

Part B of the Supporting Statement for FERC-731

EPAct 2005 Demand Response/Time-Based Rate Programs and Advanced Metering Infrastructure Report Requirement

Section 1252(e)(3) of the Energy Policy Act of 2005 (EPAct 2005)¹ requires the Federal Energy Regulatory Commission (FERC or Commission) to draft and publish an annual report, by appropriate region, that assesses demand response (DR) and time-based rate programs and advanced metering infrastructure (AMI). Specifically, EPAct 2005 requires that the Commission identify and review:

- (A) saturation and penetration rates of advanced meters and communications technologies, devices and systems;
- (B) existing demand response programs and time-based rate programs;
- (C) the annual resource contribution of demand resources;
- (D) the potential for demand response as a quantifiable, reliable resource for regional planning purposes;
- (E) steps taken to ensure that, in regional transmission planning and operations, demand resources are provided equitable treatment as a quantifiable, reliable resource relative to the resource obligations of any load-serving entity, transmission provider, or transmitting party; and
- (F) regulatory barriers to improved customer participation in demand response, peak reduction and critical period pricing programs.

In 2006 and 2008, the Commission designed and used Office of Management and Budget (OMB) approved collections FERC-727, *Demand Response and Time Based Rate Programs Survey* (OMB Control No. 1902-0214), and FERC-728, *Advanced Metering Survey* (OMB Control No. 1902-0213), to collect and convey to Congress the requested demand response and advanced metering information. The collection proposed herein will update the information filed previously in the FERC-727 and FERC-728 surveys.

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units,

¹ Pub. L. No. 109-58, § 1252(e)(3), 119 Stat. 594, 966 (2005).

households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

Description of the Potential Respondent Universe and Respondent Selection Method to be Used, and Response Rate. The respondent universe consists of the organizations in Table 1, below.

Table 1. Respondent Universe of FERC-731

Source Used to Select	Group Name	# of Organizations in Group
Preliminary 2008 EIA-861 Respondent List	Municipally Owned Utilities	1,841
	Cooperative Utilities	877
	Investor Owned Utilities	202
	Power Marketers	174
	Political Subdivisions	128
	Municipal Marketing Authorities	19
	State Utilities	24
	Federal Utilities	9
Internet	Curtailed Service Providers (CSPs)	162
Commission staff	RTOs/ISO	7
Total		3,443

The survey will solicit information from electric power businesses and organizations that respond to EIA-861, including the seven regional transmission organizations (RTOs) and independent system operators (ISOs) in the United States, as well as from 162 Curtailed Service Providers (CSPs). The utility component of the respondent universe consists of utilities in the United States that are involved in the generation, transmission, and distribution of electric energy.

As with the previous surveys, the Commission plans to send this survey to the full set of 3,443 electric power businesses and organizations, in order to comply with the direction of Congress to identify existing demand response and time-based rate programs and advanced metering on a regional basis. If a smaller sample size of utilities were

surveyed, the information received by the Commission could miss key utility programs and experiences that would provide useful information for Congress.

Nevertheless, surveying the full set of electric power businesses and organizations could create self-selection bias. To minimize any potential self-selection bias, FERC's contractor will follow the same methodology used in the survey analyses in 2006 and 2008. A random sample of approximately 770 entities will be drawn from the respondent universe. The survey results for the sample group will be compared to the survey results found from the respondent universe. Any statistically significant differences between the random sample and the full population will be discussed in the final report. Table 2 below shows survey response rates from 2008, broken down by the type of entity. The response rates from the random sample do not vary significantly from the rates of the respondent universe.

Table 2. Survey Response Rates for FERC-727 and FERC-728 (2008).

