

Title:

Condition assessment of RCC walls and corbels beam at EL 115.5m in FMV & PRC area of both the reactor building at RAPP, RB-8-(Phase- II)-**SSP-39841**

Duration: 11/07/2024 to 10/01/2025

Deliverables:

The healthiness of Civil RCC Structures of RAPP, Rajasthan is studied by carrying out NDT and PDT which gives confidence to formulate repair and strengthening of affected structures to put the structures back into use.

Significant Achievements:

A condition assessment of the RCC walls and corbel beams at EL-115.50 m in the FMV and PRC areas of the Reactor Building (RB-8), RAPP, Rajasthan, was carried out to evaluate their structural integrity and surface hardness. A comprehensive field investigation was conducted using visual inspection, Ultrasonic Pulse Velocity (UPV) testing, and Rebound Hammer (RHN) testing on the identified structural elements.

During the visual inspection, a few micro-cracks were observed only on the continuous corbel beams located in the NFMV area. The crack widths were measured using a crack ruler and a magnifying lens, as they were not readily visible to the naked eye. Due to the insignificant depth of these cracks, the UPV test was unable to determine their depth.

The UPV and RHN tests were performed at grid points made available by RAPP officials. The collected data were analyzed, and the corresponding statistical parameters are presented in the tables. The UPV results indicate that the concrete in the assessed structures is of good quality with respect to integrity. Similarly, the Rebound Hammer test results show that the concrete possesses good hardness characteristics at all the tested locations.

Based on the findings of the investigation, the concrete quality and condition of the assessed structures are satisfactory. Consequently, the reconfirmation testing proposed for these structures is not considered necessary.

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