

**Department of Energy**  
**Privacy Impact Assessment (PIA)**

**Name of Project: Form EIA-457A/G Residential Energy Consumption Survey**  
**Bureau: U.S. Department of Energy/Energy Information Administration**  
**Project Unique ID:**  
**Date: May 30, 2008**

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## **B. SYSTEM APPLICATION/GENERAL INFORMATION**

### **1. Does this system contain any information about individuals? Yes**

**a. Is this information identifiable to the individual? Yes**

**b. Is the information about individual members of the public?**

Yes, during the first phase of the survey, energy related characteristics of the household and data on the fuels and equipment used in the housing unit are collected during a personal interview with an eligible adult member of the household.

**c. Is the information about DOE or contractor employees?**

No

### **2. What is the purpose of the system/application?**

The purpose of the RECS survey is to provide EIA with information on residential energy consumption and related data directly from housing units selected for the survey. It is the only survey system that permits the cross-tabulation of energy consumption by various descriptive variables to provide comprehensive analysis and a full understanding of the manner in which energy is consumed in the residential sector of the U.S. economy.

### **3. What legal authority authorizes the purchase or development of this system/application?**

The legal authority for the data collections using Form EIA-457 are provided by the following provisions:

Section 13(b), 15 U.S.C. 772(b), of the Federal Energy Administration Act of 1974 (FEA Act); Section 5(a), 15 U.S.C. 764(a), of the FEA Act; Section 5(b), 15 U.S.C. 764(b), of the FEA Act; Section 52, 15 U.S.C. 790(a), of the FEA Act; 42 U.S.C. 7101 *et seq.*; and 50 U.S.C. 2401 *et seq.*

## **C. DATA IN THE SYSTEM**

### **1. What categories of individuals are covered in the system?**

The categories of individuals include adults who are the head of the household and other adults and children that live in the household.

### **2. What are the sources of information in the system?**

**a. Is the source of the information from the individual or is it taken from another source?**

The individual who is the head of the household is the primary source of information.

**b. What Federal agencies are providing data for use in the system?**

National Oceanic and Atmospheric Administration provides climate information on number of heating and cooling degree days.

**c. What tribal, state, and local agencies are providing data for use in the system?**

None.

**d. From what other third party sources will data be collected?**

Energy suppliers (natural gas, LPG, electricity, fuel oil/kerosene.) report actual energy consumption and expenditures for sampled household units based on the supplier's customer records. EIA requests a copy of a household's energy bill for each energy source used in the household to identify the proper energy supplier using the household's account number and billing address.

**e. What information will be collected from the individual and the public?**

Name, age, address, telephone number, email address, age, housing unit characteristics, income, race and ethnicity, bill payment type, kitchen appliances, other home appliances, space heating, water heating, air conditioning, and household usage of electricity, natural gas, propane or other liquefied petroleum gas, and fuel oil or kerosene.

**3. Accuracy, Timeliness, and Reliability**

**a. How will data collected from sources other than DOE records be verified for accuracy?**

The RECS is designed to produce estimates on energy consumption and expenditures at a specified minimum level of accuracy for each Census Region and Division. Relative standard errors are calculated for household energy consumptions and household energy expenditures for each Census Region and Division to verify that estimates meet a minimum level of precision.

Several computer edit checks are applied to the data upon its initial receipt electronically at the time a household is interviewed using computer-assisted personal interviewing techniques (i.e., the interviewer enters information directly into a personal computer during the interview and the edit checks are done automatically. Upon receipt of any paper forms from the field, a manual edit is performed to ensure that the form is complete and ready for data entry. Data that fails the edit checks are reviewed. Errors are corrected by reference to the

questionnaire submitted by the interviewer, (or reference to the rental agent survey or utility survey), and by follow up telephone calls to respondents when conflicts over important data items cannot otherwise be resolved.

Additionally, since many of the sampled households are in Hispanic neighborhoods where English is a second language, a Hispanic questionnaire is provided to a Hispanic interviewer for collecting information from the respondent.

