

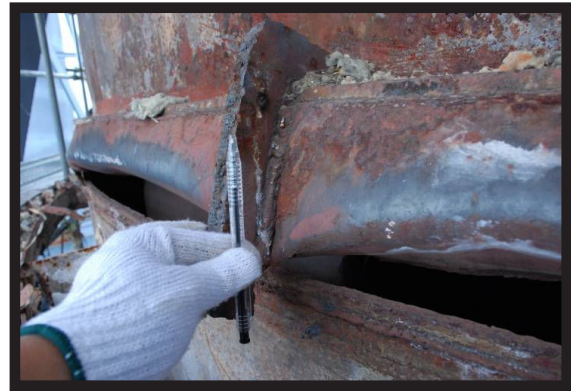


R&D Fund Project

Study On Gas Turbine Exhaust Stack Cracking Failure At Putrajaya Power Station



Putrajaya Power Station's Exhaust Gas



Crack Opening at Ring #3

Project Overview

In August 2007, Unit 5 Siemens' gas turbine chimney system at Putrajaya Power Station experienced cracking at its exhaust gas stack, which is approximately 15 meters in height. The cracks' features are circumferential with maximum crack opening of 125mm. Since the cracks may pose possible danger to the structure integrity, temporary repair work was carried out by the station during a short outage. TNB Research was requested to solve the problem and to come out with solutions to prevent the cracking from recurring in the future.

Deliverables

- Site inspections and structural analysis on the severity of the cracks.
- Final report and recommendation on the results of the study.

Benefits

This study has provided the power station with better understanding of the 'Exhaust Gas Stack Cracking' Problem.

Depending on their future plan, the management can now decide the most economical yet sufficient course of action to be taken.

As for TNBR, this study has improved its researchers' understanding about gas turbine exhaust stack construction and integrity.

Based on the recommendation given by TNBR, the station will conduct visual inspections on the exhaust gas stacks in January 2010. The objectives of these inspections are to find out whether the old cracks have propagated and to find out any signs of new cracks.