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Integrated Resource Plan

Generation Technology Reports

Missouri Pumped Storage Project Concept Study

Montgomery Watson Harza, September 2004

PUBLIC VERSION

Corporate Planning Department

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Generation Technology Reports
for
AmerenUE Integrated Resource Planning

Summary:

These reports summarize the various analyses and studies that were completed to provide generation technology inputs for the AmerenUE integrated resource planning process. The studies included assessments of various potential generation technologies to supply capacity for AmerenUE. The assessments consisted of both "screening level" and, in some cases, detailed evaluations of different generation technologies. Several of the evaluations included a comparison of technical features, as well as a comparison of costs, performance and emissions.

The eight reports, in chronological order, are:

1. **Venice Combined Cycle Study** – Black & Veatch, December 2002
2. **Strategic Siting Study** – Burns & McDonnell, September 2004
3. **Missouri Pumped Storage Project Concept Study** – Montgomery Watson Harza, September 2004
4. **Rush Island Unit 3 Feasibility Study** – Black & Veatch, October 2004
5. **Rush Island Unit 3 Conceptual Cost & Performance Study** – Sargent & Lundy, October 2004
6. **Generation Technology Assessment** – Burns & McDonnell, November 2004
7. **Nuclear Industry Overview & IRP Analysis Parameters** – Navigant Consulting, June 2005
8. **IGCC Technology Assessment Report** – Sargent & Lundy, September 2005

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The purpose of this concept study was to provide updated information on potential hydroelectric pumped storage projects for ongoing planning and power generation studies by Ameren Services. This study for the Missouri Pumped Storage Project further develops pumped storage concepts at the Church Mountain site considering:

- Maximum available head at the site
- A site development incorporating measures to mitigate environmental, aesthetic and visual impacts, as well as land ownership issues
- Varied capacity installations to identify the least cost per kilowatt installation

The results of the study: (1) determine the incremental costs of mitigation measures to minimize environmental, land ownership and aesthetic factors; (2) compare the Modified Schemes to identify the scheme with the least cost per kilowatt installed capacity; (3) provide preliminary estimates of probable total project cost.

In addition to the schemes at the Church Mountain site, other sites within AmerenUE's service area and in the proximity of the existing Taum Sauk Pumped Storage Project are identified and screened as possible alternatives to the Church Mountain schemes.

Missouri Pumped Storage Project

CONCEPT STUDY

FINAL REPORT

Revision 02

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