

MDG 39 – Brake Failure Incidents

Incident Information	Agent of fatality	Events	Recommendations
OPEN CUT MINES			
28/11/2006 United States Coal Open-Cut	Unintended Operation of Equipment	Driver reported that the park brake was sticking and was then found at the base of hill crushed between the truck and a berm. Was either thrown from truck or got out and brakes released.	Strengthened policy about applying park brakes before exiting truck, ensure proper machine maintenance.
20/07/2006 United States Coal Open-Cut	Unintended Operation of Equipment	Grader operator stopped his grader on a slight hill and got out without applying brakes, it then started to roll backwards, picked up speed and impacted hillside leaving operator fatally injured at its rear.	Develop a plan for operators to follow before they leave their machines and then implement it.
23/05/2006 United States Coal Open-Cut	Unintended Operation of Equipment	Miner driving a Mack water truck lost control descending a steep mine access road. Service brakes were not adequate, engine brake inoperable and worker not task trained.	Implement extensive driver training, implement procedures for regular maintenance of machines brakes and start pre-operational checks o trucks.
19/08/2005 United States Coal Open-Cut	Other	Truck drivers were having lunch in a pump house when a truck uphill started rolling and crashed into house, fatally injuring 2. Brakes were not applied on truck.	All truck drivers were to be trained in the correct method of parking a truck.
14/06/2005 Australia New South Wales Non-Coal Open-Cut	Unintended Operation of Equipment	A truck failed to negotiate a left hand turn descending the mines haul road and veered off, smashed through concrete blocks and proceeded down the embankment 20m below. The driver's body was found part way up the embankment.	Pre-operational checks to be carried out, only trained workers to use equipment, risk assessments to be performed, seat belts to be worn.
12/10/2004 United States Non-Coal Open-Cut	Unintended Operation of Equipment	Truck went through a berm, down a 21 foot embankment and overturned.	Procedure to repair brake components and identify other defects on equipment.
29/06/2004 United States Non-Coal Open-Cut	Unintended Operation of Equipment	Truck travelled over a berm and plunged to haul road 72 feet below.	Removal of equipment which has not been functioning correctly, ensure equipment is inspected before and during shifts.
4/04/2004 United States Coal Open-Cut	Other	Empty coal truck failed to negotiate a 90 degree turn and overturned killing driver without seatbelt.	Check equipment prior to operation for any defaults, check all guardrails for structural quality, ensure radios are used properly, ensure enough rest breaks for staff, and ensure road signs are marked properly.
10/02/2004 United States Coal Open-Cut	Drowning	The brakes failed on a truck and it ran down a steep grade, through a berm and into water at the bottom.	Initiate frequent checks of equipment to ensure it is operational, pre-operational and tag out lock out procedures for faulty equipment.

