



R&D Fund Project

Study on The Propagation of Noise From TNB Putrajaya Power Station (PJPS) and its Impact to the Surrounding Environment



PJPS Noise Regulation Boundary



Noise Modeling

Project Overview

Putrajaya Power Station (PJPS) is an open-cycle gas turbine type with a generating capacity of 610 MW and comprises of 5 gas turbines. PJPS equipment may have the potential of causing excessive noise exposure to PJPS's personnel or to the nearby residential areas. Typical sources of power plant noise are forced draft, induced draft, transformer, motors, gas turbine gas exhaust and intakes, start-up blow down operations, control valves, air compressor and various component of turbine generator system. For the local

community, the noise coming from PJPS operation should be compatible with the existing community development. As for the PJPS personnel, noise should be controlled to avoid the risk of hearing damage and causing interference to speech, communication, and alarm system. PJPS is located at the northern side of Federal Government Administrative Centre, Putrajaya and surrounded by residential areas. This research study was conducted to determine various frequency components or spectrum of noise and vibration levels surrounding PJPS, within PJPS and inside the PJPS turbine hall. The aim is to determine the contributors or sources of abnormal noise and subsequently to propose mitigation measures to reduce excessive noise level.

Deliverables

- Detailed Noise Spectrum measurement and analysis
- Noise Modelling for noise level emitted from PJPS operation to the surrounding areas
- Review on the effectiveness of the current noise enclosure/insulation
- Analysis on the land use of the existing and future development surrounding PJPS
- Occupational Noise study

Benefits

- Avoid complaint and penalty: The study is a proactive approach to determine the source of annoying noise and mitigate it.
- Safeguard TNB Image: Demonstrate that TNB is concerned about maintaining the environmental quality within and beyond the power station boundary i.e. strengthening credibility and capability to maintain and sustain the station's ISO 14000 environmental management requirements.