



HYDROELECTRIC GENERATOR/TURBINE PIT INSPECTION

TASK: SURVICE Metrology is routinely tasked with providing 3D measurements of all embedded components in a vertical hydroelectric generator pit. In a time span which is typically two shifts, our team collects a set of 3D point coordinates from which the circularity, concentricity, and verticality of critical components is established. Our report leads subsequent machining and repair processes which re-center and re-plumb the hydroelectric generator and turbine. To date, SURVICE Metrology has provided dozens of such inspections to the hydroelectric industry.

EQUIPMENT: AICON DPA System and FARO Laser Tracker System

SOFTWARE: AICON 3D Studio, FARO Insight

EFFORT:

- Hang targets (2-4 hours)
- Assign benchmark elevations (4 hours, laser)
- Collect photographs (2-4 hours)
- Process photographs (1.5 hours)
- Reclaim targets and artifacts (2 hours)
- Perform analysis and generate report (on-site or off-site, 3-4 hours)

BENEFIT: The laser system can be used to confirm thru-hole patterns, frame ring dimensions, and sole plate elevations and keyway axes before work begins. In a typical situation, the system can set stacking bars in place to within $\pm 0.003''$ ($\pm 0.075\text{mm}$) before welding begins.

