U.S. Department of Labor

Assistant Secretary for
Congressional and Intergovernmental Affairs
Washington, D.C. 20210

June 12, 2012

The Honorable John Kline
Chairman
Committee on Education and the Workforce
U.S. House of Representatives
2181 Rayburn House Office Building
Washington, D.C. 20515-6100

Dear Chairman Kline:

I am writing in response to your letter to Assistant Secretary Joe Main, dated May 14, 2012, regarding Mine Safety and Health Administration (MSHA) injury and illness rates. MSHA is committed to the health and safety of its employees as they work to protect the health and safety of the Nation's miners. MSHA shares your concern about the rates of injuries and illnesses among its employees. Please know that the agency is working to implement improvements to its employee health and safety program.

Background on Injury and Illness at MSHA

From the beginning of FY2007 through the first quarter of FY2012, almost 40 percent of the injuries and illnesses experienced by MSHA employees were noise-induced hearing loss, primarily among MSHA's enforcement personnel. Another 33 percent of the injuries/illnesses reported were strains and sprains. Seventy-eight percent of all reported injuries and illnesses occurred at mine sites, primarily underground coal mines. The average age of employees reporting injuries and illnesses during this period was 59. I am enclosing a list of injuries and illnesses reported by MSHA employees during the period of FY 2007 through the first quarter of FY 2012.[1]

Comparing the rates of injuries and illnesses reported by MSHA employees with the rates of injuries and illnesses reported by mine operators is of limited value. Section 505 of the Federal Mine Safety and Health Act directs MSHA, to the extent feasible, to hire inspectors who already have at least five years of practical mining experience. Many MSHA inspectors are hired with significantly more than five years of experience, often entering the MSHA inspectorate as a second career. While the experience that more mature professionals bring to MSHA is invaluable to protecting miners, these employees have often worked at physically demanding jobs and many were exposed to working conditions that have had a cumulative impact on their health. Hearing loss is a prime example.

[1] DOL E&W MSHA I&I 001–46. The slight difference between this list and the related figures posted on OSHA's website is attributable to claims denied by the Department's Office of Workers' Compensation Programs as part of the claim adjudication process.

Often, miners do not experience a noticeable hearing loss during their employment and only begin to suffer symptoms years later after they have left the industry. Mine operators do not report incidences of hearing loss experienced by former employees to MSHA as employee illnesses.[2] In contrast, MSHA's injury/illness data includes injury and illness claims made by its employees who have retired from MSHA. Thus, while hearing loss constitutes almost 40 percent of MSHA's reported injuries and illnesses since FY2007, hearing loss constitutes less than one tenth of one percent of the injuries and illnesses reported by the Nation's mine operators for their employees. This is despite the fact that according to the National Institute for Occupational Safety and Health (NIOSH), at age 50, 90 percent of coal miners and 49 percent of metal and nonmetal miners have a hearing impairment.[3] Rather than evidencing exposure to hearing-related hazards several orders of magnitude greater for inspectors than for the miners, the disparity in reported rates highlights the difference in the composition of the respective workforces, their history of exposure to workplace hazards, the cumulative impact of such exposure, and what is counted–and not counted–in injury and illness reports.

MSHA Initiatives to Lower its Injury and Illness Rate

In 2010, President Obama initiated the Protecting Our Workers and Ensuring Reemployment (POWER) Initiative to aggressively improve workplace safety for federal employees.[4] As part of the initiative, the Department recently identified areas in which MSHA could improve the health and safety of its employees. In response, MSHA created a plan to bring about improvements. I am including a copy of the Department's report highlighting areas where MSHA could improve and MSHA's plan responding to the review.[5]

In accordance with timetables established by MSHA's Office of Employee Safety and Health (OESH), all of MSHA's program areas are required to complete action plans by July. These plans will contain actions and initiatives to improve safety and health and establish appropriate responsibility and accountability for their implementation. These initiatives will address those injuries that are among the most common for MSHA's inspectors, including hearing loss and strain or sprain injuries, particularly those caused by slips, trips and falls.

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[2] *See* Douglass F. Scott, R. Larry Grayson, & Edward A. Metz, *Disease and Illness in U.S. Mining, 1983-2001*, 46 J. OCCUP. ENVIRON. MED. 1272 (Dec. 2004), available online at <http://www.cdc.gov/niosh/mining/pubs/pubreference/outputid1567.htm> (visited June 12, 2012).

[3] *See* R.J. Matetic, *Hearing Loss in the Mining Industry: Overview of the NIOSH Hearing Loss Prevention Program at the Pittsburgh Research Laboratory*, 31ST INT'L CONF. OF SAFETY IN MINES RESEARCH INSTITUTES: SAFETY IN MINES TESTING AND RESEARCH STATION (SIMTARS) 133 (Oct. 2005), available online at <http://www.cdc.gov/niosh/mining/pubs/pubreference/outputid2642.htm> (visited June 12, 2012).

[4] More information on the POWER Initiative at the Department is available online at <http://www.dol.gov/owcp/dfec/power/> (visited June 12, 2012). The July 19, 2010, memorandum from the president to the heads of executive departments and agencies is reproduced at 75 Fed. Reg. 43029 (July 22, 2010), available inline at <http://www.gpo.gov/fdsys/pkg/FR-2010-07-22/pdf/2010-18176.pdf> (visited June 12, 2012).

[5] The report is reproduced at DOL E&W MSHA I&I 047–48. MSHA's response is reproduced at DOL E&W MSHA I&I 049–51.

Further, in 2007 MSHA contracted with Yale University School of Medicine, Occupational & Environmental Medicine Program (Yale) to evaluate MSHA's hearing conservation program and hearing loss among MSHA's mine inspectors. Yale presented its findings and recommendations to MSHA in 2011, and MSHA is in the early stages of implementing those recommendations. Yale's report and the summary of its report presented to MSHA staff are enclosed.[6]

Employee Communications

MSHA addresses field employee health and safety issues at health and safety meetings at the District and Field Office levels. Health and safety meetings are scheduled monthly or quarterly, depending on the office. These meetings cover topics including hazards to which MSHA employees can be exposed and any injuries and illnesses that have occurred. The communications to employees are generally oral, although OESH provides written materials on agency-wide subjects for dissemination. Enclosed are the written communications to employees regarding safety and health that have been sent out this year.[7]

If you or members of your staff have any questions about this response, please contact Patrick Findlay in the Department's Office of Congressional and Intergovernmental Affairs. He may be reached at (202) 693-4600.

Sincerely,

Brian V. Kennedy

Enclosure: One disc containing documents Bates stamped DOL E&W MSHA I&I 001–151 in PDF.

cc: The Honorable George Miller
Senior Democratic Member, Committee on Education and the Workforce

[6] The report is reproduced at DOL E&W MSHA I&I 052–108. The summary is reproduced at DOL E&W MSHA I&I 109–122.

[7] DOL E&W MSHA I&I 123–151. Some MSHA offices publish internal safety and health newsletters separate from OESH which are also included in this production.

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
1	**Nature Description**	**Fiscal Year**	**Description of what happened**	**Job Title**	**Site of Injury**
2	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
3	Strain (not back)	2007	Employee slipped on wet mine floor and sprained left ankle.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
4	Back Strain	2007	While entering GOV, employee's left leg slipped on loose material which caused employee to fall onto frame of vehicle. Strained back, hip and leg.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking lot
5	Strain (not back)	2007	While climbing down on a ladder, a rung broke and the employee injured his left shoulder after falling to the ground.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
6	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
7	Hearing Loss	2007	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
8	Laceration; Puncture	2007	Employee was adjusting the blade of a bandsaw and his finger was cut by the blade.	ENGINEERING TECHNICIAN	Machine Shop
9	Traumatic injury - unclass. (except disease, illness)	2007	Employee slipped and fell onto mine floor.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
10	Strain (not back)	2007	Employee fell over fueling hose at gas station and injured his left arm.	MECHANICAL ENGINEER	Gas Station
11	Traumatic injury - unclass. (except disease, illness)	2007	Employee was standing on chair reaching for a file and fell on to the chair's arm and fractured a rib.	MINE SAFETY & HEALTH ASSISTANT(OA)	Office
12	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
13	Musculoskeletal condition, not otherwise classified	2007	Employee states that after inspecting for many years in mines with low roofs, he has developed problems with his knees.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
14	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
15	Laceration; Puncture	2007	Employee injured his right arm as a result of a car accident involving another driver.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Road
16	Hearing Loss	2007	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
17	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH SPECIALIST - TRAINING	Mining Operation - Underground
18	Back Strain	2007	Employee injured lower back by carry suitcase containing material related to hearing while attending DOL hearings	REGULATORY SPECIALIST	Hotel

