit design in the future.
- Education and Training: More education and training will be sought from energy conservation equipment vendors. There will be continuation with LEED education for DOE employees via on-the-job and USGBC product offerings.
- Energy Service Company (ESCO)-Utility Energy Services Contracts (UESC)-Power Purchase Agreements (PPA) Effort: Investigative work will continue in the areas financing energy conservation equipment retrofitting with the assistance of ESCO, UESC, and PPA.
- DOE Operations and Maintenance Best Practices: DOE internally will in the future hold internal meetings between offices and branches that will align and focus energy conservation efforts. This can include product (material and method) selection by committee based upon maintenance, performance, LEED, and cost benefits. This can be with further education and training for more efficient use of existing technology such as air conditioning and lighting controls, smart utility metering, sub-metering, etc.
- DOE School Best Practices: An investigation for identification of school equipment and/or operations that may best benefit energy conservation with the least amount of negative impact to school operations and functions will be reviewed. This will also include procurement and availability of energy efficient products or products favoring LEED criteria. This can involve school scheduling and selection of facility use or setting of temperatures for air conditioners.

Effort with Renewable Energy

A limited number of schools have had photovoltaic (PV) systems installed either by independent school effort and/or with electric utility support such as "Sun Power for Schools". Kualapu'u Public Charter School has had a 22kW system installed. Through federal government support, Kapa'a HS is planning for a moderate sized PV system to cover operational costs for aquaculture farm pumping in conjunction with DLNR.

The Legislature, through Act 96, SLH 2006, appropriated \$5 million to the DOE for a pilot photovoltaic project. Approximately a sum over \$4 million was return to the State. The specific objectives as set forth in the Act as they relate to this photovoltaic pilot project include:

- 1. To have, at minimum, a project site at one of the public schools within each of the counties of O'ahu, Hawai'i, Kaua'i and Maui.
- 2. Installation of photovoltaic (PV) system to be timed in conjunction with substantial roof repairs or roof replacement.
- 3. To use the application of net energy metering to offset the cost of the system.
- 4. To recapture system cost within three quarters of the useful life of the PV system.
- 5. When advantageous, to use energy-savings contract such as third party lease or purchase to maximize the objectives of this section.
- 6. Report results and recommendations from this project.

The Governor has released the funds for this project and the DOE has selected Energy Industries (EI) as the consultant to implement this program. Energy Industries is a Hawai'i-based lighting and HVAC company that specializes in reducing the energy expenses of its clients by identifying and implementing energy conservation measures (ECMs) that reduce electrical demand load. Energy Industries also specializes in the integration of renewable and distributed energy systems along with energy conservation measures. The contract with EI includes the following deliverables:

- 1. Rating and selection of project sites (schools) based on a weighted scorecard.
- 2. Develop basis of design and determine optimal implementation.
- 3. Project management and quality assurance during construction.
- 4. Measurement, verification, and reporting of pilot results one year after PV installation.

Based on the data from EI, DOE determined that it is not economically feasible for the Department to purchase and install PV systems without taking advantage of federal and state tax credits. Therefore, a better strategy of obtaining PV systems for schools would be to develop a power purchase agreement (PPA) and have a 3rd party vendor install and maintain the PV systems. The DOE would purchase the kilowatts generated by the system at a discounted rate.

DOE has developed a Request For Proposal (RFP) for this project that will require the installation of one 30 - 50 kW system on the islands of Hawai'i, Maui, and Kaua'i, and four systems on O'ahu. The RFP is currently being reviewed by the Attorney General's Office before the DOE issues it. DOE hopes to get the proposal out by the end of January 2010.

DOE is also in the process of developing guidelines, standards, and best practices to meet new energy efficiency requirements for all CIP and repair and maintenance (R&M) projects.

DOH: The DOH will be converting all fixtures to super T-8 lamps with electronic ballasts. The DOH will continue to delamp unnecessary lamps. All air conditioning retrofits will involve more energy efficient equipment.

DOT-Harbors: DOT-Harbors will increase awareness and training for employees on available energy conservation technology or practices and develop program milestones or metrics to encourage reduction of energy consumption.

DOTAX: DAGS is currently working on energy savings measures, including air conditioning retro-commissioning, for the Ke'elikōlani Building in which the DOTAX O'ahu District Office is located.

FTZ: The FTZ is participating with DOT-Airports in an RFP for solar electricity generation for its 5 acre roof in downtown Honolulu. The FTZ is anticipating generating approximately 1 MW from this photovoltaic system, effectively reducing its electric costs to zero for the next twenty (20) years.

HCDA: Incorporate energy savings devices and procedures in future developments as well as retrofit where appropriate. Exploring installation of photovoltaic system on CFS3, Park Caretakers and Net Shed buildings.

HHFDC: The daily plan is to continue monitoring all utility uses in all the common areas so as to reduce consumption and the dollars spent. This will not only reduce operating costs, but the common cost shared by the commercial and residential tenants.

The end plan is to use every alternative possible to insure HHFDC and its tenants receive the best service at the least out of pocket expense on everyone's part.

HHSC:

- Hilo Medical Center (HMC) HMC has an operating co-generation plant with two (2) 365kW generators that it uses to supplement its power needs for the facility. In addition, HMC implemented ECMs between 2001-2003 to reduce its power consumption needs by integrating ECMs such as:
 - Chiller plant upgrades
 - An Energy Management Control System
 - Replacement of smoke dampers and actuators
 - Replacement of steam traps
 - Lighting system improvements
 - Use of premium efficiency motors
 - Installation of solar window film
 - VFD control of VAV air handlers
 - Low-flow plumbing fixtures

HMC will continue to look for additional alternatives to reduce energy consumption both now and in the future through building, renovation, and replacement programs.

• Kona Community Hospital - In 2011 CIP funding will be used to support future design plans for power factor improvements and implementation.

- **Samuel Mahelona Memorial Hospital** Asked for CIP funding to complete a master study of the facility.
- **O'ahu Region** The O'ahu Region plans to use the approved ESCO list that DAGS developed to implement energy reduction at all of their facilities. Pertinent information is being gathered as part of the information that would be provided to the ESCOs.
- West Kaua'i Medical Center Asked for CIP funding to complete a master study of the facility.

HSPLS: See Response to Act 96 SLH 2006: Building and Facilities.

The construction of the new Mānoa Public Library is ongoing since the ending of 2009. In spite of the many delays due to permitting, weather, sub-contractor issues, etc. the construction should be completed by mid-2011 with the grand opening to follow before the end of 2011. The construction contract of \$8,159,000 was awarded to Allied Pacific Builders, Inc. and we are very hopeful that this project will achieve at least the LEED Silver rating.

The Construction of the new North Kohala Public Library is almost complete and we are planning for the grand opening to the public before the end of this year, 2010. The construction contract of \$6,895,900 was awarded to Isemoto Contracting Co., Ltd. and the project should achieve the LEED Gold rating. It is currently two points plus into the LEED Platinum rating

HSPLS is working with DAGS, Public Works Division and its Central Services Division to implement many energy efficiency projects over the past two years. All 51 public libraries statewide have been retrofitted with energy efficient electronic ballast and super T-8 lamps for all of its lighting fixtures. DAGS on HSPLS' behalf has bid out and awarded window tinting projects for dozens of libraries statewide. DAGS bid and is currently awarding seven projects for the installation of Photo Voltaic systems at two libraries each on Kaua'i, O'ahu, and Maui and one on the Big Island. They are also currently awarding and implementing retro-commissioning projects for a number of libraries depending on the available CIP budget. The Benchmarking of public buildings as required in Act 150, SLH 2009 is also included with these retro-commissioning projects using the ENERGY STAR® portfolio management or equivalent tool for all public libraries meeting these criteria.

HTA-CC: Currently HTA and HCC are researching and analyzing the use of photovoltaic panels for alternative energy.

NELHA: None. Approximately 98% of the energy consumed by NELHA is a direct result of economic development activities on the part of tenants. There is no way NELHA can reduce its energy consumption short of initiating and operating its own power projects or having tenants cease business.

PSD: With the Public Works Division of DAGS preparing a short list of ESCO vendors, PSD intends to invite not less than three of the seven "short listed" vendors who have extensive auditing work of correctional facilities to respond to a Request for Proposal for the development of an "Investment-Grade" Energy Audit to be performed at all correctional facilities throughout our State.

An integral part of this audit will be to develop a plan that will provide project scopes and cost estimates to design and construct the necessary improvements, alterations, modifications and/or retrofits necessary to meet the Governor's target objectives. Further, as said improvements are implemented, a concurrent development of the Energy Savings Management Program will be to

bring online an information network to measure and provide timely feedback to the Department of how effective the earlier-described actions have been in meeting the objectives by the timeframe the Governor has envisioned.

UH:

- UH Mānoa has installed 15 kW of PV in several systems on campus and is in construction to install an additional 70 kW in three additional systems by year end 2010. Plans are currently in design to install a 500 kW system in early 2011 at the Law School Library.
- UH Hilo A 30 kW PV system with the new Sciences & Technology Building is currently under construction. A 23 kW PV system over the Campus Center will be under construction. A 30 kW PV system is being planned on PB 11 roof. An 88 kW PV system over the North Hawai'i Education and Research Center currently in the bidding process. An estimated 60 kW PV system will be additive bid alternates in the Student Services Building project. UH Hilo has a policy to include PV in all new construction projects.
- UH West O'ahu No new plans.
- Hawai'i CC No new plans.
- Kaua'i CC A 80 kW PV system has been installed on the south-facing roof of the One-Stop Center building. The College is currently working with the UH Community College Facilities staff to select an ESCO that will determine the best efficiency and renewable energy measures for the college.
- Maui CC Finalizing Energy Conservation Measures for Performance Contract Services scope of work.
- Honolulu, Kapi'olani, Leeward, & Windward CCs Pending contract with Energy Savings Performance Contracting Service for performance contracting and alternative energy sources by Power Purchase Agreement.

<u>Act 155</u>

(1) Each state department shall benchmark every existing public building that is either larger than five thousand square feet or uses more than eight thousand kilowatt-hours of electricity or energy per year and shall use the benchmark as a basis for determining the State's investment in improving the efficiency of its own building stock. Benchmarking shall be conducted using the ENERGY STAR® portfolio management or equivalent tool.

The following agencies did not reply to this section: DLNR, DOD, DOT-Airports, DOT-Highways, FTZ, HCDA, HPHA, NELHA, PSD

This section does not apply to the following agencies: HHFDC

This section does not apply to the following agencies because DAGS manages their facilities: AG, B&F, DCCA, DHRD, DHS, DLIR, DOTAX

DAGS: During fiscal year 2010, DAGS attempted to benchmark 19 of its O'ahu facilities; the 10 remaining facilities on O'ahu would be benchmarked through the Energy Savings Performance Contracting project.

Of the 19 O'ahu Facilities: 8 facilities were certified and received an ENERGY STAR® Plaque, 1 facility's score was too low to qualify as an ENERGY STAR® Facility and 9 facilities were not

eligible to be benchmarked since they did not fall into one of the ENERGY STAR® categories or had multiple buildings on one electric meter.

The ENERGY STAR® program does not allow benchmarking for campuses (having one electric meter for multiple buildings), parking structures and when a building has a large percentage used as computer rooms.

Benchmarking for Neighbor Island DAGS facilities is currently underway.

DBEDT: DBEDT has been active in helping other agencies comply with these requirements through the following activities:

- Arranging and promoting a number of online trainings on using the Energy Star Portfolio Manager online tool and distributing information on benchmarking to other agencies.
- Assisting other agencies to meet the benchmarking requirements of Act 155 (SLH 2009) by collecting data for input into Energy Star Portfolio Manager. This data included square footage, occupancy, number of computers, space classifications, percentage of area air-conditioned, hours of operation, and indoor environmental quality measures. To date, 63 facilities have been benchmarked.
- If a benchmarked building received an Energy Star score that qualified for certification, DBEDT assisted in completing the application for certification by conducting the necessary indoor environmental quality assessments. These include lighting measurements, CO2 levels, temperature, and humidity measurements.

Setting up and managing a master state Energy Star Portfolio Manager account. Agency accounts were linked into the master account so that all benchmarked state facilities' data could be accessed, extracted, and analyzed from a single account. The information collected through the master account is also used in the DBEDT state facility database mentioned above that includes not only Portfolio Manager data, but utility data, demand-side management (DSM) information, improvement project details, and indoor environmental quality measurements.

DHHL: The Department of Hawai'ian Home Land compiles all electricity bills for the DHHL Kapolei Office and all DHHL district offices statewide, assesses the annual kilowatt energy consumption per year, and is developing a monitoring program to reduce energy consumption by at least 10% per year.

DOH: The Department of Health is in the process of addressing this.

HHSC:

- Hilo Medical Center (HMC) HMC created a Portfolio Manager account and is populating the Facility Data of the account. We will continue to do so and will integrate Hale Ho'ola Hamakua and Ka'u Hospital into the program once all data for Hilo Medical Center has been entered.
- Kona Community Hospital Moving forward in 2011, these benchmarking tools will be used.
- **O'ahu Region** The O'ahu Region will benchmark their buildings using the ENERGY STAR® portfolio management tool.

HSPLS: HSPLS initiated the benchmarking of those libraries meeting these criteria with the retro-commissioning projects in this current FY 2010. See Act 96, (4). Required benchmarking using the ENERGY STAR® portfolio management tool should be completed by the end of FY 2011.

UH:

- UH West O'ahu –Attended the ENERGY STAR® web session on benchmarking in portfolio manager for local and state governments. UHWO is in the process of entering campus data onto the ENERGY STAR® Portfolio Manager website.
- UH Mānoa –Initiated a campus-wide faculty and student effort to perform ENERGY STAR® audits for all buildings that use more than eight thousand kilowatt-hours of electricity per year or are greater than 5,000 GSF. This program will be completed by December 1, 2010.

HHFDC -- ELECTRICAL CONSUMPTION DATA FY - 2010

PROJECT NAME		KWH			COSTS
KAUHALE KAKAAKO	860 Haleka	uwila Street; Hono	olulu, HI 96	813	
JULY		50,215		\$	7,791.04
AUGUST		50,228		\$	8,920.77
SEPTEMBER		50,128		\$	9,611.37
OCTOBER		46,436		\$	9,240.30
NOVEMBER		51,266		\$	9,915.32
DECEMBER		46,232		\$	8,867.32
JANUARY		43,610		\$	8,341.76
FEBRUARY		41,409		\$	8,171.90
MARCH		39,788		\$	8,413.76
APRIL		42,054		\$	8,599.72
MAY		38,144		\$	8,241.38
JUNE		39,447		\$	8,476.47
TOTAL	S	538,957		\$	104,591.11

KEKUILANI COURTS	91-1083 Kekuilani Loop; Kapolei, HI 96707				
JULY		4,773		\$	984.08
AUGUST		4,755		\$	953.95
SEPTEMBER		4,903		\$	1,125.22
OCTOBER		5,137		\$	1,206.91
NOVEMBER		4,791		\$	1,144.31
DECEMBER		4,455		\$	1,037.10
JANUARY		4,478		\$	1,039.11
FEBRUARY		3,355		\$	837.35
MARCH		3,473		\$	845.91
APRIL		3,523		\$	897.62
MAY		3,461		\$	862.43
JUNE		3,538		\$	917.77
TOTALS		50,642		\$	11,851.76

KEKUILANI GARDENS	91-1045 Kekuilani Loop; Kapolei, HI 96707				
JULY		3,903		\$	767.20
AUGUST		3,802		\$	834.61
SEPTEMBER		3,697		\$	878.98
OCTOBER		4,032		\$	1,042.18
NOVEMBER		3,875		\$	988.37
DECEMBER		3,520		\$	893.90
JANUARY		3,985		\$	996.08
FEBRUARY		3,258		\$	821.50
MARCH		3,438		\$	887.27
APRIL		3,501		\$	931.85
MAY		3,503		\$	964.51
JUNE		3,422		\$	915.23
TOTALS		43,936		\$	10,921.68

HHFDC ELECTRICAL CO	NSUMPTION DATA	FY - 2010
PROJECT NAME	КШН	COSTS

LAILANI	74-984 Manawale`a Street; Kailiua-Kona, HI 96740				
JULY		5,887		\$	2,632.26
AUGUST		6,304		\$	2,840.87
SEPTEMBER		5,717		\$	2,760.16
OCTOBER		6,076		\$	2,922.36
NOVEMBER		6,676		\$	3,193.64
DECEMBER		6,312		\$	2,983.76
JANUARY		6,840		\$	3,165.93
FEBRUARY		5,557		\$	2,814.36
MARCH		5,612		\$	3,053.13
APRIL		6,265		\$	3,189.04
MAY		5,620		\$	2,801.26
JUNE		5,703		\$	2,802.21
TOTALS		72,569		\$	35,158.98

NANI O PUNA	15-2914 Kauhale Street; Pahoa, HI 96778				
JULY		3,865		\$	1,430.00
AUGUST		3,603		\$	1,398.32
SEPTEMBER		4,091		\$	1,603.35
OCTOBER		4,345		\$	1,765.18
NOVEMBER		4,014		\$	1,650.54
DECEMBER		4,872		\$	1,909.45
JANUARY		4,482		\$	1,796.83
FEBRUARY		3,917		\$	1,684.09
MARCH		4,129		\$	1,756.43
APRIL		4,021		\$	1,705.02
MAY		3,165		\$	1,373.45
JUNE		3,433		\$	1,461.41
TOTALS		47,937		\$	19,534.07

GROUP 1 TOTAL	754,041	\$ 182,057.60

HHFDC -- ELECTRICAL CONSUMPTION DATA FY - 2010

PROJECT NAME		KWH			COSTS		
HONOKOWAI KAUHALE	3500 Lowe	r Honoapiilani; Lal	naina, HI 96	5761			
JULY		6,161		\$	1,631.14		
AUGUST		6,747		\$	1,957.73		
SEPTEMBER		6,592		\$	2,026.16		
OCTOBER		6,086		\$	1,961.40		
NOVEMBER		6,342		\$	2,004.42		

Appendix 1: HHFDC Electricity Consumption and Cost Data

DECEMBER	6,438	\$	1,771.72
JANUARY	5,312	\$	1,763.04
FEBRUARY	6,381	\$	2,253.54
MARCH	6,313	\$	2,210.38
APRIL	6,189	\$	2,123.05
MAY	6,143	\$	2,156.69
JUNE	5,654	\$	2,107.88
TOTALS	74,358	\$	23,967.15

KAMAAINA HALE	78-5837 Kuakini Highway; Kailua-Kona, HI 96740				
JULY		3,229		\$	1,216.45
AUGUST		3,407		\$	1,312.94
SEPTEMBER		3,168		\$	1,422.09
OCTOBER		3,484		\$	1,452.26
NOVEMBER		3,243		\$	1,399.45
DECEMBER		5,915		\$	2,656.53
JANUARY		3,206		\$	1,358.46
FEBRUARY		3,020		\$	1,361.52
MARCH		6,426		\$	2,753.64
APRIL		2,989		\$	1,080.27
MAY		2,763		\$	979.64
JUNE		2,964		\$	1,091.49
TOTALS		43,814		\$	18,084.74

KAMAKEE VISTA	1065 Kawa	iahao Street; Hon	olulu, HI 968:	14	
JULY		69,970		\$	12,371.08
AUGUST		78,627		\$	15,422.85
SEPTEMBER		53,166		\$	15,255.18
OCTOBER		77,186		\$	16,535.56
NOVEMBER		71,355		\$	15,172.48
DECEMBER		77,408		\$	15,982.99
JANUARY		55,492		\$	14,206.38
FEBRUARY		64,728		\$	13,929.07
MARCH		59,726		\$	13,824.43
APRIL		65,356		\$	14,607.88
MAY		55,683		\$	13,346.06
JUNE		59,391		\$	13,969.01
TOTA	LS	788,088		\$	174,622.97
HHFDC ELECTRIC/	AL CONSU	MPTION DA	TA F	ΞY	- 2010
PROJECT NAME		KWH			COSTS
<u>POHULANI</u>	626 Coral S	Street; Honolulu, F	II 96813		
JULY		212,880		\$	34,725.82
AUGUST		225,600		\$	40,656.77
SEPTEMBER		231,120		\$	44,471.47
OCTOBER		217,200		\$	43,440.21
NOVEMBER		234,000		\$	45,608.95

