

## **“Study Horsepower” Improvement Plan**

Most of the discussion about “study horsepower” in the stakeholder committees has been related to the need to perform various dynamic simulation studies. In response, ERCOT has increased internal staffing devoted to this type of study and is in process of outsourcing two of the major, near-term tasks.

ERCOT has added a supervisor in System Planning specifically to focus on, and be responsible for, dynamic simulation studies. Three additional staff positions have also been added, reporting to this supervisor, for a total of five performing this type of analysis. All three of these additional positions have now been filled, with advanced-degree graduates.

In addition, ERCOT has issued an RFP, and is in the process of selecting a vendor, to perform two of the major, near-term tasks: the verification of wind farm modeling and data, and the voltage ride-through study.

In other engineering study areas, ERCOT has been successful in hiring entry-level candidates to fill most of the existing openings and three recently-created positions, and this approach has begun to bear fruit in terms of increased study throughput. Planning currently has five openings out of thirty-eight positions. One remaining concern is that two of the Supervisor positions that were created in order to provide closer guidance to the many entry-level staff are still unfilled. HR has taken the additional step of working with contingency recruitment firms to attempt to fill these positions.

The table below shows the plan for accomplishing each of the identified studies in this area.

	<b>Study Requirement</b>	<b>Plan</b>	<b>Funding</b>	<b>Responsible</b>
1	Update W>N Stability for Oklaunion PSS in Service	Done	Internal Work	Dumas
2	Annual update of W>N Stability Matrix	In process; 2-3 months	Internal Work	Dumas
3	Phase II of LaaRs Study (at 2300MW)	This follow-up study will be run by ERCOT for DWG	Internal Work	Conto
4	Wind Farm Data Improvement	To be accomplished as part of VRT Study. Issued RFP and in process of contracting with vendor	In Planning OSS budget for 2009	Conto
5	VRT Study	To be accomplished as part of VRT Study. Issued RFP and in process of contracting with vendor	In Planning OSS budget for 2009	Conto
6	PSS Tuning to	Would use W>N Stability Matrix	TBD	TBD once

	Improve W>N Stability	Update as basis, so that study has to be completed first		W>N Stability Matrix update is complete
7	CREZ Voltage Management Plan (sizing and placement of reactive devices and development of procedures)	ERCOT is working with CREZ TSPs to develop scope for an RFP, which ERCOT would issue; ERCOT will oversee work done under the RFP with TSP input and funding	CREZ TSPs are willing to fund and ERCOT is developing mechanism	Lasher
8	Inertia Study with High Wind Penetration	Will follow Phase II of VRT Study (wind modeling improvements)	Will either be done with internal resources or budgeted in outside services for 2010	Conto
9	Annual Voltage and Transient Contingency Analysis	Annual work	Internal Work	Conto

There has also been a question regarding the costs to ERCOT of performing generation interconnection studies. The current fee for the interconnection screening study is \$1000-5000 depending on the expected size of the new generating unit. The analysis shown in the table below was included in the ERCOT fee filing from 2007, with the intent of increasing the fee for performing generation interconnection screening studies. In summary, the current fee charged for this activity is less than the cost of performing the activity but is significantly less than what ERCOT would be charged if ERCOT's obligation to perform those studies was outsourced.

Per Interconnect	Hours		Cost			
	Sum		Contractor @180/hr		Sr Eng @45/hr	
Interconnect Size	>= 150 MW	<150 MW	>= 150 MW	<150 MW	>= 150 MW	<150 MW
Labor Total	112.05	87.55	\$20,669.00	\$16,259.00	\$7,206.19	\$5,739.87
Facilities Charge			784.35	612.85	784.35	612.85
IT Support Charge			72.83	56.91	350.16	273.59
Management Overhead (average \$75/hour)	28	22	\$2,793.00	\$2,194.50	\$2,793.00	\$2,194.50
Sub Total			\$24,319.18	\$19,123.26	\$11,133.70	\$8,820.81
Administrative Support			\$651.77	\$510.86	\$256.21	\$201.78
Grand Total			\$24,970.95	\$19,634.11	\$11,389.90	\$9,022.59