

# Joint Best Value Planning White Paper

## August 7, 2006

### 1.0 Purpose

This paper defines the process and criteria that together constitute joint best value planning between ATC and its customers. Cooperative ATC/customer best value planning is essential to ensuring the most appropriate solution selection and implementation for end-use electric customers and other impacted stakeholders.

### 2.0 Background

Through ATC forming party and interconnection agreements, ATC and its customers have agreed to meet the needs of end-use customers through ATC transmission system investments determined to be the least-cost electric solution and evaluated in a non-discriminatory manner. This document discusses roles and responsibilities among ATC and its customers in satisfying this obligation via best value planning.

### 3.0 Reference

- ATC Load Interconnection Business Practice

### 4.0 Definitions

**Best Value Planning:** Through the use of the coordinated joint planning process, select an electrical solution that meets performance criteria, while minimizing overall rate impact to end-use customers, in a manner that addresses the concerns of the impacted stakeholders.

**LDC (Local Distribution Company):** An entity receiving transmission service from the ATC transmission system at a nominal voltage level  $\geq 50$  kV.

**RRO (Regional Reliability Organization):** The regional council that governs transmission system reliability planning and operating criteria.

**ERO (Electric Reliability Organization):** The successor to NERC that delegates compliance reliability efforts to the RROs.

**End-use customer:** The retail or wholesale customer served by the LDC.

**Initiator:** The entity that begins the planning process in order to meet its system needs. For network projects this will be ATC. For T-D interconnections, this will be the relevant LDC.

### 5.0 Process

Table 1 represents a summary of the best value planning process expectations.

**Table 1: Best Value Planning Summary**

<b><u>Best Value Planning</u></b>		
<b>Process Phase</b>	<b>Load Interconnection Projects</b>	<b>Transmission Network Projects</b>
Initiation	Planner-to-planner discussions Conceptual planning meetings Load interconnection request	Planner-to-planner discussions Quarterly planning meetings

	form (LIRF)	Asset modification form (AMF)
Evaluation	Solution screening meeting(s)	Alternative evaluation meeting(s)
Completion	Best value plan report—subset of the scope document	Best value plan report— subset of the scope document
Project Development	Scoping meeting(s)	Scoping meeting(s)
Commitment	PCA	PCA
Status Documentation	Load interconnection queue	ATC Ten Year Assessment

## 5.1 *Applicability*

While best value planning principles apply to every electrical system improvement, the affected party(ies) (ATC or the LDC) may completely defer selection of the best value alternative to the initiator where the impact on the affected party is insufficient to warrant participation in detailed cooperative best value analysis. In these cases the assumption will be that the project initiator has already determined the appropriate best value approach.

For projects that the project initiator anticipates will have a more significant impact on the affected party(ies), the initiator shall conduct cooperative best value planning with the affected party, considering in good faith all reasonable alternatives in a spectrum from distribution-only to transmission-only options.

### 5.1.1 **LDC Load Interconnection Projects**

LDC projects anticipated to have significant impacts on ATC generally include, but are not limited to, the following:

1. a new joint substation
2. transmission line extensions  $\geq 1$  mile
3. transmission network upgrades
4. substation expansion

### 5.1.2 **ATC Transmission Network Projects**

ATC projects anticipated to have significant impacts on LDCs generally include, but are not limited to, the following:

1. rebuilds of transmission lines with under build
2. transmission line voltage conversions
3. substation expansion

## 5.2 *Initiation and Evaluation*

Planner-to-planner discussion and project-specific conceptual planning meetings should take place as early as practical in the development of alternative solutions for any electrical system project that may have significant impact on other electrical utilities in the study area. The joint planning effort engages the potentially affected parties in properly representing and evaluating the factors pertinent to their work associated with alternatives studied.

### 5.2.1 **LDC Load Interconnection Projects**

ATC maintains the load interconnection queue as a common information reference to facilitate mutual understanding between ATC's capabilities and its customer needs. Since it is advantageous to manage all stakeholders' expectations clearly and consistently as early as possible in the planning effort, ATC can include projects (even pre-LIRF) in the queue as early as desired. Early discussion is especially important where LDC-initiated projects may require a significant lead time to put into service. Joint planning discussions are facilitated by several vehicles of communication between ATC and its customers (see 5.3 below).

### **5.2.2 ATC Transmission Network Projects**

ATC Planning prepares a Ten Year Assessment (TYA) every fall and updates it at the beginning of the following year. The project tables contained in the TYA serve as a means of identifying upcoming projects that ATC anticipates putting into service in the year indicated. A brief description of the project scope is given in these tables along with the project status, which is listed as planned, proposed or provisional. For the purposes of this discussion, proposed and provisional projects which are not yet thoroughly vetted are the most likely candidates for joint best value planning efforts between ATC and the affected parties. As these projects approach the needed start date for more detailed planning analysis, ATC will begin the best value planning process and, when warranted, will discuss in quarterly planning meetings and initiate specific project best value planning meetings with the affected parties.

