

***PJM Generator Interconnection Request
Queue #037
Belle 46kV
Feasibility/Impact Study***

**360517
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Preface

The intent of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the feasibility study, but the actual allocation will be deferred until the impact study is performed.

The Feasibility Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

O37 Belle 46kV Feasibility Study

General

E.I duPont de Nemours & Co., Inc. proposes to participate in the PJM market with their existing 14 MW DuPont Belle Generating Plant via the American Electric Power Company transmission connection. The Belle generating plant consists of one extraction turbine generator with a nameplate rating of 14,563 KVA @ 0.75 power factor output @ 12 kV. It is located in Kanawha County, WV (Figure 1). It is connected to the AEP transmission system via the Belle 46 kV Station (Figure 2).

The intent of this feasibility study is to determine the impact of the DuPont Belle Plant participating in the PJM market and to determine any physical changes that would need to be made on AEP's transmission system.

Direct Connection

The DuPont Belle Plant is presently connected to the AEP transmission system via the Belle 46 kV Station. Its participation in the PJM market will not change the power flow pattern in the vicinity of the Belle Station. However, in order to accommodate DuPont's request to join the PJM market, additional metering facilities are required to properly monitor customer generation and load. These include:

- Belle Station: Upgrade the 46 kV metering for DuPont
Estimated Cost: \$ 91,800*
 - Belle Station: Install RTU for 13.8 kV metering for DuPont
Estimated Cost: \$ 158,100*
 - DuPont: Install 13.8 kV metering for DuPont generator
Estimated Cost: \$ 75,500*
- Total Estimated Direct Connection Cost:** \$ 325,400*

* The estimates are preliminary in nature, as they were determined without detailed engineering and design studies. Final estimates will require on-site review and coordination with the Interconnection Customer to determine final construction requirements. It will take approximately nine months after obtaining the authorization to construct the facilities as outlined above.

Network Impacts

The system was evaluated for compliance with reliability criteria. The results are summarized below.

Normal System

No problems identified.

Single Contingency

No problems identified.

Short Circuit Analysis

No problems identified.

Stability Analysis

Stability studies were not performed as it is an existing connection. No adverse affect is anticipated.

The DuPont Belle Plant is an existing generating facility connected to the AEP system. No problems were identified.

Figure 1

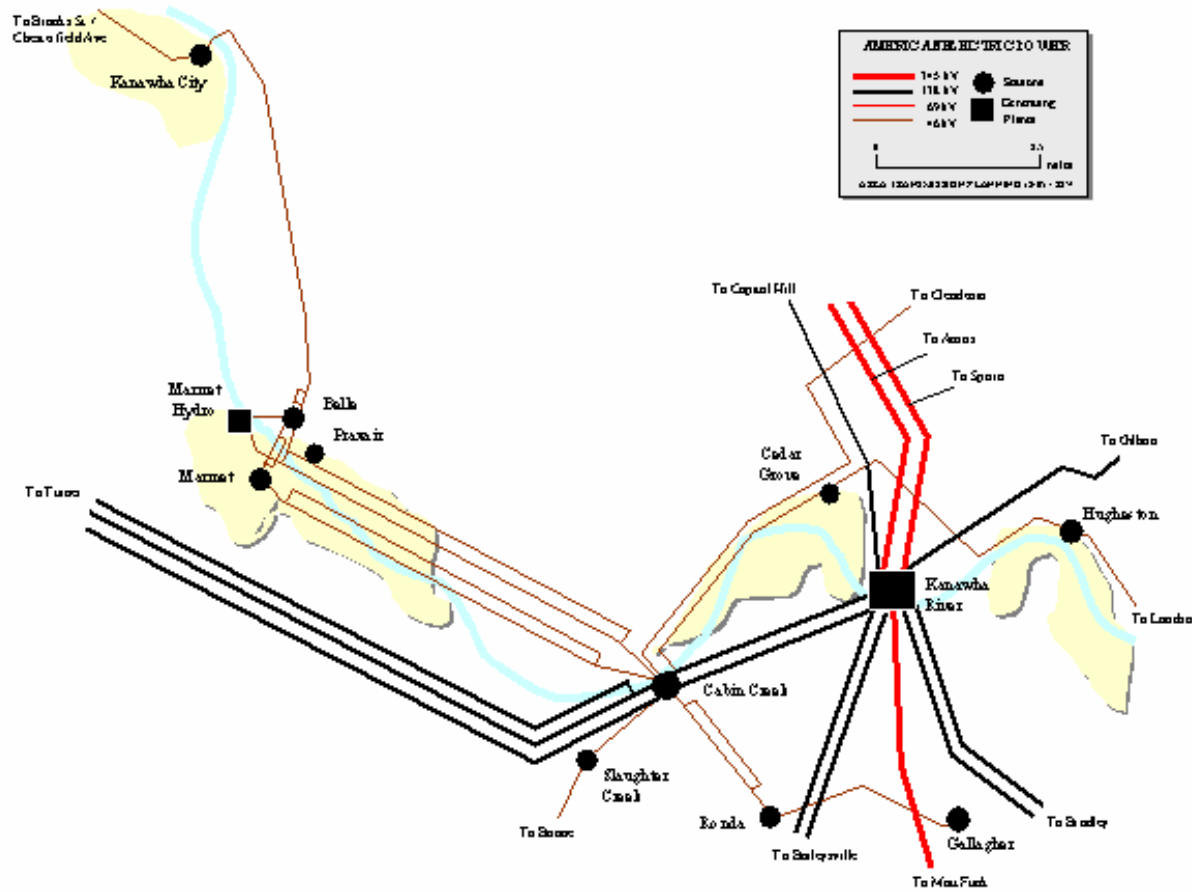


Figure 2

