

## Advanced Turbine Support

### General Electric 7FA: Dovetail cracking on the standard R-0 blades.

#### PURPOSE

This update is intended to inform users of a new crack area on the R-0 blades that will not show up using only shear wave or phased array testing.

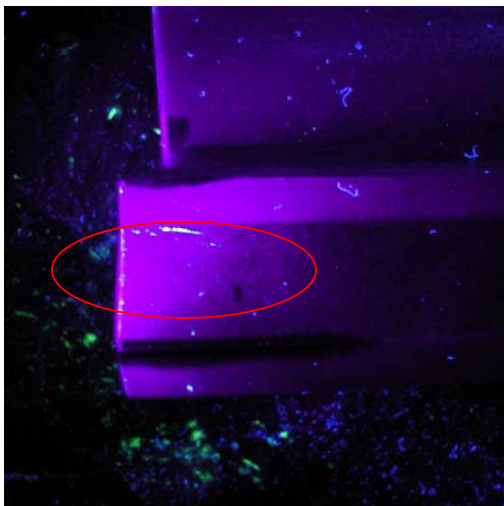
**UNIT TYPE** MS7001FA

#### HISTORY

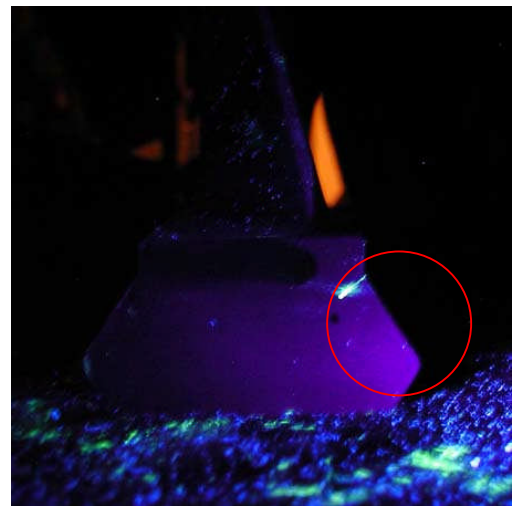
We inspected a set of R-0 blades that were removed from a unit after GE identified cracks on three blades. The phased array testing confirmed the earlier cracks detected by the GE inspector. A subsequent FPI (Fluorescent Penetrant Test) was performed on the blades to determine their suitability for possible re-use. The FPI identified a fourth blade with a significant crack in an area that would not be accessible using shear wave or phased array testing.

#### RECOMMENDATION

Perform a phased array ultrasonic inspection of the R-0 and R-1 blade platforms as soon as possible. This testing should be supplemented with straight beam testing to identify cracks in the new failure location. Any testing done prior to September 28<sup>th</sup> should be repeated using this new testing method. Any testing done after this date by Advanced Turbine Support, Inc. has incorporated the new testing and does not need to be repeated until the next scheduled inspection cycle. FPI is not required if using the updated UT inspection.



This photograph shows a crack on the pressure side, trailing edge platform area on the stage R-0 rotor blade # 10 seen with a black light.



This photograph shows a crack on the aft side of the stage R-0 rotor blade # 10 seen with a black light.