### **5.3 Communication**

Cooperative best value planning requires frequent and open communication between ATC and its customers from the earliest stages of project conception to formalization of the selected best value solution via a project commitment agreement (PCA). Such joint planning will be most effective by making the best use of the following mechanisms and tools:

1. Personal ATC planner to customer planner discussions
2. Quarterly planning meetings between ATC and each of its shareholder customers
3. Monthly planning dialogues among ATC and its shareholder customers
4. ATC's 10-year assessment, published semi-annually
5. ATC's load interconnection queue posted to ATC's OASIS (<http://www.atcllc.com/O.shtml>)

### **5.4 Completion**

The culmination of joint best value planning will typically be a best value plan report. This report will provide details of the analysis performed and the alternatives that were studied (see Appendix A). It will be essential for preparing any necessary internal approvals and/or regulatory submittals and will form the basis for continued detailed scope development and ultimately the PCA between the initiator and the affected party. It will be expected to represent an agreed upon best alternative with sufficient details necessary to enable the affected party to make appropriate budget provisions in order to ultimately meet the initiator's projected in-service date.

## **6.0 Best Value Planning Criteria**

The criteria used in best value planning will vary for each study depending on the needs identified and the possible means identified to address those needs. The Best Value Planning Evaluation Table in Appendix B is meant to be used as a template for capturing the applicable criteria of both ATC and the LDC(s) during alternative evaluation discussions. This table can be used for either transmission driven network projects or distribution driven load interconnection projects.

Transmission system performance criteria are governed by the applicable RRO and ultimately by ERO. These requirements will become mandatory in the near future with fines for violation. Thus, transmission system performance criteria is considered firm making it a high priority for any joint best value planning analysis. If a transmission system network project cannot be placed in service in time to avoid violations, other means will be employed including operating guides and restrictions and uneconomic redispatch to relieve the problem until the project can be implemented.

Distribution system planning and performance criteria are governed by applicable state statutes and are typically restricted to point of use voltage requirements. Reliability indices are often used for distribution utility corporate targets for good customer relations and acceptable system performance metrics. No external penalties exist for failure to meet these reliability criteria, but LDCs typically hold themselves to a reasonable level of service to meet their customers' needs and to attract development in their service territory.

# Appendix A

## Best Value Planning Report Guide

- **Introduction**

Describe the electrical system and how the system serves the study area. Other general comments can be added in this section, such as relevant historical information, load growth rates, generator dispatch and recent developments, nature of the area electrical load demands, etc.

- **Project Need**

- System normal conditions—describe any problems on the electrical system with all elements in service, if applicable. A table or a diagram can be included showing the in-tact system with voltages and element loadings.
- System Contingency Conditions
  - 1) Describe planning criteria violated
  - 2) Cause of the system problem(s)—contingencies, outage(s) of line(s), transformer(s), etc.
- System Concerns—other reliability issues such as:
  - 1) Extraordinary needs. For example, “Area loads require more secure power supplies due to severe cost impacts for long term outages.” OR “Area residents face extreme conditions when this outage occurs, because there are no bridging capabilities on the distribution system.”
  - 2) Relevant outage statistics on poor performing lines or substations
  - 3) Electrical system upgrade needs (operating or maintenance concerns with the existing equipment).
  - 4) Other reliability issues.

- **Project Alternative**

The project alternative section includes the following:

1. Description of each alternative considered
2. Performance discussion and tabular evaluation of each alternative
3. Cost estimates for each alternative (including transmission and distribution costs)
4. Economic evaluation of each alternative on a time comparative basis

At least one reasonable **distribution/transmission ONLY alternative should be listed**. If a reasonable distribution/transmission-only alternative does not exist please describe in detail the reasons for this conclusion.

- **Analysis Location of new substation or transmission line site**

If more than one substation or transmission line route was considered please discuss the following:

- 1) Why this is the preferred site/route
- 2) What alternative sites/routes you examined
- 3) Why those are not the preferred site/route

- **Conclusion / Recommendation**

Conclusion and recommendation should be stated here. A final summary of the reasons for choosing the preferred alternative can also be given here.

## Appendix B

### Best Value Planning Evaluation Matrix

Planning Problem / Issue Description	Option 1	Option 2	Option 3	Option 4	Option 5	Comments
<b>Distribution System Criteria*</b>						
Distribution Normal Capacity						
Distribution Normal Voltage Support						
Distribution Contingency Capacity						
Distribution Contingency Voltage Support						
Contingency Loss of Substation or transformer						
Contingency Loss of Feeder						
Outage Frequency/Exposure						
Fault Current Impacts on Distribution Facilities due to Transmission system changes						
Motor Starting						
OC Protection Coordination						
Real Estate Risks for Land purchase for Substation						
Constructability						
Distribution Underbuild Impact						
<b>Transmission System Criteria*</b>						
Normal Voltage						
Normal Loading						
Contingency Voltage						
Contingency Loading						
Real Estate Risks						
Constructability						
New Transmission Line ROW (miles)						
Environmental Impacts						
Aesthetic Impacts						
Flexibility for Additional Load Growth						
Regulatory Impacts CPCN/CA						
<b>Financial Criteria*</b>						
Total Loss Savings/ Penalties						Choose one option as the base
Transmission Capital Cost						
Distribution Capital Cost						
Total Capital Cost						
Schedule Risk						
O&M Cost						
Total PVRR						

**Key to Ratings (Score)**  
 +++ Excellent    ++ Good    + Acceptable  
 - Marginal    -- Poor    --- Unacceptable

\* To use the table simply make a copy into a new document and revise the table accordingly. To add or remove columns, first delete the description rows, "Distribution System Criteria," "Transmission System Criteria" and "Financial Criteria." These rows can be reinserted afterward.