DECEMBER	204,240	\$	40,237.56
JANUARY	204,240	\$	40,057.10
FEBRUARY	194,880	\$	39,596.09
MARCH	187,200	\$	40,339.35
APRIL	184,560	\$	39,038.38
MAY	202,800	\$	43,653.69
JUNE	213,600	\$	45,723.64
TOTALS	2,512,320	\$	497,549.03

WAIAKA	DISCO	NTINUED	
JULY			
AUGUST			
SEPTEMBER			
OCTOBER			
NOVEMBER			
DECEMBER			
JANUARY			
FEBRUARY			
MARCH			
APRIL			
MAY			
JUNE			
TOTALS		-	\$ -

FY 2010 ELECTRICAL USAGE	KW	COST
GROUP 2 TOTAL	3,418,580	\$ 714,223.89
GROUP 1 TOTAL	754,041	\$ 182,057.60
GRAND TOTALS	4,172,621	\$ 896,281.49

HHFDC - ELECTRICAL CONSUMPTION DATA COMPARISON

FY - 2008 THRU 2010

PROJECT NAMES

	KWH				COSTS					LOCATION
	2008	2009	2010		2008		2009		2010	
KAMAKEE VISTA	968,887	548,510	788,088	Ŷ	207,784.48	Ŷ	114,440.26	Ş	174,622.97	ОАНИ
KAUHALE KAKAAKO	617,384	594,280	538,957	Ŷ	123,482.43	Ŷ	122,228.78	Ŷ	104,591.11	ОАНИ
KEKUILANI COURTS	22,078	53,048	50,642	Ş	12,865.99	Ŷ	13,475.04	Ŷ	11,851.76	ОАНИ
KEKUILANI GARDENS	49,278	41,449	43,936	Ş	12,109.66	Ŷ	11,777.30	Ŷ	10,921.68	ОАНИ
POHULANI	2,831,520	2,591,760	2,512,320	Ŷ	571,583.44	Ŷ	559,619.80	Ş	497,549.03	ОАНИ

Appendix 1: HHFDC Electricity Consumption and Cost Data

	KWH				COSTS		0000			
	2008	2009	2010		2008		2009		2010	
HONOKOWAI KAUHALE	98,398	72,803	74,358	Ŷ	34,963.52	Ş	23,678.40	Ŷ	23,967.15	MAUI
KAMAAINA HALE	35,489	34,307	43,814	Ş	13,695.24	Ş	14,067.14	Ş	18,084.74	HAWAII
TAILANI	76,986	76,775	72,569	Ş	38,516.38	Ş	39,696.70	Ş	35,158.98	HAWAII
NANI O PUNA	48,473	49,097	47,937	Ŷ	21,689.23	Ŷ	22,441.02	Ŷ	19,534.07	HAWAII
CHANGE DISCONTINUED / TRANSFERRED	TO A DEVELO	PER								
WAIAKA	985	0	0	ዯ	490.67	Ŷ	I	ዯ	I	OAHU

Appendix 1: HHFDC Electricity Consumption and Cost Data

PROJECT NAMES

ALL PROJECTS	KWH			COST					
ANNUAL TOTALS	4,781,493	4,062,029	4,172,621	\$ 1,036,690.37	\$ 92:	1,424.44 \$	8	96,281.49	
ANNUAL DIFFERENCES		719,464	(110,592)		\$ 11!	5,265.93 \$	10	25,142.95	
		15.05%	-2.72%			11.12%		2.73%	
TOTAL DIFFERENCES			608,872			2.	5 1	40,408.88	
BASED ON SUM OF YEARS			4.68%					4.92%	

OAHU PROJECTS	KWH			Ö	л С					
ANNUAL TOTALS	4,522,147	3,829,047	4,128,685	Ş	927,826.00	Ş	821,541.18	Ş	799,536.55	
ANNUAL DIFFERENCES		693,100	(299,638)			Ş	106,284.82	Ş	22,004.63	
		15.33%	-7.83%				11.46%		2.68%	
										r
TOTAL DIFFERENCES			393,462					ş	128,289.45	-
BASED ON SUM OF YEARS			3.15%						5.03%	

OUTER ISLAND PROJECTS	КWH			COST			
ANNUAL TOTALS	259,346	232,982	238,678	108,864	66'88'66		96,745
ANNUAL DIFFERENCES		26,364	(5,696)		\$ 8,981.11	Ş	3,138.32
		10.17%	-2.44%		%52.8		3.14%
TOTAL DIFFERENCES			20,668			Ŷ	12,119.43
BASED ON SUM OF YEARS			2.83%				3.97%

Appendix 2: DOH A/C Hours Change Letter



CHIYOME L. FUKINO, M.D. DIRECTOR OF HEALTH



STATE OF HAWAII DEPARTMENT OF HEALTH P.O. Box 3378 HONOLULU, HAWAII 96801-3378

In reply, please refer to: File: ASO-D 010/24

September 30, 2009

- TO: Deputy Directors, Division Chiefs, Staff and District Health Officers and Administrators of Attached Agencies
- FROM: Chiyome Leinaala Fukino, M.D. Director of Health

SUBJECT: CHANGE OF AIR CONDITIONING HOURS FOR DOH OFFICES

In an effort to reduce Department energy costs, effective October 1, 2009, the air conditioning units at all DOH offices statewide shall run from 7:45 AM – 4:30 PM, Monday thru Friday, excluding state holidays.

Timers for the central air conditioning systems at the Oahu Health Centers will be modified by the ASO Facilities Office. The program managers of all other DOH offices that utilize smaller air conditioning systems (with on/off switches or timers) shall operate the systems at the same hours.

As a reminder and as previously announced, window units and split air conditioning units shall not be operated in buildings that have central air conditioning systems.

If you have questions or concerns, please contact the ASO Facilities Office at 586-4560.

Thank you for your cooperation.

LINDA LINGLE GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D. DIRECTOR OF HEALTH

STATE OF HAWAII DEPARTMENT OF HEALTH P.O. BOX 3378 HONOLULU, HAWAII 96801-3378

In reply, please refer to: File:

August 6, 2010

TO:

Office of the Governor Office of the Lieutenant Governor Executive Department Heads State Librarian

Chief Procurement Officers: Department of Education, Superintendent University of Hawaii, President Office of Hawaiian Affairs, Chairperson of the Board Hawaii Health Systems Corporation, Chief Executive Officer Judiciary, Administrative Director of the Courts Senate, President House, Speaker of the House of Representatives Counties of Hawaii, Kauai, Maui and City & County of Honolulu: Executive Branch, Finance Director Legislative Branch, Chairperson of the County Council Boards/Departments of Water Supply, Manager/Chief Engineer

FROM:

Chiyome Leinaala Fukino, M.D. Director of Health

Aaron S. Fujioka Administrator State Procurement Office

SUBJECT: FY20

FY2010 Environmentally-Preferable Purchasing (EPP) Survey

The State Procurement Office (SPO) is distributing the FY2010 EPP Survey to be completed by all personnel involved in procurement and contracts for your agency. The FY2010 EPP Survey requests information and data for the period July 1, 2009 to June 30, 2010 to determine:

- (1) the agency's progress in developing EPP procurement programs;
- (2) the total amount of recycled-content paper purchased during the year; and
- (3) the amount of recycled goods purchased during the year compared to non-recycled counterparts.

Hawaii state and county agencies are using their purchasing power to protect our environment. The results of the FY2009 EPP Survey reveal that state and county agency purchases resulted in the following savings: Executive Department Heads Chief Procurement Officers August 6, 2010 Page 2

- greenhouse gas (GHG) emissions savings equal to 111 cars not driven for one year; and
- an energy savings equivalent to 20,399 gallons of gasoline not consumed.

Purchase of EPP goods and services not only helps improve markets for recycled-content products and diverts waste from landfills, but compared with similar virgin products, it saves on energy used to make these products and reduces GHG emissions that may impact our climate.

PLEASE NOTE: <u>Completion of the EPP Survey is required to meet federal legal requirements</u>. Under the Resource Conservation and Recovery Act (RCRA), Section 6002, 42 U.S.C. 6962, state and local government agencies and their contractors receiving appropriated federal funds are required to purchase and report their EPA-designated recycled-content products. It has been determined all state departments, agencies, and offices, based on the cumulative amount of all federal funds appropriated to the state, are required to respond comprehensively to this survey.

A list of these EPA-designated recycled-content products and an explanation of your state agency's legal obligations are available on the reference document entitled "Department of Business, Economic Development and Tourism 2005 Environmental Products Guide." <u>Completion of the EPP Survey is also required to meet state legal requirements</u>. Section 103D-1005(b), Hawaii Revised Statutes, requires that SPO, with the assistance of the Department of Health, develop a recycled product procurement program that shall require state purchasing agencies and encourage county purchasing agencies to:

- (1) apply preference to the purchase of products with recycled content;
- (2) be consistent with RCRA Section 6002, E.O. 13101 and its progeny; and
- (3) ensure to the maximum extent economically feasible, the purchase of materials that may be recycled or reused when discarded and to avoid the purchase of products deemed environmentally harmful.

In January 2006 the Governor also signed Administrative Directive 06-01, which requires state agencies to purchase environmentally preferable products that reduce their impact on the environment and improve indoor environmental quality. ENERGY STAR and low-toxic products are also environmentally preferable products.

Completion of the FY2010 EPP Survey can help the assessment of your agency's contribution towards the energy savings goals of the Hawaii Clean Energy Initiative (HCEI).

In addition, completion of the FY2010 EPP Survey will assist state executive agencies in their compliance with the "Lead By Example" reporting requirements (codified as Section 196-9, HRS). For more information on "Lead By Example" please visit <u>www.lbehawaii.com</u>.

The FY2010 survey and other documents that assist you with compliance under the EPP program are available at the SPO website, <u>http://hawaii.gov/spo</u>. ***We request all agency personnel involved in procurement and contracts to complete the FY2010 EPP Survey by** Friday, October 15, 2010. In our effort to go paperless, an abbreviated version of the survey is also now available online at <u>http://www.surveymonkey.com/s/EPPY2010</u>.

Executive Department Heads Chief Procurement Officers August 6, 2010 Page 3

We wish to assist you to expand your agency's EPP Program and ensure compliance with state and federal requirements. If you have questions, please contact Mr. John Valera of the Office of Solid Waste Management at (808) 586-4226 or by email at john.valera@doh.hawaii.gov, or Ms. Timonie Hood of the U.S. EPA at (415) 972-3282 or by email at hood.timonie@epa.gov.

Sincerely,

und

Chiyome Leinaala [₽]ukino, M.D. Director of Health Sincerely,

Aaron S. Fujioka, Administrator State Procurement Office

*Referenced documents available at the SPO website:

(1) Hawaii DOH Recycled Content Products Survey Fact Sheet (Rev. Jul. 2008)

(2) Recycled-Content/Environmentally-Preferable Purchasing Survey FY2010

(3) DBEDT 2005 Environmental Products Guide

(4) Sample EPP Survey FY2010

Hawaii DOH Recycled Content Products Survey Fact Sheet (Jul. 2008)

What is "buy recycled?"

When you buy a product made from recycled material you close the recycling loop. The universal recycling symbol of three arrows following one another represents (1) collection of recyclable materials, (2) re-manufacture and (3) use of recycled products.

Products manufactured from *recycled and reclaimed materials* are identified by the U.S. Environmental Protection Agency in its Comprehensive Procurement Guidelines (CPG). For more information visit: http://www.epa.gov/cpg/products.htm

"buy recycled"

- To protect the environment, conserve natural resources, reduce energy consumption, and prevent waste and pollution.
- To "close the loop." Purchasing products made from recovered materials helps stimulate market demand for green products.
- To show government commitment to environmental stewardship.
- To comply with federal and state regulations.



Why Complete The Survey?

Government agencies are required to play a major role in the procurement of recycled-content items. Agencies that complete the attached survey will provide valuable information that demonstrates government's role as a purchaser of buy-recycled content products, and identifies opportunities to improve recycled-content purchasing programs.

It's The Law

Buy recycled was originally authorized under Section 6002 of the Resource Conservation and Recovery Act (RCRA), which requires federal agencies to "give preference in their purchasing programs to products and practices that conserve and protect natural resources and the environment."

Executive Order (EO) 13101 was written to improve the federal government's existing program, among other things encouraging the use of recycled-content products. State and local agencies, and their contractors, are subject to Section 6002 whenever they use \$10,000 or more of federal funds within a current or preceding fiscal year to purchase item(s).

The Hawaii Procurement Code (§103D-1005, HRS) requires state agencies and encourages county purchasing agencies to procure products with recycled content, be consistent with federal regulations like EO 13101 and RCRA, and purchase materials that can be recycled or reused.

§342G-43, HRS requires state agencies that conduct their own procurement activities to annually submit progress information on the total amount of paper purchased during the year and the amount of recycled goods purchased during the year compared to nonrecycled counterparts.

Governor's Administrative Directive No. 06-01 requires state departments and programs to procure environmentally preferable products, including but not limited to, recycled and recycled-content, bio-based and other resource-efficient products and materials.

State of Hawaii Department of Health Office of Solid Waste Management Jul. 2008

Hawaii DOH Recycled Content Products Survey Fact Sheet (Jul. 2008)

Who Should Complete The Survey?

Procurement officers or their staff, project managers, office managers and secretarial staff that order products which fall into the CPG-designated items categories, and construction managers and staff that oversee projects that receive federal funding and use products that fall into the CPG-designated items categories.

How Can I Make Completing The Survey Easier?

Work with your agency's procurement officer to require vendors and/or contractors to label the amount of recycled and non-recycled content on their invoices and/or shipping documents in the units specified on the survey. To facilitate annual reporting, maintain a logbook or spreadsheet throughout the year and require contractors to report annually on the amount of recycled and non-recycled content as part of their contract.

Helpful Websites

U.S. EPA site for CPG products and vendors: <u>http://www.epa.gov/cpg/products.htm</u>. U.S. EPA site for EO 13101: <u>http://www.epa.gov/fedreg/eo/eo13101.htm</u> HRS site: <u>http://www.capitol.hawaii.gov/hrscurrent/vol02_ch0046-0115/hrs0103d/hrs_0103d-1005.htm</u>. Governor's Administrative Directive 06-01: <u>http://hawaii.gov/dbedt/info/energy/efficiency/state/AD-06-01.pdf</u> DBEDT Hawaii Buy Recycled Guide: <u>http://hawaii.gov/dbedt/info/energy/publications/brg02.pdf</u>

Information on ENERGY STAR and Green Seal

Green Seal: <u>http://www.greenseal.org/</u> ENERGY STAR®: <u>http://www.energystar.gov/</u>

Contact For Further Assistance

Jennifer Tosaki, State Recycling Coordinator at (808) 586-4226 or email: Jennifer.Tosaki@doh.hawaii.gov

State of Hawaii Department of Health Office of Solid Waste Management Jul. 2008

INSTRUCTIONS: Please complete by indicating the different recycled-content and environmental products purchased, based on product packaging, invoices and/or SPO Price Lists to determine unit quantities procured. <u>Please complete and submit this</u> <u>Survey on or by COB October 15, 2010.</u> In lieu of mailing a paper Survey, you now may choose to complete the short version of this Survey online at: <u>http://www.surveymonkey.com/s/EPPY2010</u>. Thank you for buying recycled!

Agency Name:______Agency Address:______

Contact Person:______
Phone Number:______

			Units P	urchased in F	Y2010	
		No Rec Cont	ycled ent		Recycled Content	
Item	Units Suggested	Quantity	Units	Quantity	%	Units
Construction Products	-					
Building insulation products	Ft^2					
Carpet	Ft^2					
Cement and concrete containing coal fly ash/ground granulated blast furnace slag	Bags (est 60 L bs /bag)					
Consolidated and reprocessed latex paint	Gal.					
Floor tiles	Ft ²					
Laminated paperboard	Ft ²					
Patio blocks	Ft ²					
Shower and restroom dividers/partitions	Each					
Structural fiberboard	Ft^2					
Carpet cushion	Ft^2					
Flowable fill (backfill)	Yd ³					
Railroad grade crossings/surfaces	Ft^2					
Modular threshold ramps*	Each					
Nonpressure pipe*	Ft.					
Roofing materials*	Bundles (3 bundles = 100 ft^2)					
Blasting grit*	Lbs.					
Landscaping Products				•		
Garden and soaker hoses	Ft.					
Hydraulic mulch	Lbs.					
Lawn and garden edging	Ft.					
Yard trimmings compost	Lbs.					

* U.S. EPA-designated CPG item, see www.epa.gov/waste/conserve/tools/cpg/index.htm.

gal = gallonlbs = pounds $yd^3 = cubic yards$

			Units P	urchased in F	Y2010	
		No Rec Cont	cycled tent		Recycled Content	
Item	Units Suggested	Quantity	Units	Quantity	%	Units
Landscaping Products						
Compost and fertilizer made from recovered organic materials	Lbs.					
Landscaping timbers and posts (plastic lumber)	Ft.					
Non-Paper Office Products	1	1	1	-	I	1
Binders (paper, solid plastic, or plastic covered)	Each					
Office recycling containers	Each					
Office waste receptacles	Each					
Office furniture*	Each					
Plastic desktop accessories	Each					
Plastic envelopes	Box (est. 6/box)					
Plastic trash bags	Box (est. 50/box)					
Printer ribbons	Each					
Toner cartridges	Each					
Plastic clipboards	Each					
Plastic clip portfolios	Each					
Plastic file folders	Each					
Plastic presentation folders	Each					
Paper and Paper Products			•		•	•
Commercial/industrial sanitary tissue products	Box (est. 96 rolls/box)					
Miscellaneous papers (tray liners)	Case (est. 10 reams/Case)					
Newsprint (for publication production)	Lbs.					
Paperboard and packaging products	Each					
Printing and writing papers	Case (est. 10 reams/Case)					

gal = gallon lbs = pounds

			Units P	urchased in F	Y2010	
		No Rec Cont	cycled cent		Recycled Content	
Item	Units Suggested	Quantity	Units	Quantity	%	Units
Park and Recreation Products	1	ſ	1		1	
Plastic fencing	Ft.					
Playground and running surfaces	Ft ²					
Running tracks	Ft ²					
Park benches	Each					
Picnic tables	Each					
Playground equipment	Each					
Bike racks*	Each					
Transportation Products		<u> </u>	<u> </u>		L	
Channelizers	Each					
Delineators	Each					
Flexible delineators	Each					
Parking stops	Each					
Traffic barricades	Each					
Traffic cones	Each					
Vehicular Products		1	<u> </u>			
Engine Coolants	Gal.					
Re-refined lubricating oils	Gal.					
Retread tires	Each					
Rebuilt vehicular parts*	Each					
Miscellaneous Products		•				
Pallets	Each					
Sorbents	Each					
Awards and plaques	Each					
Industrial drums	Each					
Mats	Each					
Signage	Each					

* U.S. EPA-designated CPG item, see <u>www.epa.gov/waste/conserve/tools/cpg/index.htm</u>.

gal = gallon lbs = pounds $yd^3 = cubic yards$

			Units P	urchased in F	Y2010	
		No Rec Cont	cycled ent		Recycled Content	
Item	Units Suggested	Quantity	Units	Quantity	%	Units
Miscellaneous Products						
Strapping	Ft.					
Other Products (please specify, attach se	eparate sheets if nee	cessary)				
	Each					
	Each					

			Units Purchas	sed in FY2010	
		Non-Green Se	al Certified	Green Sea	l Certified
Item	Units Suggested	Quantity	Units	Quantity	Units
Low-Toxic Products					
Green cleaning and janitorial products	Each				
(attach separate sheet if necessary)					
Low-VOC and/or No-VOC paint	Each				
(attach separate sheet if necessary)					

			Units Purchas	sed in FY2010	
		Non-ENERG	Y STAR TM	ENERGY	STAR TM
Item	Units Suggested	Quantity	Units	Quantity	Units
ENERGY STAR TM Products					
Copiers and fax machines (attach separate sheet if necessary)	Each				
Computers & computer-related devices (attach separate sheet if necessary)	Each				
Other appliances (attach separate sheet if necessary)	Each				

Thank you for your time!

