

**Supporting Statement for the Form EIA-902
Annual Geothermal Heat Pump Manufacturers Survey
OMB No. 1905-0204**

Introduction

The Energy Information Administration (EIA) requests approval for a 14-month extension with changes to use the Form EIA-902, "Annual Geothermal Heat Pump Manufacturers Survey," through November 30, 2007. The reason for this shortened interim clearance proposal is so that EIA can synchronize the forms clearance schedule for three of its renewable energy data collections. Specifically, EIA desires to consolidate the expiration date of Form EIA-902 with the expiration dates of Form EIA-63A, "Annual Solar Thermal Collector Manufacturers Survey," and Form EIA-63B, "Annual Photovoltaic Module/Cell Manufacturers Survey." Synchronizing the expiration date of these three forms, which all collect information from manufacturers of renewable energy equipment, will permit EIA to conduct a more comprehensive review of its data needs for this market sector and develop a unified data collection approach which would lead to more efficient survey processing by EIA.

This survey will be mandatory and will be sent to U.S.-based geothermal heat pump manufacturers. The purpose of the geothermal heat pump survey is to report the status and growth of this emerging domestic industry and to provide relevant information to the Department of Energy (DOE), the heat pump industry, and the general public. The economics for geothermal heat pumps have improved in recent years due to increasing energy resource prices, making it more competitive with conventional heating/cooling/water-heating systems. A heat pump is defined as a mechanical device used to move a heat-exchange medium (e.g., water) to heat or cool a room or building. In the case of a geothermal heat pump, the earth is used as a heat source or heat "sink" to warm or cool a liquid and re-circulate it to a building, in turn modifying the building's air temperature.

EIA recognizes that its information collections must continue to adapt as the industry changes. It is especially critical to federal policymakers and State governments, who increasingly rely on the data to understand and respond to the current and emerging impacts of the industry. EIA requests the following proposed changes for this information collection include 1) two columns added to question two that ask for average cooling (energy efficiency ratio) and average heating (coefficient of performance), 2) ask for total rated capacity of geothermal heat pump shipped in question three instead of the number of units shipped, 3) ask for total rated capacity of domestic shipments by customer type in question four instead of the total number of geothermal heat pump shipments by customer type, 4) redefine the economic sectors (question five) to correspond to the standard sectors used by EIA, and 5) ask for total rated capacity of domestic shipments by sector in question five instead of average rated capacity for all shipments.

EIA has coordinated with the Office of Energy Efficiency and Renewable Energy of the Department of Energy (DOE) and the Geothermal Heat Pump Consortium to review the proposed changes. This partnership resulted in the proposed survey. A pre-survey consultation was performed through a

Federal Register notice dated May 3, 2006. (See Part A. Item 8.)

The information collection proposed in this supporting statement has been reviewed in light of applicable information quality guidelines. It has been determined that the information will be collected, maintained, and used in a manner consistent with the Office of Management and Budget (OMB), DOE, and EIA information quality guidelines.

A. Justification

1. Legal Authority

The authority for this data collection is as follows:

Section 13(b) of the Federal Energy Administration Act of 1974 (FEA Act), 15 U.S.C. §722(b), (Public Law 93-275):

“All persons owning or operating facilities or business premises who are engaged in any phase of energy supply or major energy consumption shall make available to the (Secretary) such information and periodic reports, records, documents, and other data, relating to the purposes of this Act, including full identifications of all data and projections as to source, time, and methodology of development, as the (Secretary) may prescribe by regulation or order as necessary and appropriate for the proper exercise of functions under this Act.”

Section 5(b) of the FEA Act, 15 U.S.C. §764(b), in turn sets forth the general functions of the FEA act. This section states that to the extent authorized by Section 5(a), 15 U.S.C. §764(a), the [Secretary] shall:

(1) advise the President and the Congress with respect to the establishment of a comprehensive national energy policy in relation to the energy matters for which the [Secretary] has responsibility, and, in coordination with the Secretary of State, the integration of domestic and foreign policies relating to energy resource management;

(2) assess the adequacy of energy resources to meet demands in the immediate and longer range future for all sectors of the economy and for the general public;

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(10) work with business, labor, consumer, and other interests and obtain their cooperation.