6/05/2003 Australia Western Australia Non-Coal Open-Cut	Unintended Operation of Equipment	Information is limited at present; however it appears that the operator suffered crush injuries when the cab of the truck he was driving was crushed by the rear of the tray of another truck which rolled backwards down a ramp at the bottom of the pit.	
9/04/2003 United States Coal Open-Cut	Other	Truck driver had inoperable brakes when he lost control and jumped from the cabin, only to be hit by one the tray of the truck.	Management to establish brake testing guidelines, ensure seatbelts are worn and perform pre-op checks on equipment.
17/03/2003 United States Coal Open-Cut	Other	Truck driver had inoperable brakes when he lost control and jumped from the cabin, only to be hit by one of the tyres and killed.	Make sure workers are wearing seat belts, grade of hill was too steep for equipment being used, and truck differentials should all be locked before ascending this steep road.
10/09/2002 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A equipment operator was fatally injured when his truck lost control after a rear brake line ruptured. Victim was approaching dump area when brakes failed and veered several hundred ft, hitting a tree. Victim, not wearing a seatbelt was found near tree.	Ensure inspections are carried out and defects addresses prior to operation. Regular inspections and maintenance be carried out on equipment. Ensure brakes will stop and hold equipment prior to operating equipment. Seat belts to be worn by operators.
24/04/2002 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A mechanic was fatally injured conducting a performance test on parking brake. He drove loader up a 16% ramp when it stopped, rolled backwards and struck edge of a waste pile. Loader rolled and victim, who wasn't wearing a seat belt, was thrown out of cab	Inspections should be completed on brakes prior to operation. Brake holding tests only to be conducted where vehicle can be controlled. Equipment operators wear seatbelts whenever in motion. Self-propelled mobile equipment to be provided with service brakes.
12/01/2002 United States Non-Coal Open-Cut	Unintended Operation of Equipment	An equipment operator was fatally injured at a surface pebble stone mine. Victim was standing by a truck when he was struck from behind by a run-a-way loader. Loader operator lost control of the equipment after the engine stalled while descending a grade.	Self propelled mobile equipment to be provided with brakes capable of stopping equipment. Programs to be implemented to identify and repair defects. Pre-shift inspections to be conducted prior to operation. Backup alarms to be audible.
1/11/2001 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A truck driver was fatally injured when he was run over by a tractor. Victim returned from dumping a load and parked behind other trucks, near a tractor. Due to faulty air lines, trailer brakes weren't activated and truck rolled forward hitting tractor.	Perform pre-start safety inspections of your equipment. Follow safe operating procedures. Park brakes to be set before exiting equipment. De-energize equipment, set brake and be sure it is blocked against motion, before repair or maintenance work.

8/11/2000 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A 27-year-old truck driver with 11 weeks mining experience was fatally injured at a limestone mine. The haul truck stalled while ascending a ramp, rolled back, travelled through a berm and fell approximately 25 feet to the quarry floor.	Equipment to be inspected for defects affecting safety prior to operation. Service and park brakes to be able to stop equipment with a typical load. All braking systems on equipment to be maintained regularly. Seatbelts be worn by mobile equipment operators.
18/11/1999 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A Scraper operator was fatally injured when the scraper he was operating went over the edge of a highwall and fell 78ft. Scraper lost engine power ascending an inclined roadway and brakes were not capable of stopping or holding the scraper on the grade.	Equipment operators should always wear seat belts. Brake systems on mobile equipment to be maintained in functional condition. Roadways and ramps to be designed to reduce steep grades. Berms be provided and maintained along roadways.
11/11/1999 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A haul truck operator was fatally injured when he was run over by his truck. Truck was on a slight grade and victim hadn't set park brake. Truck's engine was running and transmission was in neutral. Vehicle had chock blocks but they were not used.	Mobile equipment not to be left unattended unless controls are placed in park position and the parking brake, if provided is used. When parked on a grade, the wheels or tracks of mobile equipment shall be either chocked or turned into a bank or rib.
30/07/1999 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A haul truck operator was fatally injured at a crushed stone operation. Victim was ascending a stockpile ramp when his truck stopped. The truck drifted backward when a rear wheel hit a bank causing the truck to overturn. Victim wasn't wearing a seat belt.	Equipment operators should always wear seat belts. Brake systems on mobile equipment should be maintained in functional condition. Roadways and ramps should be designed to reduce steep grades.
18/09/1998 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A loader operator was fatally injured dumping material into the crusher feed hopper. After backing away from the hopper he continued in reverse and travelled over a 15-foot highwall. The service brakes were defective.	Defects on mobile equipment should be identified and corrected prior to the equipment being used. Berms should be installed at elevated locations where there is danger of overtravel.
19/08/1998 United States Coal Open-Cut	Unintended Operation of Equipment	A truck driver was operating truck hauling coal to preparation plant. As victim drove down a grade, loaded truck ran up onto berm and overturned. The driver was either thrown from or jumped from the truck, and was crushed beneath it.	Make truck examinations and maintenance a high priority. Ensure adequate brakes are provided and properly maintained. Maintain loads within safe hauling capacity of truck. Truck drivers should wear seat belts and remain in cab when a crash is imminent.
16/09/1997 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A truck driver was fatally injured by his own truck. Victim arrived at mine and stopped at the security building to receive his site-specific training. While inside the building, he noticed his truck rolling down the grade, gave chase and was run over.	Equipment should be regularly maintained and inspected in accordance with manufacturers' specifications to ensure safety and fit for purpose.