Deadline: Friday, October 15, 2010

Please help reduce our carbon footprint by completing this Survey online at http://www.surveymonkey.com/s/EPPY2010

OR

Email to: john.valera@doh.hawaii.gov

OR

Mail or fax to: Department of Health Office of Solid Waste Management 919 Ala Moana Blvd., Rm. 212 Honolulu, HI 96814 Ph.: (808) 586-4226 | Fax: (808) 586-7509

http://www.spo.hawaii.gov/environmentally-preferable-purchasing-survey/view

* U.S. EPA-designated CPG item, see <u>www.epa.gov/waste/conserve/tools/cpg/index.htm</u>.

Ft. = feet ft^2 = square feet gal = gallonlbs = pounds $yd^3 = cubic yards$

			37	37	37	37	37	37	37			87			87
		fuel	gasoline8	gasoline8	gasoline8	gasoline8	gasoline8	gasoline8	gasoline8		fuel	gasoline		h i d	gasoline-
	actual fuel consum.	(gal)	10916.36	3189.57	4148.48	6031.49	2798.63	1837.34			actual fuel consum. (gal)	4,409		fuel consump. (rai)	2385.61
		average	5.84	4.11	6.07	6.79	4.86	3.94	on vehicle		average	5.84		everence	5.97
	gallons per 100 miles	(fuel economy)	6.667/5	4.762/3.448	7.143/5	7.692/5.882	5.556/4.167	4.545/3.333	no fuel rating available		gallons per 100 miles (fuel economy)	6.667/5		gallons per 100 miles	6.667/5.263
		As of Date	12/1/2010	12/1/2010	12/1/2010	12/2/2010	12/1/2010	12/1/2010	12/1/2010		As of date	12/2/2010			11/30/2010
		Mileage	186,924	77,605	68,344	88,829	52,585	46,633	31,616		Mileage	75,500			1VIIIcage 39,960
	Acquisition	Cost	\$17,053.04	\$5,900.00	\$24,460.42	\$8,000.00	\$4,500.00	\$7,200	\$27,996.23		Acquisition Cost	\$23,812.35		Acquisition	\$24,943.59
		Model Year	1992	1995	2005	1997	2001	2004	2008		Model Year	1997		reav labot	1999
Oahu Vehicles		Serial Number	2GNEG25H8N4132080	1G1L055MISY264061	1FMZU62K75ZA32343	3GNEK18RXVG164830	1B4GP25301B158589	1B3EL36104N341974	1FBNE31L88DA59307	Maui Vehicles	Serial No.	1J4FJ28S3VL578912	Kauai Vehicles	Sovial Number	1FMZU34X9XZA90464
tory		Vehicle Description	Van passenger - astro	Corsica	Explorer 4x4 4WD 4door	Tahoe	Caravan	Stratus	E-350 12psgr		Vehicle Description	Cherokee SUV 4-door		Vichialo Dacarintian	Ford MPVH Explorer 4x4
nicle Invent		Model	Chevy	Chevy	Ford	Chevy	Dodge	Dodge	Ford		Model	Jeep			Ford
DHHL Ver	License	Plate	SH7297	SH9412	SHB577	SHB268	SHD 358	SHD 359	SHD 319		License Plate	SH8652		License	SH9218

Molokai Vehicles

		ine		ine	ine	ine	ine	ine
	fuel	1 gasoli	D diese	1 gasoli	2 gasol	3 gasol	7 gasol	3 gasol
fuel consump.	(gal)	6892.1	0.0	8073.1	3532.2	37414.8	1672.7	2167.6
	average	5.97		6.52	5.13	5.84	4.63	4.63
gallons per 100 miles	(fuel economy)	6.667/5.263	n/a	7.143/5.882	5.263/5	6.667/5	5.26/4	5.26/4
	As of Date	12/3/2010	12/3/2010	12/3/2010	12/3/2010	12/3/2010	12/3/2010	12/3/2010
	Mileage	115,446	30,038	123,820	68,854	41,350	36,128	46,816
Acquisition	Cost	\$24,424.04	\$55,434.00	\$32,490.00	\$26,051.43	\$24,355.97	\$4,500.00	\$4,500.00
	Model Year	1995	2661	2002	2004	2006	2001	2001
	Serial No.	1FMDU34X8SUC34215	1GDP7H1J0VJ501905	1GBHK24U52E113017	1FMZU72K24ZA03031	IFTNF21566EC86474	1GCCS145718206292	1GCCS145118204862
	Description	Explorer 4x4 4WD	GMC dump truck	Silvarado 4x4	Explorer 4x4 4WD	Ford pick up F250	Pick up Truck S-10	Pick up Truck S-10
	Model	Ford	GMC	Chevy	Ford	Ford	Chevy	Chevy
License	Plate	SH8310	SH8558	SHA305	SHA907	SHC230	SHD719	SHD720

West Hawaii Vehicles

>	'ehicle Description	Serial No.	Model Year	Acquisition Cost	Mileage	As of Date	gallons per 100 miles (fuel economy)	average	fuel consum. (gal)	lel
scape		IFMCU93167KA15624	2007	\$24,999.95	15,468	12/2/2010	7.143/5.556	6.35	982.218	gasoline
tx4 pick up	truck	1GCGK24R9WE252855	1998	\$25,088.95	110,281	12/2/2010	6.667/5	5.84	6440.4104	gasoline
Jump truc	< auto car	1WBUCCJF8GH	1986	\$13,166.04	66,602	12/2/2010	6.667/5	5.84	3889.5568	gasoline
500 Quac	l cab pickup	1D7HU18N45J516396	2005	\$26,568.59	118,562	12/2/2010	7.143/5.556	6.35	7528.687	gasoline
rlatbed tru	lok	1GBHK34J4VF008123	1997	\$30,449.95	55,755	12/2/2010			0	gasoline
railer		2SWUW11456260072	2005		no mileage		n/a			gasoline

East Hawaii Vehicles

l icense					Acquisition			gallons per 100 miles		fuel cons	
Plate	Model	Description	Serial No.	Model Year	Cost	Mileage	As of Date	(fuel economy)	average	(gal) F	lel
SHA154	Mercury	Mountaineer	4M2ZU76E11UJ09823	2002	\$24,999.01	91,477	11/30/2010	6.667/5.263	5.97	5461.1769 9	asoline -87
SHB897	Toyota	Tacoma 4x4 v6	5TEUU42N55Z122690	2005	\$24,778.06	35,506	11/30/2010	5.882/4.762	5.32	1888.9192 g	asoline -87
SH 337	Dodge	Ram 1500	1D7HU18218J178398	2008	\$31,381.05	74,926	11/30/2010	7.692/5.882	6.79	5087.4754 g	asoline -87

Make	Model	Year	License Plate #	NIN	GVWR	EPA Hwy Fuel Econ	EPA City ⁻ uel Econ	Acq. Cost	Fuel Type	In-use Mileage	In-use Fuel Consum.	In-use Avg Fuel Econ	Annual Mileage	Annual Fuel Consum	Annual Avg Fuel Econ
INTL	XXXX	1992	SH4208	1HTSCNPL5NH409720	19000			\$0.00	DIESEL	3847.00	484.24	7.94	1081.00	126.54	8.54
FORD	STKE	1991	SH8980	1FDNK64P9MVA06555	19660			\$0.00	DIESEL	297.00	29.24	10.16	297.00	29.24	10.16
PTRB	FLATBED	2003	SHA653	1NPZH27X73D714835	14908			\$0.00	DIESEL	2947.00	353.94	8.33	2643.00	314.54	8.40
FORD	PICKUP	2003	SHA901	1FTNF20D33ED82433	5556			\$0.00	DIESEL	2417.00	159.70	15.13			
FORD	PICKUP	2005	SHB436	1FTSF20P85EA36576	9400			\$0.00	DIESEL	378.00	31.99	11.82	378.00	31.99	11.82
FORD	PICKUP	2005	SHB437	1FT SF20PX5EA36577	9400			\$0.00	DIESEL	1215.00	118.67	10.24	399.00	34.17	11.68
FORD	PICKUP	2005	SHB438	1FTSF20P15EA36578	9400			\$0.00	DIESEL	2698.00	211.85	12.74	658.00	73.85	8.91
FORD	PICKUP	2005	SHB440	1FT SF20PX5EA36580	9400			\$0.00	DIESEL	552.00	40.09	13.77			
FORD	PICKUP	2006	SHC196	1FTSF20P96EB12579	9400			\$0.00	DIESEL	1419.00	135.39	10.48			
FORD	F-250	2006	SHC197	1FTSF20P56EB12580	9400			\$0.00	DIESEL	4380.00	395.14	11.08	2008.00	218.94	9.17
FORD	ΠΤΙΓΙΤΥ	2008	SHC719	1FDSX20R78EA28953	8570			\$0.00	DIESEL	8061.00	627.02	12.86	832.00	87.54	9.50
FORD	ΠΤΙΓΙΤΥ	2008	SHC741	1FDSX20R98EA28954	9800			\$0.00	DIESEL	30293.00	2375.35	12.75	9833.00	825.11	11.92
FORD	ΠΤΙΓΙΤΥ	2007	SHC749	1 FDSX20R38EA28951	XXXX			\$0.00	DIESEL	4358.00	324.10	13.45			
GMC	STKE	1992	SHC759	J8DK7A1U2N3200748	XXXX			\$0.00	DIESEL	8312.00	949.20	8.76	7743.00	892.84	8.67
FORD	ΠΤΙΓΙΤΥ	2007	SHC762	1FDWX36R28EA24355	13000			\$0.00	DIESEL	14691.00	1352.81	10.86	3861.00	280.33	13.77
CHEV	PICKUP	2007	SHD163	1 PD XF46R 98E A09249	12460			\$0.00	DIESEL	5473.00	723.58	7.56	2786.00	399.42	6.98
CHEV	VAN	1999	SHD164	1 GBHG 31F3X1 153760	9500			\$0.00	DIESEL	10702.00	961.36	11.13	5097.00	470.57	10.83
FORD	STKE	1992	SHD494	1FDNK64P7NVA14185	19600			\$0.00	DIESEL	2335.00	232.94	10.02	2335.00	232.94	10.02
PTRB	XXXX	2009	SHD701	2NPRHN8X79M787259	16000			\$146,199.61	DIESEL	2405.00	290.49	8.28	2405.00	290.49	8.28
CHEV	PICKUP	2009	SHD705	1GCHC44649E109397	XXXX			\$33,172.00	DIESEL	3346.00	267.29	12.52	2698.00	227.03	11.88
CHEV	PICKUP	2008	SHD706	1GCHC44689E107961	6100			\$0.00	DIESEL	343.00	25.71	13.34	343.00	25.71	13.34
CHEV	PICKUP	2009	SHD707	1GCHK73649F103700	0066			\$39,215.00	DIESEL	5451.00	390.33	13.97	5451.00	390.33	13.97
FORD	ΠΤΙΓΙΤΥ	2009	SHD789	1FDSF30R29EA00827	7440			\$0.00	DIESEL	5877.00	510.25	11.52	4846.00	414.68	11.69
FORD	ΠΤΙΓΙΤΥ	2009	SHD790	1FDSF30R49EA00828	10000			\$0.00	DIESEL	6667.00	550.30	12.12	5388.00	464.09	11.61
FORD	ΠΤΙΓΙΤΥ	2009	SHD791	1FDSF30R69EA00829	7300			\$0.00	DIESEL	6727.00	476.03	14.13	6727.00	476.03	14.13
FORD	ΠΤΙΓΙΤΥ	2009	SHD792	1FDSF30R29EA00830	10000			\$0.00	DIESEL	9800.00	734.28	13.35	6867.00	514.28	13.35
FORD	FLATBED	2008	SHD804	1 FDWF36R58EE58062	XXXX			\$41,632.96	DIESEL	4747.00	351.12	13.52	4747.00	351.12	13.52
FORD	F-350	2008	SHD806	1FDWF36R08EE56154	XXXX			\$14,632.96	DIESEL	2434.00	224.21	10.86	2434.00	224.21	10.86
PTRB	XXXX	2009	SHE132	2NPLHM6X89M787192	XXXX			\$0.00	DIESEL	770.00	109.74	7.02	770.00	109.74	7.02
CHEV	ΠΤΙΓΙΤΥ	1992	SH4061	1 GBGC24K3NE1 97466	8000			\$0.00	GAS	18754.00	1651.93	11.35	3132.00	277.71	11.28
CHEV	ΠΤΙΓΙΤΥ	1992	SH4062	1 GBGC24K4NE1 98206	7200			\$0.00	GAS						
CHEV	ΠΤΙΓΙΤΥ	1992	SH4063	1 GBGC24K9NE1 981 36	8600	17	13	\$0.00	GAS	11535.00	1048.98	11.00	3006.00	305.87	9.83
CHEV	ΠΤΙΓΙΤΥ	1992	SH4065	1 GBGC24K1NE1 96882	7200			\$0.00	GAS	4103.00	394.70	10.40			

Report
Fuel
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State
2009-2010

Make	Model	Year	License Plate #	NIN	GVWR	EPA Hwy E Fuel Econ Fi	EPA City uel Econ	Acq. Cost	Fuel Type	In-use Mileage	In-use Fuel Consum.	In-use Avg Fuel Econ	Annual Mileage	Annual Fuel Consum	Annual Avg Fuel Econ
GMC	S14Z	1989	SH4107	1GT6CS14Z0K8528101	4900			00.0\$	GAS	492.00	24.70	19.92			
CHEV	ΠΤΙΓΙΤΥ	1991	SH4140	1 GBGC24K2LE229689	6000			\$0.00	GAS	8321.00	696.51	11.95	3945.00	330.29	11.94
CHEV	PICKUP	1990	SH4142	1GBGC24K4LE229709	8600			\$0.00	GAS	13604.00	1050.73	12.95	4273.00	355.59	12.02
GMC	PICKUP	1986	SH4153	1GTDC14HXGJ525747	5200			\$0.00	GAS	1102.00	141.10	7.81	356.00	46.80	7.61
DODGE	STKE	1991	SH4207	1 B6ME3656MS327606	10000			\$0.00	GAS	6187.00	666.30	9.29			
INTL	XXXX	1992	SH4208	1HTSCNPL5NH409720	19000			\$0.00	GAS	519.00	36.00	14.42	519.00	36.00	14.42
FORD	ΠΤΙΓΙΤΥ	1988	SH4219	1FDJF37G1JKA14207	8800			\$0.00	GAS	4494.00	951.75	4.72	2553.00	696.41	3.67
CHEV	ΠΤΙΓΙΤΥ	1991	SH4222	1GBGR33K4MF300683	0006			\$0.00	GAS	3999.00	432.35	9.25	1760.00	200.85	8.76
CHEV	PICKUP	1990	SH4224	1 GBGC24K3LE229460	8600			\$0.00	GAS	860.00	77.37	11.12			
CHEV	ΠΤΙΓΙΤΥ	1992	SH4229	1GBGC24KXNE196864	7200			\$0.00	GAS	6566.00	637.60	10.30	570.00	58.00	9.83
CHEV	ΠΤΙΓΙΤΥ	1992	SH4230	1 GBGC24K2NE1 96907	8600			\$0.00	GAS	6200.00	575.75	10.77	2213.00	259.04	8.54
CHEV	STKE	1993	SH5748	1GBJ7H1M7PJ105062	24980			\$0.00	GAS	3101.00	457.60	6.78			
CHEV	PICKUP	1993	SH5946	1GCFC24K6PE196757	7200			\$0.00	GAS	3171.00	308.50	10.28	2199.00	246.30	8.93
CHEV	PICKUP	1993	SH5947	1GCFC24K1PE197377	7200			\$0.00	GAS	5171.00	390.64	13.24	3145.00	289.04	10.88
CHEV	CHEVENNE	1993	SH5948	1GCFC24K2PE196450	7200			\$0.00	GAS	1536.00	142.35	10.79	1536.00	142.35	10.79
CHEV	VAN	1994	SH7097	1 GBG P32K7R 3304775	XXXX			\$0.00	GAS	560.00	51.86	10.80	560.00	51.86	10.80
CHEV	VAN	1994	SH7098	1 GBG P32K7R 3305333	XXXX			\$0.00	GAS	193.00	26.79	7.20	193.00	26.79	7.20
CHEV	VAN	1994	SH7099	1GBGP32KXR3305399	XXXX			\$0.00	GAS	1473.00	150.08	9.81	1473.00	150.08	9.81
CHEV	VAN	1994	SH7100	1 GBG P32K0R 3305427	XXXX			\$0.00	GAS	1722.00	200.31	8.60	1722.00	200.31	8.60
CHEV	VAN	1994	SH7101	1 GBGP32K9R3305488	XXXX			\$0.00	GAS	1696.00	245.70	6.90	1696.00	245.70	6.90
CHEV	VAN	1994	SH7103	1GBGP32K7R3304842	XXXX			\$0.00	GAS	1543.00	267.63	5.77	1543.00	267.63	5.77
CHEV	VAN	1994	SH7104	1 GBGP32K3R3305521	XXXX			\$0.00	GAS	394.00	165.78	2.38	394.00	165.78	2.38
CHEV	VAN	1994	SH7106	1 GBGP32K4R3304927	xxxx			\$0.00	GAS	25.00	103.35	0.24	25.00	103.35	0.24
CHEV	PICKUP	1992	SH7663	1GCFC24H3NE113402	7200			\$0.00	GAS	1291.00	67.16	19.22			
CHEV	FLATBED	2000	SH7741	1GBJC34RZYF475443	7200			\$0.00	GAS	4628.00	340.98	13.57			
CHEV	Π	1993	SH7750	1GCFC24H2PZ139484	7200			\$0.00	GAS	27100.00	2267.04	11.95	8626.00	761.69	11.32
CHEV	SIERRA	1992	SH7759	1GCFC24KXNE209619	7200			\$0.00	GAS	4994.00	389.95	12.81	3734.00	289.65	12.89
CHEV	PICKUP	1992	SH7760	1GCFC24K4NE212144	7200			\$0.00	GAS	5449.00	597.78	9.12	3413.00	411.42	8.30
CHEV	PICKUP	1991	SH7762	1 GCFC24H6MZ120707	7200			\$0.00	GAS	5114.00	349.19	14.65	4330.00	307.59	14.08
CHEV	PICKUP	1995	SH7763	1GCFC24HXMZ120709	4340			\$0.00	GAS	1394.00	130.40	10.69	737.00	21.50	34.28
CHEV	PICKUP	1991	SH7764	1GCFC24H3MZ154880	7200			\$0.00	GAS	6815.00	654.98	10.40	4442.00	467.68	9.50
CHEV	PICKUP	1991	SH7765	1GCFC24H3MZ153499	7200			\$0.00	GAS	940.00	90.15	10.43	771.00	67.15	11.48
CHEV	VAN	1981	SH7806	1GCFP22M9B3311297	XXXX			\$0.00	GAS	383.00	119.39	3.21	383.00	119.39	3.21