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
19	Strain (not back)	2007	Employee slipped and fell on newly waxed, tile floors	REGULATORY SPECIALIST	Office
20	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH SPECIALIST - TRAINING	Mining Operation - Underground
21	Arthritis	2007	Employee states that inspecting mines with low height and uneven terrain has caused his arthritis in his hip.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
22	Strain (not back)	2007	Employee injured the disc in her neck as the result of carrying an approx. 50-pound bag of rock dust surveys to mailroom	MINE SAFETY & HEALTH ASSISTANT(OA)	Office
23	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
24	Laceration; Puncture	2007	Employee slipped and sprain his back, bruised his head, and cut his finger while moving copy machine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
25	Strain (not back)	2007	Employee injured wrist during rock dust survey. Treated at GSH ER.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
26	Back Strain	2007	Employee attributes his degenerative disease to inspection of mines with low roofs.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
27	Hearing Loss	2007	Hearing claim	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
28	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
29	Strain (not back)	2007	While inspecting a mine, the employee stepped into waist deep mud and strained his leg and hip.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
30	Strain (not back)	2007	Employee injured both wrists while entering cab of track hoe that was being inspected.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Underground
31	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
32	Traumatic injury - unclass. (except disease, illness)	2007	Employee was carrying empty strecher and strained his back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mine Rescue Contest
33	Strain (not back)	2007	Employee tripped while playing basketball at Mine Academy and injured his foot..	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mine Academy
34	Hearing Loss	2007	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
35	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
36	Strain (not back)	2007	Inspector injured his left knee after falling due to uneven mine floor.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
37	Hearing Loss	2007	Employee is requesting a reevaluation of an earlier OWCP hearing claim due to further deterioration of his hearing.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
38	Back Strain	2007	Employee strained her back while reaching over cart to retrieve equipment from a cabinet.	PURCHASING AGENT	Store room
39	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
40	Hearing Loss	2007	Hearing Claim	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
41	Strain (not back)	2007	Employee was walking towards a phone in the office and felt a pop in his left knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
42	Strain (not back)	2007	Employee struck car in front of his GOV while looking in his rear-view mirror.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Road
43	Contusion/bruise/abrasion	2007	While riding a 3-wheeler through water, the inspector struck mine roof as the result of the vehicle running over a rock. The inspector was lying atop the vehicle so as to escape the water.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
44	Hearing Loss	2007	Hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
45	Hearing Loss	2007	Employee attributes his hearing loss to his duties as a MSHA mine inspector.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
46	Strain (not back)	2007	While stopped at a store (official duty), employee tripped over concrete parking divider, fell to the gravel lot and injured his knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Store
47	Contusion/bruise/abrasion	2007	While riding an underground train, the engine derailed and struck the mine rib which caused the inspector to fall from the engine and struck a metal, electrical cover. The accident caused injuries to the inspector's right leg and hip.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
48	Laceration; Puncture	2007	A bump to an employee's arm caused a pen that the employee was holding in her hand to puncture her ear.	MINE SAFETY AND HEALTH SPECIALIST	Office
49	Strain (not back)	2007	Employee slipped and fell at base of elevator due to wet floors and injured her knee, shoulder, and elbow.	PROGRAM ANALYST	Elevator
50	Traumatic injury - unclass. (except disease, illness)	2007	Employee struck hard hat against mine roof while riding in a locamotive and injured his neck and spine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
51	Contusion/bruise/abrasion	2007	The inspector stepped onto an object (stone, bolt) and bruised the heel of his right foot.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
52	Strain (not back)	2007	Inspector twisted his right ankle as the result of steping into a hole in the mine floor.	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
53	Hearing Loss	2007	Hearing loss attributed (by employee) to excessive mine noise during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
54	Traumatic injury - unclass. (except disease, illness)	2007	Employee was traveling up a wooden stairway when several steps broke which caused employee to fall (approx. 2 feet) to the ground and injured multiple areas of his body.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
55	Strain (not back)	2007	Employee felt sharp pain in right shoulder while lifting basket of pumps from GOV.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
56	Traumatic injury - unclass. (except disease, illness)	2007	Employee was standing on a bucket to cross over to an entry that had a different elevation when the bucket flipped and caused the employee to injure his leg.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
57	Traumatic injury - unclass. (except disease, illness)	2007	Inspector supervisor's foot got entangled in metal banding causing him to fall to the mine floor and injured his right knee.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
58	Hearing Loss	2007	Employee's hearing loss is attributed to his exposure to mine noise.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
59	Contusion/bruise/abrasion	2007	Employee ran into a vertical pipe in the 2nd Floor Tunnel of the Mine Simulation Lab and cut his forehead. Visibility was limited due to smoke.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Lab
60	Hearing Loss	2007	MSHA mine inspector attributes his hearing loss to his exposure to excesive noise at mine sites.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
61	Hearing Loss	2007	Employee attributes his hearing loss to excessive noise exposures he encountered while conduct mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
62	Traumatic injury - unclass. (except disease, illness)	2007	Employee was playing softball at the Academy and injured his right shoulder after falling to the ground because of uneven ground.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	National Mine Academy
63	Traumatic injury - unclass. (except disease, illness)	2007	While walking between portals, slipped and fell on concrete that was covered in mud, injuring head, right arm, back, and right ankle.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
64	Hearing Loss	2007	Employee attributes his hearing loss to loud mine equipment that he was exposed to as a MSHA inspector.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
65	Hearing Loss	2007	Employee attributes his hearing loss to the loud noises he encounters conducting mine inspections	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
66	Hearing Loss	2007	Employee attributes his hearing loss due to loud noise sources at the mines he inspected.	MINING ENGINEER	Mining Operation - Underground
67	Hearing Loss	2007	Employee stated that he was exposed to excessive noise during his career as a training specialist.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
68	Back Strain	2007	Employee was loading his GOV and felt a sudden pain in his lower back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking lot

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
69	Traumatic injury - unclass. (except disease, illness)	2007	While riding man car, safety chain on rail motor came loose and struck employee in the elbow.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
70	Strain (not back)	2007	Employee strained left arm as a result of pulling himself out of a mantrip.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
71	Strain (not back)	2007	Employee strained his right arm and shoulder while lifting dust pump case from GOV st MSHA office.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
72	Laceration; Puncture	2007	While using a ladder to climb into shaft bucket, employee pinched his finger between the ladder and the bucket.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
73	Strain (not back)	2007	Employee strained his neck while moving his head to avoid being struck by a trolley pole.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
74	Hearing Loss	2007	Employee believes that his hearing loss can be attributed to the loud mine noises that he encounters during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
75	Contusion/bruise/abrasion	2007	Employee was struck on the shoulder by the mounting of a projection screen that had fallen due to a broken holding bracket.	ELECTRICAL ENGINEER	National Mine Academy
76	Hearing Loss	2007	Employee attributes his hearing loss due to loud mine noises during his MSHA career.	GEOLOGIST	Mining Operation - Underground
77	Hearing Loss	2007	Employee feels that his hearing loss is due to mine machinery that he was exposed to as a MSHA inspector.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
78	Dislocation/Fracture	2007	Employee was walking up the stairs to the MSHA building in Denver when she felt a sharp pain in her knee.	IT SPECIALIST	Building
79	Hearing Loss	2007	Employee attributes his hearing loss to loud mine noises that he encounters while conducting mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
80	Hearing Loss	2007	Employee feels his hearing loss has deteriorated since his earlier claim for hearing loss.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
81	Strain (not back)	2007	Employee injured his left foot while ascending stairs at a mine building.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
82	Hearing Loss	2007	Employee attributes his hearing loss to his occupational exposure to mine noises that he encountered during MSHA mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
83	Strain (not back)	2007	While descending a hill at the mine that he was inspecting, the employee slipped on loose material and strained his back, right leg, knee & foot.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
84	Hearing Loss	2007	Employee attributes his hearing loss to his activity as a MSHA inspector.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
85	Back Strain	2007	Employee strained his back while loading his inspection equipment into hos GOV	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking lot
86	Hearing Loss	2007	Employee attributes his hearing loss to his occupational exposure to loud mining noises that he encounters during MSHA inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
87	Environmental Injuries	2007	While inspecting the surface area of a mine, the employee received chemical burns to his face and hands due to chemicals being sprayed from a helicopter.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
88	Dislocation/Fracture	2007	Employee slipped on gravel causimg him to fall and fracture a finger against a gate post.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
89	Hearing Loss	2007	Employee attributes his hearing loss to loud mine noises that he is exposed to during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
90	Dislocation/Fracture	2007	Employee was removing a seat from GOV and felt a "pop" in his left elbow.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
91	Traumatic injury - unclass. (except disease, illness)	2007	Employee's GOV was struck head-on by another vehicle that had steered into the employee's lane.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Road
92	Strain (not back)	2007	Employee slipped and fell while climbing rock berm. Injured his right shoulder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
93	Traumatic injury - unclass. (except disease, illness)	2007	Employee strained his right knee while traveling an inclined walkway at the mine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
94	Contusion/bruise/abrasion	2007	During an underground mine inspection, the employee stepped onto a plastic water line which caused him to slip and fall to the mine floor. He injured his shoulders and right rib.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
95	Hearing Loss	2007	Employee attributes his hearing loss to his occupational exposure to mine machinery that he encounters during MSHA inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
96	Strain (not back)	2007	Employee sprained his right ankle after stepping into a hole on the mine floor.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
97	Hearing Loss	2007	Employee feels that his hearing loss is due to excessive mine noise that he is exposed to while performing the duties of a MSHA mine inspector.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
98	Dislocation/Fracture	2007	Employee was inspecting area adjacent to the mine's surface explsoives magazine and caught his leg against a protusion which cause him to fall and break his right leg.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
99	Hearing Loss	2007	Employee attributes his hearing loss to exposure to loud mine noises that he encounters while performing MSHA Inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
100	Hearing Loss	2007	Employee attributes his hearing loss to his occupation as a MSHA mine inspector.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
101	Hearing Loss	2007	Employee (retired) attributes his hearing loss to his exposure to mine machinery that he encounterd while conducting mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
102	Strain (not back)	2007	Employee was standing in the bed of a pickup truck and the truck's drive unexpectedly moved the vehicle forward. Employee fell from truck and injured his shoulder, wrist and head.	MINING ENGINEER	Park
103	Traumatic injury - unclass. (except disease, illness)	2007	While participating in a mine rescue operation, the employee was fatally injured by a coal burst from the ribs at the mine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mine Rescue Contest
104	Hearing Loss	2007	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
105	Strain (not back)	2007	Engineer sprained his right arm while handling mine equipment.	GENERAL ENGINEER	Mining Operation - Surface
106	Hearing Loss	2007	Employee attributes his hearing loss to loud mine noises he encounters during inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
107	Dislocation/Fracture	2007	Employee became seriously injured from a rock burst during a mine rescue event. The employees has fractures of the face and leg.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mine Rescue Contest
108	Hearing Loss	2007	Employees attributes his hearing loss to his employment as a mine inspector.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
109	Hearing Loss	2007	Employee attributes his hearing loss to his activity as a MSHA inspector.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
110	Contusion/bruise/abrasion	2007	Employee was operating gov when a rock fell from a truck and bounced into the windshield of the gov. Employee received cuts to the head.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
111	Hearing Loss	2007	Employee attributes his hearing loss to his his occupational exposure to excessive mine noises that he encounters on MSHA mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
112	Strain (not back)	2007	Employee felt sharp pain in left knee after squatting down to unplug an extension cord from electrical outlet.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Classroom
113	Strain (not back)	2007	Employee injured his right knee while loading his GOV van.	TRAINING SPECIALIST	Parking Lot