23/04/1996 United States Non-Coal Open-Cut	Unintended Operation of Equipment	An Equipment manager was killed while tramming a crane uphill when he came to a stop then started backing the crane down the road. Crane reached the bottom of road and hit a mound of dirt on right side rocking from side to side then rolled over.	All equipment should be maintained and inspected in accordance with manufacturers specifications to ensure safety and equipment is operational.
3/10/1995 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A truck driver was fatally injured after the haul truck had just been loaded. He started driving forward away from the loading area, and drove the truck through a four foot berm and over the 50 foot highwall. He died from sustained injuries.	All equipment is to be regularly maintained an inspected to ensure safety and fit for purpose in accordance with manufacturers' specification.
3/08/1995 United States Non-Coal Open-Cut	Unintended Operation of Equipment	While operating a front end loader the victim was fatally injured when loader fell into pit. Victim was hauling material to edge of highwall, were there was no berm, when the wall sloughed causing loader to turn upside down into pit and crush victim.	A berm, bumper block or other impeding device should be used to prevent over-travel at the ramp to an excavation. Regular maintenance should be carried out on machinery in accordance with manufacturers' specifications to ensure safety of operation.
14/03/1995 United States Coal Open-Cut	Unintended Operation of Equipment	A truck driver was fatally injured when the truck he was driving up an ascending 10 percent grade rolled backwards and turned over. The truck was loaded with rock. The driver was attempting to exit the truck when it rolled over pinning him.	
14/03/1995 United States Non-Coal Open-Cut	Unintended Operation of Equipment	While operating a water truck down a ramp, a quality assurance technician was observed to be travelling speedily. The victim was fatally injured when he rounded the first curve and rolled the truck. The victim was not wearing his seatbelt.	Seatbelts and safety equipment provided should be worn. Equipment should be regularly maintained to ensure safe operation.
13/03/1995 United States Coal Open-Cut	Unintended Operation of Equipment	A truck driver was fatally injured when truck he was driving went over edge of spoil pile down a 200 ft bank. Truck was carrying wet material and on 8th run was dumping in a new location. Dozer operator had advised trucks to dump short due to a soft patch	A berm or similar means should be provided to prevent overtravel at dump area. An adequate inspection should be carried out on equipment before going into service and also during service to be sure that everything is working correctly.
2/02/1995 United States Non-Coal Open-Cut	Unintended Operation of Equipment	A front-end loader operator was fatally injured while operating a front-end loader in process of building a berm around outer edge of pit. He drove loader over edge and rolled down a 30ft slope. Victim was not wearing a seat belt.	Equipment to be maintained to a standard resulting in equipment being safe for operation. Equipment not fit for purpose be isolated and tagged out. If fitted to machinery, safety equipment should be worn. Berms to be in place where there is high traffic.
1972 Australia New South Wales Non-Coal Open-Cut	Unintended Operation of Equipment	Was struck by an unattended truck which ran out of control down a slight slope	

