



Apprentice Name: _____

Step 2 - Apprentice Substation Technician Job Competency / Demonstration Form

COMPETENCIES/SKILLS		RATING		
		Please circle		
#1	List the main parts of a power transformer.	1	2	3
#2	Explain how a power transformer fulfills the requirements for electromagnetic induction.	1	2	3
#3	Recognize and identify power transformers.	1	2	3
#4	Recognize, identify and discuss different types of current transformers.	1	2	3
#5	Describe the purpose of power transformer cooling systems.	1	2	3
#6	Recognize and identify a <u>self-cooled</u> power transformer, and briefly describe how the cooling systems works.	1	2	3
#7	Recognize and identify a self-cooled, <u>forced air-cooled</u> , power transformer and describe how cooling system works.	1	2	3
#8	Identify and describe the functions of temperature gauges and level gauges on a power transformer.	1	2	3
#9	State the purpose of a power transformer sealing system.	1	2	3
#10	Recognize and identify a <u>gas-sealed</u> power transformer, and briefly describe how the sealing system works.	1	2	3
#11	Recognize and identify a <u>conservatory-type sealed</u> power transformer and briefly describe how the sealing system works.	1	2	3
#12	List the typical items checked during an inspection of a transformer's exterior condition.	1	2	3
#13	List the typical items checked during an inspection of a transformer's sealing system.	1	2	3
#14	List the typical items checked during an inspection of a transformer's cooling system.	1	2	3
#15	Explain what a power transformer tap changer is.	1	2	3
#16	State the function of a <u>no-load tap changer</u> and describe how it works.	1	2	3
#17	State the function of a <u>load tap changer</u> (LTC) and describe how it works.	1	2	3
#18	Explain the importance of an annual oil testing program and dissolved gas analysis testing.	1	2	3
#19	Explain the principle of turns ratio testing.	1	2	3
#20	Identify the components of a typical turns ratio test set and describe the function of each component.	1	2	3
#21	Identify the connections for testing the turns ratio of a delta wye power transformer.	1	2	3
#22	Describe the safety precautions that are commonly observed during turns ratio testing.	1	2	3
#23	State the function of transformer oil.	1	2	3
#24	Identify common factors that cause transformer oil to deteriorate.	1	2	3
#25	Describe the purpose of the dielectric breakdown strength test (D1816).	1	2	3
#26	Ability to follow directions.	1	2	3
#27	Positive attitude toward work and others.	1	2	3

RATINGS:

1. Exceeds Expectations
2. Meets Expectations
3. Needs Improvement

COMMENTS/REMARKS
<p>I find this apprentice competent in the skills listed above and ready to advance to the next level.</p> <p>Supervisor's signature: _____ Date: _____</p>