Supporting Statement Part A
U.S. DEPARTMENT OF ENERGY HYDROGEN PROGRAM KNOWLEDGE AND OPINIONS ASSESSMENT

A. Justification

1. Why collection is necessary

The Knowledge and Opinions Assessment for the U.S. Department of Energy (DOE) Hydrogen Program will measure the levels of awareness and understanding of hydrogen and fuel cell technologies within four target populations: (1) the general public, (2) students age 12-17, (3) personnel in state and local governments, and (4) potential end users of hydrogen fuel and technologies in business and industry. Four information collections will be conducted, one for each of the target populations.

In 2004, a baseline survey was conducted to determine the levels of knowledge and opinions related to hydrogen and fuel cell technologies. The current survey will update the baseline and determine changes relative to 2004 knowledge levels within each population group. Most questions are identical for all four survey populations; however, some questions on each survey instrument will be targeted to the specific population group. The student survey, for example, requests information on classes that the students have taken concerning energy and technologies related to hydrogen and fuel cells. The end-user survey requests information on usage or plans for usage of hydrogen and fuel cell technologies. Information gathered in this assessment will guide DOE's overall education plan for the Hydrogen Program and will provide scientific data for adjusting the focus of the education program if necessary.

The information collection is authorized through the Energy Reorganization Act of 1974; Public Law 93–438; the Department of Energy Organization Act of 1977; 42 U.S. Code Sections 5813, 5815, 5817, and 7101. Appropriate sections are provided in Appendix A (U.S. Code Title 42 Sections 5813, 5815, and 5817, from http://uscode.house.gov/usc.htm).

2. By whom and for what purpose

This information collection will be used by the DOE Hydrogen Program. It is a follow-on survey to a baseline survey conducted in 2004 (described above).

The purpose of the current collection is to measure the level of awareness and understanding of hydrogen and fuel cell technologies at the time of the survey. Another purpose is to compare the results with the results of the 2004 baseline survey, insofar as possible. This information will be of critical importance in defining and revising the overall hydrogen education plan.

This is not an annual survey. The initial survey, which was conducted in 2004, was used to determine information gaps among the surveyed populations and the appropriate media through which to communicate new educational materials for each population. In addition, the 2004 survey results guided the content of the educational emphasis – for example, the 2004 survey indicated the level of technical knowledge among each of the different populations and provided guidance on how much emphasis should be placed on hydrogen safety. The current survey will provide updated data for comparison against the 2004 baseline survey. It is possible that the results of the current survey will indicate the need for adjustments to improve the effectiveness or efficiency of the hydrogen education program. In addition, a third set of surveys is planned in three or four years to determine whether further modifications to the education program are needed.

3. Use of information technology

As in 2004, a computer-assisted telephone interview (CATI) format will be used to conduct the surveys. In addition to maximizing efficiency of the personnel administering the survey, the CATI approach also minimizes the burden on survey respondents—by streamlining the question and answer process and by efficiently handling scheduled call backs. CATI automatically records responses in an electronic database during the survey interview. Note, however, that CATI surveys are computer-assisted, not computer-driven; that is, the "interviewer" is a human, not a computer.

After data collection, the data will be statistically analyzed using electronic data processing. (See discussion below under Section B.2, "Estimation Procedure.")

4. Avoiding duplication

Prior to the 2004 baseline survey of hydrogen knowledge and opinions, a literature review was conducted to determine the results of surveys concerning the existing knowledge of hydrogen and fuel cell technologies. No single survey had covered all of the populations to be considered in the proposed surveys. In addition, most surveys were not scientifically designed and no other survey included plans to repeat the identical survey at a future point to assess changes in knowledge and opinions. The literature review is available at http://www.ornl.gov/~webworks/cppr/y2001/rpt/118840.pdf or on request from Lorena F. Truett (TruettLF@ornl.gov) at 865-946-1306.

Since the 2004 baseline survey was conducted, a few surveys related to hydrogen or fuel cell issues have been conducted. As in the years prior to the literature review noted above, these surveys are inadequate for the U.S. DOE Hydrogen Program's use. They have, for example, been limited by geographical location (e.g., conducted in Europe), content (e.g., containing no technical questions), or statistical validity (e.g., not designed for statistical analysis).

5. Impact on small businesses

The information collection is not expected to impact small businesses or other small entities.

