

PART 3

DEMAND-SIDE RESOURCE ANALYSIS

APPENDIX 3-A

MISSOURI FILING REQUIREMENTS

Missouri Filing Requirements (4 CSR 240-22.050)

Demand-Side Resource Analysis

(11) **Reporting Requirements.** To demonstrate compliance with the provisions of this rule, and pursuant to the requirements of 4 CSR 240-22.080, the utility shall prepare a report that contains at least the following information:

(A) **A list of the end-use measures developed for initial screening pursuant to the requirements of section (1) of this rule;**

Please refer to Tables 16 and 17 on pages III-6 and III-7 of the “Aquila Networks State of Missouri Electric Demand-Side Management Plan 2007-2011” (Appendix 3-B of the IRP) for the energy efficiency measures. The list of demand response measures is included on page IV-1 and IV-2 of the same report.

(B) **The estimated load impacts, annualized costs per installation and the results of the probable environmental benefits test for each end-use measure identified pursuant to section (1);**

Please refer to Appendix B of “Aquila Networks State of Missouri Electric Demand-Side Management Plan 2007-2011” (Appendix 3-B of the IRP) for residential and commercial end-use measures and Appendix C for industrial end-use measures. The Total Resource Cost Tests include probable environmental costs.

(C) **The technical potential and the results of the utility benefits test for each end-use measure that passes the probable environmental benefits test;**

Please refer to Appendix B of “Aquila Networks State of Missouri Electric Demand-Side Management Plan 2007-2011” (Appendix 3-B of the IRP) for residential and commercial end-use measures and Appendix C for industrial end-use measures.

(D) **Documentation of the methods and assumptions used to develop the avoided cost estimates developed pursuant to section (2) including:**

1. A description of the type and timing of new supply resources, including transmission and distribution facilities, used to calculate avoided capacity costs;
2. A description of the assumptions and procedure used to calculate avoided running costs;
3. A description of the avoided cost periods and how they were determined;
4. A tabulation of the direct running costs and the probable environmental running costs for each avoided cost period in each year of the planning horizon; and
5. A tabulation of the avoided demand cost, the avoided direct energy costs and the avoided probable environmental energy costs for each avoided cost period in each year of the planning horizon;

The avoided costs used in the demand-side program screening are described in Section 3.1.2 and hourly energy costs are included in Appendix 3-C. Annual avoided demand costs are included in Appendix 3-D.

(E) Copies of completed market research studies, pilot programs, test marketing programs, and other studies as required by section (5) of this rule, and descriptions of those studies that are planned or in progress and the scheduled completion dates;

See Section II Data Sources of “Aquila Networks State of Missouri Electric Demand-Side Management Plan 2007-2011” (Appendix 3-B of the IRP) and page IV-9 of the same document for demand response program references.

(F) A description of each market segment identified pursuant to subsection (6)(A);

See pages III-1 through III-3 of “Aquila Networks State of Missouri Electric Demand-Side Management Plan 2007-2011” (Appendix 3-B of the IRP).

(G) A description of each demand-side program developed for initial screening pursuant to section (6) of this rule;

The table below identifies the page numbers of Appendix 3-B containing descriptions of each of the demand-side programs developed for initial screening.

| Program Name | Pages for Program Description |
|---|--------------------------------------|
| Residential Lighting | V-8 to V-11 |
| Residential Audit | V-11 to V-15 |
| Residential Thermal Envelope Improvements | V-15 to V-19 |
| Residential Programmable Thermostat & HVAC Maintenance Services | V-19 to V-22 |
| HVAC Equipment and Appliances | V-22 to V-25 |
| Residential New Construction | V-25 to V-30 |
| Comprehensive Commercial and Industrial | V-30 to V-34 |
| Public Purpose Programs | V-34 to V-39 |
| Direct Load Control | V-39 to V-43 |
| Curtable Rates | V-43 to V-46 |
| Demand Buyback | V-46 to V-49 |
| Time-of-Use Rates with Critical Peak Pricing | V-49 to V-52 |

(H) A tabulation of the incremental and cumulative number of participants, load impacts, utility costs, and program participant costs in each year of the planning horizon for each demand-side program developed pursuant to section (6) of this rule;

Please refer to Attachment E to Appendix 3-B and Appendix 3-E for the yearly peak demand impact by program.

(l) The results of the utility cost test and the total resource cost test for each demand-side program developed pursuant to section (6) of this rule; and The table below identifies the table and page numbers of Appendix 3-B containing cost-effectiveness results of each of the demand-side programs developed for initial screening.

| Program Name | Pages for Program Description |
|---|--------------------------------------|
| Residential Lighting | Table 33 Page V-11 |
| Residential Audit | Table 38, Page V-15 |
| Residential Thermal Envelope Improvements | Table 43, Page V-19 |
| Residential Programmable Thermostat & HVAC Maintenance Services | Table 48, Page V-22 |
| HVAC Equipment and Appliances | Table 53, Page V-25 |
| Residential New Construction | Table 59, Page V-30 |
| Comprehensive Commercial and Industrial | Table 63, Page V-34 |
| Public Purpose Programs | Table 71, Page V-39 |
| Direct Load Control | Table 75, Page V-43 |
| Curtable Rates | Table 79, Page V-46 |
| Demand Buyback | Table 83, Page V-49 |
| Time-of-Use Rates with Critical Peak Pricing | Table 87, Page V-52 |

(J) A description of the process and impact evaluation plans for demand-side programs that are included in the preferred resource plan as required by section (9) of this rule and the results of any such evaluations that have been completed since the utility's last scheduled filing pursuant 4 CSR 240-22.080.

Descriptions of the process and impact evaluation plans for the demand-side programs are included within each of the overall program descriptions (see the response to question (11) 5 (G) above).

The table below identifies the specific pages within the “Aquila Networks State of Missouri Electric Demand-Side Management Plan 2007-2011” to which to refer for evaluation plans for each of the demand-side programs.

| Program Name | Pages for Program Description |
|---|--------------------------------------|
| Residential Lighting | V-10 |
| Residential Audit | V-14 |
| Residential Thermal Envelope Improvements | V-17 to V-18 |
| Residential Programmable Thermostat & HVAC Maintenance Services | V-21 |
| HVAC Equipment and Appliances | V-24 |
| Residential New Construction | V-28 to V-29 |
| Comprehensive Commercial and Industrial | V-32 to V-33 |
| Demand Response Programs | V-52 |

No evaluations have been completed since Aquila’s last scheduled filing pursuant 4 CSR 240-22.080.