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
114	Back Strain	2007	Employee was inspecting electrical installations in track entry of punchout area. He helped lift metal lids from SCSR box, then bent over to inspect the SCSRs. He felt a very sharp pain in his back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
115	Hearing Loss	2007	Employee attributes his hearing loss to his occupational exposure as a MSHA mine inspector to excessive mine noise that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
116	Strain (not back)	2007	Employee felt numbness in his left foot after kneeling on his left leg during a mine inspection.	ELECTRICAL ENGINEER	Mining Operation - Underground
117	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises that he encounters during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
118	Hearing Loss	2008	Employee attributes his hearing loss to exposure to loud mine noises that he encounters while	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
119	Respiratory disease	2008	Black lung claim	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
120	Arthritis	2008	Employee attributes his degenerative hip condition to his activity as an underground mine inspector.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
121	Respiratory disease	2008	Black lung claim	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
122	Traumatic injury - unclass. (except disease, illness)	2008	Employee stepped into a hole during a mine inspection and sprained his right knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
123	Back Strain	2008	Employee slipped and fell onto bathroom floor st hotel. The fall injured his back and head.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Hotel
124	Hearing Loss	2008	Employee attributes his hearing loss due to his occupational exposure to mine noises encountered during mine inspection	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
125	Hearing Loss	2008	Employee attributes her hearing loss to her occupational exposure to mine noises.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
126	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to excessive noise that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
127	Traumatic injury - unclass. (except disease, illness)	2008	While riding in a coal buggy during an underground inspection, a piece of foreign material fell from the roof and lodged in the employee's ear.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
128	Hearing Loss	2008	Employee attributes his hearing loss to exposure to loud mine noises that he encounters while performing MSHA inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
129	Dislocation/Fracture	2008	Inspector fell against side of truck while changing the tire, fracturing his ribs.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
130	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to loud mining noises that he encounters during MSHA insp	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
131	Strain (not back)	2008	Employee was in a travel status and while he was taking his seat on a plane, his left leg became pinned by his suitcase and sprained his left knee. As per letter dated 4/8/08 OWCP needs more medical information, and a copy of travel authorization. Claim h	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Plane
132	Laceration; Puncture	2008	Employee lacerated his finger while loading his GOV when it became caught between the seat of his GOV and the printer	IT SPECIALIST	Parking Lot
133	Back Strain	2008	Employee strained his back while carrying dust sampling equioment during a mine inspection.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
134	Strain (not back)	2008	Emplpyee slipped on wet concrete that had a slope of approx. 7 % causing him to sprain his left ankle.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
135	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposures to excessive noise during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
136	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposures to excessive noise during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
137	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to excessive noise that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
138	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
139	Carpal Tunnel Syndrome	2008	Employee attributes her carpal tunnel diagnosis to her employment as a lab technician.	PHYSICAL SCIENCE TECHNICIAN	Lab
140	Hearing Loss	2008	Employee attributes his hearing loss to exposure to loud mine noises that he encounters while performing MSHA inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
141	Hearing Loss	2008	Employee attributes his hearing loss to his exposure to mine noise that he encounters during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
142	Respiratory disease	2008	Employee attributes his pneumoconiosis to his occupational exposure to mine dust that he encounters on mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
143	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises he encounters on mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
144	Respiratory disease	2008	Employee attributes his black lung condition to his occupational exposure to coal dust that he encounters during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
145	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises he encounters on mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
146	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises that he encounters during MSHA mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
147	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noise that he encounters during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
148	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to the mine noises that he encountered on MSHA mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
149	Contusion/bruise/abrasion	2008	Employee was taking air samples when the tubing that he was using caught and dislodged a wood plank that struck the employee's left forearm.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
150	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
151	Hearing Loss	2008	Employee attributes his hearing loss to his exposure to mine noises that he encountered during MSHA mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
152	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposures to excessive noise during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
153	Strain (not back)	2008	Employee slipped on ice and fell tro the pavement of the office parking lot.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
154	Hearing Loss	2008	Employee attributes his hearing loss to exposure to loud mine noises that he encounters while inspecting mines.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
155	Hernia	2008	Employee was unloading equipment from GOV, and he felt a pain in his groin that was later diagnosed as a hernia.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
156	Hearing Loss	2008	Employee attributes her hearing loss to her lab duties in the MSHA office where she works.	PHYSICAL SCIENCE TECHNICIAN	Mining Operation - Underground

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157	Back Strain	2008	Employee felt a sharp pain in his back while bending at the waist in his office. Modified work from 12/27/2007 through 1/25/2007 as per doctors instructions. Patient can lift/carry up to 10 pounds, force for push/pull should never exceed force for lift/ca	INDUSTRIAL HYGIENIST	Office
158	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises that he encountered during MSHA mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
159	Hearing Loss	2008	Employees attributes his hearing loss to his occupational exposure to mine noises that he encountered during MSHA mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
160	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposures to excessive noise during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
161	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposures to excessive noise during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
162	Hernia	2008	Employee felt adominal numbness and swelling while crawling during an underground mine inspection.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
163	Carpal Tunnel Syndrome	2008	Employee attributes his carpal tunnel diagnosis to his climbing of ladders in raises of underground mines during MSHA inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
164	Contusion/bruise/abrasion	2008	Employee struck his right knee against the drawer of his desk.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
165	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to the mine noises that he encountered on MSHA mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
166	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure as a MSHA mine inspector to excessive mine noise that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
167	Concussion	2008	Employee became seriously injured while riding a mantrip underground that collided with another mantrip.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
168	Strain (not back)	2008	while inspecting a dozer, the employee	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
169	Strain (not back)	2008	Employee injured his left knee while playing basketball at the Mine Academy.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mine Academy

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
170	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises that he encounters during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
171	Strain (not back)	2008	Employee struck his head on an overhead pipe while inspecting an underground mine and injured his neck.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
172	Back Strain	2008	Employee strained his back while carrying a stretcher with a person during a mine rescue practice.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
173	Hearing Loss	2008	Claim submitted by former employee. Claim was scanned and e-mailed to O'Keitha Douglas on 03/03/2008 who in turn faxed it to OWCP on 03/03/2008.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
174	Hearing Loss	2008	Employee attributes his hearing loss to his occupational to mine noises that he encountered conducting MSHA mine inspectrions.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
175	Contusion/bruise/abrasion	2008	Employee struck a roof bolt that protruded from the mine rook while conducting an anderground mine inspection.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
176	Dislocation/Fracture	2008	Employee slipped and fell on icy steps at café	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Café
177	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposures to excessive noise during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
178	Hearing Loss	2008	Employee attributes his hearing loss to exposure to loud mine noises that he encounters while performing MSHA inspections. Claim has been accepted as binaural hearing loss, hearing aids are authorized, according to OWCP letter dated 6/11/08.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
179	Contusion/bruise/abrasion	2008	Employee slipped on icy pavement while cleaning the windshield of his GOV. He injured his right knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
180	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
181	Hearing Loss	2008	Employee attributes hi bilaeral hearing loss to his occupational exposure to mine noise that he encountered while conducting mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
182	Strain (not back)	2008	Employee strained his right hip after missing a stair step in his office. The employee did not fall.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
183	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noises that he encounters conducting mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
184	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noises that he encountered as a MSHA mine inspector.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
185	Strain (not back)	2008	The inspector suddenly felt a sharp pain in his left knee while he was walking on uneven ground during the inspection of a surface mine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
186	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noise that he encountered while conducting mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
187	Strain (not back)	2008	Employee stepped on loose ground while inspecting a tunnel conveyor at a surface mine and twisted his right knee. The employee did not fall.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
188	Traumatic injury - unclass. (except disease, illness)	2008	Employee injured his right knee while climbing a ladder during a surface mine inspection.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
189	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noises that he encountered while conducting mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
190	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noise that he encountered during mine inspections.	PHYSICAL SCIENCE TECHNICIAN	Mining Operation - Underground
191	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noise that he encountered while inspecting mines.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
192	Strain (not back)	2008	Employee injured his left leg and knee while climbing up on mobile equipment during the inspection of a surface mine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
193	Strain (not back)	2008	During an inspection of a surface mine, the employee stepped into a hole and twisted his ankle. A letter from OWCP was received, requesting more medical information. As per letter form OWCP dated 6/16/08 this claim has been accepted as Left Plantar Fasci	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Surface
194	Hearing Loss	2008	Employee attributes his bilateral hearing loss to the excessive noise that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
195	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noise that he encountered on mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
196	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noise that he encountered while conducting mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
197	Back Strain	2008	While conducting an inspection of an underground coal mine, the employee sustained numerous injuries after the man trip he was riding on collided with a parked mantrip. A curve in the maine's rail system prevented the parked mantrip from being observed by	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
198	Traumatic injury - unclass. (except disease, illness)	2008	Employee strained his knee after stepping in a mud hole during the inspection of an underground mine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
199	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposure to mine noises that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - SPECIAL INVESTIGATOR	Mining Operation - Underground
200	Hearing Loss	2008	Employee attributes his hearing loss to exposure to loud mine noises that he encounters while performing MSHA inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
201	Respiratory disease	2008	Employees attributes his diagnosis of silicosis to his occupational exposure to silica dust that he encounters during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
202	Back Strain	2008	Employee strained his lower back while stepping onto the access ladder of a quarry drill that he was preparing to inspect.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
203	Hearing Loss	2008	Retired employee attributes his bilateral hearing loss to his occupational exposure to mine noise while conducting mine inspections	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
204	Dislocation/Fracture	2008	Employee fractured his finger while playing volleyball at the Mine Academy.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	National Mine Academy
205	Strain (not back)	2008	While inspecting a haul truck during the inspection of a surface mine, the employee strained his knee while squatting to inspector beneath the truck.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
206	Strain (not back)	2008	The employee strained his knees and adomen while opening an air door during the inspection of an underground mine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
207	Laceration; Puncture	2008	The employee injured multiple areas while crossing over a belt conveyor that unexpectedly started moving while the inspector was crossing over.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
208	Strain (not back)	2008	Employee twisted his ankle while stepping through mandoor during the inspection of an underground mine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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	A	B	C	D	E
209	Back Strain	2008	While conducting an inspection of a surface mine, the employee slipped and fell while walking down an inclined icy roadway and injured his lower back and elbow.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
210	Contusion/bruise/abrasion	2008	Employee injured his toe while playing racketball at the Mine Academy.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	National Mine Academy
211	Hearing Loss	2008	Employee attributes his hearing loss to his exposure to mine noise that he encounters during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
212	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noise that he encountered while conducting mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
213	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposue to mine noise that he encountered while performing inspections at surface mines. This is the employee's second claim for hearing loss.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Underground
214	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noises that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
215	Strain (not back)	2008	Employee was inspecting a front end load during a surface mine inspector and injured his shoulder while climbing the loader's ladder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
216	Hearing Loss	2008	Employee's hearing loss has worsen since his previous hearing loss claim. (110132168)	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
217	Strain (not back)	2008	While inspecting the mine roof, the employee tripped on a section of track and fell to the mine floor. The fall resulted in an injury to his knees.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
218	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noises that he encountered during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
219	Hearing Loss	2008		MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
220	Back Strain	2008	Employee was repairing a vehicle and felt a sharp pain in his lower lower back. The vehicle was parked in the MSHA office's parking lot.	ELECTRICAL ENGINEER	Parking lot
221	Concussion	2008	Employee injured his neck and head after striking his hard hat against a roof bolt.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
222	Strain (not back)	2008	During an underground mine inspection, the employee twisted his knee while walking through mud and water.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground

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	A	B	C	D	E
223	Dislocation/Fracture	2008	The employee fractured a finger during an underground mine inspection as the result of a track jack that slipped and struck the inspector's hand. The jack was being used to fix a derailed mantrip that the inspector was a passenger on. The injury was lost	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
224	Strain (not back)	2008	As the employee pulled a continuous-mining-machine cable from some mud, he heard a "pop" and felt a pain extending from his right wrist to his shoulder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
225	Carpal Tunnel Syndrome	2008	Employee attributes hi carpal tunnel diagnosis for both wrists to his duties as a MSHA mine inspector.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
226	Hearing Loss	2008	Employee attributes his bilateral hearing loss to his occupational exposure to mine noises that he encountered during MSHA mine inspections.	MINING ENGINEER	Mining Operation - Underground
227	Traumatic injury - unclass. (except disease, illness)	2008	The employee was using his right leg to prevent the field office door from closing on another employee and strained his knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
228	Concussion	2008	Employee was on official travel and sustained a compression fracture of neck after striking his head against the door frame of his GOV after bending over to retrieve a cell phone that had fallen from his pocket. The incident occurred in the parking lot of	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
229	Virological/infective/parasitic diseases	2008		MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
230	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposures to excessive noise during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
231	Dislocation/Fracture	2008	Employee tripped and fell to the floor while exiting a room at Headquarters. Her injuries as a result of the fall was a bruised shoulder and a dislocated finger. The employee believes she fell as the result of tripping on the cuff of the pants that she wa	SECRETARY (OA)	Office
232	Hearing Loss	2008	Employee attributes his hearing loss to his occupational exposures to excessive noise during mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
233	Contusion/bruise/abrasion	2008	Employee bruised his knee as the result of a piece of coal that was situated beneath his knee pads while the employee was in a kneeling position.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
234	Strain (not back)	2008	Employee strained her neck and shoulder while attempting to retrieve a box of dust cassettes from beneath a table.	PHYSICAL SCIENCE TECHNICIAN	Office

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	A	B	C	D	E
235	Contusion/bruise/abrasion	2008	While conducting a surface inspection, the employee slipped and fell on loose stones while walking up an elevated ramp. He injured his knee and arm.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
236	Hearing Loss	2008	Employee attributes his hearing loss to exposure to loud mine noises that he encounters while performing MSHA inspections.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
237	Hearing Loss	2008		MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
238	Strain (not back)	2008	Employee was crawling up an intersection between #3 & #4 entry, started through the crosscut & his left knee slipped & his weight caused his knee to buckle under him as he fell.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
239	Hearing Loss	2008	While inspecting coal mines, employee was exposed to noise emitted by mining machinery.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
240	Traumatic injury - unclass. (except disease, illness)	2008	While inspecting mine, right foot went through overcast ramp while walking across.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
241	Traumatic injury - unclass. (except disease, illness)	2008	While inspecting coal mine, walked along side of shuttle car and stepped in mud turning left ankle and falling.	MINING ENGINEER - MANAGEMENT	Mining Operation - Underground
242	Strain (not back)	2008	Employee stepped into a hole on the jogging trail. Extreme sprain to right ankle.	MINE SAFETY AND HEALTH SPECIALIST - TRAINING	Trail
243	Respiratory disease	2008	Working in the mining industry for many years during which time he was exposed to coal dust.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
244	Hearing Loss	2008	No specific date - I knew from the annual audiograms that I had received hearing loss. Exposed to high noise levels in performance of my job.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
245	Hearing Loss	2008	Noise exposure to mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
246	Hearing Loss	2008	Gradual hearing loss due to exposure to high noise levels over extended amount of time.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
247	Strain (not back)	2008	The employee had been bending over while walking in 52-inch mining height. As he started to get down to crawl in 36-inch mining height, his right knee gave out and popped.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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248	Strain (not back)	2008	Employee was walking the alternate escapeway. Mine floor was wet and muddy, approximately a little deeper than ankle deep. Employee stepped on rock hidden within the mud. The rock rotated. This caused the right ankle to bend outwardly. Ee fell onto b	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
249	Hearing Loss	2008	Employee was exposed to noise emitted by various mining machinery.	GEOLOGIST	Mining Operation - Underground
250	Carpal Tunnel Syndrome	2008	Daily use of hands over time caused carpal tunnel syndrome.	SECRETARY (OA)	Office
251	Strain (not back)	2008	I couldn't see very well because of dust; stepped on slope of floor heave with left leg, then stumbled, twisting right leg higher than the left leg. I then stepped off into a hole and experienced a little pain in the small of my back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
252	Back Strain	2008	Employee was moving a file cabinet and twisted his lower back. Later the same day, the employee twisted to access a printer from a seating position and noticed pain in his lower back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
253	Strain (not back)	2008	While walking through a curtain, the employee stepped in a hole and hyperextended his right knee. He stated he did not see the hole because of the curtain.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
254	Strain (not back)	2009	The employee reports that he twisted his left knee while walking in mud.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
255	Laceration; Puncture	2009	A piece of rock fell from the roof striking employee in the face.	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
256	Traumatic injury - unclass. (except disease, illness)	2009	Stepped on a rock with right foot and turned right ankle, tried to catch myself with my left foot stepping on another rock with my left heel and falling forward to the ground.	MINING ENGINEER	Parking Lot
257	Hearing Loss	2009	Exposure to noise from mining machinery .	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
258	Hearing Loss	2009	Exposed to noise emitted by mining machinery and trucks.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
259	Hearing Loss	2009	Employee was exposed to noise present in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
260	Hearing Loss	2009	Inspecting mines.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
261	Hearing Loss	2009	Noise during coal mine inspections	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Underground

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	A	B	C	D	E
262	Strain (not back)	2009	Stood up and hit the top of his head on a cross bar.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
263	Contusion/bruise/abrasion	2009	Waiting for MS&H Assistant, went to walk back to the lab while carrying his health equipment and and the file cabinet caught the edge of the equipment case and hyperextended his left arm.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Lab
264	Hearing Loss	2009	additional loss of hearing	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
265	Back Strain	2009	Stepped on rock, and foot slipped causing lower back to be jerked	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
266	Hearing Loss	2009	I have experienced a continual decline in my hearing over a period of time. This decline has become more pronounced while employed by MSHA. As per OWCP letter dated 5/10/10 a request for consideration is not sufficient to warrant modification	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
267	Hearing Loss	2009	Exposure to noise over the course of several years has caused hearing loss.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
268	Hearing Loss	2009	loss of hearing over time	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
269	Hearing Loss	2009	Exposed to high levels of noise during coal mine inspections.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Underground
270	Dislocation/Fracture	2009	While entering the door way to an office I tripped over a cabinet that was being assembled in the doorway entrance. Injured right hand and wrist.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
271	Hearing Loss	2009	Working in mining environment where noise is present from mining equipment being operated.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
272	Back Strain	2009	Stepped on a patch of ice and slipped.	MINE SAFETY AND HEALTH SPECIALIST	Parking lot
273	Strain (not back)	2009	Employee slipped as he was climbing down the cab access ladder of the Cat 966 Endloader.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
274	Contusion/bruise/abrasion	2009	As I was conducting a walk-around inspection of a bulldozer, I tripped on windrow of hard clay, jamming the plastic note ring binder into my left ribs.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
275	Hearing Loss	2009	Was diagnosed with a threshold shift and a speech recognition test determined that he went from a 65 to a 38.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
276	Hearing Loss	2009	Working in the mining environment where noise is produced by mining equipment.	MINE SAFETY & HEALTH SPECIALIST - UNDERGROUND	Mining Operation - Underground
277	Traumatic injury - unclass. (except disease, illness)	2009	Twisted left knee while lifting supplies to shelves in storage room	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Storage room