UNDERGROUND MINES			
12/12/2007 United States Coal Underground	Unintended operation of Equipment	Killed at a surface truck load out area. While travelling down at 8-9% grade the truck became bogged in mud. An employee placed a loader above the truck to drag it up the incline when attaching the chain the loader rolled into the truck driver and killed him.	When parking on grade turn wheels into berm and set park brake, conduct pre-op checks, conduct task training.
30/10/2006 United States Coal Underground	Unintended operation of Equipment	Operator was crushed between shuttle car and a coal rib. He was trying to fix a stuck brake without de-energizing the car or applying the brakes.	Proper maintenance of shuttle cars will be performed daily, remove immediately equipment known to be faulty, cars must be de-energized before maintenance takes place.
18/10/2005 United States Non-Coal Underground	Unintended operation of Equipment	Worker left water truck without brakes on and when it started rolling away tried to stop it but was run over.	Implementation of mobile machine parking procedures.
9/11/2004 United States Coal Underground	Other	While attaching a loader to a truck to pull it, loader hand brake was not set and rolled back into truck, pinning the man in between.	Do not work between heavy equipment, always set the parking brake and use visual communications.
10/02/2004 United States Coal Underground	Unintended Operation of Equipment	While operating track mounted personnel carrier, driver was using excessive speed and struck a closed airlock door.	Grades of roads reduced in airlock area, brakes were fixed and then regularly checked on transport, new speed limits given and pre-operational checks always to be carried out.
15/01/2003 Australia Western Australia Non-Coal Underground	Contact with Moving or Rotating Plant (Guarding/Access to Danger Zone)	A fitter was to examine a LHD reported to have faulty brakes. The LHD was being moved to a suitable location when the engine stopped and the fitter tried to immobilise it by jack-knife. Fitter received fatal injuries when LHD rolled down decline	
27/02/2002 United States Coal Underground	Unintended Operation of Equipment	A truck driver was fatally injured when his truck ran over him as it rolled down a decline. After loading coal into trailers, driver stopped to check a spillage. Only applying minimal brakes, truck rolled down decline over victim as he tried to re-enter.	Set brakes before dismounting or leaving vehicle. Know truck's capabilities and limits. Provide hazard training for new drivers. Provide task training for new tasks. Block wheels to prevent movement when parking trucks on a steep grade.
20/11/2001 United States Coal Underground	Other	While conducting track maintenance and installing new rail, a miner was fatally injured when a rail car struck him. A co-worker was attempting to move a locomotive when the brake was released and it drifted backwards hitting miner conducting maintenance.	Equipment operators to be certain all persons are clear before moving equipment. Operator of self-propelled equipment to give a warning where movement of equipment may endanger persons.

8/11/2001 United States Coal Underground	Unintended Operation of Equipment	A general inside labourer was fatally injured when 3 rail mounted supply cars ran away after becoming uncoupled from brake car. A safety chain on brake car also failed. 3 loaded supply cars travelled into mine through derail device, striking victim at bottom.	Regularly check couplers for wear to not exceed tolerances specified by manufacturer. Use safety chains rated for applicable load. Check derail devices to assure effectiveness. Install alarms to notify persons supplies are being lowered into mine.
28/08/2000 United States Coal Underground	Unintended Operation of Equipment	Two contract employees were fatality injured when a rail mounted slope hoist mantrip ran away due to slack in rope. Weight and speed of car broke rope as slack took up. Overspeed devices failed and car crashed as it hit a curve in railway.	Persons conducting inspections be provided with proper training. All safety devices on brake cars to be examined, tested and maintained in working order. Hoist control mechanisms to be operated as designed. Rollers, guide blocks and hoist ropes to be examined regularly.
23/12/1998 United States Non-Coal Underground	Unintended Operation of Equipment	A utility man was fatally injured when crushed between a loader and a loaded rail car. The rail car he was towing continued to roll after the loader had stopped. Victim was crushed when slack in cable was taken up, jerking loader bucket against rail car.	Mobile equipment operators should maintain control of the equipment while it is in motion. A rigid coupling designed for rail equipment to be used to tow rail cars. Personnel assigned to work with rail cars should be trained in safe work procedures.
15/01/1997 United States Non-Coal Underground	Contact with Moving or Rotating Plant (Guarding/Access to Danger Zone)	A lube technician with 13 months of mining experience was killed at a gold mine. The employee was walking along the rib in the area of the mine where equipment was being lubricated and fuelled. She was crushed against the rib by a moving 3½ yard loader.	New employee induction should be carried out before the employee starts any work on site. Regular maintenance and inspections should be carried out on all equipment in accordance with manufacturers' specifications.
11/04/1996 United States Coal Underground	Unintended Operation of Equipment	A roof bolting machine operator was fatally injured when he was crushed by a personnel carrier against a bolting machine. 2 miners arrived at mining area by personnel carrier and passed roof bolter. Personnel carrier rolled down grade and hit roof bolter.	
8/04/1996 United States Coal Underground	Contact with Moving or Rotating Plant (Guarding/Access to Danger Zone)	A labourer was fatally injured while rock dusting an area outby dump point. The victim was using a battery tractor and travelled outby section feeder. Victim was later found pinned under tractor, apparently as a result of a brake failure.	
3/04/1996 United States Non-Coal Underground	Contact with Moving or Rotating Plant (Guarding/Access to Danger Zone)	A loader operator was killed when he was mucking in a gallery of mine using a front-end loader. A witness saw loader in motion at gallery with no operator onboard. Employee was found dead in gallery. It is believed that he was run over by loader.	Regular maintenance and inspections should be carried out on all equipment to ensure safe operation is possible.