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GMC	VAN	1989	SH7808	1GTFP22K1K3500637	XXXX			\$0.00	GAS	625.00	93.71	6.67	625.00	93.71	6.67
GMC	VAN	1989	SH7809	1 GTFP22K5k3500561	XXXX			\$0.00	GAS	447.00	89.49	4.99	447.00	89.49	4.99
CHEV	VAN	1989	SH7810	1GCHP32KXK3313315	XXXX			\$0.00	GAS	1262.00	189.04	6.68	1262.00	189.04	6.68
CHEV	VAN	1989	SH7811	1GCHP32K2K3313213	XXXX			\$0.00	GAS	550.00	175.27	3.14	550.00	175.27	3.14
CHEV	VAN	1990	SH7812	1GCGP32K0L3303812	XXXX			\$0.00	GAS	553.00	138.71	3.99	553.00	138.71	3.99
CHEV	VAN	1990	SH7844	1GCGP32K5L3304065	XXXX			\$0.00	GAS	1671.00	206.02	8.11	1671.00	206.02	8.11
CHEV	VAN	1990	SH7845	1GCGP32K9L3304456	XXXX			\$0.00	GAS	1149.00	123.29	9.32	1149.00	123.29	9.32
CHEV	VAN	1984	SH7879	1GCFP22MXE3338934	XXXX			\$0.00	GAS	924.00	104.53	8.84	924.00	104.53	8.84
CHEV	VAN	1989	SH7882	1GCHP32K3K3313124	XXXX			\$0.00	GAS	677.00	35.80	18.91	677.00	35.80	18.91
FORD	VAN	1982	SH7894	1FCHE30E1CHA77712	XXXX			\$0.00	GAS	1039.00	157.58	6.59	1039.00	157.58	6.59
FORD	VAN	1982	SH8012	1FCHE30E8CHA77710	XXXX			\$0.00	GAS	284.00	30.12	9.43	284.00	30.12	9.43
CHEV	Prizm	1995	SH8077	1Y1SK5265SZ101563	2500			\$0.00	GAS	1627.00	68.56	23.73			
CHEV	Prizm	1995	SH8078	1Y1SK5267SZ101581	2500			\$0.00	GAS	13708.00	506.33	27.07	4572.00	182.10	25.11
CHEV	PICKUP	1995	SH8157	1GCFC24H1SE282555	4340			\$0.00	GAS	3622.00	298.02	12.15	3622.00	298.02	12.15
CHEV	PICKUP	1995	SH8158	1GCFC24H8SE283332	7200			\$0.00	GAS	5014.00	317.96	15.77	3075.00	209.26	14.69
CHEV	PICKUP	1995	SH8159	1GCFC24H4SE284641	7200			\$0.00	GAS	2026.00	112.82	17.96	936.00	27.22	34.39
CHEV	PICKUP	1996	SH8289	1GCFC24MXTE190844	7200			\$0.00	GAS	4956.00	457.08	10.84	4298.00	407.88	10.54
CHEV	PICKUP	1996	SH8290	1GCFC24M3TE189888	7200			\$0.00	GAS	1407.00	81.60	17.24			
CHEV	PICKUP	1996	SH8291	1GCFC24M8TE192804	7200			\$0.00	GAS	4771.00	384.91	12.40	3800.00	320.48	11.86
CHEV	PICKUP	1996	SH8292	1GCFC24M9TE189538	7200			\$0.00	GAS	2524.00	134.30	18.79	2013.00	96.70	20.82
CHEV	Cavalier	1996	SH8411	1G1JC524XV7123532	2470			\$0.00	GAS	4619.00	216.38	21.35	647.00	23.50	27.53
CHEV	PICKUP	1996	SH8465	1 GCFC24M3VE125997	7200			\$0.00	GAS	2589.00	260.08	9.95	1383.00	159.18	8.69
CHEV	VAN	1996	SH8512	1GBH32R5V3300476	XXXX			\$0.00	GAS	765.00	95.31	8.03	765.00	95.31	8.03
CHEV	SEDAN	1993	SH8667	1G1BL537XPR133210	5258			\$0.00	GAS	4072.00	383.40	10.62			
CHEV	PICKUP	1998	SH8778	1GCFC24M5WZ127387	7200			\$0.00	GAS	6324.00	544.16	11.62	4399.00	367.46	11.97
CHEV	PICKUP	1998	SH8864	1GBHC34R3WF015798	7200			\$0.00	GAS	3569.00	289.40	12.33	3056.00	224.82	13.59
CHEV	ΠΤΙΓΙΤΥ	1991	SH8870	1GCFC24H1MZ162749	7200			\$0.00	GAS	17360.00	1333.80	13.02	7392.00	510.90	14.47
CHEV	ΠΤΙΓΙΤΥ	1991	SH8871	1GCFC24H6MZ161497	7200			\$0.00	GAS	5235.00	443.49	11.80			
NUYH	Elantra	1998	SH8961	KMJF24M3WU699195	2830			\$0.00	GAS	19603.00	834.07	23.50	3665.00	150.57	24.34
NUYH	Elantra	1998	SH8965	KMHJF24M8WU697555	2830			\$0.00	GAS	6220.00	298.75	20.82	2437.00	126.25	19.30
CHEV	ΠΤΙΓΙΤΥ	1991	SH8977	1GCFC24H6163749	6000			\$0.00	GAS	4654.00	393.86	11.82	3294.00	336.27	9.80
DODGE	VAN	1994	SH8978	2B4HB25Y4RK548003	8600			\$0.00	GAS	13799.00	1330.36	10.37	2795.00	320.30	8.73
FORD	STKE	1991	SH8980	1FDNK64P9MVA06555	19660			\$0.00	GAS	9672.00	731.30	13.23	7444.00	517.30	14.39

Consum Fuel Econ	107.35 16.12	145.70 11.58	350.30 18.81	60.50 27.09	175.34 7.30	565.00 9.99	194.00 10.96		629.11 10.46	629.11 10.46 495.88 11.24	629.11 10.46 495.88 11.24 254.74 10.47	629.11 10.46 495.88 11.24 254.74 10.47	629.11 10.46 495.88 11.24 254.74 10.47 42.65 10.69	629.11 10.46 495.88 11.24 254.74 10.47 42.65 10.69 245.91 8.71	629.11 10.46 495.88 11.24 254.74 10.47 42.65 10.69 245.91 8.71 110.10 17.64	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.74 10.47 254.74 10.47 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91	629.11 10.46 495.88 11.24 495.88 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 255.81 8.71 110.10 17.64 77.68 21.15 691.77 8.91	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 714.71 7.92	629.11 10.46 495.88 11.24 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.74 10.47 254.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 714.71 7.32 165.73 10.15	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.74 10.47 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 691.77 8.91 165.73 10.15 700.00 9.14	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 691.77 8.91 165.73 10.15 700.00 9.14 307.23 12.77	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.591 8.71 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 691.77 8.91 714.71 7.92 7165.73 10.15 700.00 9.14 307.23 12.77 381.70 9.46	629.11 10.46 495.88 11.24 254.74 10.47 254.74 10.47 254.74 10.69 254.74 10.61 254.74 10.61 254.74 10.61 254.591 8.71 110.10 17.64 77.68 21.15 691.77 8.91 165.73 10.15 700.00 9.14 307.23 12.77 381.70 9.46 768.00 11.38	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.74 10.69 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 691.77 8.91 714.71 7.92 700.00 9.14 307.23 10.15 307.23 12.77 381.70 9.46 768.00 11.38 34.18 24.43	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.54 10.69 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 691.77 8.91 714.71 7.92 165.73 10.15 700.00 9.14 307.23 12.77 381.70 9.46 768.00 1.1.38 341.8 2.4.43 56.43 7.63	629.11 10.46 495.68 11.24 495.68 11.24 254.74 10.47 254.74 10.69 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 691.77 8.91 77.68 21.45 691.77 8.91 700.00 9.14 307.23 10.15 700.00 9.46 701.26 11.38 307.23 12.43 307.23 12.43 307.23 12.43 307.23 24.43 307.43 54.43 69.43 7.63 384.48 9.60	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.74 10.69 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 775.68 21.15 691.77 8.91 700.000 9.14 307.23 10.15 768.00 9.14 307.23 10.38 31.70 9.46 768.00 11.38 34.18 24.43 34.18 24.43 34.48 9.60 88.20 9.13	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.591 8.71 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 70.000 9.14 700.00 9.14 700.00 9.14 700.00 9.14 700.00 9.14 701.15 8.91 702.23 10.15 703.23 12.77 381.70 9.46 788.00 11.38 34.18 24.43 69.43 7.63 384.48 9.60 882.20 9.13 49.10 22.55	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.54 10.69 42.65 10.69 245.91 8.71 110.10 17.64 77.68 21.15 691.77 8.91 691.77 8.91 77.68 21.45 691.77 8.91 700.00 9.14 307.23 10.15 700.12 9.46 700.20 9.46 768.00 11.38 341.8 24.43 88.170 9.46 768.00 11.38 34.48 9.60 882.20 9.13 49.10 22.55 374.00 19.25	629.11 10.46 495.88 11.24 495.88 11.24 254.74 10.47 254.59 10.69 245.91 8.71 110.10 17.64 27.68 21.15 691.77 8.91 110.10 17.64 77.68 21.15 691.77 8.91 165.73 10.15 714.71 7.92 715.73 10.15 700.00 9.14 307.23 12.77 381.70 9.46 74.18 2.4.43 69.43 7.63 341.8 2.4.43 69.43 7.63 341.8 2.4.43 69.43 7.63 381.70 9.10 88220 9.13 49.10 2.2.55 351.30 18.70	629.11 10.46 495.68 11.24 495.68 11.24 254.74 10.47 254.51 10.69 42.65 10.69 245.91 8.71 110.10 17.64 211.15 8.71 110.10 17.64 211.15 8.71 110.10 17.64 211.15 8.11 691.77 8.91 702.00 9.14 307.23 10.15 704.00 9.46 705.00 9.14 307.23 12.77 381.70 9.46 381.70 9.46 381.70 9.46 382.20 9.13 49.10 22.55 374.00 19.25 381.82 1.19.25 381.82 1.2.48 381.82 1.2.48	629.11 10.46 495.88 11.24 495.47 10.47 254.74 10.47 254.54 10.69 42.65 10.69 245.91 8.71 110.10 17.64 211.15 8.71 110.10 17.64 214.71 8.91 775.68 21.15 691.77 8.91 700.000 9.14 307.23 10.15 700.000 9.14 307.23 10.15 700.000 9.14 307.23 12.43 31.70 9.46 743.8 9.60 882.00 11.38 34.18 24.43 882.00 9.13 382.00 9.13 382.20 9.13 374.00 19.25 381.82 12.48 381.82 12.48
Mileage	1731.00	1687.00	6588.00	1639.00	1280.00	5642.00	2126.00	6579.00	5576.00		2668.00	2668.00	2668.00 456.00	2668.00 456.00 2143.00	2668.00 456.00 2143.00 1942.00	2668.00 456.00 2143.00 1942.00 1643.00	2668.00 456.00 2143.00 1942.00 1643.00 6165.00	2668.00 456.00 2143.00 1942.00 1643.00 6165.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 5682.00	2668.00 456.00 2143.00 1643.00 6165.00 6165.00 1682.00 6396.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6396.00 6396.00 3323.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6165.00 6396.00 3923.00 3923.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6366.00 6396.00 3923.00 3923.00 8738.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6165.00 6396.00 3323.00 8323.00 835.00 835.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6165.00 6396.00 38738.00 8738.00 835.00 530.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6396.00 3823.00 8738.00 8738.00 8738.00 8738.00 530.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6165.00 6165.00 3923.00 3923.00 3812.00 8738.000 8738.000 8738.000 8738.00000000000000000000000000000000000	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6366.00 3923.00 3923.00 3692.00 8738.00 8738.00 8738.00 8738.00 8738.00 8051.00	2668.00 456.00 2143.00 1942.00 1643.00 6165.00 6366.00 6396.00 3923.00 8738.00 835.00 835.00 8051.00 1107.00 7201.00	2668.00 456.00 2143.00 1942.00 1643.00 6165.00 6165.00 6386.00 3823.00 8373.00 8738.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6396.00 3822.00 3812.00 8738.00 8738.00 8738.00 8738.00 8738.00 8738.00 8738.00 8738.00 6568.00 1107.00 6568.00	2668.00 456.00 2143.00 1942.00 6165.00 6165.00 6396.00 3812.00 3812.00 3812.00 3812.00 3812.00 3812.00 3812.00 3650.00 530.00 530.00 558.00 6568.00 7201.00 6568.00
Fuel Econ	16.12	11.58	21.09	23.87	7.30	10.42	10.96	11.07	11.41		11.40	11.40 21.14	11.40 21.14 10.73	11.40 21.14 10.73 8.71	11.40 21.14 10.73 8.71 20.22	11.40 21.14 10.73 8.71 20.22	11.40 21.14 10.73 8.71 20.22 19.88 19.88	11.40 21.14 10.73 8.71 19.88 10.02 15.18	11.40 21.14 10.73 8.71 19.88 19.88 10.02 15.18 8.94	11.40 21.14 10.73 8.71 19.88 10.02 15.18 8.94 8.94	11.40 21.14 10.73 8.71 19.88 19.88 15.18 8.94 8.94 8.93 9.52	11.40 21.14 10.73 8.71 19.88 19.88 10.02 10.02 8.94 8.94 8.94 10.23 9.52	11.40 21.14 10.73 8.71 10.02 19.88 10.02 10.02 10.23 9.52 9.52 10.23	11.40 21.14 10.73 8.71 10.02 10.02 10.02 8.94 10.23 9.52 9.52 10.36	11.40 21.14 10.73 8.71 19.88 15.18 8.94 10.23 9.52 1.2.95 10.96 12.95 12.95 12.95	11.40 21.14 10.73 8.71 19.88 10.22 10.22 10.23 9.52 10.23 10.23 10.26 112.48 10.26 10.26 10.48	11.40 21.14 10.73 8.71 19.88 15.18 10.22 10.23 9.52 10.23 10.23 10.23 10.23 10.23 10.23 10.23 10.23 10.23 10.23 9.52 10.23 10.22 10.23 10.	11.40 21.14 10.73 8.71 10.02 10.02 10.02 10.23 9.52 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48	11.40 21.14 10.73 8.71 10.22 10.28 9.52 10.48 10.48 10.48 9.74 9.74 9.74	11.40 21.14 10.73 8.71 15.18 15.28 10.28 8.94 10.28 10.48 10.48 10.48 10.48 9.74 9.74 9.74 19.64 10.48	11.40 21.14 8.71 10.73 8.71 10.22 10.22 10.23 10.23 10.23 10.23 10.26 10.48 10.23 10.48 10.23 10.48 10	11.40 21.14 10.73 8.71 19.88 15.18 10.22 10.22 10.23 10.23 10.23 10.23 10.23 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.25 11.7 22.55	11.40 21.14 10.73 8.71 10.02 10.02 10.02 10.23 9.52 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.48 10.55 10.48 10.64 10.23 10.55 10.48 10.55 10.48 10.55 10.48 10.55 10.48 10.55 10.48 10.55 10
Consum.	107.35	145.70	763.60	184.70	175.34	1671.80	1644.20	1750.72	144760	00.144	1474.34	1474.34 45.37	1474.34 45.37 786.83	1474.34 45.37 786.83 245.91	1474.34 45.37 786.83 245.91 185.44	1474.34 45.37 786.83 245.91 185.44 106.47	1474.34 45.37 786.83 245.91 185.44 106.47 106.47	1474.34 45.37 786.83 245.91 185.44 106.47 1961.38 566.86	1474.34 45.37 786.83 245.91 185.44 106.47 106.47 1961.38 566.96 566.96 566.96	1474.34 45.37 45.37 786.83 245.91 185.44 1961.38 566.96 566.96 566.96 566.96 566.33 566.33	1474.34 45.37 45.37 786.83 245.91 186.44 196.138 566.96 566.96 2441.15 867.33 867.33	147.4.34 45.37 786.83 245.91 186.44 106.47 196.47 196.138 566.96 2441.15 264.10 1984.10 109.16	1474.34 45.37 786.83 245.91 186.44 106.47 1961.38 566.96 566.96 2441.15 566.96 2441.15 867.33 109.41 1019.16	1474.34 45.37 45.37 245.91 185.44 1964.7 1966.38 566.96 566.96 566.96 566.33 1966.33 867.33 1984.10 1019.16 2314.60	147.4.34 45.37 45.37 786.83 245.91 196.47 196.47 196.47 196.47 196.47 196.47 196.13 867.33 867.33 2314.60 1019.16 2314.60 2314.60 2314.60 53.32	147.4.34 45.37 45.37 786.83 2.45.91 196.47 196.47 196.13 867.33 867.33 867.33 199.16 1019.16 109.16 109.16 553.32 53.32	147.4.34 45.37 786.83 245.91 186.44 196.47 196.47 196.138 566.96 566.96 566.96 566.96 2441.15 566.96 109.46 109.46 109.46 2314.60 2314.60 2314.60 2314.60 109.46 106.77 106.67 2	147.434 45.37 786.83 245.91 186.44 106.47 196.47 196.13 867.33 867.33 1984.10 1019.16 2314.60 2314.60 2314.60 2314.60 2312.90 1096.72 2712.90	147.4.34 45.37 45.37 245.91 186.48 196.47 196.13 568.96 568.96 568.96 241.15 867.33 1964.10 1019.16 53.32 138.13 148.13 1	147.4.34 45.37 45.37 786.83 245.91 185.44 106.47 1961.38 867.33 1964.10 1019.16 867.33 1984.10 1019.16 53.32 136.13 136.13 136.13 136.13 136.13 136.13 136.13	147.4.34 45.37 45.37 245.91 196.47 196.47 196.138 566.96 566.96 867.33 196.10 109.16 109.16 109.16 55.32 53.32 1096.72 53.32 136.13 1096.72 53.32 136.13 1096.72 53.32 1096.72 53.32 1096.72 53.32 1096.72 53.32 53.32 1096.72 53.32 1096.72 53.32 1096.72 53.32 1096.40 1097.60 53.32 1096.40 1097.60 53.32 1006.47 1096.47 1006.47 1	147.4.34 147.4.34 45.37 786.83 245.91 196.47 196.47 196.40 667.33 667.33 867.33 867.33 1964.10 1019.16 2241.15 2314.60 2314.60 53.32 53.32 53.32 53.32 136.10 1096.72 2712.90 49.10 903.40	147.4.34 147.4.34 45.37 786.83 245.91 196.47 196.47 196.138 566.56 566.56 566.56 566.56 566.56 566.56 196.4.10 1019.16 231.4.60 20.2.7.70 20.2.700 20.2.700 20.2.700 20.2.700 20.2.700 20.2.700 20.2.700 20.2.7000
	1731.00	1687.00	16104.00	4408.00	1280.00	17420.00	18014.00	19386.00	16523.00		16802.00	16802.00 959.00	16802.00 959.00 8441.00	16802.00 959.00 8441.00 2143.00	16802.00 959.00 8441.00 2143.00 3749.00	16802.00 959.00 8441.00 2143.00 3749.00 2117.00	16802.00 959.00 8441.00 2143.00 3749.00 2117.00	16802.00 959.00 8441.00 2143.00 3749.00 2117.00 19648.00 8604.00	16802.00 959.00 8441.00 2143.00 3749.00 2117.00 19648.00 8604.00 21815.00 21815.00	16802.00 959.00 8441.00 2143.00 3749.00 2117.00 19648.00 8604.00 8604.00 8871.00	16802.00 959.00 8441.00 2143.00 3749.00 19648.00 19648.00 8604.00 8871.00 8871.00	16802.00 959.00 8441.00 2143.00 2117.00 19648.00 8604.00 8604.00 8871.00 118889.00 13195.00	16802.00 959.00 8441.00 2143.00 2117.00 195.48.00 8604.00 8604.00 8871.00 13195.00 13195.00	16802.00 959.00 8441.00 2143.00 2147.00 19648.00 8604.00 8871.00 8871.00 13195.00 5126.00 5126.00	16802.00 959.00 8441.00 2143.00 3749.00 19648.00 8604.00 8604.00 21815.00 13195.00 13195.00 5126.00 5126.00 13495.00	16802.00 959.00 8441.00 2143.00 2117.00 119648.00 8604.00 8871.00 13195.00 13195.00 13195.00 13195.00 13195.00 11047.00	16802.00 959.00 8441.00 2143.00 2117.00 19648.00 8604.00 8871.00 19889.00 13195.00 13195.00 13195.00 1147.00 1147.00 10679.00	16802.00 959.00 8441.00 2143.00 2147.00 19648.00 8604.00 8604.00 8871.00 198889.00 13195.00 13195.00 132887.00 1426.00 10672.00 24672.00	16802.00 959.00 8441.00 2143.00 3749.00 2147.00 8604.00 8604.00 21815.00 8871.00 13195.00 13195.00 13195.00 11426.00 11426.00 11426.00 11679.00 22872.00 22872.00	16802.00 959.00 8441.00 2143.00 3749.00 2147.00 8664.00 8664.00 8871.00 119195.00 5126.00 13195.00 13195.00 11426.00 11426.00 116679.00 116679.00 116679.00 116679.00 116679.00 116679.00 116679.00	16802.00 959.00 8441.00 2143.00 3749.00 19648.00 8604.00 8871.00 13195.00 13195.00 13195.00 13195.00 13195.00 11428.00 10679.00 1107.00 1107.00 1107.00 11177.00	16802.00 959.00 959.00 2143.00 2143.00 2117.00 19648.00 8604.00 21815.00 113195.00 13195.00 13195.00 13195.00 1137.00 1147.00 116779.00 24877.00 116779.00 116779.00 116888.00 116630.00 1177110	16802.00 959.00 8441.00 2143.00 2143.00 19648.00 8604.00 8871.00 13195.00 13195.00 13195.00 13195.00 1426.00 1426.00 110679.00 110777.00 110777.00 1107777.00 1107777.00 1107777.00 1107777777777
2	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS		GAS	GAS GAS	GAS GAS GAS	GAS GAS GAS GAS	GAS GAS GAS GAS GAS	GAS GAS GAS GAS GAS	GAS GAS GAS GAS GAS GAS	GAS GAS GAS GAS GAS GAS GAS	GAS GAS GAS GAS GAS GAS GAS GAS	G AS G AS G AS G AS G AS G AS G AS G AS	GAS GAS GAS GAS GAS GAS GAS GAS GAS GAS	GAS GAS GAS GAS GAS GAS GAS GAS GAS GAS	GAS GAS GAS GAS GAS GAS GAS GAS GAS GAS	GAS GAS GAS GAS GAS GAS GAS GAS GAS GAS	G AS G AS G AS G AS G AS G AS G AS G AS	G AS G AS G AS G AS G AS G AS G AS G AS	G AS G AS G AS G AS G AS G AS G AS G AS	G AS G AS G AS G AS G AS G AS G AS G AS	G AS G AS G AS G AS G AS G AS G AS G AS	G AS G AS G AS G AS G AS G AS G AS G AS	G AS G AS G AS G AS G AS G AS G AS G AS	G AS G AS G AS G AS G AS G AS G AS G AS	G AS G AS G AS G AS G AS G AS G AS G AS
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00	\$0.00 \$0.00	\$0.00 \$0.00 \$	00 [.] 0\$	\$0.00 \$0.00 \$0.00	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$0.00 \$0.00 \$0.00 \$0.00	00 00 00 05 00 05 00 05 00 05 00 05	00 00 00 05 00 05 00 05 00 05 00 05 00 05 00 05	00 00 00 05 00 05 00 05 00 05 00 05 00 05 00 05	00 00 00	00 00 00	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	 80.00 90.00 <	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	 S0.00 	00 00 00	 00 00 <	 00 <	 20.00 	 S0.00
Fuel Econ																																	
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UTILITY 1994 SHA22 UTILITY 2001 SHA24 S-10 1994 SHA26 VAN 1993 SHA26 VAN 1993 SHA26 VAN 1994 SHA26 VAN 1993 SHA26 VAN 1994 SHA36 UTILITY 1994 SHA36 PICKUP 1994 SHA36 UTILITY 1994 SHA36 PICKUP 1994 SHA36 PICKUP 1994 SHA36 PICKUP 1994 SHA36 PICKUP 1994 SHA36 PICK	UTILITY 1994 SHA22 UTILITY 2001 SHA24 S-10 1994 SHA24 VAN 1994 SHA28 VAN 1994 SHA28 VAN 1994 SHA28 VAN 1994 SHA28 VAN 1994 SHA32 UTILITY 1994 SHA32 UTILITY 1994 SHA33 UTILITY 1994 SHA34 UTILITY 1994 SHA36 UTILITY 1994 SHA36 <td< td=""><td>UTILITY 1994 SHA228 UTILITY 2001 SHA284 S-10 1994 SHA284 VAN 1993 SHA284 VAN 1994 SHA284 VAN 1994 SHA284 VAN 1994 SHA284 VAN 1994 SHA324 UTILITY 1994 SHA334 PICKUP 1995 SHA334 UTILITY 1994 SHA346 UTILITY 1994 SHA346 UTILITY 1994 SHA346 PICKUP 1994 SHA346 PICKUP 1994 SHA346 PICKUP 1994 SHA346 PICKUP 1994 SHA346</td><td>UTILITY 1994 SHA224 UTILITY 2001 SHA24 S-10 1994 SHA28 VAN 1994 SHA28 VAN 1994 SHA28 VAN 1994 SHA28 VAN 1994 SHA32 VAN 1994 SHA32 UTILITY 1994 SHA32 UTILITY 1994 SHA33 UTILITY 1994 SHA33 UTILITY 1994 SHA33 UTILITY 1994 SHA33 UTILITY 1994 SHA34 <t< td=""><td>UTILITY 1994 SHA2 UTILITY 2001 SHA2 S-10 1994 SHA2 VAN 1994 SHA2 VAN 1994 SHA3 VAN 1994 SHA3 VAN 1994 SHA3 VAN 1994 SHA3 UTILITY 1994 SHA3 PICKUP 199</td></t<></td></td<>	UTILITY 1994 SHA228 UTILITY 2001 SHA284 S-10 1994 SHA284 VAN 1993 SHA284 VAN 1994 SHA284 VAN 1994 SHA284 VAN 1994 SHA284 VAN 1994 SHA324 UTILITY 1994 SHA334 PICKUP 1995 SHA334 UTILITY 1994 SHA346 UTILITY 1994 SHA346 UTILITY 1994 SHA346 PICKUP 1994 SHA346 PICKUP 1994 SHA346 PICKUP 1994 SHA346 PICKUP 1994 SHA346	UTILITY 1994 SHA224 UTILITY 2001 SHA24 S-10 1994 SHA28 VAN 1994 SHA28 VAN 1994 SHA28 VAN 1994 SHA28 VAN 1994 SHA32 VAN 1994 SHA32 UTILITY 1994 SHA32 UTILITY 1994 SHA33 UTILITY 1994 SHA33 UTILITY 1994 SHA33 UTILITY 1994 SHA33 UTILITY 1994 SHA34 UTILITY 1994 SHA34 <t< td=""><td>UTILITY 1994 SHA2 UTILITY 2001 SHA2 S-10 1994 SHA2 VAN 1994 SHA2 VAN 1994 SHA3 VAN 1994 SHA3 VAN 1994 SHA3 VAN 1994 SHA3 UTILITY 1994 SHA3 PICKUP 199</td></t<>	UTILITY 1994 SHA2 UTILITY 2001 SHA2 S-10 1994 SHA2 VAN 1994 SHA2 VAN 1994 SHA3 VAN 1994 SHA3 VAN 1994 SHA3 VAN 1994 SHA3 UTILITY 1994 SHA3 PICKUP 199