As the authority for invoking Section 5(b), Subsection 5(a), 15 U.S.C. §764(a), states:

“Subject to the provisions and procedures set forth in this Act, the (Secretary) shall be responsible for such actions as are taken to assure that adequate provision is made to meet the energy needs of the nation. To that end, he shall make such plans and direct and conduct such programs related to the production, conservation, use,

control, distribution, rationing, and allocation of all forms of energy as are appropriate in connection with only those authorities or functions”

“(3) otherwise specifically vested in the (Secretary) by the Congress.”

The authority for invoking subsection 5(a)(3) of the FEA Act is provided, in turn, by the Department of Energy Organization Act, Public Law 95-91, Section 102(6), 42 U.S.C. § 7112(6), which states the DOE shall...”place major emphasis on the development and commercial use of solar, geothermal, recycling, and other technologies utilizing renewable energy resources.

Section 52(a) of the FEA Act, 15 U.S.C. §790(a), makes provisions for the [Secretary] to establish...

“...a national Energy Information System...The System shall contain such information as is required to provide a description of and facilitate analysis of energy supply and consumption within the United States...”

In addition, section 52(b)(3) of the FEA Act, 15 U.S.C. §790(a), states that at a minimum, the System will provide information sufficient to carry out statistical and forecasting activities to identify and allow analysis of ...

“(3) the sensitivity of energy resource reserves, exploration, development, production, transportation, and consumption to economic factors, environmental constraints, technological improvements, and substitutability of alternate energy sources;”

The Form EIA-902 provides data to fulfill these legislative mandates.

2. Needs and Uses of Data

The private sector and the renewable energy industry, Congress, the DOE, and other government agencies use data developed from the Annual Geothermal Heat Pump Manufacturers Survey (Form EIA-902). It is the only reliable, accurate, and publicly available information source on the manufacture, shipments, and characteristics of geothermal heat pumps. The data derived from the geothermal heat pump manufacturing survey are widely used in business development, company-level and State-level planning, program management, import/export assessment, and other important facets of the energy industry.

The survey demonstrates market penetration of geothermal heat pumps in the United States. Data consist of geothermal heat pump shipments by type, rated capacity, destination, efficiency, and sector end use information. EIA's Office of Coal, Nuclear, Electric and Alternate Fuels needs the data to respond to customer requests for current activities and production levels of the geothermal heat pump industry and to refine its estimates of geothermal heat pump production and energy consumption. The data are used by various organizations that are detailed below.

a. Industry

The data to be derived from the Annual Geothermal Heat Pump Manufacturing Survey is considered by EIA to be the only reliable data available to the industry at large. The Department of Commerce information on home heating and cooling do not list geothermal heat pumps as a specific line item. Because geothermal heat pumps are cost-competitive in many applications, the geothermal heat pump industry has the potential for a rapidly increasing growth rate. The demand for energy efficiency and cost-effective heating and cooling systems that provide less energy consumption will rise if energy prices continue to increase. Neither the industry members, individually nor collectively, have been able to maintain data collection efforts, unlike the oil, gas, and other energy industries. This survey will be the sole source of detailed industry level information.

EIA is the only agency collecting information about the geothermal heat pump industry. However, EIA coordinates with the Office of Energy Efficiency and Renewable Energy (EERE) of the DOE and the Geothermal Heat Pump Consortium.

