

Integrated Resource Plan

Generation Technology Reports

Rush Island Unit 3 Conceptual Cost & Performance Study

Sargent & Lundy, October 2004

PUBLIC VERSION

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

Report Number: 5

Deliverable: Rush Island Unit 3 Conceptual Cost & Performance Study

Date Completed: October 2004

Author: Sargent & Lundy

This report summarizes the evaluation of the addition of a 750MW (net) coal-fired unit addition to the Rush Island station by Sargent & Lundy. The report includes details identifying:

- Design basis and plant description
- Capital cost estimate
- Performance, emissions and capacity factor
- Operating and maintenance costs
- Water balance
- Switchyard expansion
- Coal combustion byproducts
- Emissions offsets
- Project schedule



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> October 26, 2004 Project No. 11656-001 Letter No. 11656-001-001

Ameren UE Rush Island Station

New Unit Study

Mr. Scott Plocher Ameren Services One Ameren Plaza 1901 Chouteau St. Louis, IL 63166-6149

Dear Mr. Plocher:

Enclosed are ten (10) copies of Report SL-008331, Conceptual Cost and Performance Study for Rush Island Unit 3, Rev. 1, dated October 25, 2004. Revision 1 incorporates Ameren's comments on the original report.

A .pdf file of Rev. 1 will be issued to Ameren in the near future.

Please let me know if you have further questions or comments on the report.

Yours very truly,

Thomas R. White

Project Director

TRW:sh

Enclosures

Copies:

R. C. Smith

M. Ratliff

M. Vacek

W. DePriest

T. Meehan

REPORT SL-008331

AMEREN UE RUSH ISLAND UNIT 3

CONCEPTUAL COST AND PERFORMANCE STUDY

Sargent & Lundy ***

55 East Monroe Street Chicago, IL 60603-5780

October 25, 2004, Revision 1 Project No. 11656-001

Ameren UE Rush Island Unit 3 Conceptual Cost and Performance Study

Sargent & Lundy...

SL-008331, Rev. 1 Project No. 11656-001 Date: October 25, 2004

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RUSH ISLAND – UNIT 3

CONCEPTUAL COST AND PERFORMANCE STUDY

APPROVAL PAGE

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