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Math Math <th< th=""><th>۶. By</th><th>5</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>	۶. By	5																																	
Math Math <th< td=""><th>Annual A</th><th></th><td>7.40</td><td>7.18</td><td>8.08</td><td>13.52</td><td>12.49</td><td>10.18</td><td>9.74</td><td>8.77</td><td>9.39</td><td>7.61</td><td>9.56</td><td>20.59</td><td>10.99</td><td></td><td>11.56</td><td>27.08</td><td>10.34</td><td>22.49</td><td>28.59</td><td>27.47</td><td></td><td>17.70</td><td>33.52</td><td>24.65</td><td>9.56</td><td>10.93</td><td>10.65</td><td>13.14</td><td>9.94</td><td>8.96</td><td>24.19</td><td>10.76</td><td></td></th<>	Annual A		7.40	7.18	8.08	13.52	12.49	10.18	9.74	8.77	9.39	7.61	9.56	20.59	10.99		11.56	27.08	10.34	22.49	28.59	27.47		17.70	33.52	24.65	9.56	10.93	10.65	13.14	9.94	8.96	24.19	10.76	
Math Math <th< td=""><th>Annual Fuel</th><th>Consum</th><td>40.01</td><td>451.50</td><td>525.46</td><td>168.30</td><td>507.00</td><td>596.33</td><td>674.01</td><td>287.70</td><td>884.07</td><td>879.50</td><td>422.99</td><td>90.50</td><td>284.10</td><td></td><td>356.21</td><td>47.83</td><td>273.00</td><td>324.42</td><td>141.60</td><td>241.28</td><td></td><td>39.55</td><td>149.96</td><td>19.47</td><td>871.30</td><td>337.00</td><td>496.45</td><td>509.44</td><td>390.47</td><td>249.74</td><td>201.16</td><td>589.60</td><td></td></th<>	Annual Fuel	Consum	40.01	451.50	525.46	168.30	507.00	596.33	674.01	287.70	884.07	879.50	422.99	90.50	284.10		356.21	47.83	273.00	324.42	141.60	241.28		39.55	149.96	19.47	871.30	337.00	496.45	509.44	390.47	249.74	201.16	589.60	
Math Math <th< th=""><th>Annual</th><th>Mileage</th><th>296.00</th><th>3240.00</th><th>4248.00</th><th>2276.00</th><th>6332.00</th><th>6069.00</th><th>6565.00</th><th>2524.00</th><th>8300.00</th><th>6694.00</th><th>4045.00</th><th>1863.00</th><th>3122.00</th><th></th><th>4119.00</th><th>1295.00</th><th>2822.00</th><th>7297.00</th><th>4048.00</th><th>6629.00</th><th></th><th>700.00</th><th>5027.00</th><th>480.00</th><th>8333.00</th><th>3682.00</th><th>5289.00</th><th>6693.00</th><th>3880.00</th><th>2238.00</th><th>4867.00</th><th>6344.00</th><th></th></th<>	Annual	Mileage	296.00	3240.00	4248.00	2276.00	6332.00	6069.00	6565.00	2524.00	8300.00	6694.00	4045.00	1863.00	3122.00		4119.00	1295.00	2822.00	7297.00	4048.00	6629.00		700.00	5027.00	480.00	8333.00	3682.00	5289.00	6693.00	3880.00	2238.00	4867.00	6344.00	
Math Math <th< td=""><th>In-use Avg</th><th></th><td>7.40</td><td>9.09</td><td>8.63</td><td>14.64</td><td>12.28</td><td>10.51</td><td>9.48</td><td>8.72</td><td>9.63</td><td>8.54</td><td>9.72</td><td>21.73</td><td>10.16</td><td>12.50</td><td>11.56</td><td>28.02</td><td>10.22</td><td>22.80</td><td>27.08</td><td>27.26</td><td>25.42</td><td>17.97</td><td>34.48</td><td>23.01</td><td>10.32</td><td>11.26</td><td>10.81</td><td>12.39</td><td>10.04</td><td>10.61</td><td>23.33</td><td>9.79</td><td></td></th<>	In-use Avg		7.40	9.09	8.63	14.64	12.28	10.51	9.48	8.72	9.63	8.54	9.72	21.73	10.16	12.50	11.56	28.02	10.22	22.80	27.08	27.26	25.42	17.97	34.48	23.01	10.32	11.26	10.81	12.39	10.04	10.61	23.33	9.79	
Math Math <th< td=""><th>In-use Fuel</th><th>Consum.</th><td>40.01</td><td>1622.00</td><td>910.46</td><td>777.40</td><td>810.03</td><td>1883.99</td><td>2117.30</td><td>538.46</td><td>2541.63</td><td>2385.50</td><td>1308.49</td><td>360.10</td><td>1412.00</td><td>390.20</td><td>356.21</td><td>128.90</td><td>2007.60</td><td>920.04</td><td>333.62</td><td>1173.40</td><td>253.69</td><td>203.34</td><td>634.98</td><td>66.66</td><td>1699.80</td><td>1586.70</td><td>1521.63</td><td>1814.45</td><td>1298.36</td><td>1128.49</td><td>687.93</td><td>1900.10</td><td></td></th<>	In-use Fuel	Consum.	40.01	1622.00	910.46	777.40	810.03	1883.99	2117.30	538.46	2541.63	2385.50	1308.49	360.10	1412.00	390.20	356.21	128.90	2007.60	920.04	333.62	1173.40	253.69	203.34	634.98	66.66	1699.80	1586.70	1521.63	1814.45	1298.36	1128.49	687.93	1900.10	
Main Value Main Main Main Far Lange	In-use Mileage	00000	296.00	14738.00	7854.00	11382.00	9949.00	19806.00	20081.00	4697.00	24488.00	20371.00	12717.00	7824.00	14348.00	4879.00	4119.00	3612.00	20508.00	20977.00	9036.00	31986.00	6450.00	3654.00	21892.00	2301.00	17540.00	17867.00	16456.00	22478.00	13040.00	11975.00	16051.00	18596.00	
Main Main <th< td=""><th>Fuel Type</th><th>0</th><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td>GAS</td><td></td></th<>	Fuel Type	0	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	
Model Model <th< th=""><th>Acq. Cost</th><th></th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th>\$0.00</th><th></th></th<>	Acq. Cost		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Min Mode	EPA City	ruei Econ																													15	15			
Model Model Year Lenses Model Model <th< th=""><th>EPA Hwy</th><th>ruei Econ</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>16</th><th>19</th><th></th><th></th><th></th></th<>	EPA Hwy	ruei Econ																													16	19			
Made Model Tense Model FTR FLATEED 2003 SHA653 INPZH27X3D714435 CHEV VAN 1905 SHA653 INPZH27X3D714435 CHEV XM 1905 SHA673 INPZH27X3D714435 CHEV XM 1905 SHA673 IGBHC34K65E24658 CHEV XM 1405 IGBHC34K65E24658 CHEV 1916 SHA673 IGBHC34K65E24658 CHEV 1916 SHA674 IGBHC34K65E24658 CHEV UTLLTY 1905 SHA674 IGBHC34K65E24658 CHEV UTLLTY 1905 SHA649 IGBHC34K65E2458 CHEV UTLLTY 1905 SHA649 IGBHC34K45E20233	GVWR	0000	14908	8600	10000	6250	15000	10000	5960	10000	10000	5260	10000	4722	0006	6930	5556	2160	8600	2760	2760	2760	2760	2760	2760	2760	8600	8600	5600	9360	8600	8600	3300	5620	
Make Model Year License PTTR FLATEED 2003 SHA673 CHEV VAN 1995 SHA674 CHEV VAN 1995 SHA674 CHEV VAN 1995 SHA674 CHEV VAN 1995 SHA674 CHEV VTLITY 1995 SHA674 CHEV VTLITY 1995 SHA676 CHEV VTLITY 1995 SHA676 CHEV UTLITY 1995 SHA617 CHEV UTLITY 1995 SHA617 CHEV UTLITY 1995 SHA617 CHEV UTLITY 1996 SH4613 SISSAN Sentra 2003 SH8133 ISSAN Sentra	NIN		1NPZH27X73D714835	1 GCG G35K1 SF1 47496	1GBHC34K6SE240588	1FTEF15YXSLB50319	1FDXF46P23EC13754	1GBHC34K4SE203233	1GBHC34K9RE311406	1GBHC34K8SE117729	1GBHC34K2SE204476	1GBHC34K7RE311047	1GBHC34K8SE203428	1FAFP5220XG290362	1GTGC33R3XF094531	1FTRF27Z9WKB88228	1FTNF20D33ED82433	JTDBT123910109989	1GBGC24R5TE125582	3N1CB51D63L782093	3N1CB51D43L715136	3N1CB51D53L713783	3N1CB51D33L711417	3N1CB51D03L712850	3N1CB51D93L775266	3N1CB51D23L775254	1GBGC24ROTE122590	1GBGC24R5TE125033	1FDHF25H8TEB77037	1GBGC24R9TE125648	1 FDHF25 H5 TEB7 7044	1GBGC24R7TE130380	1FAFP52U74G124840	1FDHF25H8TEB77040	
Make Model Year PTRB FLATBED 2003 CHEV VAN 1995 CHEV STKE 1995 CHEV VAN 1995 CHEV VAN 1995 CHEV VAN 1995 CHEV UTILITY 1995 FORD PICKUP 1995 FORD PICKUP 2003 IISSAN Sentra 2003 IISSAN Sentra 2003 IISSAN Sentra 2003 IISSAN Sentra </th <th>License</th> <th></th> <th>SHA653</th> <th>SHA674</th> <th>SHA675</th> <th>SHA676</th> <th>SHA794</th> <th>SHA820</th> <th>SHA821</th> <th>SHA822</th> <th>SHA839</th> <th>SHA840</th> <th>SHA841</th> <th>SHA869</th> <th>SHA896</th> <th>SHA897</th> <th>SHA901</th> <th>SHA929</th> <th>SHA999</th> <th>SHB130</th> <th>SHB131</th> <th>SHB132</th> <th>SHB133</th> <th>SHB134</th> <th>SHB135</th> <th>SHB136</th> <th>SHB191</th> <th>SHB192</th> <th>SHB197</th> <th>SHB198</th> <th>SHB199</th> <th>SHB200</th> <th>SHB226</th> <th>SHB305</th> <th></th>	License		SHA653	SHA674	SHA675	SHA676	SHA794	SHA820	SHA821	SHA822	SHA839	SHA840	SHA841	SHA869	SHA896	SHA897	SHA901	SHA929	SHA999	SHB130	SHB131	SHB132	SHB133	SHB134	SHB135	SHB136	SHB191	SHB192	SHB197	SHB198	SHB199	SHB200	SHB226	SHB305	
Make Model PTTB FLATBED CHEV VAN CHEV VAN CHEV VAN CHEV UTLLTY CHEV PICKUP POCKUP PICKUP CHEV UTLLTY CHEV PICKUP Sentra Sentra IISSAN Sentra IISSAN Sentra IISSAN Sentra IISSAN Sentra IISSAN Sentra IISSAN Sentra SISSAN Sentra ISSAN Sentra ISSAN	Year		2003	1995	1995	195	2003	1995	1994	1995	1995	1991	1995	1999	1999	1998	2003	2001	1996	2003	2003	2003	2003	2003	2003	2003	1996	1996	1996	1996	1996	1996	2004	1996	
Make CHEV CHEV CHEV CHEV CHEV CHEV CHEV CHEV	Model		FLATBED	VAN	STKE	F-150	ΠΤΙΓΙΤΥ	υτιμτγ	ΠΤΙΓΙΤΥ	ΠΤΙΓΙΤΥ	ΠΤΙΓΙΤΥ	υτιμτγ	ΠΤΙΓΙΤΥ	TAURUS	PICKUP	PICKUP	PICKUP	Echo	ΠΤΙΓΙΤΥ	Sentra	ΠΤΙΓΙΤΥ	ΠΤΙΓΙΤΥ	υτιμτγ	υτιμτγ	υτιμτγ	υτιμτγ	Taurus	ΠΤΙΓΙΤΥ							
	Make		PTRB	CHEV	CHEV	FORD	FORD	CHEV	CHEV	CHEV	CHEV	CHEV	CHEV	FORD	GMC	FORD	FORD	оуота	CHEV	VISSAN	CHEV	CHEV	FORD	CHEV	FORD	CHEV	FORD	FORD							