The uses of the data by industry will be used to gauge market penetration levels. In corporate planning, the data will be used to identify problems, to target geographic locations, and to set marketing strategies. The data will be used also in planning regional activities. The informational areas of Form EIA-902 of specific interest to industry are:

Total Number of Units Shipped (Question 2): to report total number of geothermal units shipped by type, rated capacity, energy efficiency ratio (EER), and coefficient of performance (COP)

Destinations of Shipments (Question 3): to report the rated capacity of geothermal heat pumps shipped to each State

Types of customers (Question 4) and types of geothermal heat pumps used in each end-use sector (Question 5)

With the Secretary of Energy's implementation of the National Energy Strategy (NES), the DOE is studying the future use of and demand for renewable energy (including geothermal heat pumps). The DOE projects that the number of geothermal heat pumps will increase in the near future. As a result of this, it is expected that the industry will grow and contribute to the goals of the NES. Therefore, this survey will continue to provide information needed to gauge the status and the growth of the geothermal heat pump industry. Additionally, the survey continues to provide management information needed by the DOE program offices to accurately focus the geothermal heat pump support programs.

b. Office of the Assistant Secretary for EERE of the Department of Energy (DOE).

EERE makes policy decisions regarding energy efficiency and renewable energy programs at the DOE. In the past, national data on the shipments of geothermal heat pumps were difficult, if not impossible, to obtain. This survey is the only survey-based information regarding the geothermal heat pump industry and will be useful to the Assistant Secretary in making policy decisions

regarding the geothermal heat pump industry program areas. The informational areas of Form EIA-902 of specific interest to the EERE are:

Shipment Data (Question 2): to provide annual account of shipments by type of geothermal heat pump, rated capacity, energy efficiency ratio, and coefficient of performance.

Destination of Shipments Data (Question 3): to report the State location where the geothermal heat pumps are shipped. This is important for regional market trend analysis and regional growth projections.

Types of Customers (Question 4): to provide the EERE with accurate data on the types of customers to which the manufacturers are shipping the geothermal heat pumps.

3. Technical Considerations

The geothermal heat pump survey form is designed to minimize respondent burden insofar as possible and still meet requirements for data from the DOE and user communities. Data requested are easily compiled from internal company reports of operations. Respondent burden is minimized by: (1) using established standard categories of systems installed, and (2) by obtaining quantities of installed devices and capacity in standard, simple units of measurement. Furthermore, the proposed changes for this data collection were developed in consultation with experts in the field of the geothermal industry. Their expertise was critical in the modification of this collection and development of the approach necessary to minimize burden of the respondent. During the pre-survey consultation, the Office of Energy Efficiency and Renewable Energy of the Department of Energy (DOE) and members of the Geothermal Heat Pump Consortium provided valuable suggestions to the changes needed to be made to more accurately collect a comprehensive set of geothermal heat pump information. In addition, EIA will utilize information technology to improve reporting options for respondents. EIA is in the process of developing an Internet-based electronic reporting system that allows respondents to enter their data directly into the survey databases. EIA will assist respondents with problems they may have with the new system when it is deployed and with any other filing difficulties or other suggestions for improvement in this data collection. These changes will not be in place for the 2006 annual data collection, but will be in effect for the 2007 Information Collection Request.

4. Efforts to Reduce Duplication

The EIA has searched for a duplicate survey within DOE and has identified none. The EIA has also discussed the survey with various industry and trade representatives and none knew of comparable data that were available on the industry. However, Bureau of the Census Form MA333M, "Current Industrial Reports, Refrigeration, Air Conditioning, and Warm Air Heating Equipment" does collect the total number of "ground and ground water source heat pumps" annually. These data are not broken down into heat pump type. Nor does this form collect data on capacity, efficiency, destination, or sector. While this MA333M classification appears to be identical to that collected on Form EIA-902, it is possible that the MA333M survey inadvertently counts ARI-320 units that are coupled to above-ground chilling towers and are thus not geothermal/ground water heat pumps. EIA

experienced this difficulty in reporting in the earlier years of the Form EIA-902 survey, and added the question on total ARI-320 heat pump shipments to help respondents to not report ARI-320 units coupled to above-ground chilling towers as ARI-320 geothermal heat pumps.

5. Provisions for Reducing Burden on Small Business

The EIA has designed the survey so that small businesses are not unduly burdened. Most of the data requested should be readily available from accounting or sales records.

