ALR6-11 Automatic AC Transmission Outages Initiated by Failed Protection System Equipment						
Metric Number	ALR6-11					
Submittal Date	March 31, 2010					
Sponsor Group (OC, PC or subgroup name)	NERC					
Short Title	AC Transmission Outages - Failed Protection System Equipment					
Metric Description	Normalized count (on a per circuit basis) of 200kV and above AC Transmission Element outages (i.e. TADS momentary and sustained Automatic Outages) that were initiated by Failed Protection System Equipment. This metric will use the TADS data and definition of *Failed Protection System Equipment. Transmission Elements* in this metric includes AC Circuits and Transformers. This metric includes protection system equipment-related problems such as equipment failure, relay setting drifting, and internal relay logic or algorithm errors, and excludes misoperation causes such as miscoordinated settings, incorrect setting calculations, and errors in applying settings to the relay which are classified in TADS under human errors.					
Purpose	The purpose of this metric is to gauge Failed Protection System Equipment as one of many factors in the performance of AC transmission system Automatic Outages.					
How will it be suited to indicate performance?	The normalized count provides an indication of the relative protection system equipment performance, specifically the AC Transmission Element outage rate for momentary and sustained outages initiated by Failed Protection System Equipment. Failed Protection System Equipment is one of the highest causes for initiating automatic transmission system outages.					
Formula	Automatic AC Outages initiated by Failed Protection System Equipment = Number of Momentary and Sustained Automatic AC Element Outages initiated by Failed Protection System Equipment / Total Number of AC Elements (AC Circuits or Transformers). For example on a NERC-wide basis the 2008 calculation = 182 / (6653 AC Circuits) = 0.0274 outages per circuit. (Preliminary 2009 calculation = 154 / (6805.7 AC Circuits) = 0.0226 outages per circuit).					
Metric Start Time or Baseline	Year 2008 and 2009 TADS data initially and eventually on a 5 year rolling average.					
Time Horizon	Historical time frame					
Data Collection Interval and Roll Up	The TADS data provides the total number of automatic transmission system outages and the number of outages initiated by failed protection system equipment[1] for 200 kV and above.					
Ease of Collection	Data is already being collected via the NERC TADS process.					
Aggregation	Results could be presented by normalized counts on a Regional Entity basis, Interconnection basis, or NERC wide basis.					
Linkage to NERC Standard	None					
Linkage to Data Source	The NERC TADS definitions and data.					
Need for Validation or Pilot	No, the data and results are already being reported via the TADS process.					
Data Submitting Entity	Transmission Owners via TADS procedures.					
SMART Rating	Total Score	Specific/ Simple	Measurable	Attainable	Relevant	Tangible/ Timely
	14	3	3	3	3	2
Reporting						

[1] TADS Data Reporting Instruction Manual can be viewed at http://www.nerc.com/docs/pc/tadstf/Ph_I_Data_Reporting_Instr_Manual_112108.pdf.

Style (look and feel)	Bar charts
Publications and Documentation	The statistics needed to compute this ALR metric are currently shown in the TADS reports. This metric may be included in the annual NERC LTRA report, at the discretion of the NERC Planning Committee.