SPP RE

Report on Cost Assignment for UFLS Study

January 17, 2010

At our October 2009 Trustee meeting a question was raised about the cost assignment for a study being conducted regarding SPP's UFLS program and whether the RE should pay a portion of the costs.

Below is an excerpt from the study request:

> SPP contracted Powertech Labs to carry out the assessment and evaluation of the SPP's UFLS (automatic Under Frequency Load Shedding) program in 2001 & 2006. These studies showed that SPP's UFLS program was in compliance with SPP's Criteria 7.3 at the time. The goal of this project is to carry out a similar study to confirm that SPP is still in compliance with the latest SPP under-frequency load shedding program with an addition of three entities in Nebraska in the SPP footprint with the purpose of "developing, coordinating, and documenting requirements for UFLS programs to arrest declining frequency and assist recovery of frequency following underfrequency events".
>
> This project therefore should address the following objectives:

(a) To review the existing SPP's under-frequency relay data and update the dynamic data to be used for the simulation of UFLS assessment

(b) To conduct selected simulations on the SPP power system to determine if the SPP UFLS program is still in compliance with SPP Criteria 7.3

(c) To determine if the SPP system remains stable if up to 45% of SPP load is shed under the worst simulated scenario (generation loss)

(d) To recommend modifications to the SPP UFLS scheme if deemed necessary (e.g. additional islands, different load steps etc)

(e) To identify any possible gaps with the proposed SPP's UFLS Standard requirements (PRC-006-SPP-01) and suggest any modifications to the UFLS program if necessary

(f) Conduct a sensitivity analysis based on the reduced load in the model that is not required to be registered under SPP's Regional Entity footprint

(g) To provide documentation detailing the results and recommendations of the study

(h) To determine if an undervoltage inhibit setting of no greater than 85 percent of nominal voltage will have an adverse impact on the UFLS program

Since a portion of the study will be associated with the UFLS regional standard development, the RE will pay for a portion of the study.