Type of Entity	Size	Total Number	DR Sample Response Rate (percent)	DR Actual Response Rate (percent)	AMI Sample Response Rate (percent)	AMI Actual Response Rate (percent)
Cooperative	Large	20	70	70	75	75
	Medium	187	64	62	61	61
	Small	618	65	64	67	67
	Other	59	78	59	100	75
Federal	Medium	1	100	100	100	100
	Small	6	17	17	33	33
	Other	3	67	67	100	100
Investor-Owned	Large	110	97	97	99	99
	Medium	22	100	91	100	95
	Small	53	50	58	63	60
	Other	38	60	53	80	68
ISO	Other	8	88	88	63	63
Municipal	Large	19	68	68	63	63
	Medium	85	56	48	58	53
	Small	1738	45	51	52	55
	Other	3	200*	67	200*	67
Municipal Authority	Other	21	250*	67	200*	67
Public Utility District	Large	7	71	71	71	71
	Medium	11	83	64	83	64
	Small	83	50	61	75	70
	Other	25	100	60	100	64
Power Marketer	Large	15	27	60	60	60
	Medium	12	33	50	67	58
	Small	75	0	47	57	48
	Other	60	100	42	71	68
Retail	Other	107	25	20	29	22
State	Large	2	50	50	50	50
	Medium	1	0	0	100	100
	Small	6	100	100	100	100
	Other	12	50	50	83	83
Total		3407	63	55	67	60

* Percentages above 100 were the result of misclassification of a few municipal entities, corrected after this table was published.

The sample universe for analysis will be divided into cells determined by the following:

- Number of retail customers served, based on the information provided to the EIA
 - o Large

- o Medium
- o Small
- o Wholesale or Generation/Transmission
- o Multi Regional
- Type of service provider
 - o Cooperative
 - o CSP
 - o Federal
 - o Investor owned
 - o Municipal
 - o Municipal power authority
 - o Political subdivision
 - o Power marketer
 - o State
- North American Electric Reliability Corporation (NERC) regions
 - o Alaska
 - o Florida Reliability Coordinating Council (FRCC)
 - o Hawaii
 - o Midwest Reliability Organization (MRO)
 - o Northeast Power Coordinating Council (NPCC)
 - o ReliabilityFirst Corporation (RFC)
 - o SERC Reliability Corporation (SERC)
 - o Southwest Power Pool RE (SPP)
 - o Texas Regional Entity (TRE),
 - o Western Electricity Coordinating Council (WECC)
- If the service provider reported load management activities to the EIA
 - o It was assumed that all CSPs engage in load management activities

Once the utilities and CSPs are sorted into cells as described above, the contractor will randomly select the number of utilities and CSPs in each cell according to the sample plan. The following table shows an earlier sample plan with the breakdown by size and type of utility, number of entities in the sample, and the planned response rate. The 2010 sample plan will be based on response rates from the 2006 and 2008 surveys.

Table 3. Plan for Sampling from Earlier Survey

Ownership	Size Category	# of Entities	Entities in Sample	Expected Response in Sample	Response Rate for Sample
Cooperative		884	115	95	82%
	Large	19	19	18	95%
	Medium	180	19	15	80%
	Small	625	18	14	80%
	Wholesaler or G&T	59	59	47	80%
	XMultiRegion	1	0	0	
CSP		74	74	59	80%
	Small	74	74	59	80%
Federal		9	7	7	100%
	Small	6	4	4	100%
	Wholesaler or G&T	3	3	3	100%
Investor Owned		220	220	198	90%
	Large	109	109	98	90%
	Medium	18	18	16	90%
	Small	59	59	53	90%
	Wholesaler or G&T	34	34	31	90%
ISO		7	7	7	100%
	ISO	7	7	7	100%
Municipal		1846	89	72	81%
	Large	17	17	14	85%
	Medium	84	19	15	80%
	Small	1737	47	38	80%
	Wholesaler or G&T	6	6	5	80%
	XMultiRegion	2	0	0	
Municipal Marketing Authority		19	19	15	80%
	Wholesaler or G&T	19	19	15	80%
Political Subdivision		126	37	31	84%
	Large	7	7	7	100%
	Medium	11	1	1	100%
	Small	83	4	3	80%
	Wholesaler or G&T	25	25	20	80%
Power Marketer		165	187	114	61%
	Large	10	10	6	60%
	Medium	5	5	5	100%
	Small	42	64	38	60%
	Wholesaler or G&T	49	49	29	60%
	XMultiRegion	59	59	35	60%
State		22	22	22	99%
	Large	2	2	2	100%
	Medium	1	1	1	100%
	Small	7	7	7	96%
	Wholesaler or G&T	12	12	12	100%
Grand Total		3372	776	620	80%

2. Describe the procedures for the collection of information including:

- * Statistical methodology for stratification and sample selection,**
- * Estimation procedure,**
- * Degree of accuracy needed for the purpose described in the justification,**
- * Unusual problems requiring specialized sampling procedures, and**
- * Any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