6. Consequences of no collection

If the hydrogen assessment data collection is not conducted, it is possible that the hydrogen education program will be inadequately focused and will fail to accomplish all of the program's goals. One purpose of the data collection is to assess the *current* (i.e., at the time of the survey) knowledge and opinions about hydrogen and fuel cell technologies. Another purpose is to assess changes in knowledge and opinions relative to the baseline established with the 2004 survey. Without this follow-on survey, which uses the same survey instrument and follows the same data collection and analysis procedures, this assessment of changes is not possible. An education program should be based on some standard; in this case, the standard (i.e., the current knowledge level at a point in time) is to be determined through the survey.

7. Special circumstances

None of the special circumstances itemized in the instructions are pertinent to this information collection.

8. Federal Register notice

A 60-day notice published in the Federal Register on November 17, 2006. No comments were received on this announcement.

9. Payments or gifts

No gifts or other remuneration will be provided to respondents of surveys of the general public, students, state and local government agencies, or end users.

10. Confidentiality assurance

Confidentiality of individual responses will be maintained through the procedures of the market research firm conducting the surveys. Where confidential information is involved in the information collection, the provision for dealing with the confidential information is set forth in related Departmental regulations and is normal to the handling of management and program information by the Department.

11. Sensitive questions

No questions of a sensitive nature are included on any of the surveys.

12. Hour burden

The time burden for the current survey is estimated based on the actual survey times for the 2004 survey. For the surveys of the general public, government agencies, and end users, the burden is about 12.5 minutes or less per respondent. For the surveys of students, the burden is slightly more than 14 minutes per respondent. The total hour burden for the four respondent populations is shown below, for a total time burden of 702 hours.

Hour burden for respondent populations		
Population group	**Number of respondents**	**Time burden**
General public	1,000	208 hours
Students, ages 12-17	1,000	235 hours
State and local governments	246	51 hours
End users	1,000	208 hours
Total	3,246	702

No time is needed to search data sources, gather information, or review information. The time burden is limited to the time necessary to answer the questions.

13. Cost burden to respondents or record-keepers

No recordkeeping is required for the respondents. There are no capital or start-up costs. There are no operation and maintenance costs. There is no requirement to purchase services or equipment.

The cost burden to respondents or record-keepers for all surveys – the general public, students, state and local government agencies, and end users – is $0.

14. Cost to Federal government

The proposed budget for the contract to conduct this work is $463,262, as shown in the table below. This budget includes a total of 4,150 hours for planning and preparing for the survey, which includes preparation of OMB materials, compiling a compendium of related surveys conducted since the 2003 literature review, establishing a contract with a professional polling organization, and preparation of a data analysis plan. The second budget item is the cost for a professional polling organization using a CATI system to conduct the survey. This budget item is projected from the actual billing costs of the 2004 survey, annualized to the survey year. The third line in the table below includes database development, statistical analysis, comparison of the surveys with the baseline results, and preparation of all reports, presentations, and other documentation. There is no additional cost to the government for operational expenses. The labor cost of DOE staff for oversight of contract administration is part of the normal job duties.

Cost burden to the Federal Government		
Tasks	**Hours**	**Cost**

Prepare OMB materials, complete compendium of related surveys, conduct bids and prepare contract with polling organization, write data analysis plan	290	$46,458
Conduct surveys (professional polling organization - contracted)	3,335	$333,500*
Manage/monitor surveys, analyze data, compare results with baseline, write final report, and prepare other documentation as appropriate	520	$83,304
Total	4,145	$463,262
*Costs are projected based on actual billing costs of 2004 surveys.		

15. Program changes

This data collection is related to the four surveys approved by OMB and conducted in 2004. In the surveys conducted in 2004, 99 potential end users were surveyed. For the current round of surveys, 1,000 end users will be surveyed. This program change is required because DOE now considers this population group a critical component of the education initiative. Technology development has progressed since 2004 and hydrogen and fuel cell technologies are becoming commercially available in certain applications. This change in technology readiness has increased the priority of the end user target audience.

16. Plans for publication

Tabulated survey results will be published on the Hydrogen Program website. (The web site URL will be part of the information provided to survey interviewers for respondents who inquire about the survey results, ask questions, or otherwise show interest in the survey material.) Tabulated and analytical results may be published elsewhere as well. Analytical techniques are discussed under Statistical Methods below. A report documenting the survey process, the data, and the results of the statistical analysis will be published.

The following timeline is expected for collection, analysis, and publication.

- Obtain OMB approval and establish contract with polling organization, fall 2007.
- Conduct surveys, September 2008-March 2009.
- Analyze survey results and write report, March 2009-September 2009.

17. Expiration date

For the CATI (telephone) surveys, the expiration date of the OMB approval will be made available to survey respondents who request it.

18. Exceptions

No exceptions are being requested.