

A photograph of a wind turbine in a field, overlaid with a large, semi-transparent blue diamond shape. The background is a clear blue sky. The turbine is white and stands on a hillside. Other turbines are visible in the distance.

SUMMARY OF DECOMMISSIONING STUDY RESULTS

Bright Stalk Wind Farm

February 20, 2018

Introduction

▶ Study lead:

- Jeff Kopp, P.E. - Licensed in Illinois and Missouri
- 16+ years electric utility consulting experience
- Over 150 decommissioning estimates in multiple states, including IL
- Decommissioning estimates for various power generation technologies accepted by regulatory agencies in multiple jurisdictions

▶ Burns & McDonnell qualifications:

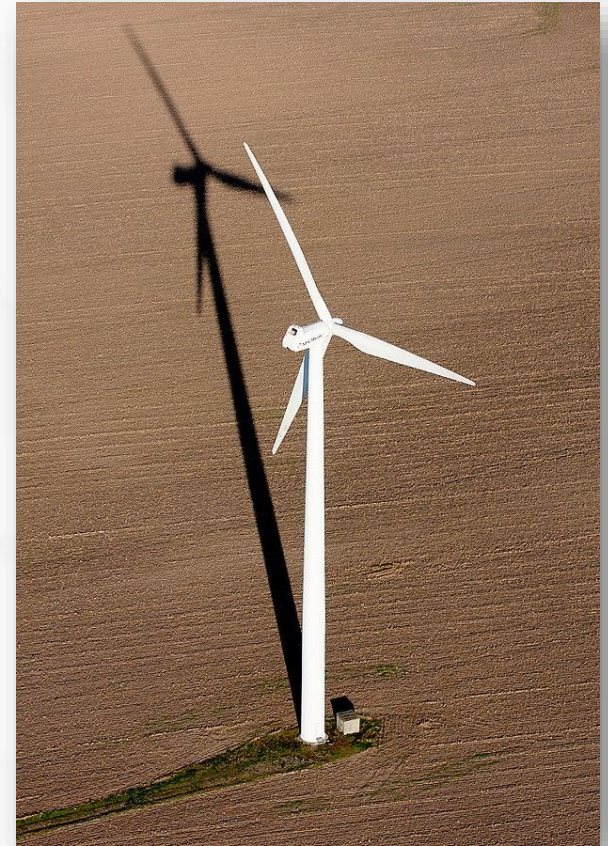
- Fully-integrated engineering, construction, environmental, & consulting firm
- Top ranked power and T&D firm in USA
- Perform over \$1 billion in construction annually
- Provide Owner's Engineer services for decommissioning

Decommissioning Study Methods/Tools

- ▶ Proprietary spreadsheet model
 - Labor
 - Equipment rental
 - Hauling
 - Disposal
 - Scrap
- ▶ Turbine component weight breakdowns from OEM data
 - Vestas V136 – 3.6 data from Vestas technical data sheets
- ▶ Discussions with demolition contractors
- ▶ RS Means Heavy Construction Cost Index
 - Costs are indexed to local markets to be site specific
- ▶ American Metal Market Report
 - Indexed to nearest trading hub
- ▶ Contacts with local companies
 - Landfills

Decommissioning Plan Overview

- ▶ All above grade equipment and structures will be removed
- ▶ All foundations less than 5 feet below grade will be removed
- ▶ All roads, crushed rock surfacing, other improvements removed
- ▶ All equipment is valued as scrap only



Decommissioning Cost Results

Direct Costs

Decommissioning & Demolition	\$8,032,000
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Owner Costs

Indirect Costs (5%)	\$401,600
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Contingency (10%)	\$803,200
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Credits

Scrap	-\$6,604,000
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Net Costs	\$2,632,800
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