

# EL CID EVOLUTION

**EL CID**  
**EVOLUTION**

The next generation in EL CID technology

***Faster***  
***Easier***  
***Better***



# EL CID Evolution Faster, Easier, Better...

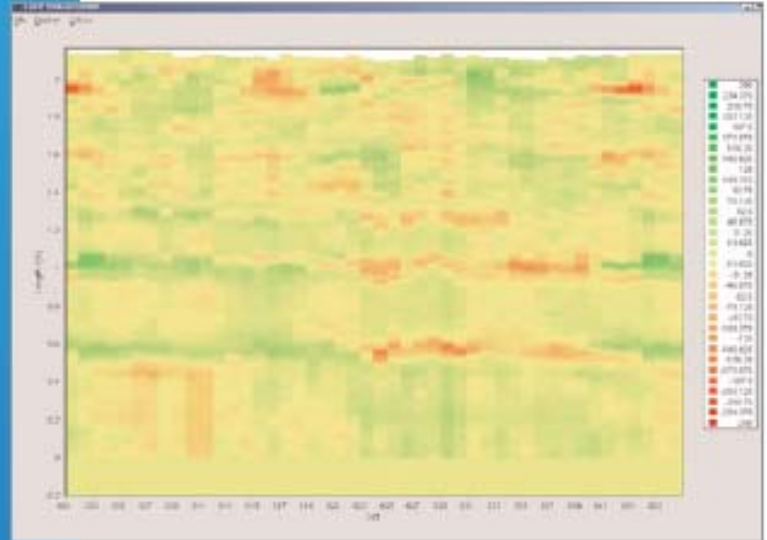
## STATOR CORE FAULT DETECTION

Electromagnetic Core Imperfection Detection (ELCID) Testing is accepted world-wide for reliable and safe detection of stator core inter-laminar faults (CIGRE, 2004).

Since the May 2007 merger of ADWEL and IRIS Power, the EL CID Evolution is now available from Iris Power.

Originally developed by the CEGB in England, the ELCID Evolution is the third generation of this reliable, easy to use, stator core test equipment. EL CID Evolution tests the condition of a stator core in **less time** and with **lower costs** than earlier ELCID models.

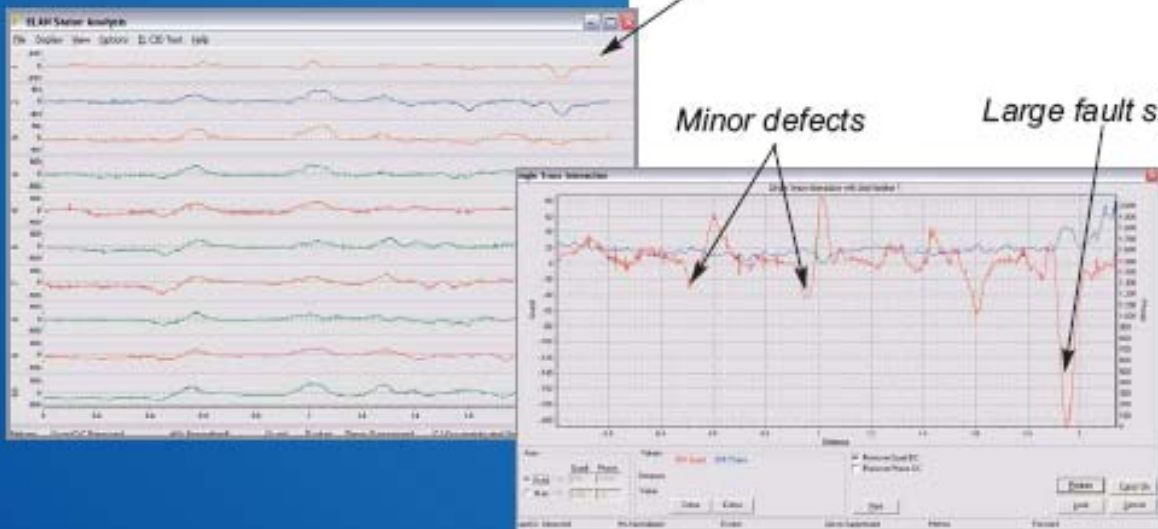
The ELCID test may be equally applied to turbo-generators, hydro-generators and large motors.