Procedures for the Collection of the Information. The Commission will send each organization in the respondent universe two emails (one prior to release of the survey and one upon release) with information about the survey, general guidance on how to complete the FERC-731, and encouraging their participation in the survey. For convenience, the Commission will also mail a paper copy of the survey documents to each organization. The Commission will indicate that a letter is being sent to the chief state regulator for the organizations identified in the universe and subject to state regulation. The letters to state regulators will inform them of the organizations in their state that have been asked to participate. Respondents will complete the survey using an electronic document in the Commission's online eFiling system. The document will include detailed, line-by-line instructions, a glossary of terms used in the survey, the survey instrument, and other information that will help them complete the survey as quickly and as easily as possible.

The survey will collect general corporate information, an inventory of advanced meters at the utility, and an inventory of demand response and time-based programs/tariffs. The questions have been carefully reviewed to ensure the answers provide the information needed for the Commission to respond to Congress' directive requesting information on these two topics. In some places respondents are provided multiple choice questions allowing the respondent to choose among options rather than enter text, which should improve the quality of data and ease the burden on respondents. A table format has been used whenever feasible, to ensure that the numerical information provided is consistent across each category. The survey uses sophisticated routing to eliminate the need for respondents to search for the next relevant question to answer. Several changes were made to the survey design in response to comments received on previous surveys and the public notice. These changes reduce the burden on respondents and will increase the reliability of the data collected.

Previous surveys reveal that potential respondents are interested in the results, understand the questions, and are very capable of discussing the issues in great detail. To allow for additional input, the survey provides comment and descriptive fields. This has proved popular with respondents in past surveys, and yields information that might

normally only be obtained through an in-person interview.

To assist respondents, the instructions provide contact information for the FERC Online Support facility, which will help with questions on how to submit the survey, and for Commission technical staff, who will help with interpreting and answering survey questions. Respondents may submit the survey electronically through FERC's website-based eFiling System or through the mail on paper or CD/DVD.

The regions used in this survey are those used by the North American Electric Reliability Corporation (NERC) rather than the more commonly used census regions. NERC's regions are closely related to industry structure, power management and trading and are familiar to industry participants. They provide the most useful regional grouping for the consideration of demand response resources and advanced metering deployment, and are consistent with NERC's development of a demand response data collection program.

Experienced industry analysts under contract to the Commission and on the Commission's staff will review the data provided by the respondents. The data will be carefully weighted based on the type of organization, size, and region, to allow analyses of the responses to accurately reflect the entire market. The industry analysts will then proceed to tabulate the data to provide meaningful and interesting information for the Commission staff to prepare the report to Congress.

The Commission's eFiling System uses a secure online session and encrypts all information for transmission. Security instructions will be included with filing instructions in email from the Commission staff to respondents. FERC's contractor will take due diligence to keep the survey data secure. When the final survey responses are made public, they will not include the contact information for the respondent or the respondent's supervisor.

3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

Methods to Maximize Response Rates and to Deal with Issues of Non-Response. Drawing on its experience with the predecessor surveys, Commission staff will maximize the response to FERC-731 by robust notification, actively encouraging participation, using a clear and concise survey instrument, reducing the burden of completing the survey, and performing extensive follow-up with non-responding parties. The predecessor surveys, FERC-727 and FERC-728, had response rates of approximately 56

and 55 percent, respectively, in 2006. In 2008, the response rates were 55 and 60 percent respectively.

To improve notification, Commission staff will issue e-mails and letters to potential respondent organizations encouraging them to participate in this important national study. In addition to the EIA-listed contact person, the contact person's supervisor will also receive an email. This redundant notification, together with delivery of a hard copy of the survey at the place of business, will reduce notification failure by loss, misrouting or other error, and will increase the likelihood of a response from the organization.

Commission staff has made, and will continue to make, efforts to encourage response rates by addressing large gatherings of organizations that are expected to respond to Commission staff's survey. For example, the Commission staff has announced and discussed its survey program with several trade and state associations, including members or representatives of the National Association of Regulatory Commissioners, American Public Power Association, Edison Electric Institute, and the National Rural Electric Cooperative Association. In a cooperative spirit and in consideration of state-utility commissioners' authority, the Commission will continue to provide a courtesy copy of its letter invitation to the regulatory heads of the organizations with jurisdiction over the potential respondents. Respondents, state regulators and trade organizations continue to express substantial interest in the resulting reports. Commission staff is considering whether it will be effective to use social media, such as Facebook, to further promote the survey.