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Make	Model	Year	License Plate #	NIN	GVWR	EPA Hwy Fuel Econ	EPA City Fuel Econ	Acq. Cost	Fuel Type	In-use Mileage	In-use Fuel Consum.	In-use Avg Fuel Econ	Annual Mileage	Annual Fuel Consum	Annual Avg Fuel Econ
		1007							0			0007	5		
CHE	PICKUP	1991	SHB339	1GCCS14X8V8190112	4400			00.0\$	GAS	/ 48.00	46.50	16.09			
CHEV	PICKUP	1997	SHB397	1GCFC24M9VE249787	7200			\$0.00	GAS	2420.00	195.20	12.40			
FORD	PICKUP	2005	SHB436	1FTSF20P85EA36576	9400			\$0.00	GAS	6086.00	561.02	10.85	6086.00	561.02	10.85
FORD	PICKUP	2005	SHB437	1FTSF20PX5EA36577	9400			\$0.00	GAS	2152.00	186.90	11.51	2152.00	186.90	11.51
FORD	PICKUP	2005	SHB438	1FTSF20P15EA36578	9400			\$0.00	GAS	4185.00	473.88	8.83	4185.00	473.88	8.83
FORD	PICKUP	2005	SHB440	1FTSF20PX5EA36580	9400			\$0.00	GAS	1060.00	125.40	8.45	1060.00	125.40	8.45
FORD	VAN	1997	SHB473	1FTJE34L9VHC12562	9500			\$0.00	GAS	24721.00	2381.35	10.38	8777.00	820.93	10.69
FORD	VAN	1997	SHB474	1FTJE34L7VHC12561	9500			\$0.00	GAS	18223.00	1631.34	11.17	3752.00	369.78	10.15
PTRB	ΠΤΙΓΙΤΥ	2005	SHB567	2NPLHZ8X45M860594	36220			\$0.00	GAS	729.00	26.32	27.70	729.00	26.32	27.70
PTRB	ΠΤΙΓΙΤΥ	2005	SHB568	2NPLHZ8X25M860593	36220			\$0.00	GAS	2854.00	153.00	18.65	2854.00	153.00	18.65
XXXX	XXXX	2005	SHB730	5B4HP42VX53405454	XXXX			\$0.00	GAS	1848.00	197.50	9.36	1848.00	197.50	9.36
XXXX	XXXX	2005	SHB731	5B4HP42V853405453	XXXX			\$0.00	GAS	2492.00	163.15	15.27	2492.00	163.15	15.27
XXXX	XXXX	2005	SHB732	5B4HP42V6534054	XXXX			\$0.00	GAS	1790.00	176.97	10.11	1790.00	176.97	10.11
XXXX	XXXX	2005	SHB733	5B4HP42V53405451	XXXX			\$0.00	GAS	959.00	70.47	13.61	959.00	70.47	13.61
CHEV	PICKUP	1998	SHB764	1GCFC24M6WZ128077	7200			\$0.00	GAS	3138.00	268.63	11.68	569.00	66.91	8.50
FORD	VAN	2005	SHB793	1FTNS24L85HA83508	XXXX			\$0.00	GAS	1002.00	74.78	13.40	1002.00	74.78	13.40
FORD	VAN	2005	SHB794	1FTNS24LX5HA83509	XXXX			\$0.00	GAS	3115.00	246.81	12.62	3115.00	246.81	12.62
тоүота	Camry	2004	SHB943	JTDBF30K240157478	3420			\$0.00	GAS	10345.00	527.58	19.61	3826.00	199.67	19.16
тоүота	Camry	2004	SHB944	JTDBF30K140157942	3219			\$0.00	GAS	10989.00	542.89	20.24	3285.00	154.13	21.31
тоүота	Camry	2004	SHB945	JTDBF30K740157184	3219			\$0.00	GAS	18194.00	902.83	20.15	7250.00	347.97	20.84
тоуота	Camry	2004	SHB946	JTDBF30K140157956	3420			\$0.00	GAS	6387.00	370.34	17.25	1856.00	122.59	15.14
тоүота	Camry	2004	SHB949	JTDBF30KX40157230	3420			\$0.00	GAS	10933.00	540.05	20.24	2796.00	134.62	20.77
τογοτα	Camry	2004	SHB950	JTDBF32K440157897	3219			\$0.00	GAS	40139.00	1597.73	25.12	9449.00	374.71	25.22
FORD	PICKUP	2006	SHC196	1FTSF20P96EB12579	9400			\$0.00	GAS	2903.00	404.69	7.17	2903.00	404.69	7.17
FORD	F-250	2006	SHC197	1FTSF20P56EB12580	9400			\$0.00	GAS	4123.00	578.98	7.12	4123.00	578.98	7.12
CHEV	VAN	1997	SHC243	1GBHP32RXV3300960	XXXX			\$0.00	GAS	299.00	165.81	1.80	299.00	165.81	1.80
тоүота	SEDAN	2005	SHC330	JTDBE32K653007292	XXXX			\$0.00	GAS	24447.00	912.25	26.80	7169.00	238.05	30.12
τογοτα	SEDAN	2005	SHC331	JTDBE32K553007557	XXXX			\$0.00	GAS	7831.00	319.55	24.51	2065.00	74.44	27.74
тоүота	SEDAN	2005	SHC332	JTDBE32K753007852	XXXX			\$0.00	GAS	26894.00	1107.62	24.28	5947.00	241.43	24.63
тоүота	SEDAN	2005	SHC335	JTDBE32K253008228	XXXX			\$0.00	GAS	3094.00	138.51	22.34	1113.00	52.05	21.38
DODGE	ΠΤΙΓΙΤΥ	1999	SHC350	3B6KC26Z0XM580704	8800			\$0.00	GAS	19287.00	2072.65	9.31	3381.00	364.49	9.28
DODGE	ΠΤΙΓΙΤΥ	1999	SHC351	3B6KC26Z7XM580702	8800			\$0.00	GAS	15204.00	1733.90	8.77	5410.00	630.50	8.58
DODGE	ΠΤΙΓΙΤΥ	1999	SHC352	3B6KC2628XM580708	8800			\$0.00	GAS	17777.00	1445.69	12.30	5261.00	397.52	13.23

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Annual Avg Fuel Econ	9.29	10.16	25.34	8.38	11.14	23.37	8.17	11.00	10.47	8.72	10.13	10.59	10.03	10.63	10.82	13.38	9.97	11.08		20.37	17.41	14.42	15.46	10.37	16.48	16.92	19.73	24.68	22.39		23.60	8.78	9.76
Annual Fuel Consum	346.68	422.72	71.82	769.90	482.35	112.00	220.69	585.93	241.10	234.20	632.10	669.33	822.10	190.00	549.60	584.90	22.26	490.50		203.90	128.80	148.30	187.70	515.56	260.99	108.10	183.90	130.79	139.19		436.65	468.82	382.81
Annual Mileage	3221.00	4296.00	1820.00	6453.00	5374.00	2617.00	1803.00	6448.00	2525.00	2042.00	6403.00	7087.00	8243.00	2019.00	5949.00	7825.00	222.00	5437.00		4154.00	2243.00	2138.00	2902.00	5348.00	4302.00	1829.00	3629.00	3228.00	3116.00		10306.00	4116.00	3736.00
In-use Avg Fuel Econ	10.67	9.93	23.91	7.45	10.57	22.29	9.80	11.00	10.62	9.06	10.06	11.48	10.04	14.13	11.41	13.33	9.97	12.15	10.47	19.76	18.74	14.73	16.16	9.48	17.83	19.78	20.54	21.97	21.58	20.18	23.17	8.78	9.76
In-use Fuel Consum.	1517.63	1730.01	09.62	2542.90	1703.84	538.44	1485.43	1935.17	735.90	1190.10	1694.10	1885.84	2439.60	192.91	1434.60	938.40	22.26	1525.20	257.96	866.70	455.00	395.20	573.80	1452.89	524.83	290.82	727.38	422.25	674.41	23.93	1396.84	468.82	382.81
In-use Mileage	16200.00	17182.00	1903.00	18939.00	18018.00	12000.00	14560.00	21280.00	7817.00	10785.00	17042.00	21642.00	24488.00	2726.00	16366.00	12504.20	222.00	18531.00	2702.00	17125.00	8526.00	5822.00	9274.00	13772.00	9359.00	5751.00	14942.00	9278.00	14553.00	483.00	32365.00	4116.00	3736.00
Fuel Type	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS	GAS																
Acq. Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EPA City Fuel Econ																																	
EPA Hwy Fuel Econ																																	
GVWR	8800	8800	XXXX	1 0000	8800	XXXX	XXXX	8800	8800	XXXX	8800	8700	8800	8570	XXXX	XXXX	XXXX	XXXX	13000	XXXX	XXXX	XXXX	XXXX	9200	4600	XXXX							
NIX	3B6KC26Z5XM580701	3B6KC26Z2XM580705	1GCCS14X6V8188441	2B7KB31Z1MK431016	3B6KC26Z6XM580707	1FAHP53U65A265636	3B6KC26Z7XM580697	3B6KC26Z6XM580710	3B6KC26Z3XM580714	3B6MF3654XM572026	3B6KC26Z9XM579034	2B7KB31Y7YK147516	3B6KF26Z5WM269551	1FDSX20R78EA28953	1FDSX20R58EA28952	1FDSX20R38EA28951	J8DK7A1U2N3200748	2FTRF7Z5YCA40773	1FDWX36R28EA24355	1FTYR10V5XPB66509	1FAFP53262A202988	1FAFP53221A226171	1GDDS1455Y8298268	1GCHK33J0YF488233	1GCCS1450Y8301593	1C3LC46R17N676511	1C3LC46R17N676508	1C3LC46R37N676512	1C3LC46R77N676514	1C3LC46RX7N676510	1C3LC46R57N676513	1FTSF20R08EC60401	1FTSF20R28EC60402
License Plate #	SHC353	SHC354	SHC365	SHC378	SHC383	SHC397	SHC449	SHC450	SHC451	SHC452	SHC453	SHC454	SHC580	SHC719	SHC742	SHC749	SHC759	SHC761	SHC762	SHC800	SHC801	SHC802	SHC876	SHC877	SHC878	SHC915	SHC916	SHC917	SHC919	SHC920	SHC921	SHD139	SHD160
Year	1999	1999	1997	1999	1999	2005	1999	1999	1999	1999	1999	2000	1998	2008	2008	2007	1992	2000	2007	1999	2002	2002	2000	2000	2000	2007	2007	2007	2007	2007	2007	2008	2008
Model	ΠΤΙΓΙΤΥ	ΠΤΙΓΙΤΥ	PICKUP	VAN	RAM	SEDAN	PICKUP	ΠΤΙΓΙΤΥ	ΠΤΙΓΙΤΥ	RAM	ΠΤΙΓΙΤΥ	VAN	XXXX	ΠΤΙΓΙΤΥ	F-250	ΠΤΙΓΙΤΥ	STKE	F-150	ΠΤΙΓΙΤΥ	RANGER	TAURUS	TAURUS	S-10	PICKUP	PICKUP	SEDAN	SEDAN	SEDAN	SEDAN	SEDAN	SEDAN	PICKUP	PICKUP
Make	DODGE	DODGE	CHEV	FORD	DODGE	CHEV	DODGE	FORD	FORD	FORD	GMC	FORD	FORD	FORD	FORD	FORD	CHEV	CHEV	CHEV	CHRY	CHRY	CHRY	CHRY	CHRY	CHRY	FORD	FORD						

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Make	Model	Year	License Plate #	NIN	GVWR	EPA Hwy Fuel Econ	EPA City Fuel Econ	Acq. Cost	Fuel Type	In-use Mileage	In-use Fuel Consum.	In-use Avg Fuel Econ	Annual Mileage	Annual Fuel Consum	Annual Avg Fuel Econ
CHEV	PICKUP	2007	SHD163	1PDXF46R98EA09249	12460			\$0.00	GAS	201.00	25.64	7.84			
CHEV	VAN	1999	SHD164	1GBHG31F3X1153760	9500			\$0.00	GAS	612.00	25.01	24.47			
CHEV	VAN	2000	SHD165	1GCHG35R5Y1270788	XXXX			\$0.00	GAS	13120.00	1141.80	11.49	4728.00	400.50	11.81
DODGE	ΠΤΙΓΙΤΥ	2001	SHD166	3B6KC26Z31M558641	XXXX			\$0.00	GAS	14403.00	1375.44	10.47	5789.00	576.52	10.04
DODGE	STKE	1999	SHD307	3B6MC3653XM579249	7100			\$0.00	GAS	3945.00	589.94	6.69	2345.00	471.21	4.98
DODGE	SEDAN	2004	SHD352	1B3EL36T24N341619	XXXX			\$7,200.00	GAS	4500.00	207.99	21.64	2873.00	143.89	19.97
DODGE	STRATUS	2004	SHD353	1B3EL36T94N341973	XXXX			\$7,200.00	GAS	7330.00	322.50	22.73	3524.00	166.80	21.13
DODGE	STKE	2002	SHD433	3B6MC36552M303678	7520			\$0.00	GAS	9827.00	920.50	10.68	7423.00	716.10	10.37
DODGE	ΠΤΙΓΙΤΥ	2001	SHD434	2B7KB31Y91K537877	8700			\$0.00	GAS	9114.00	99.096	9.49	6012.00	638.13	9.42
CHEV	VAN	1999	SHD435	1GCGG25R8Y1118767	XXXX			\$6,000.00	GAS	16026.00	1403.30	11.42	9001.00	798.30	11.28
FORD	STKE	1992	SHD494	1FDNK64P7NVA14185	19600			\$0.00	GAS	1174.00	63.50	18.49	919.00	20.40	45.05
CHEV	S-10	2001	SHD518	1GCC5145918211302	XXXX			\$0.00	GAS	9506.00	552.93	17.19	6847.00	399.10	17.16
DODGE	PICKUP	2001	SHD519	3B6KC26231M271011	XXXX			\$0.00	GAS	6809.00	535.31	12.72	4411.00	335.61	13.14
DODGE	ΠΤΙΓΙΤΥ	2001	SHD520	3B6KC26291M271014	8800			\$0.00	GAS	8222.00	1068.83	7.69	4547.00	620.70	7.33
DODGE	ΠΤΙΓΙΤΥ	2001	SHD521	3B6KC262X1M558636	8800			\$0.00	GAS	8645.00	840.84	10.28	5164.00	529.31	9.76
CHEV	S-10	2001	SHD522	1GCC5145218206863	6000			\$0.00	GAS	12913.00	662.03	19.51	7347.00	391.16	18.78
CHEV	S-10	2001	SHD523	1GCCS145518206114	6000			\$0.00	GAS	12481.00	562.71	22.18	8075.00	356.29	22.66
DODGE	XXXX	2001	SHD524	3B6KC26Z6M271018	XXXX			\$0.00	GAS	6274.00	654.14	9.59	4286.00	438.13	9.78
DODGE	ΠΤΙΓΙΤΥ	2001	SHD579	386KC25Z51M555191	8800			\$0.00	GAS	2946.00	262.36	11.23	1820.00	163.70	11.12
CHEV	S-10	2000	SHD580	1GCCS1458Y8299537	XXXX			\$0.00	GAS						
DODGE	ΠΤΙΓΙΤΥ	2001	SHD581	3B6KC26271M583901	XXXX			\$0.00	GAS	15432.00	1691.20	9.12	9222.00	1089.20	8.47
DODGE	ΠΤΙΓΙΤΥ	2001	SHD582	3B6KC26791M271000	8800			\$0.00	GAS	7368.00	737.60	9.99	3100.00	324.80	9.54
DODGE	ΠΤΙΓΙΤΥ	2001	SHD634	3B6KC26Z61M558603	XXXX			\$0.00	GAS	7760.00	726.56	10.68	5275.00	515.35	10.24
CHEV	VAN	2000	SHD635	1GCHG35RXY1269278	8800			\$0.00	GAS	11314.00	944.07	11.98	7664.00	629.65	12.17
DODGE	ΠΤΙΓΙΤΥ	2001	SHD639	3B6KC26Z0117271D01	XXXX			\$0.00	GAS	14831.00	1528.50	9.70	9821.00	1006.60	9.76
CHEV	SEDAN	2009	SHD672	1G1ZG57B59F131550	XXXX			\$0.00	GAS	7186.00	338.15	21.25	4529.00	210.04	21.56
CHEV	SEDAN	2009	SHD673	1G1ZG57B29F129674	XXXX			\$0.00	GAS	5816.00	196.30	29.63			
CHEV	SEDAN	2009	SHD674	1G1ZG57B69F128012	XXXX			\$0.00	GAS	1965.00	87.39	22.49	1965.00	87.39	22.49
CHEV	SEDAN	2009	SHD675	1G1ZG57B19F30170	XXXX			\$0.00	GAS	3011.00	157.32	19.14	2427.00	128.53	18.88
PTRB	XXXX	2009	SHD701	2NPRHN8X79M787259	16000			\$146,199.61	GAS	1052.00	107.26	9.81	1052.00	107.26	9.81
CHEV	PICKUP	2009	SHD704	1GCHC44649E109903	XXXX			\$0.00	GAS	3921.00	237.58	16.50	3921.00	237.58	16.50
CHEV	PICKUP	2009	SHD705	1GCHC44649E109397	XXXX			\$33,172.00	GAS	3227.00	274.19	11.77	3227.00	274.19	11.77
CHEV	PICKUP	2008	SHD706	1GCHC44689E107961	6100			\$0.00	GAS	3494.00	275.96	12.66	3494.00	275.96	12.66