**b. How will data be checked for completeness?**

Non-response adjustments are applied to each of the questionnaires used in the RECS. Two types of non-response adjustment: one for when no interview occurred and another for item non-response. The adjustment for non-interviews involves adjusting the household weights to correct for any potential bias resulting from the failure to contact all sampled units and/or failure to list all housing units within a sampled area. Item non-response occurs when respondents either do not know the answer or refuse to answer a question or the interviewer makes an error in recording a response. Item non-response is replaced with imputed values generated by one of the following four methods: regression, “hot decking” in which data elements are continuously updated during the data processing and editing phase, random selection, and deductive procedures. Regression procedures are used for fuel consumption and expenditures. The “hot deck” procedure is used to impute such items as family income, availability of natural gas, year house was constructed, and age of respondent. This procedure involves sorting the file of households by variables related to the missing item. A household is then selected which has the same, or closest match on the selected variables and this “donor” household supplies the value for the missing variables in the “donee” household. Random selection procedures are used primarily to assign dates when those responses are missing, and to impute for missing values that are conditional on other values (for example, the number of rooms air conditioned by central systems is conditional on the total number of rooms in the housing unit).

**c. Are the data current? What steps or procedures are taken to ensure the data are current and not out-of-date?**

Yes, the annual data collected for the reference period are current. RECS is a quadrennial survey. The quadrennial collection cycle is based on the judgment that long-term shifts in energy markets are effectively monitored by examining energy demand once every four years. Major shifts in energy demand by households are tied to the number households and characteristics of existing houses. A 4-year data collection cycle is adequate for monitoring such changes in energy consumption.

**d. Are the data elements described in detail and documented?**

Yes, the documentation for the data elements is available from EIA’s website at <http://www.eia.doe.gov/emeu/recs/contents.html>

**D. ATTRIBUTES OF THE DATA**

**1. Is the use of the data both relevant and necessary to the purpose for which the system is being designed?**

All data collected are relevant and necessary for EIA to perform its required responsibilities to direct and conduct programs related to the production, conservation, use, control, distribution, rationing, and allocation of all forms of energy to assure that adequate provision is made to meet the energy needs of the Nation. RECS is reviewed and approved by the Office of Management and Budget in accordance with the Paperwork Reduction Act of 1995 which includes consideration of the practical utility of the information that will be collected.

**2. Will the system derive new data or create previously unavailable data about an individual through aggregation from the information collected, and how will this be maintained and filed?**

Missing data values are imputed using any of the four methods described in Section C under "Accuracy, Timeliness, and Reliability." Imputation is a statistical procedure used to fill in missing values to a survey question where a sampled household couldn't or wouldn't provide an answer. There is an imputation flag for each key variable in the data base. Imputed values are added to the actual reported values and maintained in the same system of records. The imputation flag equals "0" when the value of a variable is reported by the respondent and "1" if statistically imputed. Based on the value of the code for the imputation flag, EIA is able to track whether the value was an actual value reported by the respondent or if the value was imputed.

**3. Will the new data be placed in the individual's record?**

Yes

**4. Can the system make determinations about employees/the public that would not be possible without the new data?**

Yes, the system has the capability to generate statistical aggregate estimates using only actual reported values by selecting only records where the value of a variable was actually reported by the respondent. Excluding imputed values may cause the estimates for a variable to be statistically biased depending upon whether any systematic non-response exists in the reporting sample. For example, if non-response is higher in lower income neighborhoods, the aggregate estimates maybe statistically biased because certain groups in the reporting sample are not represented and energy consumption may vary across various income groups. Both actual and imputed data are used to generate sample-based estimates on energy consumption released by EIA.

**5. How will the new data be verified for relevance and accuracy?**

Relative standard errors are calculated for the estimates of energy consumption and expenditures at the national level and for each Census division. EIA uses the relative

standard errors to evaluate the precision of the energy consumption and expenditure estimates.

**6. If the data are being consolidated, what controls are in place to protect the data from unauthorized access or use?**

Data are not consolidated in this system. The RECS data base is separate from other EIA information survey systems and controls have been established to protect access to all of the data in the system. See Section F of this evaluation.

**7. If processes are being consolidated, do the proper controls remain in place to protect the data and prevent unauthorized access?**

Processes are not being consolidated.