After the survey was conducted in 2006, Commission staff revised it, and revised it again after conducting it in 2008. Many of the revisions were made in response to comments from respondents and other interested parties; a number of the most recent are discussed in the preceding Supporting Statement. One significant modification is to combine the two previous surveys, FERC-727 and FERC-728, into a single survey, FERC-731. Commission staff previously believed that separate surveys for each of the two topics, demand response/time-based rate programs and advanced metering, would facilitate response by allowing different persons to work on the most suitable topic. With the advent of a downloadable survey form that can be shared among persons by email, it is preferable to combine the topics into a single form. The new survey also reduces the necessary data entry by, for example, reducing the number of customer categories from five to three. This change responds to feedback that many organizations do not keep data categorized by the five customer classes previously requested. Instructions have been revised and clarified, and terms have been linked to their glossary definitions for ease of reference. Survey questions will be routed to show a respondent only the questions relevant to his or her data, multiple choice questions will be used where feasible, and validity checking will be used only where necessary to protect data quality.

For individuals who are listed several times as the contact for different organizations, Commission staff will reduce the burden and increase the likelihood of response by: (1) talking with the person to notify him or her of the survey and of Commission's staff's interest in making the preparation of the individual's response as easy as possible; and (2) presenting the person with a specific way to submit responses if all the organizations for which the person is gathering data actually have data to report for the survey. For example, the contractor may provide a spreadsheet for them to report their data.

To ensure high response rates, people with experience in interviewing energy market participants and who understand the areas of advanced metering, demand response, and time-based rates will conduct a follow-up with non-responding organizations. This will result in more complete responses to the survey which in turn will lead to better statistical findings. The contractor will make attempts to follow-up with non-responders within three weeks to ask them to complete the form, and will offer to help them complete the survey over the phone. The contractor will make three calls over the course of the survey time period to follow-up. The call will only be counted if it reaches a person at the utility or CSP who would be responsible for filling out the survey.

After three calls, the contractor will inform the Commission that the entity has not responded. At that point, the Commission will leverage the interest of state regulators and industry associations to encourage the response, and will attempt to contact the utility and elicit response. We expect that a direct call from the Commission may spur a response.

Utilities that do not serve retail customers but that are included in the respondent universe and that get a survey letter namely municipal marketing authorities and wholesalers or generation and transmission (G&T) utilities are not expected to provide responses for the advanced metering questions, since these kinds of utilities typically do not own or have responsibility for billing and revenue meters for retail customers. In addition, power marketers (which include competitive retailers, energy service providers, retail providers, and the other various names generally used in regions with retail competition or retail choice) are not expected to submit responses for the advanced metering questions because these utilities typically do not own or have responsibility for retail metering.

4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of test may be submitted for approval separately or in combination with the main collection of information.

Tests of Procedures or Methods to Be Undertaken. No tests of procedures or methods are to be undertaken. However, the publication of the draft survey instrument and planned procedures in the *Federal Register* in August 2009² resulted in useful feedback. The Commission used this information to improve the forms and its survey methodology. This, in combination with information gained from the Commission staff's previous surveys in 2006 and 2008, has improved the Commission's survey plan, procedures, and instruments.

In recognition of the possibility that a self-selection bias may occur in sending a survey letter to all the members of the respondent universe, the contractor will create a random sample from the respondent universe as described in item 1, above.

5. Names and telephone numbers of individuals consulted on statistical aspects of the design and the name of the contractors who will actually collect and/or analyze the information for the agency. To design the previously-authorized surveys (FERC-727 and FERC-728), Commission staff received advice and assistance from Chuck Goldman and Ranjit Bharvirkar of Lawrence Berkeley National Laboratory, the Mid-Atlantic Distributed Resource Initiative, and UtiliPoint International, Inc. Commission staff is currently seeking a contractor to assist in collection and analysis of the 2010 survey.

² 74 Fed. Reg. 39,682 (2009).