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.nnual Fuel Annual Avç Consum Fuel Econ	530.30 12.32	383.96 8.08	697.10 11.68		188.10 6.24	143.69 10.53	563.50 8.84				
Annual A Mileage	6532.00	3102.00	8141.00		1174.00	1513.00	4981.00				
In-use Avg Fuel Econ	12.57	8.04	12.09	15.00	6.24	10.53	8.59				
In-use Fuel Consum.	728.30	406.88	863.60	122.43	188.10	143.69	1678.30				
In-use Mileage	9155.00	3270.00	10440.00	1837.00	1174.00	1513.00	14414.00				
Fuel Type	GAS	GAS	GAS	GAS	GAS	GAS	GAS				
Acq. Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$41,632.96	\$0.00	\$0.00				
EPA City Fuel Econ											
EPA Hwy EPA City Fuel Econ Fuel Econ											
GVWR EPAHwy EPACity Fuel Econ Fuel Econ	5300	7480	7340	2300	XXXX	XXXX	10000				
VIN GVWR EPAHwy EPACity Fuel Econ Fuel Econ	1GNEK13V23J271404 5300	3B6MC365X1M561192 7480	IFDSF30R09EA00826 7340	1FDSF30R69EA00829 7300	1FDWF36R78EE58063 XXXX	1FCJE39L91HB28079 XXXX	1GBHC34K1LE232934 10000				
License VIN GVWR EPA Hwy EPA City Plate # Fuel Econ Fuel Econ	SHD715 1GNEK13V23J271404 5300	SHD740 3B6MC365X1M561192 7480	SHD788 IFDSF30R09EA00826 7340	SHD791 1FDSF30R69EA00829 7300	SHD805 1FDWF36R78EE58063 XXXX	SHD946 1FCJE39L91HB28079 XXXX	SHD998 1GBHC34K1LE232334 10000				
Year License VIN GVWR EPA Hwy EPA City Plate # Fuel Econ Fuel Econ	2003 SHD715 1GNEK13V23J271404 5300	2001 SHD740 3B6MC365X1M561192 7480	2009 SHD788 IFDSF30R09EA00826 7340	2009 SHD791 1FDSF30R69EA00829 7300	2008 SHD805 1FDWF36R78EE58063 XXXX	2001 SHD946 1FCJE39L91HB28079 XXXX	1990 SHD998 1GBHC34K1LE232934 10000				
Model Year License VIN GVWR EPAHwy EPACity Plate# Fuel Econ Fuel Econ	TAHOE 2003 SHD715 1GNEK13V23J271404 5300	STKE 2001 SHD740 3B6MC365X1M561192 7480	UTILITY 2009 SHD788 IFDSF30R09EA00826 7340	UTILITY 2009 SHD791 1FDSF30R69EA00829 7300	FLATBED 2008 SHD805 1FDWF36R78EE58063 XXXX	VAN 2001 SHD946 1FCJE39L91HB28079 XXXX	FLATBED 1990 SHD998 1GBHC34K1LE232934 10000				
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	DESCRIPTION	NIX	YR	Class	Island	Vehicle Acquisition Cost (\$)	EPA Rated Fuel Economy (MPG) (city/hwy)	Type of Fuel	Milage (Miles)	Fuel Consump tion (GAL)	Actual Fuel Economy (MPG)
P	TRUCK CHEV FLEETSIDE	1GCCS14R9J2175844	88	Truck (0 - 10,000 GVW)	HAWAII	\$10,094	no listing	unleaded	0	0.00	s/o
ЪЧ	I TRUCK 92 FORD F-150	2FTDF15N1NCA39867	92	Truck (0 - 10,000 GVW)	HAWAII	\$15,556	no listing	unleaded	570	113.48	5.02
Ъ	J CHEV FLATBED	1GBG6H1P9RJ104067	94	Truck (20,000 - 45,000 GVW)	HAWAII	\$30,871	no listing	unleaded	0	0.00	nnusec
Ч	J TRUCK CHEV	1GCDC14H6RZ207273	94	Truck (0 - 10,000 GVW)	HAWAII	\$13,595	no listing	unleaded	418	56.91	7.34
SU	IV ISUZU MPVH	4S2DM58W0Y4331777	00	Truck (0 - 10,000 GVW)	HAWAII	\$22,362	17/22	unleaded	9,757	570.78	17.09
М	J TRUCK 250 FORD F-250	1FTNW21L73ED60351	03	Truck (0 - 10,000 GVW)	HAWAII	\$24,673	15/19	unleaded	4,116	321.39	12.8′
ร	IV FORD ESCAPE	1FMYU93135KC92881	05	Truck (0 - 10,000 GVW)	HAWAII	\$26,924	21/25	unleaded	5,095	328.15	15.53
L L	LERUNNER TOYOTA	5TEJU62NX7Z408584	07	Truck (0 - 10,000 GVW)	HAWAII	\$25,099	16/20	unleaded	9,220	447.36	20.6
Р	U DODGE DAKOTA	1D7HE22K67S152786	07	Truck (0 - 10,000 GVW)	HAWAII	\$18,726	18/23	unleaded	6,318	391.79	16.1
പ	JV FORD ESCAPE	1FMCU93G09KA28943	60	Truck (0 - 10,000 GVW)	HAWAII	\$24,814	21/25	unleaded	2,396	326.99	7.3
<u> </u>	U TRUCK FORD	1 FTEX15H8NKB27063	92	Truck (0 - 10,000 GVW)	INANI	\$19,621	12/17	Gas	1,382.00	215.05	6.4
\leq	ITL STAKE	1HTLBD4K2EHA61438	84	Truck (10,000 - 20,000 GVW)	MAUI	\$20,661	N/A	diesel	1,346.00	354.50	3.8
Ē.	'U FORD	1FTEF15YXGPA10688	86	Truck (0 - 10,000 GVW)	INANI	\$9,550	18/24	Gas		0.00	/0
<u> </u>	U TRUCK GMC SONOMA	1GTCT19Z9M8509359	91	Truck (0 - 10,000 GVW)	MAUI	\$17,405	18/24	Gas	1,366.00	144.56	9.4
S	DN OLDS CUTLASS CRUISER	1G3AJ85M3R6428263	96	Sedan, Coupe, Station wagon, SUV	MAUI	\$14,765	19/29	Gas	7,080.00	337.89	20.9
Ë.	SUCK GMC	1GTFC24Z0SZ511129	92	Truck (0 - 10,000 GVW)	MAUI	\$20,182	16/21	Gas	3,122.00	390.40	8.0
Ë	RUCK GMC	1GTEC14Z3SZ511132	95	Truck (0 - 10,000 GVW)	MAUI	\$15,954	16/21	Gas	5,967.00	462.95	12.89
è	U CHEV	1GCCS14XXVK115298	67	Truck (0 - 10,000 GVW)	INANI	\$15,625	17/23	Gas	1,017.00	166.62	6.10
ຮ	JV CHEV BLAZER	1GNCS13W8W2228684	98	Truck (0 - 10,000 GVW)	MAUI	\$31,100	16/20	Gas	2,344.00	521.84	4.4
à	U FORD	1FTSF20P77EA42016	07	Truck (0 - 10,000 GVW)	MAUI	\$26,940		diesel	1,796.00	249.80	7.19
6	U FORD	1FTSF20P47EA67844	20	Truck (0 - 10,000 GVW)	INANI	\$37,239		diesel	1,713.00	229.38	7.4
S	ON FORD TAURUS	1FACP57U5PA115878	93	Sedan, Coupe, Station wagon, SUV	OAHU	\$18,148	19/27	unleaded	489.0	51.7	9.4
5	DN FORD TAURUS	1FACP57U7PA115879	93	Sedan, Coupe, Station wagon, SUV	OAHU	\$18,148	19/27	unleaded	839.0	75.4	11.1:
1	AN CHEV	1GCGG35K4N7101482	92	Van (passenger, cargo)	OAHU	\$23,799	14/18	unleaded	1892.0	305.0	6.2
6	U GMC	1GTDC14N0GF706090	86	Truck (0 - 10,000 GVW)	OAHU	\$9,006	no listing	unleaded	435.0	49.0	8.8
Ъ	U CHEV	1GBGC24M4EJ146308	84	Truck (0 - 10,000 GVW)	OAHU	\$12,785	no listing	unleaded	vehicle was di	sposed of	
È	U TRUCK 91 GMC	1GDGR33KXMF701050	91	Truck (0 - 10,000 GVW)	OAHU	\$21,443	15/19	unleaded	n/a	21.4	/u
È	U CHEV	1GBGC24M8EJ146277	84	Truck (0 - 10,000 GVW)	OAHU	\$12,785	no listing	unleaded	vehicle was di	sposed of	
Ъ	U CHEV	1GBGC24MXEJ146300	84	Truck (0 - 10,000 GVW)	OAHU	\$12,785	no listing	unleaded	vehicle was di	sposed of	
	RUCK INT'L FTBD	1HTSHNHROMH354189	91	Truck (over 45,000 GVW)	OAHU	\$62,857	no listing	diesel	224.0	80.6	2.7
6	U DODGE D250	1B6KD2455HS446454	87	Truck (0 - 10,000 GVW)	OAHU	\$16,026	11/13	unleaded	543.0	84.8	6.4
μ	RUCK GMC TC 10703	1GTDC14ZXLZ544867	06	Truck (0 - 10,000 GVW)	OAHU	\$13,724	18/21	unleaded	n/a	37.2	/u
μ	RUCK AERIAL LADDER INTL	1HTAA17B2BHB25932	81	Truck (20,000 - 45,000 GVW)	OAHU	\$36,381	no listing	unleaded	n/a	n/a	/c
Ë	NUCK FORD F600 W/LIFT	1FDMF60KXLVA39248	06	Truck (10,000 - 20,000 GVW)	OAHU	\$47,618	11/15	unleaded	152.0	68.7	2.2

HARBORS DIVISION ACT 96 Vehicle Baseline Data FY 2010 (July 2009 - June 2010)

Appendix 6: DOT-Harbors Vehicle Data

HARBORS DIVISION ACT 96 Vehicle Baseline Data -Y 2010 (July 2009 - June 2010)

	DESCRIPTION	NN	YR	Class	Island	Vehicle Acquisition Cost (\$)	EPA Rated Fuel Economy (MPG) (city/hwy)	Type of Fuel	Milage (Miles)	Fuel Consump tion (GAL)	Actual Fuel Economy (MPG)
/U GMC FL	ATBED	1GDJ7D1F8GV505206	86	Truck (10,000 - 20,000 GVW)	OAHU	\$28,576	no listing	diesel	vehicle was ic	e	
RUCK INT'L	4900 W/BM & JIB	1HTSDZ3R9LH280523	06	Truck (20,000 - 45,000 GVW)	OAHU	\$95,229	no listing	diesel	vehicle was ic	le	
RUCK INTL	AERIAL LIFT	1HTAA19580HAZ1017	82	Truck (20,000 - 45,000 GVW)	OAHU	\$97,017	no listing	diesel	vehicle was ic	e	
RUCK FLAT	BED GMC	1GDGR33K9MF701055	91	Truck (0 - 10,000 GVW)	OAHU	\$21,443	15/19	unleaded	n/a	478.3	n/a
RUCK CHE	V FLTSIDE	1GCFC24HXRE121390	94	Truck (0 - 10,000 GVW)	OAHU	\$16,838	14/19	unleaded	1641.5	187.7	8.75
AN CHEV		1GCDG15H0RF115936	94	Truck (0 - 10,000 GVW)	OAHU	\$13,687	14/19	unleaded	2935.5	297.2	9.88
AN CHEV /	ASTRO	1GNDM15Z9JB193006	88	Van (passenger, cargo)	OAHU	\$5,900	17/22	unleaded	602.1	67.5	8.92
RUCK CHE	V CAB	1GBGC24K9RE303358	94	Truck (0 - 10,000 GVW)	OAHU	\$18,192	13/17	unleaded	1933.8	285.0	6.79
RUCK CHE	EV CAB	1GBGC24K5RE306404	94	Truck (0 - 10,000 GVW)	OAHU	\$18,192	13/17	unleaded	2889.0	372.4	7.76
RUCK CHE	V CAB	1GBGC24K5RE304040	94	Truck (0 - 10,000 GVW)	OAHU	\$18,192	13/17	unleaded	1069.2	165.5	6.46
/U CHEV		1GBHC33R6TF004193	96	Truck (0 - 10,000 GVW)	OAHU	\$25,187	15/19	unleaded	3273.0	447.8	7.31
JT'L MSTR	KOMATSU PAY LDR	1HTSCABL4XH683803	66	Truck (20,000 - 45,000 GVW)	OAHU	\$69,695	no listing	diesel	284.0	87.5	3.25
DN CHEV (CORSICA	1G1LD55M9SY273574	95	Sedan, Coupe, Station wagon, SUV	OAHU	\$6,300	21/29	unleaded	used by OCG		
DN CHEV (CORSICA	1G1LD55M3SY267785	95	Sedan, Coupe, Station wagon, SUV	OAHU	\$6,300	21/29	unleaded	775.0	68.4	11.33
DN CHEV (CORSICA	1G1LD55M2SY272900	95	Sedan, Coupe, Station wagon, SUV	OAHU	\$6,300	21/29	unleaded	n/a	n/a	n/a
/UP CHEV		1GBHC33J6XF003240	66	Truck (0 - 10,000 GVW)	OAHU	\$36,145	12/16	unleaded	4593.0	688.7	6.67
RUCK PETI	ERBILT	1NPGN08X2Y0527575	00	Truck (20,000 - 45,000 GVW)	OAHU	\$81,932	no listing	diesel	798.0	206.5	3.86
AN CARGO	CHEV	1GCHG39F911133293	0	Van (passenger, cargo)	OAHU	\$56,655	no listing	diesel	1774.0	224.9	7.89
RUCK CHE	>	1GCFC24K5PE221052	93	Truck (0 - 10,000 GVW)	OAHU	\$15,450	15/20	unleaded	890.7	96.1	9.27
RUCK FOR	D	2FTPF17Z63CA80280	03	Truck (0 - 10,000 GVW)	OAHU	\$8,000	11/15	unleaded	3230.0	366	8.83
RUCK FOR	D	2FTPF17Z73CA80286	03	Truck (0 - 10,000 GVW)	OAHU	\$8,000	11/15	unleaded	560.5	95	5.90
ORD P/U1	RUCK	1FTYR10U41PA92546	0	Truck (0 -10,000 GVW)	KAUAI	\$15,375	21	lnu	1,675.00	129.60	12.92
ОУОТА НІ	GHLANDER H.BRID	JTEGW21A470015	07	SUV (0 - 10,000 GVW)	KAUAI	\$35,989	32	unl/Hybrid	3,940.00	176.80	22.29
<u>OYOTA TA</u>	COMA P/UP	5TENX22N66Z	90	Truck (0 -10,000 GVW)	KAUAI	\$17,682	19	nn	2,304.00	154.40	14.92
RUCK FOF	RD STYLESIDE	1FTJW36H3REA44107	94	Truck (0 - 10,000 GVW)	KAUAI	\$29,036	13	GAS	2,280.60	255.80	8.92
RUCK CHE	EV STYLESIDE	1GCCS19Z2R8199520	94	Truck (0 - 10,000 GVW)	KAUAI	\$16,249	19	GAS	-	0.00	0/S
UV CHEV I	BLAZER	1GNCS13W1S2243585	95	Truck (0 - 10,000 GVW)	KAUAI	\$22,769	17	GAS	I	0.00	o/s
/U CHEV F	LATBED	1GBHC34R7XF016843	66	Truck (0 - 10,000 GVW)	KAUAI	\$26,680	14	GAS	1,144.00	161.50	7.08
UV CHEV	BLAZER	1GNCS13W2XK159671	66	Truck (0 - 10,000 GVW)	KAUAI	\$32,019	16	GAS	5,428.00	362.10	14.99
/U TRUCK	CHEV	1GBGC24R1CF015029	66	Truck (0 - 10,000 GVW)	KAUAI	\$27,350	14	GAS	5,155.00	575.93	8.95
RUCK CHE	>	1GBGC24R2XF067253	66	Truck (0 - 10,000 GVW)	KAUAI	\$26,817	14	GAS	1,319.00	175.30	7.52
/U TRUCK	FORD	1FTYR10U41PA92546	0	Truck (0 - 10,000 GVW)	KAUAI	\$15,375	21	GAS	5,696.00	448.70	12.69

Appendix 6: DOT-Harbors Vehicle Data

Appendix 7: PSD Vehicle Data DEPARTMENT OF PUBLIC SAFETY

FY 2010 MOTOR VEHICLE GAS COST

Non-State Facilities	\$279.00
HCCC	\$45,399.00
MCCC	\$8,806.00
00000	\$34,347.00
WCCC	\$10,374.00
Intake Service	\$2,230.00
Sheriff	\$105,375.00
Admin	\$12,715.00
HCF	\$25,623.00
WCF	\$19,283.00
KCCC	\$8,411.00
CSP	\$11,712.00
Health care	\$900.00
NED	\$10,320.00
HPA	
Total	\$295,774.00

Appendix 7: PSD Vehicle Data DEPARTMENT OF PUBLIC SAFETY

VEHICLE CLASSIFICATION

VEHICLE CLASSIFICATION	WEIGHT
Class 1	0 - 6,000 lbs
Class 2	6,001 - 10,000 lbs
Class 3	10,001 - 14000 lbs
Class 4	14,001 - 16,000 lbs
Class 5	16,001 - 19,500 lbs
Class 6	19,501 - 26,000 lbs
Class 7	26,001 - 33,000 lbs
Class 8	33,001 lbs and over

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE (YTD)	ACCUMULATED FUEL CONSUMPTION	AVG MPG	CITY MPG	HWY MPG	ACQUISITION COST
JEEP CHEROKEE	98	1	Gasoline	785	62	1	18	20	6,000.00
VAN CHEV 12 PASSENGER	80	2	Gasoline	9,448	416	23	16	20	24,732.00
VAN CHEV 7 PASSENGER	80	2	Gasoline	N/A	N/A	N/A	19	25	24,732.00
FORD EXPLORER XLT	05	Ł	Gasoline	5,607	330	17	14	20	19,875.00
CARAVAN DODGE	07	2	Gasoline	5,316	259	21	17	24	13,396.00
VAN CHEV ASTRO PASS	93	1	Gasoline	3,825	225	17	15	19	2,000.00
VAN CHEV ALUM CUBE	93	Ł	Gasoline	5,355	255	21	18	24	22,581.00
VAN CHEV ALUM CUBE	93	~	Gasoline	2,667	127	21	18	24	22,581.00
VAN CHEV ALUM HIGH CUBE	66	1	Gasoline	9,394	427	22	18	25	20,862.00
CHEV VAN	90	2	Gasoline	20,862	1,159	18	16	20	38,737.00
CHEV VAN	05	2	Gasoline	N/A	N/A	N/A	16	20	5,000.00
CHEVROLET VAN	90	2	Gasoline	14,706	817	18	16	20	38,737.00
P/U CHEVY S-10	01	1	Gasoline	N/A	N/A	N/A	15	20	4,800.00
CHEV VAN 15 PASSENGER	90	2	Gasoline	N/A	N/A	N/A	15	20	28,925.00
FORD BUS	94	4	Gasoline	N/A	N/A	N/A	N/A	N/A	10,000.00
VAN FORD 138 ECONOLINE	97	2	Gasoline	N/A	N/A	N/A	15	20	4,000.00
VAN FORD 138 ECONOLINE	97	2	Gasoline	N/A	N/A	N/A	15	20	4,000.00
VAN FORD ECONOLINE CARGO	66	2	Gasoline	8,514	473	18	15	20	22,654.00
VAN FORD	97	~	Gasoline	4,140	230	18	15	20	8,984.00
TRUCK CHEVY/VAN DIESEL	91	2	Diesel	N/A	N/A	N/A	16	21	5,000.00
P/U DODGE	98	2	Gasoline	8,235	549	15	13	17	5,200.00
CHEVY VAN 12 PASSENGER	01	2	Gasoline	N/A	N/A	N/A	15	20	28,875.00
VAN FORD	01	2	Gasoline	7,378	434	17	14	19	9,500.00
VAN DODGE	01	2	Gasoline	17,135	745	23	19	26	6,200.00
CHEVY VAN	08	2	Gasoline	5,418	301	18	16	20	30,820.00
CHEVY VAN	87	•	Gasoline	3,816	212	18	16	20	2,500.00
CHEVY VAN	07	-	Gasoline	17,676	982	18	16	20	32,931.00
P/U FORD	08	Ļ	Gasoline	N/A	N/A	N/A	14	20	20,560.00
FORD TAURUS 4DR	90	-	Gasoline	590	36	16	20	27	15,338.00
CHEVY IMPALA	07	-	Gasoline	6,164	268	23	18	28	15,847.00
CHEVY IMPALA	07	-	Gasoline	2,553	111	23	18	28	15,847.00
CHEVY IMPALA 4DSD	6	-	Gasoline	1,032	144	12	17	23	8,500.00
CHEVY IMPALA 4DSD	6	۲	Gasoline	2,692	135	20	17	23	8,300.00
VAN DODGE	6	-	Gasoline	N/A	N/A	N/A	19	26	2,500.00