6. Results of Collecting Data Less Frequently

The data will be collected once a year. Data collected less frequently would not be timely, and the DOE would not be able to adequately monitor changes in the growing geothermal heat pump industry.

7. Special Circumstances

The data are collected in a manner consistent with the guidelines in 5 CFR 1320.5 for implementing the Paperwork Reduction Act of 1995 (P. L. 104-13).

8. Summary of Consultations Outside the EIA

On May 3, 2006, a Federal Register notice (FR Doc. E6-6667) seeking public comment on the proposed survey was published. The EIA received no public comment from the Federal Register Notice.

9. Decision to Provide Any Payment or Gift to Respondents

EIA will not provide any payment or gift to respondents.

10. Provisions Regarding Confidentiality of Information

The information reported on this form will be protected and not disclosed to the public to the extent that it satisfies the criteria for exemption under the Freedom of Information Act (FOIA), 5 U.S.C. §552, the DOE regulations, 10 C.F.R. §1004.11, implementing the FOIA, and the Trade Secrets Act, 18 U.S.C. §1905.

The Federal Energy Administration Act requires the EIA to provide company-specific data to other Federal agencies when requested for official use. The information reported on this form may also be made available, upon request, to another component of the Department of Energy (DOE); to any Committee of Congress, the General Accounting Office, or other Federal agencies authorized by law to receive such information. A court of competent jurisdiction may obtain this information in response to an order. The information may be used for any non-statistical purposes such as administrative, regulatory, law enforcement, or adjudicatory purposes.

Disclosure limitation procedures are not applied to the statistical data published from EIA-902 survey information. Thus, there may be some statistics that are based on data from fewer than three respondents, or that are dominated by data from one or two large respondents. In these cases, it may be possible for a knowledgeable person to estimate the information reported by a specific respondent.

11. Justification for Sensitive Questions

No questions of a sensitive nature are asked in this survey.

12. Burden to Respondents

The survey forms are being sent only to U.S. companies that are known or reported to be manufacturing geothermal heat pumps. It is estimated that completion of the forms will require approximately 4.25 hours each. The forms will be sent to approximately 20 companies. Thus, the burden to industry is anticipated to be 85 hours per year (20 respondents x 4.25 hours per response).

The estimated annual cost of the respondent burden is \$4,845 (85 burden hours x \$57 per hour).

13. Costs to Respondents

There are no capital and/or startup cost components or operations and maintenance items associated with this data collection. The information is maintained in the normal course of business. Therefore, other than the cost of burden hours included in Item 12 above, there are no additional costs for generating, maintaining, and providing the information.

14. Estimates of Cost to the Federal Government

	<u>Contractor</u>	<u>Federal</u>	<u>Total</u>
a. Development and Maintenance Costs	\$10,000	\$ 5,000	\$15,000
b. Collection Costs	\$ 2,000	\$35,000	\$37,000
c. Processing Costs	\$ 3,000	\$35,000	\$38,000
d. Dissemination Costs	\$ 2,000	\$ 7,000	\$ 9,000
Total Annual Cost	\$17,000	\$82, 000	\$ 99,000

15. Program Changes or Adjustments

The only additional items are to request EER and COP data. The additional requests will require an estimated 15 minutes to report for each respondent. The increase in total burden, as a result, will be 5 hours. However, there is a decrease in the number of respondents, which will decrease the burden

by 80 hours. Overall, the burden will decrease by 75 hours.

16. **Plans for Tabulation and Publication**

The time schedule for this survey and related analysis activities is as follows:

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| 1. Send Notice of Reporting Requirements | 01/16/07 |
| 2. Data Collection and Data Processing | 01/17/07 to 05/31/07 |
| 3. Tabulation of Data and Analysis | 06/01/07 to 07/31/07 |
| 4. Publish On Internet | 08/2007 |

17. **Display of Expiration Date on Form**

The OMB approval expiration date will be displayed on the EIA Form-902.

18. **Exceptions to Certification Statement**

No exceptions to the certification statement are being taken.