19/12/1995 United States Coal Underground	Unintended Operation of Equipment	An incompetent person was operating a material hauler down a haul road. Vehicle was in neutral and operator put it into 1st gear causing engine to stall and operator jumped off. Machine came to rest against guard rail and operator was under wheels.	Equipment operators are to have suitable training and induction before operating any machinery. Machinery is to be operated with transmission in a suitable gear. All equipment to be maintained on a regular basis according to manufacturers specifications.
17/06/1995 United States Coal Underground	Unintended Operation of Equipment	Unloading coal cars through a rotary dump system; a dump operator was fatally injured when a car became uncoupled. Using car haul, operator pulled remaining cars up a slight grade so he could realign coupler. Loaded cars ran down and crushed operator.	Stopblocks be provided on loaded sides of rotary dumps to protect persons from runaway equipment. Regular maintenance of equipment should take place to ensure safe operation. Hazard risk management should be implemented and safe work procedures developed.
26/04/1995 United States Coal Underground	Contact with Moving or Rotating Plant (Guarding/Access to Danger Zone)	A fitter was fatally injured when a LHD ran over him. The fitter had moved the LHD to a position up hill to carry out maintenance. Failure to apply brakes resulted in the LHD running over the deceased.	
1986 Australia New South Wales Coal Underground	Unintended operation of Equipment	Runaway locomotive fatally injured a workman down track.	
3/03/1985 Australia New South Wales Coal Underground	Other	A machine man unintentionally drove his locomotive into the drift of the mine as the points had not been changed as expected. Instead of going onto surface track work, he went back into mine and was unable to brake.	
23/10/1984 Australia New South Wales Coal Underground	Other	Locomotive driver did not put in place shoes which slow the train down a slight gradient prior to motion and the train moved out of control down the slope. He was killed when he jumped out of the carriage 600m down the slope.	
14/12/1983 Australia New South Wales Coal Underground	Other	A shuttle car with an ineffective braking system rolled down an incline and pinned a man between the shuttle car and a continuous miner.	
13/04/1981 Australia New South Wales Coal Underground	Catastrophic Failure	Driver was killed when a new locomotive's brakes failed after being put into service without proper service facilities.	
19/03/1981 Australia New South Wales Coal Underground	Unintended operation of Equipment	Driver of a large road watering truck careered off the road and fell 11m down to a coal receiving dump bridge. Brakes were not correctly adjusted.	

9/09/1979 Australia New South Wales Coal Underground	Unintended operation of Equipment	Workman was fatally injured when knocked down by a loader which had its parking brake overridden following 3 minutes of compression with engine off.	
1979 United Kingdom Coal Underground	Other	Operator found dead beneath the lowered jib of a crane when he attempted to attach an excavator garb to the crane. The jib drum braking system was subsequently found to be defective and the jib lock pin had been disengaged.	
1965 Australia New South Wales Coal Underground	Unintended operation of Equipment	Was run over by a battery operated prime mover which went out of control when a control lever was jammed in the 'on' position. This then careered through a crib room and struck a worker	
16/12/1962 Australia New South Wales Coal Underground	Unintended operation of Equipment	Hauling man transport car full of miners along underground road when thrown from the loco after a violent collision.	
UNKNOWN MINES			
10/06/2004 United States Coal Unknown	Other	Driver lost control descending a steep grade due to a brake failure and overturned and was ejected from the cabin.	Testing of equipment including brakes and seatbelts was implemented, tag, lock and remove faulty equipment from service.
1971 Australia New South Wales Non-Coal Unknown	Other	Crushed between a loader and a truck following brake failure of the loader	