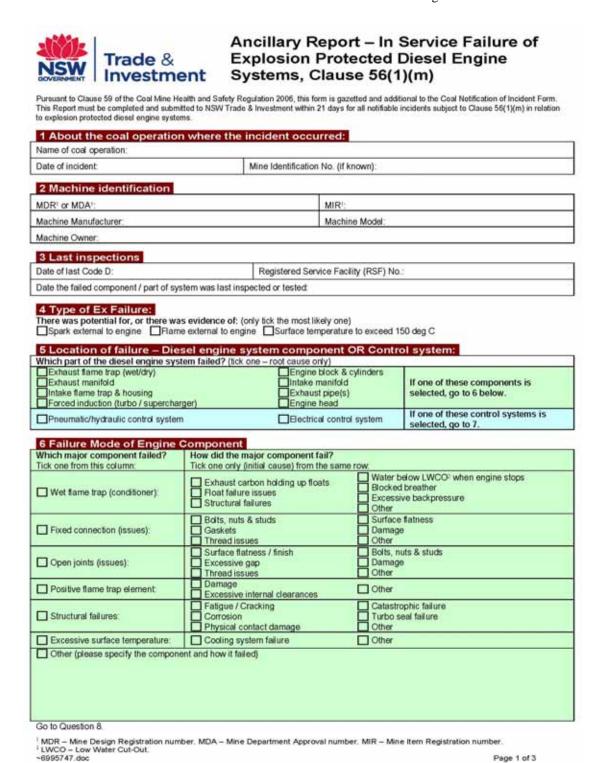
## **COAL MINE HEALTH AND SAFETY REGULATION 2006**

Approval of Ancillary Report Form in relation to Explosion Protected Diesel Engine Systems

I, ROBERT REGAN, Chief Inspector, NSW Trade and Investment, Regional Infrastructure and Services, pursuant to Clause 59 of the Coal Mine Health and Safety Regulation 2006, approve the form set out in the Schedule below as the Ancillary Report form for all notifiable incidents subject to Clause 56(1)(m) in relation to explosion protected diesel engine systems under that Regulation.

Dated this 20th day of January 2012.

ROBERT REGAN, Chief Inspector, NSW Trade and Investment, Regional Infrastructure and Services



7 Control system failure Only answer this question if directed to do so from Question 5.		
Which component failed? (tick one from this column)	How did the control system fail? (tick one from this column)	
☐Water level sensors	☐Valve/sensor faults	
Shutdown cylinders or solenoid Cooling system sensors	Wrong settings Circuit contamination or blockage	
Exhaust temperature sensors	Installed wrong	
Engine oil pressure sensors	Loose valve/sensor mounting	
Other circuit control valve failure	Hose failure	
All or multiple sensor failure Other (please specify)	Other (please specify)	_
Other (prease specify)	Other (pease specify)	
8 Recommendations for prevention		
Causal factors:		
Causal factors.		
Would a design change prevent or minimise failure?	// more space is required, please attach additional j	aguers/
	If more space is required, please attach additional p	page(s)
Would a Code D overhaul change prevent/minimise failure?	Yes If yes, describe how below No	C0000
Would a maintenance / testing change prevent/minimise failure?	Yes If yes, describe how below No	
	If more space is required, please attach additional p	page(s)
9 Other Comments		
	If more space is required, please attach additional j	adge(s)
10 Signature		
Have you informed the manufacturer of this failure? Ye	s No	
Signature of Manager of Mechanical Engineering:	Name:	
	CATCHES AND	
	Date signed:	
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### NOTES

- Clause 56(1)(m) of the Coal Mines Health and Safety Regulation 2006 requires notification of any incident or matter involving the 'in-service failure of the explosion protection characteristics of explosion protection plant.
  - This Ancillary Report is to provide a consistent approach for all underground coal mines
- The AS 3584.2 standard stipulates the explosion protection characteristics and defines the components (characteristics) which form part of an explosion protected diesel engine system.
- All 'diesel engine system used in underground mines at a coal workplace' must be both design and item registered under Part 5.2 of the OHS Regulation 2001 before use.
- For the purpose of clarifying the above provisions, the Department requires the following to be reported -'Any incident or matter where it is evident an explosion protected diesel engine system has been (or is likely to have previously been) operating in a non-explosion protected condition'
  - A non-explosion protected condition means a condition which has potential to ignite either, coal dust on the surface of the engine; or methane in the surrounding atmosphere.
- Examples of matters which must be notified include, (but are not limited to)
  - any explosion protection characteristic failures when discovered during use, routine maintenance or overhaul;
  - the failure of a diesel engine system to shut down when required by the control sensors, for example - loss of water in the scrubber; excessive system temperature (above 150°C); failure of engine cooling system, etc.
  - a catastrophic failure of the diesel engine system which protrudes external to the engine, such as turbochargers, superchargers, piston, valves, connecting rods, etc.
  - the failure of a primary and backup control sensor, for example temperature, floats, etc;
  - the failure of an explosion protected open joint which exceeds the specified dimensions for explosion protection;
  - looseness of any explosion protected fixed joint (gasket joint):
  - deterioration or significant damage to any dry type
  - the failure or loosening of any screw type explosion protection joint,
  - the failure to replace any explosion protected component, such as a cap, plug, flame trap or other like component, after carrying out maintenance activities.
  - any evidence of a fire or spark external to the explosion protected joints, flametrap or water conditioner
  - any catastrophic failure of a turbo in a dry type exhaust system;
  - failure of the cooling system, and/or sensors such that the external surface temperature of the diesel engine D and for exhaust gas temperature at the flametraps appears to have exceeded 150°C.

- m) evidence of thermal degradation of an exhaust filter; and
- n) the water level not being at or above the minimum safe water level when the diesel engine shuts down automatically.
- Examples of matters which are not required to be notified include, (but not limited to)
  - the failure of a single sensor where backup sensors are installed, functional and the diesel engine system is not in a un-explosion protected condition; for example
    - a single exhaust float failure where a backup float is fitted and functional;
    - a single temperature sensor failure where a (ii) backup sensor is fitted and functional;
  - b) the failure of an engine to start,
  - stopping of the engine system because a sensor has operated:
  - failing of the engine cooling system where the engine d) shuts down; and
  - any other failure which does not render the diesel e) engine system in an un-explosion protected condition.

Please contact your local NSW Trade and Investment office if you require assistance completing the form.

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