PROJECT SNAPSHOT

CURRENT PROJECT

CENTENNIAL COAL: METHANE REDUCTION DEMONSTRATION

Given the safety hazards associated with deploying commercially-available Ventilation Air Methane (VAM) abatement technology at an operating underground coal mine, COAL21 has prioritised investments in projects seeking to demonstrate that VAM abatement technology can be deployed safely without unacceptably increasing risks to a mine's operation.

PURPOSE

This project, led by Centennial Coal, aims to enable the safe connection of a VAM abatement unit to a ventilation fan at an operating mine, capturing 100 per cent of the ventilation air flow and achieving 98 per cent abatement of methane.

It will draw heavily on the safety principles developed by the University of Newcastle Methane Reduction Project and apply them to selected mine configurations, providing a detailed engineering design for full-scale deployment as a precursor to considering a full-scale demonstration at an operating mine.

ACHIEVEMENTS AND FINDINGS

The project has developed a Design Assurance Framework specifying the verification, validation and certification activities for a VAM abatement connection.

This framework sets out processes to ensure the VAM abatement unit and the connecting duct incorporate all necessary safety features and explains how to verify their effectiveness. The team has also completed a conceptual design for the connecting duct, incorporating a range of safety features.

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TIMING

From the work completed by both this project and the related project at the University of Newcastle, it became clear that proceeding to a full-scale demonstration at an operating underground mine is too big a step to take without further intermediary studies at smaller scale.

For this reason, the project has been rescoped to deliver these intermediary studies by December 2019, following which options for conducting a full-scale demonstration will be considered.

PROCESS

Next steps in the project will be:

- assessment of the impact on the mine ventilation system
- critical risk analysis
- detailed engineering design studies for one or more generic mine configurations
- further experimental studies may be required, using the detonation tube and/or large duct developed by this project

MORE INFORMATION

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