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	A	B	C	D	E
278	Hearing Loss	2009	Hearing loss.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
279	Hearing Loss	2009	Hearing loss.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
280	Hearing Loss	2009	gradual hearing loss in both ears due to noise exposure at work sites. An appointment was made to obtain a second opinion assessment as per letter dated 5/15/09. A appointment has been reschedule to determine the relationship between your claimed and fact	MINE SAFETY & HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
281	Strain (not back)	2009	While lifting a file box heard sound and felt pain down back of right arm	MINE SAFETY & HEALTH ASSISTANT (OA)	Office
282	Hearing Loss	2009	Continuous exposure to loud noises on mine property	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
283	Respiratory disease	2009	Working in coal mines.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
284	Traumatic injury - unclass. (except disease, illness)	2009	Was stepping through a mandoor with a high velocity of air and stepped on a loose rock, one leg on each side of opening.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
285	Hearing Loss	2009	Noise exposure to mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
286	Hearing Loss	2009	Close proximity to loud equipment in underground and surface coal mines, including rock drills, haulage equipment, ventilation equipment, coal cutting and loading equipment, and repair shop equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
287	Laceration; Puncture	2009	As the employee stepped from his POV, he slipped and fell on ice in the parking lot.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
288	Contusion/bruise/abrasion	2009	While climbing down off the machine, I bumped/scraped left shin on the rub rail of the machine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
289	Hearing Loss	2009	Exposure to noise emitted by machinery	MINE SAFETY & HEALTH SPECIALIST - UNDERGROUND	Mining Operation - Underground
290	Hearing Loss	2009	After years of noise exposure with job, hearing has progressively gotten worse and have to make adjustments to hear normal conversations.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
291	Contusion/bruise/abrasion	2009	Rock fall.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
292	Carpal Tunnel Syndrome	2009	Repetitive motion with hands	SECRETARY (OA)	Office

	A	B	C	D	E
293	Strain (not back)	2009	Attempting to retrieve mail and case of paper was in the way. Tried to move case of copy paper with left foot	OFFICE AUTOMATION ASSISTANT	Office
294	Laceration; Puncture	2009	Upon exiting the car employee closed his hand in the door of the GOV that he was driving.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Parking Lot
295	Hearing Loss	2009	Working extended hours conducting respirabel dust and industrial noise surveys in close proximety to mining equipment. Working in underground and surface mines.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
296	Hearing Loss	2009	Extended exposure to noise	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
297	Hearing Loss	2009	Exposed to noise emitted by various mining machinery	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
298	Hearing Loss	2009	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
299	Traumatic injury - unclass. (except disease, illness)	2009	Slipped on ice and landed on left shoulder	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
300	Back Strain	2009	While walking on a leaf covered path, I slipped on loose leaves which was covering uneven ground.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Park
301	Hearing Loss	2009	Continued exposure to elevated noise levels caused a hearing loss.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
302	Strain (not back)	2009	Employee was walking by the cab of a coal truck, inspecting it for outstanding citations, when he slipped in mud created for dust control and grabbed the truck to keep from falling.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
303	Hearing Loss	2009	Exposure to noise emitted by mining machinery	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
304	Strain (not back)	2009	Reacing across his desk and got his left thumb caught in some papers, causing pain in his thumb and wrist.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Office
305	Back Strain	2009	Bent over at waist while walking in 53" mining height coal carrying 15 lbs. of equipment. Felt something pull in lower back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
306	Skin diseases/conditions, including dermatitis	2009	While inspecting a large haulage truck, I was under the under carrage of the truck when the over flow discharge line for the engine cooling system discharged;antifreeze and steam blew onto my left hand.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
307	Strain (not back)	2009	Slipped on ice, fell on back and head bounced off concrete.	SUPPLY MANAGEMENT SPECIALIST	Parking Lot

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308	Strain (not back)	2009	Stepped and heard/felt his right knee pop and felt pain in the knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
309	Carpal Tunnel Syndrome	2009	During periods of typing for several minutes, I experience tingling in left hand. Lifting heavy books causes pain and tingling in wrist and hand.	MINE SAFETY & HEALTH ASSISTANT(OA)	Office
310	Traumatic injury - unclass. (except disease, illness)	2009	While dismounting a Caterpillar Dozer, slipped and fell to the ground. When foot slipped off the step, struck left hip on the ground.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Underground
311	Hearing Loss	2009	Recuring exposure to loud noise from crushing and screening plants; mobile equipment and other related equipment during the course of performing my duties as a Mine Inspector.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
312	Traumatic injury - unclass. (except disease, illness)	2009	While walking return air course, inhaled something into throat and it stayed in place.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
313	Arthritis	2009	Carrying inspection and testing equipment weighing up to 50 lbs.; walking on uneven, steep slopes; climbing ladders and equipment; exposed to extreme weather conditions.	MINE SAFETY & HEALTH SPECIALIST - SURFACE	Mining Operation - Surface
314	Back Strain	2009	traveling along coal rib through a water hole lost balance and made awkward move to try an maintain balance.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
315	Hearing Loss	2009	Inspecting mines	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
316	Strain (not back)	2009	Walked on very wet, muddy, uneven, slick mine floor surfaces.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
317	Hearing Loss	2009	During an annual Audiogram was informed of a threshold shift in his hearing. It was recommended employee should use hearing aids.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
318	Hearing Loss	2009	Exposure to excessive noise	MINING ENGINEER - MANAGEMENT	Mining Operation - Underground
319	Contusion/bruise/abrasion	2009	Employee was observing a roof bolt installation when the roof bolter machine operator hit the wrong machine control lever, resulting in an inline torque wrench being violently thrown from the drill chuck of the roof bolter and striking the employee in the	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
320	Back Strain	2009	Employee states he picked up a continuous miner cable to examine a splice.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
321	Hearing Loss	2009	Continual overexposure to noise	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
322	Strain (not back)	2009	Walking across overcast, jammed head into low rof	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Building

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323	Dislocation/Fracture	2009	Slipped/tripped causing employee to fall down approximately 10 steps to the bottom landing.	IT SPECIALIST	Stairs
324	Hearing Loss	2009	Exposure to noise over several years	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
325	Hearing Loss	2009	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
326	Hearing Loss	2009	Inspecting mines, operations and equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
327	Strain (not back)	2009	I leaned against table which was unsecured and it slipped off table legs causing top of table to fall to the floor.	MINE SAFETY AND HEALTH SPECIALIST - TRAINING	Break room
328	Hearing Loss	2009	After 20 1/2 years of exposure, hearing is getting much worse.	TRAINING SPECIALIST	Mining Operation - Underground
329	Contusion/bruise/abrasion	2009	Inspector was traveling through air lock door to check reading of fan when dust lodged into right eye.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
330	Strain (not back)	2009	Fell on floor, slipped on wet and slick shower room floor.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Shower room
331	Hearing Loss	2009	Exposure to high noise levels an average of 5 hours/day for many years.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
332	Strain (not back)	2009	He struck the top of his head on a metal cross member.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Plant
333	Strain (not back)	2009	Strained/sprained left elbow	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
334	Hearing Loss	2009	Exposed to noise	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
335	Hearing Loss	2009	Exposed to loud noises at underground mines	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
336	Strain (not back)	2009	My hard hat struck a rock bolt protruding from the mine roof.	GEOLOGIST	Mining Operation - Underground
337	Strain (not back)	2009	Injured right elbow in the MSHA Academy swimming pool while playing water basketball	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	National Mine Academy
338	Hearing Loss	2009	Exposed to noise from mining equipment while conducting inspections of coal mines.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
339	Strain (not back)	2009	Noticed a sharp pain any time I would twist my left leg with my foot planted on the floor.	ELECTRICAL ENGINEER - MANAGEMENT	National Mine Academy
340	Hearing Loss	2009	Exposure to noise from mining machinery.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
341	Contusion/bruise/abrasion	2009	Was stepping off the walkway along a conveyor belt. My foot landed on a rock and when the rock moved it twisted my left knee while entire body weight was on the left leg.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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342	Hearing Loss	2009	Exposure to Noise in the mining environment	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
343	Hearing Loss	2009	Retired employee states he was exposed to high noise levels while working for the Mine Safety and Health Administration.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
344	Strain (not back)	2009	When climbing the steep down slope at a surface mine experienced pain in right leg.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
345	Respiratory disease	2009	After 26 year with the Agency, continuouos exposure to coal mine dust	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
346	Strain (not back)	2009	Climbing stairs carrying inspection gear into motel room when I felt my right knee pop and felt pain	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Motel
347	Strain (not back)	2009	When he fell back on his right leg something popped in his right knee. The knee started hurting and swelling. Employee reinjured	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Building
348	Back Strain	2009	Lifted a suitcase out of your private vehicle (Jeep) and loading it into the rear door of the GOV (Dodge Caravan). (luggage was approximately 30 lbs)	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
349	Hearing Loss	2009	Exposure to noise	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
350	Laceration; Puncture	2009	Stumbled into rock wall head first after tripping on 3"X4" iron door stop	MINE SAFETY & HEALTH ASSISTANT(OA)	Building
351	Hearing Loss	2009	Hearing loss due to loud and prolonged noise exposure.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
352	Hearing Loss	2009	Noise exposure to mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
353	Back Strain	2009	Injury occurred while inspecting mining equipment on the working section of an underground coal mines.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
354	Hearing Loss	2009	During an annual audiogram was informed of a shift threshold in his hearing. It was recommended employee should use hearing aids.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
355	Strain (not back)	2009	Flocculent on walking surface was not visible and when employee stepped into it, it caused him to slip and fall to the concrete floor.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
356	Hearing Loss	2009	Exposure to various noise sources.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground

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	A	B	C	D	E
357	Laceration; Puncture	2009	Employee was traveling thru an air lock door. He closed the door behind him and when he opened the outside door, the inside door blew open pushing him out. His right hand was caught, causing a laceration to his right hand	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
358	Hearing Loss	2009	Exposed to loud noises at underground mines.	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
359	Hearing Loss	2009	Exposure to heavy equipment noise.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Underground
360	Back Strain	2009	Got out of bed to use restroom, got dressed, was hurting when got out of bed (lower right side of back), loaded respirable dust equipment into vehicle, checked out of hotel and headed for the mine to do inspection and dust sampling.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Hotel
361	Hearing Loss	2009	Exposure to noise over time in underground mines.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
362	Respiratory disease	2009	Exposure to dust in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
363	Contusion/bruise/abrasion	2009	Boot became stuck in mud. While pulling it out of mud, injured right knee. Also injured left knee when it struck the rock bottom.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
364	Strain (not back)	2009	Walking inclined belts and multi floors of prep plant - bending kneeling and crawling on knees. Left knee swollen, tender. Inside of knee worse part.	MINE SAFETY AND HEALTH SPECIALIST	Plant
365	Hearing Loss	2009	I was an enforment inspector for MSHA at the time I was exposed to many load noises.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
366	Strain (not back)	2010	While exiting the Big Laurel, Mine No. 2 drift, during the Gilliam Saturation inspection, I walked into a steel beam extending down from the mine roof.	MINE SAFETY & HEALTH SPECIALIST	Mining Operation - Underground
367	Hearing Loss	2010		MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
368	Strain (not back)	2010	While carrying laptop computer and other equipment, employee twisted knee and heard it "pop" when he planted it and turned to go up second flight of stairs.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
369	Hearing Loss	2010	Excessive noise while I was working as a mine inspector, supervisor and manager around surface and underground mining equipment.	SAFETY AND OCCUPATIONAL HEALTH MANAGER	Mining Operation - Underground
370	Contusion/bruise/abrasion	2010	In opening a mandoor, the right index finger 2nd knuckle skin was caught in the handle's hinged pinch point.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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	A	B	C	D	E
371	Hernia	2010	White the employee was conducting his regular job duties. He crawled underneath a bulldozer when he grabbed a bar pulling himself up, when he felt a sharp pain in his stomach area.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
372	Strain (not back)	2010	Employee was trying to open airlock doors, rigid bottom skirting made difficult to open. Left toe caught track rail, which caused left foot to slip, turning left leg, twisting left knee. Employee heard a popping sound.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
373	Hearing Loss	2010	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
374	Hearing Loss	2010	During career in industry and MSHA which spanned 50 years, I have been exposed to noise from machinery while in underground mines.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
375	Strain (not back)	2010	While sitting in the government vehicle, driver's seat, reached into back seat area for inspection materials and felt pain in right side and groin area. Felt extreme pain.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Governmant Vehicle
376	Laceration; Puncture	2010	Right hand was caught in machinery during a 50/50 pressure check.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
377	Hearing Loss	2010	During years as coal mine inspector and industrial hygienists, was exposed to high levels of industrial noise in underground mines.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
378	Back Strain	2010	She pulled her back muscle.	MINE SAFETY & HEALTH ASSISTANT(OA)	Office
379	Hearing Loss	2010	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
380	Back Strain	2010	Getting ready to get into van saw some dust on left pant leg, went to dust it off, raised left leg, bent over and reached to rub dust off, felt a shap pain in right hip. Went away temporatily, but sharp pain occasionaly comes back.	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Parking Lot
381	Hearing Loss	2010	Noise	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
382	Hearing Loss	2010	Noise exposure to mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
383	Hearing Loss	2010	Exposure to high levels of noise	MINING ENGINEER - MANAGEMENT	Mining Operation - Underground
384	Hearing Loss	2010	Exposure to noise emitted by mining machinery	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
385	Hearing Loss	2010	Working at mines where noise from mining machinery is present.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground

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386	Inflammatory Disease (including bursitis, tendinitis)	2010	Employee crawls around on hands & knees in low seam mines for 8 to 9 hrs. per day when conducting respirable dust sampling or noise dosimeter sampling. Notlced swollen area under knee cap on 11/30/09. It was very tender & painful to crawl on 12/01/09.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
387	Hearing Loss	2010	Exposure to noise	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
388	Eye Injuries	2010	While riding in "golf cart" underground, debris flew into right eye.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
389	Hearing Loss	2010	Exposure to noise caused hearing loss	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
390	Carpal Tunnel Syndrome	2010	Employee was performing repeated movement of he4r hand and wrists such as: filing, writing, keyboarding, and repair and calibration of mine inspection instrumentation and equipment.	PHYSICAL SCIENCE TECHNICIAN	Office
391	Hearing Loss	2010	Mining equipment and noise.	MINE SAFETY AND HEALTH SPECIALIST - TRAINING	Mining Operation - Underground
392	Strain (not back)	2010	While walking throught the water hole the travelway shifted causing me to fall farther down into the wate hole.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
393	Contusion/bruise/abrasion	2010	While crawling underground in a coal mine, employee's right knee came down on a piece of coal.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
394	Contusion/bruise/abrasion	2010	While exiting mantrip on 5 north section, I stepped in a hole with my left foot and caught myself with my right foot.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
395	Contusion/bruise/abrasion	2010	While inspecting rock truck, slipped and fell on frozen snow covered ground.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
396	Strain (not back)	2010	I walked around the corner of the north end of the building and slipped on the ice that was covered in snow	MINE SAFETY & HEALTH ASSISTANT(OA)	Building
397	Hearing Loss	2010	Exposure to noise emitted by mining machinery	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
398	Contusion/bruise/abrasion	2010	Had just left mine site and was traveling on roadway when an oncoming vehicle crossed center line striking gov in driver's side of vehicle.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
399	Contusion/bruise/abrasion	2010	Employee was walking up steps to work when she turned her ankle and fell on the steps.	MINE SAFETY & HEALTH ASSISTANT(OA)	Office
400	Hearing Loss	2010	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - SPECIAL INVESTIGATOR	Mining Operation - Underground

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401	Cardiovascular	2010	While talking on the phone, another employee called across the room, I backed up and chair rolled over.	TRAINING SPECIALIST	Office
402	Strain (not back)	2010	At 1:30 am on 1/27/10, knee was hot and burning feeling. By 3am knee was swollen, burning - put ice on it and elevated it.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
403	Hearing Loss	2010	Visiting mine sites and explosed to loud mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
404	Contusion/bruise/abrasion	2010	Employee was walking to his GOV and slipped on the snow, caushing his right leg to strike the side of the parked GOV.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
405	Strain (not back)	2010	Jammed neck.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
406	Contusion/bruise/abrasion	2010	While using escalator at the SLC Airport, one piece of luggage hung up on the edge. Escalator continued to move and I was pulled backwards over the luggage partway down the escalator, causing ribs on left side to be sore and right eye to become "blood re	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Airport
407	Hearing Loss	2010	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
408	Contusion/bruise/abrasion	2010	I was getting off the elevator on the 23rd floor, tripped and fell on my back. I landed on the left side of my back and left arm.	PROGRAM ANALYST	Elevator
409	Dislocation/Fracture	2010	Slipped on ice but didn't fall completley to the ground.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
410	Cardiovascular	2010	We had stopped at the store so that the driver could change out of work boots. I left the car to throw away trash. I slipped on ice on the sidewalk. I reached out and jammed my left arm on an exterior building column to stop the fall.	CIVIL ENGINEER	Sidewalk
411	Strain (not back)	2010	Employee stepped out of GOV, sliped on ice and fell onto his left elbow and forearm.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
412	Hearing Loss	2010	Loud noise	MINE SAFETY AND HEALTH SPECIALIST - TRAINING	Mining Operation - Underground
413	Strain (not back)	2010	Struck head against roof bolter machine canopy. Pressed hardhat down on head causing pressure on nose and neck.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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	A	B	C	D	E
414	Strain (not back)	2010	While doing an MSHA inspection I stepped off ladder from Jaw Crusher, left foot to ground, pivoted right, twisted left knee and felt ripping/popping sensation. It was painful and normal walking and use of the knee was hampered. Mr Orton has been schedule	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
415	Hearing Loss	2010	Job-related noise exposure	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
416	Strain (not back)	2010	Hit head on 6" water pipe while coming up stairway access	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Building
417	Back Strain	2010	While checking the continuous miner employee felt a sharp pain shoot down his right leg and right knee. He was wearing knee pads and he thought they were too tight and had cut off the circulation to his knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
418	Cardiovascular	2010	While walking through the back of the building, my foot caught on the plastic runner on the carpet. I tripped and fell on my left knee trying to catch myself with my hands.	SECRETARY (OA)	Office
419	Contusion/bruise/abrasion	2010	When turning left on a two-lane highway, the inspector collided with an 18-wheeler that was passing her van.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Road
420	Carpal Tunnel Syndrome	2010	Repetative motion of hand & wrists while typing.	MINE SAFETY & HEALTH ASSISTANT(OA)	Office
421	Dislocation/Fracture	2010	Ankle twisted when I walked toward building security causing me to allmost fall but I caught myself and my left knee popped. Pain in left knee	MINE SAFETY AND HEALTH SPECIALIST	Building
422	Hearing Loss	2010	Exposure to loud noises in underground coal mines has caused hearing loss.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
423	Arthritis	2010	Osteoarthritis and arthritis	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
424	Strain (not back)	2010	Employee was riding in a Johnson 2-man mantrip (in a half sitting/lying on his back position due to the low environment) many ruts and pot holes were encountered.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
425	Strain (not back)	2010	Employee was attempting to crawl on his hands and knees in mud, water and low coal (42 inch high coal), doing a health inspection (dust), traveling from the miner to the bolter. Employee felt a sharp pain in his lower abdomen, from his navel toward his g	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
426	Hearing Loss	2010	exposure to noise over time	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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	A	B	C	D	E
427	Strain (not back)	2010	While walking, felt a burning paintful sensation in rear area of right ankle and the 5 min. later the same sensation in the left ankle.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
428	Hearing Loss	2010	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
429	Contusion/bruise/abrasion	2010	Employee fell on graveled parking lot	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Parking Lot
430	Strain (not back)	2010	Employee was checking the belt at Dotiki Mine when he slipped on draw slate and twisted his left knee. It Popped. Employee had a total knee replacement as a result of this injury on 3/8/2011. He was on LWOP beginning 3/8/11 - 5/6/11. On 5/9/11 he retur	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
431	Strain (not back)	2010	Traveling though debris strewn entry, slipped off impounded water dam, measuring approx 3' high; left foot/ankle rolled on chunk of coal at the bottom of the dam. An additional slip, on a loose piece of coal, occurred down the entry again on the same foo	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
432	Arthritis	2010	Crawling and duckwalking underground; walking long distances; handling mine files and writing a lot	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
433	Strain (not back)	2010	Walking in underground mine jammed head and neck into low area of mine.	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
434	Cardiovascular	2010	While passing from the longwall face to the tailgate entry I struck my head on the ine roof compressing my neck (cerfical area). The area where I struck my head was only about 48 or so inches high making it difficult to traverse.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
435	Hearing Loss	2010	Exposure to noise in mines, both during private sector employment and while employed with Mine Safety and Health. He states he had a prior hearing loss claim from his private sector employment.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
436	Hearing Loss	2010	Exposure to loud noise from mining machinery	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
437	Dislocation/Fracture	2010	While gaining access to aircourse from secondary escapeway, foot tripped on the door causing fall forward into hand	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
438	Back Strain	2010	Went to mine site and noticed some stiffness in my back.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Underground
439	Hearing Loss	2010	Exposure to mining equipment, both surface and underground. The availability of hearing protection prior to 1995 - Hearing Conservation Program was not initiated until 1997. Tri-Annual physical in 1995.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