Core Visualization Screen showing "hot spots"

## TEST RESULTS

Graph of inter-laminar current vs. core length



## NEW AND IMPROVED FEATURES

- **Faster** test scanning  
(up to 120 mm/sec at 60Hz)
- **Easier** excitation calculations
- **Simpler** testing with dual Chattocks
- User-friendly LCD display to guide user operation
- Combine step-iron data with main core traces
- Easily identify "hot spots" via color map display
- Fully compatible with existing data

### ADVANTAGES

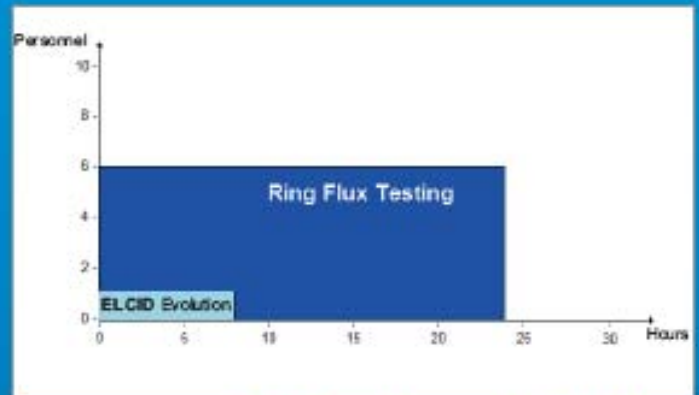
- Tests are repeatable
- Immediate test results are available for local analysis and email
- Determines if defects are on the surface, under conductors, or sub-surface
- Tests with or without windings
- Better detects buried faults
- Partial retests of core are possible, with ability to merge results to obtain a complete picture of the core condition
- Trending of previous results
- Excellent quality assurance test



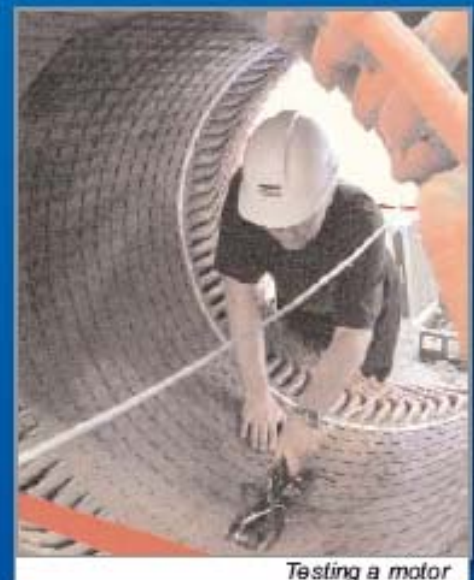
### SAFETY

- Uses only 120/230V power for excitation and operation
- Double insulation to minimize operator risks
- Low excitation flux level eliminates the risk of further inter-lamination insulation damage (as might occur during Ring Flux heating of an un-cooled core)

## RAPID TESTING BENEFITS



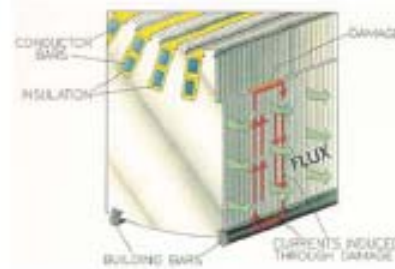
- ELCID provides a rapid test of the machine, often less than one shift for turbo-generators
- Only one technician is needed to perform the test, saving skilled resources and cost
- Typical labour is reduced from 144-360 man-hours for a major turbo-generator *Ring Flux Test*\* to just **8-10 man-hours for ELCID**
- Rapid setup to retest after any repair ensures quick turn around
- Minimize intrusive repairs by instantly verifying the results



\* Source: Westinghouse

## DESCRIPTION

ELCID operates at only 4% of normal operating flux, generated by its quickly installed excitation kit. Any imperfections in the core inter-laminar insulation produce fault currents, which are detected by a Chattock coil and analyzed by the ELCID signal-processing unit. Measurement results are digitally stored in the PC for analysis and report generation, and faults can be precisely located in the core. Future results can be compared to past results for trend analysis.



The traditional stator core test method known as *Ring Flux* or *Loop Test* uses near-full rated operating flux, which is potentially damaging to the uncooled machine and dangerous to operators, requiring large power cables, high voltages and currents, and often auxiliary generators.

So why not reduce your test outage time and avoid the hazards of the stator core Loop Test with ELCID?



*Robotic test in progress (RV feature is optional)*

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