

### **AEP Proposal Explanation:**

The AEP flow base method is divided into a two-step process. The first step is to identify the reliability benefits of a project such as; improved voltage profile, thermal overloads corrected, transient stability, etc. Conventional load flow tools are used to determine the benefit by looking at the case before the improvement and then looking at the case after the improvement and determine which projects can be eliminated or deferred. Columns D and J provide an estimate of the reliability benefits in the zone and neighboring zones of the upgrade.

The second step requires the use of an hourly model such as GE MAPS, PROMOD, or Marketsym. A base case is run without the project and then it is compared to the case with the project. SPP calculated the economic benefit using Marketsym. For this Marketsym run a typical week was used to represent a month and only the odd hours were used in order to shorten the runtime. SPP performed the runs on 3 separate months during the summer. The area load weighed Nodal Price times the load was calculated for each hour. Since not all hours and weeks were calculated the values were grossed up to account for the missing time. The cost difference in the two cases were calculated and listed in the table under the 230 kV project and Northwest Arkansas.

The combination of benefits under the reliability and economic analysis was aggregated. A pro-rata allocation was then used to allocate costs of the proposed facilities.