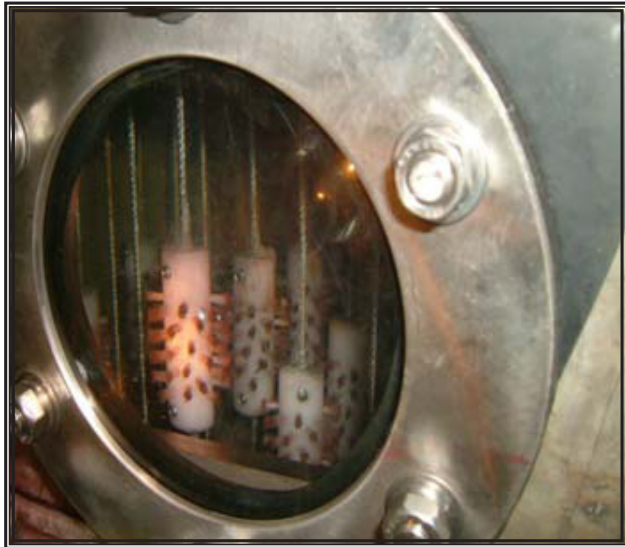




## R&D Fund Project

### Design And Development Of An On-Line Cleaning System For Generator Air Coolers Of Stesen Janaelektrik Sultan Mahmud, Kenyir



View of the cleaning brushes at rest position (just above the tubes)



#### Project Overview

TNB Research (in collaboration with UTM) has developed a new generator air cooler with online cleaning system to solve the problem of cooler tubes chokage due to formation of sludge in the tubes. The project originated from the hydro station's request for TNBR to address the problem which caused the turbine unit to be frequently shut down for cleaning of the coolers. The project was divided into several phases which are design & analysis, model and prototype development & testing, and fabrication of new coolers. The design has received international recognition at innovation exhibitions in Korea and Geneva and has been filed for patent protection.

#### Deliverables

One set of new Generator Air Cooler with on-line cleaning system that has similar heat performance as the old design

#### Benefits

- Increased availability: Turbine need not be shutdown for cooler cleaning or swapping
- Reduced maintenance cost
- Better reliability/dependability: The turbines will be more dependable
- Turbine Load need not be restricted due to rising stator winding temperature (due to insufficient cooling by the air cooler)
- Establish collaboration with local university (UTM)
- Enhance TNBR researchers experience and competency
- Assist establishment of local small-medium-industry capability in the relevant field.