Operating Guides Revision Request

OGRR Number		OGRR Title	Disturbance Monitoring Requirements Clarification
Date Posted	November 20, 2009		

Operating Guides (OG) Section(s) Requiring Revision (Include Section No. and Title)	7.1.2.3, 7.1.2.4
Protocol Section(s) Requiring Revision, if any	None.
Requested Resolution (Normal or Urgent, and justification for Urgent status)	Normal
Revision Description	This Operating Guide Revision Request (OGRR) changes the recording and reporting requirements.
Reason for Revision	The System Protection Working Group (SPWG) prefers that the fault data recording requirements allow for calculated electrical quantities, which are used in modern protection system equipment and can be determined by modern fault analysis software. Second, recording requirements for autotransformers should allow for monitoring of either high voltage or low voltage terminals. Finally, the SPWG prefers that specification in the fault reporting template, of the recorded time standard (such as CST or UTC), replace the requirement of CST recording requirements.
Overall Market Benefit	The suggested recording and reporting modifications will clarify fault recording requirements and improve the ability of ERCOT, Transmission Service Providers, and Resource Entities to determine and implement compliant fault recording equipment.
Overall Market Impact	None.
Consumer Impact	None.

Quantitative Impacts and Benefits

Instructions: To allow for comprehensive OGRR consideration and development of the Cost Benefit Analysis (CBA), please fill out each block below **completely and provide as much detailed information as possible.** Wherever possible, please include reasons, explanations, and cost/benefit analyses pertaining to this OGRR.

Assumptions	1	*e.g.: Key assumptions used in estimating market cost and/or benefit*	
	2	*Dependencies on other projects or other timing requirements*	
	3		
	4		
Market Cost		**Impact Area**	**Monetary Impact**
	1	*e.g.: Cost per MP to implement*	*e.g.: $10,000 each for 50 QSEs*
	2	*Add'l staff required per MP*	*1.5 FTE each for 6 TDSPs @ $65/hour*

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	3		
	4		
Market Benefit		**Impact Area**	**Monetary Impact**
	1	*Improvement of Transmission Service Providers' and Resource Entities' ability to successfully comply with listed recording requirements.*	
	2		
	3		
	4		
Additional Qualitative Information	1	*None.*	
	2		
	3		
	4		
Other Comments	1	*None.*	
	2		
	3		
	4		

Sponsor	
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Proposed Guide Language Revision

Instructions: **Guidelines and helpful hints may be found at the following link: http://www.ercot.com/mktrules/protocols/index.html.**

Please remember the following:

- **Use the most current version of the Guide language, which is available on the ERCOT website.**

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- **Show original Guide baseline language in black.**
- **Present the entire titled (sub) section as the baseline – not just the paragraphs subject to revision.**
- **Make all revisions in redlined format (using "Track Changes"). Be sure to change the user name to the appropriate individual or company name. Do NOT show revisions by changing font color or font strikethrough.**
- **Use highlighting when inserting non-Guide language comments (like questions) into Guide language.**
- **Be sure proposed changes are reflected in both boxed and unboxed sections, if appropriate.**

Insert proposed Guide language here.

7.1.2.3 Data Recording Requirements

For equipment operating at 100kV or above at facilities where fault recording equipment is required, recorded electrical quantities shall be sufficient to determine the following:

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a. Two sets of voltages for breaker-and-a-half and ring bus substation configurations. One set of voltages for each bus in other substation configurations. A set of voltages shall consist of each phase voltage waveform.

Deleted: and the residual voltage waveform

b. For all lines, neutral (residual) current waveform.

c. Circuit breaker status.

d. Circuit breaker trip circuit status.

e. Date and time stamp.

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For all new or upgraded fault recorder installations, recorded electrical quantities shall be sufficient to determine the following additional items:

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f. For all autotransformers, high or low voltage terminal current waveform for three phases and either neutral / residual current waveform or current waveform in delta windings.

g. For all lines, two phase current waveforms.

h. Status – carrier transmitter control, i.e. start, stop, keying.

i. Status – carrier received.

7.1.2.4 Data Retention and Reporting Requirements

The Facility Owner shall store all recorded fault data for at least a two year period. This data shall be stored in the form of a computer file or files.

Facility Owners shall provide fault recordings to ERCOT or NERC upon their request, within five Business Days, along with channel identification and scaling information to allow analysis of the recordings. Fault recordings shall be shared between Facility Owners, upon their request, for the analysis of system disturbances.

Data submissions shall be COMTRADE fault recordings (.cfg and .dat files) and one or more identification files that associate the COMTRADE recordings with system disturbances and ERCOT short circuit database bus numbers. The identification file shall be a Microsoft Excel spreadsheet or comma delimited ASCII text that can be read into a Microsoft Excel spreadsheet. For this file, the data fields to be reported for each record, in the following order, are:

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REPORTING ENTITY

Faulted Circuit	**Circuit or Bus (1, 2, A, B, N, S, etc.)**
From Bus (ERCOT short circuit database bus number)	
	To Bus (ERCOT short circuit database bus number)
Nominal Voltage of Faulted Branch or Bus (kV)	
Physical Fault Location in Percent from "From Bus" (if physical location found, i.e. not calculated location)	
Time Zone (CST, UTC, etc.)	Date (MM/DD/YYYY)
	Time (HH:MM:SS, 24 hour format)
	Cause Code
Fault Recorder Data	**Circuit (1, 2, A, B, N, S, etc.)**
From Bus – Recorder Location (ERCOT short circuit database bus number)	
	To Bus – Monitored branch (ERCOT short circuit database bus number)
	Nominal Voltage of Monitored Branch (kV)
	Measured Current Magnitude (primary value in RMS amperes)
	Recorded Fault Duration (cycles)
	Fault Type (using reporting entity's phase designations – AB, CG, etc.)
Optional Comments (40 char. max.)	

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When multiple recordings exist for a single event, data from the best recording (usually the closest recorder) is required.

ERCOT shall compile a summary list of all available 345 kV fault recordings annually based on each Facility Owner's submitted data. This summary shall contain for each recording the date, time, fault recorder owner, fault recorder location, the primary system element recorded, and an optional use comment field. This summary shall be available to any ERCOT Member upon their request. Record summaries will be retained by ERCOT for a minimum of three years.