

Energy Management Consultants

2017 - Electrical Testing Matrix (for time based testing programs)

Legend

D = Diagnostic
Q = Quarterly
S = Semi Annual
M = Monitor
A = Annual
B = 2 Years
C = 3 Years
E = 5 Years

	<i>ON LINE</i>								
	<i>OFF LINE</i>								
	Visual/Corona Test	Check Oil Level - Sample	Infrared Inspection	Visual Inspection	Calibration/Functional Test	Inspect, Clean, Re-torque	Insulation Resistance (Megger)	Dielectric Over-potential (Hi Pot)	Micro-Ohm (Ductor)

Source									
Cable									
Med. Voltage (5 kV)	S		A	C		E	C	D	E
Med. Voltage (15 kV)	S		A	C		E	C	D	E
Disconnects (All)	Q		A	C		E	E	D	E
Surge Arrestors	S		A	C		E	E	D	
Protective Relays	A		A	A	A	A			
Outdoor Circuit Breakers	A	A	A	E	E	E	E	D	E
Grounds	A		A	E		C			E
Oil Filled Transformers									
Station Class *	Q	A/M	S	A	A	A	A	D	C
Pad Mount *	Q	A	S	A		A	A	D	C
Pole Type *	Q	A	S	A		A	A	D	C
Dry Type Transformers									
> 500kVA	S		S	A		B	B	D	A
< 500 kVA	A		A	C		C	C		C
Circuit Breakers									
3P Molded Case	A		A	C	C	C	C		C
Air Draw Out	A		A	B	B	B	B	D	C
Oil Filled *	A		A	C	C	C	C	D	C

* Note: All Oil Filled Devices should have Minimum Oil Testing on Annual Basis to include Dielectric (D877), Interfacial Tension (D971), Neutralization Number (D974), Water Content (D1533) & Visual (D2129).
If high flash point liquid is installed, use appropriate test.

1. Should any two of the above oil tests prove negative, a Gas-In-Oil analysis is recommended. Transformers 500 kVA and above should have a Megger & Turns Ratio Test Performed @ 5 year intervals by a certified testing company.
2. Additional required maintenance should be performed according to manufacturer's specifications.
3. References: NETA MTS-2015, NFPA 70B, 2015 Factory Mutual Guidelines, GE Maintenance Hints.