



Form EIA-861 and the New Form EIA-861S

Proposal: Modify the frame of the Form EIA-861, “Annual Electric Power Industry Report,” from a census to a sample, and use sampling methods to estimate the sales revenues and customer counts by sector and state for the remaining industry.

Proposal: Create a new Form EIA-861S, “Annual Electric Power Industry Report (Short Form),” for the respondents that have been removed from the Form EIA-861 frame. The form would ask them for contact information and would contain a series of yes/no questions to query their status. In addition, it would collect limited data for use in estimating. Once every five years, the Form EIA-861S respondents would be asked to fill out the Form EIA-861 for sampling methodology purposes.

Background

EIA has undertaken significant efforts to study the possible reduction of burden in collecting and processing data for the Form EIA-861 while maintaining high data quality. Also directly impacted is the Form EIA-826, “Monthly Electric Utility Sales and Revenue Report with State Distributions,” which has relied on the Form EIA-861 census, since its inception, to estimate monthly data.¹ EIA proposes to remove approximately one-third of the respondents that report on the Form EIA-861 under Schedule 4 Part A (Bundled Service). These are small entities that report in aggregate approximately 1 percent of national retail sales. EIA has found that it can use cut-off sampling and model-based estimates for retail sales, revenue, and customer counts by state and sector for these respondents for both monthly (Form EIA-826) and annual (Form EIA-861) reports, as long as select information is collected for all members of the population and the frames are maintained.

EIA is proposing a new annual survey – the Form EIA-861S. As mentioned above, the frame would consist of the respondents removed from the Form EIA-861 frame, and the form would collect very limited data from these respondents, including sales, revenue, and customer counts in total for the respondent. Once every five years these respondents would be required to fill out the Form EIA-861 in lieu of the Form EIA 861S, and this information will be used in the methodologies deployed.

¹ The target population for the Form EIA-826 comprises all U.S. electric utilities, electric service providers, and distribution companies. Cut-off sampling is used to select the sample, which includes most of the investor-owned utilities (188), 4 Federal utilities, all electric service providers (150), all distribution companies, and a sample of approximately 164 municipal, cooperative, State and political subdivision utilities that have sales to end-use customers. The Form EIA-861 serves as the universe from which the sample for the Form EIA-826 is drawn.

Currently there are some schedules on the Form EIA-861 that in the future will collect information from a subset of the population and the information will be reported with that limitation noted. Those schedules include;

- Schedule 2, General Information, Energy Sources and Disposition, Green Pricing, and Net Metering
- Schedule 3, Electric Operating Revenue
- Schedule 6, Demand Side Management
- Schedule 7, Distributed and Dispersed Generation
- Schedule 8, Distribution System Information.

The Form EIA-861 will continue to collect data for Schedule 6 Part D Advanced Metering and Schedule 6 Part C Supplemental Information, question 17, Time-based Rate Programs.

It is possible but unlikely that a respondent could, in the future, be initially moved to the Form EIA-861S and then, in subsequent years, be moved back to the Form EIA 861, based on its evolving characteristics. It is also possible that, in the future and after statistical evaluation, that a Form EIA-861 respondent would be moved to the Form EIA-861S. Because future respondent behavior is not completely known, EIA would need to have the flexibility to modify the management of these schedules in order to maintain significant burden reduction savings for respondents.

Sampling and Estimation Methodology

The EIA proposes to apply a cut-off sampling strategy to remove the smallest one third of respondents from the regular annual Form EIA-861 data collection cycle. However, EIA would also like to continue to publish accurate estimates of retail sales, revenue and number of customers by State and economic end-use sector as reported on Schedule 4 of the Form EIA-861. The entities included below the proposed cutoff account for approximately 1 percent of total retail sales, and it was determined that the model-based estimation methodologies currently employed for the Form EIA-826 provide sufficiently accurate imputed/predicted values for these entities. The Form EIA-826 is collected monthly and is a smaller cutoff sample of the Form EIA-861, and the model-based estimation methodologies employed are generally weighted least-squares regressions stratified by entity type and geographic region. The retail sales, revenue and customer counts reported on the most recently completed Form EIA-861 census cycle are utilized as regressor data.

With the implementation of the proposed annual Form EIA-861 cutoff sample, the sole difference in the use of the current Form EIA-826 model-based estimation methodologies is that the full Form EIA-861 census will now only be collected every five years instead of every year. Once collected, this census data will be used to both update the regressor information available by respondent and to confirm the accuracy of the Form EIA-861 sampling/estimation strategy overall.

Simulations using historical Form EIA-861 data conducted by the EIA testing the validity of the

described sampling and estimation strategy including the use of less temporarily relevant regressor data proved sufficiently accurate. These simulations however presuppose that the total census frame is maintained every year on the Form EIA-861S to prevent over/under respondent imputation. In addition, model-based relative standard errors (RSEs) were calculated and studied by the EIA and the results proved to be of acceptable size further validating the sampling/estimation strategy.