**8. How will data be retrieved? Does a personal identifier retrieve the data? If yes, explain, and list the identifiers that will be used to retrieve information on the individual.**

The system of records consists of both paper and electronic media form. For the paper media, survey forms are retrievable by the following personal identifiers: name of the head of the household; survey form identification number; home address; email address; and telephone number.

No personal identifiers are used to retrieve data in the electronic system of records data base. In the electronic media, data are retrievable by age, gender, race, ethnicity, income, family size and composition, characteristics of household, characteristics of housing unit, fuel use and consumption, and household vehicles. Name of the head of the household, home address, telephone number, email address, names and addresses of energy suppliers and name and address of landlord are only used to match to the customer records of energy and fuel suppliers to verify the energy consumption of the household and the amounts of energy bills for an entire housing unit. All personal identifiers (i.e., name of the head of the household; survey form identification number; home address; email address; and telephone number) are removed from the data processing files after data collection and validation is completed. No personal identifiers are maintained or filed in the electronic system of records.

**9. What kinds of reports can be produced on individuals? What will be the use of these reports? Who will have access to them?**

No reports will be produced on individuals. Contact and statistical information is collected on individuals residing in the household solely for follow up data validation purposes and used for generating statistical aggregate statistics at the regional and national level.

**10. What opportunities do individuals have to decline to provide information (e.g., where providing information is voluntary) or to consent only to particular uses of the information (other than required or authorized uses)?**

Participation by individuals who are the head of the household is voluntary.

**E. Maintenance and Administrative Controls**

**1. If the system is operated in more than one site, how will consistent use of the system and data be maintained in all sites?**

Consistent use of this system between EIA and its contractor will be maintained by requiring user training for the interviewers in the field and staff at the contractor's physical site facility. After data collection is completed, the system will only be operated from one site at EIA headquarters facility.

**2. What are the retention periods of data in the system?**

This system follows a 4-year data collection cycle. Data retention for this system is conducted in accordance with EIA Record Retention Schedule 1,09: Survey Processing Records, dated 8/99. <http://taz/neic/eiars/eiars.pdf> Paper records are destroyed after two collection cycles. Electronic records are deleted after five collection cycles.

**3. What are the procedures for disposition of the data at the end of the retention period? How long will the reports produced be kept?**

The procedures for disposition of data in the system are defined in EIA's Operations Security Manual Appendix D Destruction of Sensitive/Confidential Record Material, dated 11/19/01. <http://taz/EIAPolicies/OPSecurity/OPSECProgramPlan.doc>

**4. Is the system using technologies in ways that DOE has not previously employed (e.g., monitoring software, Smart Cards, Caller-ID)?**

No

**5. How does the use of this technology affect public/employee privacy?**

There is no effect. DOE is not using any technologies in a way it has not previously employed.

**6. Will this system provide the capability to identify, locate, and monitor individuals?**

No

**7. What kinds of information are collected as a function of the monitoring of individuals?**

The system does not contain the kind of information nor the capability to monitor individuals.

**8. What controls will be used to prevent unauthorized monitoring?**

Direct identifiers are removed from the system once the data are validated and processing is completed.

**9. Under which PA system of records notice does the system operate?**

DOE-4 FORM-457 Survey Reports (Residential Energy Consumption Survey (RECS))

**10. If the system is being modified, will the PA system of records notice require amendment or revision?**

No modifications to the system.

**F. ACCESS TO DATA**

**1. Who will have access to the data in the system?**

EIA Federal and contractor personnel will have access to the data in the system while it is collected. Only EIA Federal personnel have access to the data after it has been processed and validated. Access to data in the system will be strictly controlled based on job responsibility and function and the proposed requested use for the data.

**2. How is access to the data by a user determined?**

Access to data is determined by evaluation of the proposed use for the data and the personnel job responsibilities and functions. Data were collected in accordance with the Confidential Information Protection and Statistical Efficiency Act of 2002 which restricts the use of the information to statistical purposes only. Any external request for access must be based on a statistical use for the data and a justification for why the research may not be done using public-use files available on EIA's web site. Based on the evaluation, access control lists are documented to record the personnel that have access. System controls and integrity reports are reviewed on a regular basis to ensure users with access have a current need for the data.

