

Condition Assessment Manual

Exciter Inspection Form and Checklist



Revision 1.0, 1/17/2012

Prepared by

MESA ASSOCIATES, INC.
Chattanooga, TN 37402

And

OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee 37831-6283
managed by
UT-BATTELLE, LLC
for the
U.S. DEPARTMENT OF ENERGY
under contract DE-AC05-00OR22725

Exciter – Information Form

General Information:

Date of Site Visit: _____ Unit No. _____

Plant name: _____

Source/s of data: _____

Generator SNL Field Current: _____

Generator Rated Load Field Current: _____

Main Exciter

Rating: _____

Voltage: _____

Age: _____

Type Drive: _____

General Description (IEEE 421.5 Model No. if known):

Summary Failure History/Maintenance History / Major Repairs Description:

Installed Instrumentation/Monitoring:

Power Potential Transformer

Rating: _____ Primary Voltage: _____ Secondary Voltage: _____

Winding Configuration: _____

Indoor/Outdoor: _____

Installed Instrumentation/Monitoring: _____

Power Systems Stabilizer: (yes/no) _____

Pilot Exciter

Rating: _____ Voltage: _____

Voltage Regulator

Manufacturer: _____

Type/Model: _____

General Description: _____

Installed Instrumentation/Monitoring: _____

Alternative Power Source Data: (description and ratings)

Exciter Check List				
Topic	Yes	No	N/A	Comments/Details
Maintenance & Major Repair History				
Commutator and Riser Maintenance				
Field Pole Repairs/Reinsulation				
Collector Ring Resurfacing				
Brush Holder Replacement				
Breaker Maintenance (AC Supply and/or DC Field)				
Electronic Regulator Components				
Motor Operated Adjusters/Rheostats				
Auxiliary Component Issues (fans, sensors, etc.)				

HAP – Condition Assessment Manual – Exciter Inspection Form and Checklist

Topic	Yes	No	N/A	Comments/Details
Equipment Condition Assessment				
Do current electrical visual inspection results show evidence of collector ring pitting, scoring, or discoloration?				
Do electrical rotor test result trends indicate marginal insulation integrity?				
Is there evidence of excessive carbon dust, oil or other contamination in the exciter housing?				
Does on-line temperature information indicate any exciter overheating?				

For overall questions
please contact:

Brennan T. Smith, Ph.D., P.E.
Water Power Program Manager
Oak Ridge National Laboratory
865-241-5160
smithbt@ornl.gov

or

Qin Fen (Katherine) Zhang, Ph. D., P.E.
Hydropower Engineer
Oak Ridge National Laboratory
865-576-2921
zhangq1@ornl.gov