C ACQUISITION	800.00	5,000.00	2,500.00	2,500.00	17,985.00	23,933.64	4,000.00	3,000.00	5,600.00	5,000.00	6,200.00	8 500 00	00-000.0	V 22,739.00	x, 22,739.00 2,000.00	 22,739.00 2,000.00 30,820.00 	 22,739.00 2,000.00 30,820.00 	 22,739.00 2,000.00 30,820.00 30,820.00 27,865.00 	 y,yyyyyy 22,739.00 2,000.00 30,820.00 30,820.00 27,865.00 5,000.00 	 22,739.00 2,000.00 30,820.00 30,820.00 27,865.00 5,000.00 5,000.00 	 22,739.00 22,000.00 30,820.00 30,820.00 30,820.00 5,000.00 5,000.00 11,281.00 	 Control 22,739.00 22,739.00 2,000.00 30,820.00 30,820.00 30,820.00 5,000.00 5,000.00 11,281.00 10,000.00 	No.000 22,739.00 2,000.00 30,820.00 30,820.00 30,820.00 5,000.00 5,000.00 11,281.00 11,281.00 7,668.99	22,739.00 2,000.00 2,000.00 30,820.00 30,820.00 5,000.00 5,000.00 11,281.00 11,281.00 11,281.00 11,000.00 11,000.00	22,739.00 2,000.00 2,000.00 30,820.00 30,820.00 30,820.00 5,000.00 5,000.00 11,281.00 11,281.00 11,281.00 11,281.00 11,000.00 11,500.00	N. 22,739.00 2,000.00 2,000.00 30,820.00 30,820.00 27,865.00 5,000.00 11,281.00 11,281.00 7,668.99 11,000.00 1,500.00 1,500.00	Non-construction 22,739.00 2,000.00 30,820.00 30,820.00 30,820.00 5,000.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,200.00 12,000.00	Non-construction 22,739.00 2,000.00 30,820.00 30,820.00 30,820.00 5,000.00 5,000.00 11,281.00 11,281.00 11,500.00 11,500.00 11,500.00 11,500.00 12,000.00 12,000.00 11,000.00	v, 22, 739.00 2,000.00 2,000.00 30,820.00 30,820.00 30,820.00 5,000.00 7,865.00 5,000.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,200.00 11,281.00 11,000.00 11,281.00 11,000.00 11,000.00 11,000.00 11,000.00 11,000.00 11,000.00 11,000.00 11,000.00 11,000.00 11,000.00	N. 22,739.00 2,000.00 30,820.00 30,820.00 30,820.00 30,820.00 5,000.00 7,865.00 5,000.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,200.00 11,281.00 11,000.00 11,200.00 11,000.00 11,500.00 11,000.00 1,500.00 11,000.00 1,500.00 1,500.00 11,000.00 1,500.00 1,500.00 11,900.00 1,500.00 1,500.00 17,985.00 1,7,885.00 1,7,885.00	N.00000 22,739.00 2,000.00 30,820.00 30,820.00 30,820.00 30,820.00 77,865.00 5,000.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,281.00 11,000.00 11,281.00 11,000.00 12,000.00 13,592.00 11,000.00 12,000.00 17,985.00 7,669.00 2,500.00	22,739.00 2,000.00 30,820.00 30,820.00 30,820.00 30,820.00 7,865.00 7,865.00 7,668.99 11,281.00 11,000.00 11,000.00 12,000.00 13,592.00 11,000.00 12,000.00 25,500.00 2,500.00	N. 22,739.00 2,000.00 30,820.00 30,820.00 30,820.00 5,000.00 5,000.00 7,668.99 11,000.00 11,500.00 11,000.00 11,000.00 12,000.00 12,000.00 12,000.00 12,000.00 12,000.00 12,000.00 12,000.00 12,500.00 2,500.00 2,500.00 3,500.00
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ACCUMULATED MILEAGE (YTD)	N/A	N/A	N/A	N/A	15,666	N/A	1,480	1,527	4,620	885	16,560	8 651	- >>;>	19,072	5,364	19,072 5,364 4,750	19,072 5,364 4,750 7,125	5,364 5,364 4,750 7,125 N/A	19,072 5,364 4,750 7,125 NIA 3,474	19,072 5,364 4,750 7,125 N/A 3,474 N/A	5,364 5,364 4,750 7,125 N/A 3,474 N/A N/A N/A	19,072 5,364 4,750 7,125 N/A 3,474 N/A N/A 12,096	19,072 5,364 4,750 7,125 NIA 3,474 NIA 5,712 12,096 NIA	19,072 5,364 4,750 7,125 N/A N/A 3,474 N/A 5,712 5,712 12,096 N/A N/A	19,072 5,364 4,750 4,750 7,125 N/A 3,474 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	19,072 5,364 4,750 7,125 N/A N/A N/A N/A N/A N/A N/A N/A N/A	19,072 5,364 4,750 7,125 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	19,072 5,364 4,750 7,125 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	19,072 5,364 4,750 7,125 N/A 3,474 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	19,072 5,364 4,750 7,125 NIA NIA NIA NIA NIA NIA NIA NIA NIA NIA	19,072 5,364 4,750 7,125 NIA NIA NIA NIA NIA NIA NIA NIA NIA NIA	19,072 5,364 4,750 7,125 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	19,072 19,072 5,364 4,750 7,125 7,125 N/A N/A N/A 3,474 N/A N/A 10,080 10,260
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E DESCRIPTION			Y CAPRICE	Y CAPRICE	CLUBWAGON		D AEROSTAR	Ш	je ram	BE RAM	DGE		EV BLAZER	EV BLAZER 2D 3 DR E-350 15 PASSENGER	EV BLAZER 2D 3 DR E-350 15 PASSENGER CK CHEVY	EV BLAZER KD 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER	EV BLAZER ED 3 DR E-350 15 PASSENGER EX CHEVY EV 12 PASSENGER EV	EV BLAZER 2D 3 DR E-350 15 PASSENGER 2K CHEVY 2V 12 PASSENGER 2V 2V 12 PASSENGER	EV BLAZER 20 3 DR E-350 15 PASSENGER 2K CHEVY 2V 12 PASSENGER 2V 2V 12 PASSENGER 2V 2V	V BLAZER (D 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER V EV 12 PASSENGER EV EV	V BLAZER ED 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER EV 12 PASSENGER EV 12 PASSENGER	EV BLAZER RD 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER EV EV EV EV SUS 20 PASSENGER	EV BLAZER KD 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER EV 12 PASSENGER EV EV EV SUS 20 PASSENGER SUS 20 PASSENGER CK CHEV	EV BLAZER KD 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER EV EV 12 PASSENGER EV EV EV EV EV EV EV EV EV EV	V BLAZER 2D 3 DR E-350 15 PASSENGER CK CHEVY CK CHEVY 2V 12 PASSENGER 2V 12 PASSENGER 2V 2V 20 PASSENGER 20 PASSENGER 20 CK CHEV 20 V	N BLAZER CD 3 DR E-350 15 PASSENGER CK CHEVY CK CHEVY N V V 12 PASSENGER V V V U 2 PASSENGER US 20 PASSENGER V CK CHEV V	EV BLAZER KD 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER EV 12 PASSENGER EV EV EV SUS 20 PASSENGER US 20 PASSENGER V EV V EV EV EV EV EV EV EV	V BLAZER KD 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER V 12 PASSENGER V 12 PASSENGER V 12 PASSENGER V 2 C V 2 C V 2 V 2 V 2 V 2 V 2 V 2 V 2 V 2	EV BLAZER EV BLAZER CK CHEVY CK CHEVY EV 12 PASSENGER EV 12 PASSENGER EV EV EV EV EV EV CK CHEV V CK CHEV V EV EV EV EV EV EV EV EV E	N BLAZER N BLAZER SD 3 DR E-350 15 PASSENGER CK CHEVY N N N N N N N N N N N N N	N BLAZER KD 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER EV 12 PASSENGER EV 12 PASSENGER EV EV EV EV EV EV EV EV EV EV EV EV EV EV E	EV BLAZER EV BLAZER RD 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER EV EV 12 PASSENGER EV EV 12 PASSENGER EV 12 PASSENGER MPALA	EV BLAZER EV BLAZER RD 3 DR E-350 15 PASSENGER CK CHEVY EV 12 PASSENGER EV 12 PASSENGER EV 12 PASSENGER EV 12 PASSENGER EV 12 PASSENGER C C C C C C C C C C C C C C C C C C C

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VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE (YTD)	ACCUMULATED FUEL CONSUMPTION	AVG MPG	CITY MPG	НWY МРG	ACQUISITION COST
SDN CHEV MALIBU	66	-	Gasoline	1,092	39	28	23	32	N/A
SDN CHEV MALIBU	60	1	Gasoline	N/A	N/A	N/A	23	32	N/A
VAN CHEV EXPRESS	66	7	Gasoline	3,114	173	18	16	20	33,000.00
VAN CHEV EXPRESS	66	5	Gasoline	NA	N/A	N/A	16	20	33,000.00
SDN FORD MERCURY 4DR	66	-	Gasoline	6,960	232	30	25	34	18,373.00
VAN CHEV 15 PASS	01	7	Gasoline	24,605	1,295	19	16	22	28,875.00
TOYOTA TACOMA	90	~-	Gasoline	1,824	76	24	20	27	22,942.00
VAN CHEVY EXPRESS	80	~-	Gasoline	N/A	N/A	N/A	15	20	N/A
VAN CHEVY EXPRESS	08	1	Gasoline	N/A	N/A	N/A	15	20	N/A
FORD P/U	60	-	Gasoline	N/A	N/A	N/A	17	22	20,560.00
FORD P/U	60	Ļ	Gasoline	N/A	N/A	N/A	17	22	N/A
VAN FORD 7 PASSENGER	67	-	Gasoline	N/A	N/A	A/A	17	22	17,985.37
VAN FORD 7 PASSENGER	97		Gasoline	N/A	N/A	N/A	17	22	17,985.37
VAN TOYOTA SIENNA-7 PASS	8	-	Gasoline	2,875	125	23	19	27	26,000.00
HONDA ODYSSEY	07	~	Gasoline	4,740	237	20	16	23	32,240.00
FORD F-150 PKUP	02	1	Gasoline	1,580	79	20	17	22	12,965.00
SUV FORD EXPEDITION	98	1	Gasoline	2,749	224	12			30,042.48
MINI COOPER S	05	٦	Gasoline	4,375	174	25	25	32	21,725.00
TOYOTA 4RUNNERMPVH	90	1	Gasoline	5,816	356	16	18	22	33,419.33
SUV CHEV TAHOE	66	2	Gasoline	1,716	277	11	12	16	31,600.00
SUV CHEV BLAZER SILVER	92	2	Gasoline	8,235	549	15	13	16	1,000.00
FORD POLICE INTERCEPTER	66	-	Gasoline	N/A	N/A	N/A	15	19	N/A
GMC ENVOY	04	-	Gasoline	N/A	N/A	N/A	12	17	N/A
FORD CROWN VICTORIA	10	1	Gasoline	1,716	277	14	18	25	N/A
FORD EXPLORER	10	1	Gasoline	N/A	N/A	A/N	14	20	N/A
FORD F-150 PKUP	10	+	Gasoline	N/A	N/A	N/A	17	22	N/A
FORD TAURUS	10	~	Gasoline	1,252	124	22	19	25	N/A
FORD EXPLORER	10	1	Gasoline	N/A	N/A	N/A	14	20	N/A
FORD FUSION	10	1	Gasoline	N/A	N/A	N/A	N/A	N/A	N/A
FORD TAURUS	01	4	Gasoline	N/A	N/A	N/A	19	25	14,790.72
INFINITI G35	ß	~ -	Gasoline	1,373	85	16	19	26	3,177.77
SDN TOYOTA COROLLA	03	-	Gasoline	2,720	80	34	30	38	9,995.00
FORD TAURUS	05	~	Gasoline	1,408	64	22	19	25	14,941_91
TRUCK STAKE INTL	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8,849.00

		GROSS							
VEHICLE DESCRIPTION	MODEL YEAR	VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE (YTD)	ACCUMULATED FUEL CONSUMPTION	AVG MPG	СІТҮ МРС	НWY МРG	ACQUISITION COST
VAN CHEV	92	2	Gasoline	2,412	134	18	16	20	N/A
P/U TRUCK CHEV 1/2	93	1	Gasoline	9,882	549	18	15	20	N/A
VAN FORD	06	ł	Gasoline	8,532	474	18	15	20	35,617.00
SDN CHEV CELEBRITY 4DR	89	1	Gasoline	1,701	63	27	23	30	5,400.00
SDN CHEV CELEBRITY 4DR	89	L	Gasoline	N/A	N/A	N/A	23	30	7,880.13
SDN CHEV CELEBRITY 4DR	89	-	Gasoline	N/A	N/A	N/A	23	30	7,880.13
TRUCK GMC DUMP	84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21,354.85
TRUCK CHEV STAKE	93	N/A	N/A	N/A	N/A	N/A	15	20	5,000.00
VAN CHEV ASTRO WHITE	92	2	Gasoline	4,500	250	18	16	20	6,879.65
P/U FORD	8	1	Gasoline	N/A	N/A	N/A	15	20	N/A
SDN CHEV	86	1	Gasoline	N/A	N/A	N/A	18	26	11,304.00
S/W CHEV	86	F	Gasoline	N/A	N/A	N/A	23	30	N/A
VAN DODGE	87	2	Gasoline	20,723	901	23	· 19	26	3,000.00
VAN DODGE	87	2	Gasoline	N/A	N/A	N/A	19	26	3,000.00
VAN DODGE CARAVAN	06	2	Gasoline	22,379	973	23	19	26	2,000.00
P/U TRUCK FORD	88	1	Gasoline	1,620	06	18	15	20	13,763.00
VAN CHEV ASTRO	92	٢	Gasoline	1,598	94	17	15	19	16,737.00
VAN GMC MODEL G39K	91	2	Gasoline	15,402	906	17	15	19	20,921.00
P/U CHEV TRUCK	80	1	Gasoline	N/A	N/A	N/A	15	20	8,849.00
P/U DODGE	91	2	Gasoline	645	43	15	13	17	5,600.00
VAN CHEV 15 PASSENGER	98	2	Gasoline	9,994	526	19	16	21	27,740.00
VAN CHEV 15 PASSENGER	98	2	Gasoline	16,340	860	19	16	21	24,995.00
VAN CHEV 15 PASSENGER	98	2	Gasoline	5,358	282	19	16	21	24,995.00
VAN GMC 15 PASSENGER	00	2	Gasoline	9,730	695	14	N/A	N/A	2,500.00
VAN FORD 12 PASSENGER	.08	2	Gasoline	N/A	N/A	N/A	14	19	N/A
VAN FORD 12 PASSENGER	95	2	Gasoline	N/A	N/A	N/A	14	19	N/A
CHEVY BUS 20 PASSENGER	8	N/A	N/A	8,760	730	12	N/A	N/A	2,500.00
VAN CHEV 15 PASSENGER	86	2	Gasoline	12,483	657	19	16	21	24,995.00
VAN CHEV 15 PASSENGER	86	2	Gasoline	2,128	112	19	16	21	N/A
VAN FORD 15 PASSENGER	95	2	Gasoline	17,544	1,032	17	14	19	5,800.00
VAN FORD	80	-	Gasoline	3,096	172	18	15	20	N/A
CHEVY LUMINA	66 6	~	Gasoline	2,650	106	25	20	29	4,000.00
HUMMER H2	03	2	Gasoline	N/A	N/A	N/A	N/A	N/A	N/A
TOYOTA TACOMA PKUP TRUCK	98	-	Gasoline	N/A	N/A	N/A	20	27	7,100.00

Appendix 7: PSD Vehicle Data

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ACQUISITION COST	14,941.91	22,184.80	N/A	N/A	3,567.71	1,275.24	N/A	18,200.00	18,846.00	5,000.00	N/A	20,890.00	7,000.00	N/A	3,500.00	13,898.00	11,101.00	N/A	N/A	N/A	N/A	N/A	N/A	1,500.00	N/A	5,000.00	5,000.00	28,542.00	28,542.00	28,542.00	25,858.00	3,000.00	13,621.00	24,125.00
НWY МРG	25	20	15	30	27	16	20	21	25	20	20	20	25	19	N/A	26	19	20	16	19	23	25	20	20	17	23	21	25	25	25	25	17	18	20
CITY MPG	19	14	11	19	20	12	18	16	18	15	15	15	19	15	N/A	21	15	15	13	15	16	19	16	15	13	17	15	19	19	19	19	13	14	15
AVG MPG	22	N/A	N/A	24	N/A	N/A	5	19	22	15	18	18	19	17	14	24	17	18	N/A	N/A	AN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	N/A	N/A	N/A
ACCUMULATED FUEL CONSUMPTION	131	N/A	N/A	24	N/A	N/A	728	260	780	234	29	884	64	192	180	204	390	416	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACCUMULATED MILEAGE (YTD)	2,882	N/A	N/A	595	N/A	N/A	13,832	4,940	17,160	3,516	511	15,912	1,223	3,259	2,519	4,895	6,605	7,481	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VEHICLE FUEL CONFIGURATION	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline
GROSS VEHICLE WEIGHT RATING	1	-		-	-	-	2	2	~	1	~	-	~	7	2	·	-		2	2	2	-	2	-	2	-	-	~	-	1	-	÷	2	-
MODEL YEAR	05	05	86	10	8	96	88	9	86	94	5	8	01	05	97	90	00	07	8	86	92	60	03	87	85	94	86	66	စ္တ	66	00	87	88	86
VEHICLE DESCRIPTION	FORD TAURUS 4DR SDN	FORD EXPLORER SUV 2WHEEL DR	FORD EXPLORER	BUICK LESABRE	P/U TOYOTA TACOMA	CHEVY SUBURBAN	VAN CHEV ASTRO	BUS CHEV 15 PASS	VAN FORD WINDSTAR	P/UP CHEV	P/UP CHEV	P/UP CHEV	VAN CHEV 7 PASSENGER	ECONOLINE FORD 15 PASS CLUB WAGON	BUS FORD CHAMPION 14 PASS	FORD TRUCK	MAZDA TRUCK	VAN FORD	VAN DODGE	VAN FORD CLBWGN	SUV CHEV 15 PASSENGER	VAN CHEV 7 PASSENGER	VAN CHEV 7 PASSENGER	P/U CHEV	P/U TRUCK DODGE W/ CREWCAB D350	FORD AEROSTAR	S/W GMC	SDS FORD 4DSD	SDS FORD 4DSD	SDS FORD 4DSD	SDS FORD 4DSD	P/U TRUCK DODGE RAM CHARGER	SUV FORD BRONCO	P/U CHEV K-20 4X4

Appendix 7: PSD Vehicle Data

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ACQUISIT COST	24,125.	15,440.	15,440.	15,440.0	7,383.4	7,383.4	16,569.	7,713.5	21,821.	15,000.	10,000.
HWY MPG	20	20	20	20	20	20	N/A	29	8	N/A	A/A
CITY MPG	15	15	15	15	16	16	N/A	20	24	N/A	N/A
AVG MPG	N/A	N/A	N/A	N/A	18	18	16	N/A	N/A	N/A	N/A
ACCUMULATED FUEL CONSUMPTION	N/A	N/A	N/A	N/A	456	340	124	N/A	N/A	N/A	N/A
ACCUMULATED MILEAGE (YTD)	N/A	N/A	N/A	N/A	8,213	6,105	1,981	N/A	N/A	N/A	N/A
VEHICLE FUEL CONFIGURATION	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline
VEHICLE WEIGHT RATING	+	-	1	~	2	2	2	1	1	8	8
MODEL YEAR	98	98	86	98	98	98	87	93	05	66	96
VEHICLE DESCRIPTION	P/U CHEV K-20 4X4	P/U TRUCK CHEV S-10	P/U TRUCK CHEV S-10	P/U TRUCK CHEV S-10	VAN CHEV EXPRESS	VAN CHEV EXPRESS	TRUCK DODGE FLTBD	SDN CHEV LUMINA 4DR	TOYOTA CAMRY	FORD BUS (28 PASSENGER)	FORD FRHT BUS (22 PASSENGER)