**3. Will users have access to all data on the system or will the user's access be restricted?**

Access will be restricted based on the proposed use and by job roles and responsibilities.

**4. What controls are in place to prevent the misuse (e.g., unauthorized browsing) of data by those having access?**

EIA personnel requesting access must submit in writing stating the reasons for needing access and the proposed use of the data. EIA makes public use data files available to the public via the Internet so that additional analyses can be made using nonidentifiable data for the benefit of the U.S. population. Confidential data will never be released to the public. For example, all personal identifiers are removed from the file; i.e., name, address, telephone number, and email address. A concerted effort is made mask other



indirect variables on the file to avoid any disclosures, such as detailed geographic information that may allow a researcher to go back and find individuals in the general population.

Procedural controls - All employees of EIA and contractor personnel with access to EIA's Local Area Network (LAN) system are required, as a condition of employment and access to the computer facility, to annually sign a User Verification Form binding them to nondisclosure of individually identifiable information and to take online DOE training concerning data security and EIA online training for protecting data collected under the Confidential Information Protection and Statistical Efficiency Act. EIA's Office of Information Technology sends periodic correspondence to staff to reinforce data security regulations, guidelines, and procedures. Protection for computerized records both on the mainframe and the LAN include programmed verification of valid user identification code and password prior to logging on to the system, mandatory password changes, limited log-ins, virus protection, and user rights/file attribute restrictions. Password protection imposes user name and password log-in requirements to prevent unauthorized access. Each user name is assigned limited access rights to files and directories at varying levels to control file sharing.

**5. Are contractors involved with the design and development of the system and will they be involved with the maintenance of the system? If yes, were PA contract clauses included in their contracts and other regulatory measures addressed?**

Yes. Contractors were involved with the design and development of the system and will be involved with the maintenance of the system. Information may be disclosed to contractors and their officers and employees in performance of their contract. Individuals provided this information are subject to the same limitation applicable to DOE officers and employees under the Privacy Act, 5 U.S.C. 552a.

Pertinent contract language states that data covered by the Privacy Act may be disclosed to contractors and their officers and employees. Any information that is obtained or viewed shall be on a need-to-know basis. Contractors are required to safeguard all information they may obtain in accordance with the provisions of the Privacy Act and the requirements of DOE. The contractor shall ensure that all DOE documents and software processed, and the information contained therein, are protected from unauthorized use and mishandling by assigned personnel.

**6. Do other systems share data or have access to the data in the system? If yes, explain.**

No

**7. Who will be responsible for protecting the privacy rights of the public and employees affected by the interface?**

N/A

**8. Will other agencies share data or have access to the data in this system?**

Office of Community Services (OCS) within the Administration for Children and Families (ACF) of the U.S. Department of Health and Human Service (HHS)

**9. How will the data be used by the other agency?**

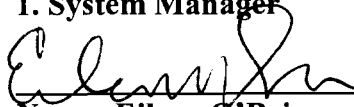
OCS administers the Low Income Home Energy Assistance Program (LIHEAP). Information from the system is used by OCS for annual reporting requirements to Congress concerning home energy consumption by low income families and the amount, cost and type of fuels used by households eligible for assistance under LIHEAP; and the type of fuel used by various income groups. The data are also used in OCS' *LIHEAP Home Energy Notebook* (Notebook). The annual Notebook includes the latest home energy data for low income and LIHEAP recipients with trend data and analysis. The Notebook supplements the HHS' annual LIHEAP Report to Congress. In addition, the data are used by OCS to: 1) update the LIHEAP allocation formula, as required by Section 2604(a)(2) (42 U.S.C. 8623) and; 2) respond to requests for home energy information from HHS, Office of Management and Budget, Congress, and other interested parties concerning the home energy needs of low income and LIHEAP recipient households.

**10. Who is responsible for assuring proper use of the data?**

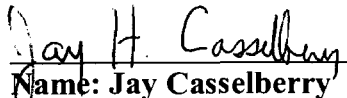
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**The Following Officials Have Approved this Document**

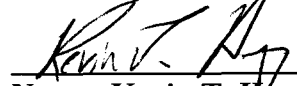
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