

**WAC 480-100-358 Instrument transformers.** (1) Instrument transformers used in conjunction with metering equipment to measure customers' service must:

(a) Be in proper mechanical condition and have electrical insulation satisfactory for the service in which they are used; and

(b) Have characteristics such that the combined inaccuracies of all transformers supplying one or more meters in a given installation will not exceed the following:

100% Power Factor		50% Power Factor	
10% Current	100% Current	10% Current	100% Current
1.5% error	0.75% error	3.0% error	2.0% error

(2) Meters used in conjunction with instrument transformers must be adjusted so that the overall accuracy of the meter installation (including both meter and instrument transformers) will meet the requirements specified in WAC 480-100-338, Accuracy requirements for electric meters. Instrument transformers may be tested with the meter with which they are associated, or separately. Except as provided in these rules, if transformers are tested separately, meters must also be tested to assure that the overall installation meets the prescribed accuracy requirements.

(3) Adjustment of the meter to correct instrument accuracy errors is not necessary when instrument transformers with the following accuracy characteristics are used:

(a) **Instrument current transformers.** The combined effect of ratio error and phase angle on the accuracy of the meter at any load power factor from sixty percent lagging to unity does not exceed six-tenths of one percent at ten percent rated current, or three-tenths of one percent at approximately one hundred percent rated current;

(b) **Instrument potential transformers.** The combined effect of ratio error and phase angle on the accuracy of the meter from ninety percent rated voltage to one hundred ten percent rated voltage, at any load power factor from sixty percent lagging to unity, does not exceed three-tenths of one percent.

(4) Electric utilities must keep instrument transformer test results on record and available for use when transformers are installed.

(5) Phase shifting transformers must have secondary voltages that are within plus or minus one percent of the voltage impressed on primary terminals, when tested under balanced line voltage conditions.

[Statutory Authority: RCW 80.01.040 and 80.04.160. WSR 01-11-004 (Docket No. UE-990473, General Order No. R-482), § 480-100-358, filed 5/3/01, effective 6/3/01.]