	A	B	C	D	E
440	Back Strain	2010	The roads were wet and unable to stop and hit the truck that was in front of me. As per letter from OWCP dated 6/2/2010 states that evidence received is insufficient employee has 30days to provide missing information. Claim has been accepted as per letter	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Road
441	Hearing Loss	2010	Noise exposure to mining equipment	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
442	Back Strain	2010	Steel cable bolt was hanging down from the mine roof. I did not see the bolt and my head jammed into it knocking me to my knees.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
443	Back Strain	2010	Sitting in personnel carrier. While riding underground, rough roadway caused carrier to hit mine floor	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
444	Strain (not back)	2010	while stepping over a pile of Kennedy stopping material, fell thorugh some rubber beling material, twisting left knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
445	Hearing Loss	2010	Exposure to noise produced by mining machinery.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
446	Hearing Loss	2010	Exposure to noise while inspecting underground and surface coal mines	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Underground
447	Strain (not back)	2010	Climbed up ladder of Front End Loader and felt a pop in my right shoulder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Plant
448	Hearing Loss	2010	Threshold change in audiograms last two MSHA physicals. Equalibrium problem developed 12/2009 requiring visit to audiologist. Equalibrium problems continue to present.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Underground
449	Strain (not back)	2010	While walking to back door of house, steped in hole in yard	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Backyard
450	Back Strain	2010	Employee was involved in a motor vehicle accident. Third party pulled out in front of his vehicle and a collision occurred.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Road
451	Back Strain	2010	Tripped on tarps covering gym floor and fell on left knee while right foot was caught on tarp.	MINE SAFETY & HEALTH ASSISTANT (OA)	Gym
452	Cardiovascular	2010	While on top of a ram car in motor compartment, getting on back side of car, put left leg down and hopped to ground and left knee bent backwards, compressed and caused the left hip joing to jam.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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453	Laceration; Puncture	2010	At approximately 13:45 hours, Ramiro Jimenez Jr. entered the top of the cooling tower. While walking along the handrailed area, Ramiro fell through the roof decking up to his upper right thigh area. The roof decking was 6 inches wide and approximately 2	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Cooling tower
454	Hearing Loss	2010	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
455	Back Strain	2010	Stopped in traffic when gov was hit from behind.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Road
456	Hearing Loss	2010	Declining hearing due to exposure to noise over time of heavy underground & surface mining equipment. Tri-annual physicals & doctor exams at these physicals. Going yearly for audiograms. Placed on a hearing conservation plan on 01/26/2008.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
457	Strain (not back)	2010	Employee was traveling through a man door when his left foot slid on a peice of belt that was wet and muddy. There was a sharp pain in his left knee. He thought it would be better the next day but it was not.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
458	Back Strain	2010	Was reaching into back of GOV to get noise dosimeter case felt a sharp pain and a burning sensation in lower back, and collasped.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
459	Hearing Loss	2010	I'm expose to all types of noises out side of the work place where my job is.	TRAINING SPECIALIST	National Mine Academy
460	Cardiovascular	2010	Taking rock dust sample at crosscut 17, 50' inby	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
461	Hearing Loss	2010	Nosie exposure to mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
462	Contusion/bruise/abrasion	2010	I was stepping off a small ledge and tripped on a lump of coal. I fell to the ground and bent my toes back. Landing on my right knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
463	Contusion/bruise/abrasion	2010	Employee was traveling to mine site for investigation, when a red camero crossed the center line of the road and hit him head on.	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Road
464	Hearing Loss	2010	Exposure to noise emitted by mining machinery	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
465	Strain (not back)	2010	Employee heard pop on the back of his right side knee	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
466	Back Strain	2010	Bent over to tie my shoe and felt my back give way.	AUDIO VISUAL PRODUCTION SPECIALIST	Hotel

	A	B	C	D	E
467	Back Strain	2010	Individual was stepping out of the GOV Chevy Silverado Pick-up truck and received a strain to his lower back muscles. The floor of the truck cab is high which makes it difficult to step down.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
468	Back Strain	2010	Performing inspection activities when right foot slipped and all weight shifted to the left foot causing twisting action to back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
469	Dislocation/Fracture	2010	Broke right collar bone.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
470	Strain (not back)	2010	After inspecting the cab of the dozer climbing down and step off push arm the step foot caught on the step ridge and twisted knee. Felt pop or pull. Submitted to OWCP on 7/13/2010, doctor recommended an MRI and arthroscopic surgery. As per OWCP claim has	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
471	Hearing Loss	2010	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
472	Hearing Loss	2010	Suffered hearing lost due to loud mining equipment.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
473	Arthritis	2010	Performing duties of CMI conducting first mine visit in about twelve years. Lower leg and ankle aches and pains developed which increased and progressed with each subsequent mine visit/inspection, later developing into significant reduced leg and ankle s	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
474	Back Strain	2010	When retrieving equipment from van it cause him to tug at the case in an awkward motion. He felt something pop in his lower back and had immediate pain in his left leg.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
475	Strain (not back)	2010	Tripped and fell	SECRETARY (OA)	Office
476	Hearing Loss	2010	Exposure to noise in the mining environment	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
477	Traumatic injury - unclass. (except disease, illness)	2010	The test ignition resulted in an unexpected explosion well beyond normal. The pressure wave broke wire re-enforced windows between the gallery area and control room.	ELECTRICAL ENGINEER	Building
478	Hearing Loss	2010	Noise exposure to mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
479	Strain (not back)	2010	Employee made a quick reaching motion to grab a frame that was falling and he thinks he pulled a muscle in the bicep of his left arm.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface

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480	Hearing Loss	2010	I was notified of a STS in late 2009.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
481	Laceration; Puncture	2010	Scrapped knees and hand and bruises. Now my doctor tells me the minisus in my right knee is torn.	MINE SAFETY AND HEALTH SPECIALIST	Office
482	Traumatic injury - unclass. (except disease, illness)	2010	The test ignition resulted in an unexpected explosion well beyond normal. The pressure wave broke wire re-enforced windows between the gallery area and control room.	MECHANICAL ENGINEER	Building
483	Hearing Loss	2010	Exposed to noise emitted by mining machinery	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
484	Back Strain	2010	Employee was trying to get under #3 belt and hunched down to "duck walk" under thd #3 belt.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
485	Dislocation/Fracture	2010	Employee was getting off the ladder of a piece of equipment at the Grand Eagle Mining, Inc. The ladder was high off the ground and his legs are short. He hit the ground hard with his left foot.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
486	Laceration; Puncture	2011	While extiting his desk area his feet got tangled with a extension cord and telephone line and fell and struck the edge of the next desk.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
487	Hearing Loss	2011	Extended exposure to noise	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
488	Hearing Loss	2011	HCP program result of audiometric testing indicated a standard threshold shift and possible OSHA recordable permanent shift. Have worked 39 years for MSHA-the first 24 years as an underground inspector, intermittently the last 15 years.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
489	Hearing Loss	2011	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
490	Laceration; Puncture	2011	Tripped and fell on piece of rock and/or slate	MINING ENGINEER	Mining Operation - Underground
491	Hearing Loss	2011	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
492	Strain (not back)	2011	Employee conducted a ventilation survey at the mine site and it was neceesary for him to walk long distances, bent over and crawling in mine.	MINING ENGINEER - MANAGEMENT	Mining Operation - Surface
493	Dislocation/Fracture	2011	Going down the stairs at the Academy and fell on a open banana and peeling. Dislocated right ankle.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	National Mine Academy
494	Strain (not back)	2011	While walking across section, employee stepped on a loose lump of coal.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
495	Strain (not back)	2011	Employee was crawling on a slope (large rock), when he slid and injured his right knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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496	Hearing Loss	2011	Exposed to noise emitted by mining equipment	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
497	Laceration; Puncture	2011	I was checking the dust scrubber duct on the continuous miner in the hinge area, and after stepping down on to the mine floor, the large vertical steel inspection cover slammed shut on my right hand before I could move it.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
498	Hearing Loss	2011	Employee noticed a decrease in his hearing capacity and constant ringing in both ears throughout his mining career.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
499	Hearing Loss	2011	During an annual Audiogram was informed of a standard threshold shift in his hearing.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
500	Hearing Loss	2011	Inspecting high noise lecels Heavy equipment, crushers, screens and conveyors.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
501	Strain (not back)	2011	While employe was walking across the stacker belt crossover he felt like something pulled in his right groin area and felt a burning sensation there. Employee was in the process of conducting an inspection of the stacker belt.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
502	Dislocation/Fracture	2011	Was coming out of the AV office and my foot/toe got caught on the rubber edge of the carpet and I tripped and fell.	MINE SAFETY & HEALTH SPECIALIST	National Mine Academy
503	Hearing Loss	2011	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
504	Hearing Loss	2011	Exposed to noise emitted by mining machinery	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
505	Hearing Loss	2011	Hearing loss occured.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
506	Strain (not back)	2011	While riding in a mantrip, right elbow was lying on top of metal frame. When we hit a bump, my body bounced upward and I landed on my elbow, striking hard plastic. After exiting mantrip, I tripped and fell into deep mud and fell on my left hand and righ	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
507	Strain (not back)	2011	He slipped on some ice cubes in the bath house that were left there by someone who emptied their cooler in the shower. He overextended his right knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Bath house
508	Hearing Loss	2011	Exposed to loud noises from equipment and machinery while conducting mine inspection.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
509	Contusion/bruise/abrasion	2011	Slipped on ice and jerked his left arm.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot

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510	Carpal Tunnel Syndrome	2011	Carpal Tunnel	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
511	Strain (not back)	2011	Leaving EP 10, foot caught on some material causing employee to fall and strike head on mine floor.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
512	Hearing Loss	2011	I have been required to work around heavy machinery with loud motorl and gearing. I started realizing I was having difficulty understanding miners and coworkers when talking especially if there were other noise present.	MINE SAFETY AND HEALTH SPECIALIST - TRAINING	Mining Operation - Underground
513	Strain (not back)	2011	Slipped on ice in parking lot.	MINE SAFETY & HEALTH ASSISTANT (OA)	Parking Lot
514	Hearing Loss	2011	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
515	Hearing Loss	2011	While preforming inspection/investigation/mine rescue and recovery operations was exposed to high noise levels generated by surface and underground mining equipment.	MINE SAFETY & HEALTH ASSISTANT (OA)	Mining Operation - Underground
516	Contusion/bruise/abrasion	2011	As I was inspecting the area of the mine near the opening to the draw off tunnel, I slipped and fell. THIS IS NOT A MORGANFIELD FIELD OFFICE DISTRICT 10 EMPLOYEE. This person is not	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
517	Hearing Loss	2011	Employee was exposed to loud machinery, etc. over a period of time.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
518	Hearing Loss	2011	periodic noise exposure	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
519	Hearing Loss	2011	Continued exposure to excessive occupational noise despite required hearing protection; progressive hearing loss in both ears; however, since retiring in 2008, hearing loss has gotten worse.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
520	Back Strain	2011	While sitting in a chair, the employee bent down to retrieve a CD case from the bottom drawer of a filing cabinet.	MINE SAFETY & HEALTH ASSISTANT (OA)	Office
521	Strain (not back)	2011	I was walking toward the elevators and my left foot started to slipped from under me and I tried to break my fall and as I was doing so my left foot turned sideways.	REGULATORY SPECIALIST	Elevator
522	Musculoskeletal condition, not otherwise classified	2011	Repetitive trauma to the neck from hitting roof and roof bolts.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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523	Back Strain	2011	slipped and fell getting out of my truck at the airport. Was parking at Diamond airport parking lot to catch the shuttle to airport for a trip to Juneau. There was ice and snow on the pakring lot.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
524	Strain (not back)	2011	I was in room 2324 to retrieve some files and lost my balance and tripped and fell to the floor. I'm not sure what I tripped on or over.	SECRETARY (OA)	Office
525	Strain (not back)	2011	Slid on ice while getting equipment out of his government vehicle. He tried to catch himself with his right hand and arm with entire body weight onto ground and immediately felt a severe pain and a pop in his right shoulder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
526	Hearing Loss	2011	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
527	Strain (not back)	2011	Observing another employee making an imminent danger run at at mine site when he stepped in some loose rock and twisted both knees and fell to the ground. Employee was on light duty beginnins 2/1/11 - 5/31/11 at which time he voluntarily retired from MSH	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
528	Strain (not back)	2011	Slipped and fell on ice while walking from office trailer to GOV at Made-right concrete, off Rt. 536 in Punxsutawney, PA.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
529	Hearing Loss	2011	After taking the required hearing test, employee was told he had a hearing loss.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
530	Laceration; Puncture	2011	Small lacerations/abrasion to left ear lobe and neck.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
531	Laceration; Puncture	2011	He went to sit down on a chair in the repair shop (5 legs on wheels) and the chair rolled out, and he fell head first into the work bench.	ELECTRICAL ENGINEER	Repair Shop
532	Hearing Loss	2011	Exposure to noise emitted by mining machinery	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
533	Strain (not back)	2011	Sharp pain on top right foot.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
534	Hearing Loss	2011	Expose to loud noise at mine sites.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
535	Strain (not back)	2011	Stopped for traffic and struck from behind by vehicle going approximately 60 mph.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Road
536	Strain (not back)	2011	slipped on an icy patch	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface
537	Back Strain	2011	While leaning over to put work boots on, employee felt pain in lower left back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

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538	Hearing Loss	2011	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
539	Strain (not back)	2011	After crawling and walking in a stooped position for about 2 3/4 hours, employee felt pain in back, hip, and knee. Employee continued to work for about 3 more hours to complete inspection.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
540	Strain (not back)	2011	Hit head on low top in coal mine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
541	Dislocation/Fracture	2011	slipped on ice, fell, injuring lower left leg	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Sidewalk
542	Strain (not back)	2011	Getting luggage out of GOV car felt burning between shoulder blades, appeared ok and woke up on 1-25-11 hurting between shoulders.	MINE SAFETY AND HEALTH SPECIALIST	Parking Lot
543	Hearing Loss	2011	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
544	Strain (not back)	2011	While descending the ladder, all of the employee's weight was on his left knee, resulting in a sharp pain in the knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
545	Strain (not back)	2011	He was playing basketball and was going after a loose ball when another player (Rodney Adamson) fell on him causing him to bang his right knee to the floor. Employee was on light duty beginning 3/9/11-5/31/11 due to this knee injury.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	National Mine Academy
546	Contusion/bruise/abrasion	2011	While helping move an inspector's desk, during field office relocation, hutch fell from top of desk onto employee's left hand, causing employee's hand to swell.	PROGRAM ANALYST - MANAGEMENT	Office
547	Hearing Loss	2011	Noise exposure to mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
548	Dislocation/Fracture	2011	She stumbled and caught herself with her right arm.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
549	Strain (not back)	2011	While decesding down the ladder of the end loader, missed last rung of ladder and when landing on the ground jammed right leg jarring right hip and leg.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
550	Strain (not back)	2011	Employee felt pain in knee when he stood up after checking self-rescuers while in a squatted position.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
551	Traumatic injury - unclass. (except disease, illness)	2011	I was walking a return air course, it was muddy, and I got stuck in mud and twisted knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

	A	B	C	D	E
552	Hearing Loss	2011	I conducted or oversay thousands of mine inspections or investigations during my career almost all of which involved continuous and legthy exposures to excessively noisy mining machinery and equipment.	REGULATORY SPECIALIST	Mining Operation - Underground
553	Strain (not back)	2011	Pain and swelling in left knee joint.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
554	Back Strain	2011	I bent over electrical supervisor's desk to complete a tracking form and felt sharp, shooting pain in lower back.	MINE SAFETY AND HEALTH SPECIALIST	Office
555	Strain (not back)	2011	As employee was getting off a man trip ride he twisted his left knee causing pain from left knee up into my left hip.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
556	Laceration; Puncture	2011	Taking shower in preparation of mine visit, fell on slippery tub floor surface, fell out of tub and struck forehead/right eye on toilet rim. Pulled down shower curtain liner during fall, unable to see and avoid toilet and struck full force-unable to brea	MINE SAFETY AND HEALTH SPECIALIST	Bath house
557	Hearing Loss	2011	Long term exposure to mining equipment while inspecting.	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
558	Laceration; Puncture	2011	While attempting to place the new razor blade into the scrapper the scrapper slipped and and the razor blade came 1/2 out of the holder and struck my right index finger along the lower part of the nail and extended up to and across the top of my finger.	TRAINING SPECIALIST	Office
559	Musculoskeletal condition, not otherwise classified	2011	Carrying equipment, climbing ladders and climbing various mining equipment over the years has resulted in a right shoulder injury.	MINE SAFETY AND HEALTH INSPECTOR - SURFACE	Mining Operation - Surface
560	Contusion/bruise/abrasion	2011	Bumped left knee on van door while loading health equipment into GOV.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
561	Strain (not back)	2011	Stepped on rock and it slid in the loose dirt on a grade and twisted my left knee. This is the second time I injured my knee this year.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
562	Hearing Loss	2011	Exposed to loud noise	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
563	Strain (not back)	2011	Twisted left knee and heard it pop very loud after stumbled over floor mat.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
564	Hernia	2011	Lifting laptop case out of government van	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
565	Strain (not back)	2011	Experienced a pain in right leg during light jogging and walking on trail.	CIVIL ENGINEER	Trail

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
566	Contusion/bruise/abrasion	2011	I slipped on the wet garage floor and injured my left rib area.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Garage Floor
567	Hearing Loss	2011	Exposure to mining machinery and heavy equipment duiring inspections	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
568	Strain (not back)	2011	Employee was crawling in 36" to 37" high coal seam, for a distance of approximately 4,000 feet. Mine floor had 4" to 8" mud/water.	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
569	Strain (not back)	2011	While examining the No. 1 seal underground, I twisted my right ankle on the uneven mine floor.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
570	Hearing Loss	2011	Exposure to noise in the mining environment.	MINING ENGINEER	Mining Operation - Underground
571	Back Strain	2011	Walk up onto concrete slab stepping up 16 to 18" slipped while in stride and fell onto ground on Right Foot and Knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
572	Strain (not back)	2011	While doing upper body weight training I developed a pain in my right shoulder. I was following protocol defined by on line Wellness Class.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Classroom
573	Back Strain	2011	Lifting bag to put on scale	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Airport
574	Strain (not back)	2011	Stepped on a lump of coal and twisted right knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
575	Strain (not back)	2011	While helping with the Mine Rescue Contest, a gust of wind overturned a frame which helped simulate a mine layout.	PROCUREMENT TECHNICIAN	Mine Rescue Contest
576	Laceration; Puncture	2011	Employee was moving cartons of copy paper when she hit her big toe on her left foot with carton. She tore her nail loose on her big toe on her left foot. It was bleeding from both sides.	PROCUREMENT TECHNICIAN	Office
577	Hearing Loss	2011	Noise exposure to mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
578	Hearing Loss	2011	Audiologist test revealed significant hearing loss in both ears. I have continous ringing in my ears. I inspected mines with loud mining equipment.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
579	Respiratory disease	2011	Working at mine site, inspectiong mines. Inhalation silica dust over a prolonged period of time.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
580	Contusion/bruise/abrasion	2011	Employee tripped or slipped and hit head (frontal left) on door frame as well as hit and abraded both knees and injured right big toe.	SECRETARY (OA)	Restroom

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
581	Dislocation/Fracture	2011	On 3/2/2011, I conducted an inspection at mine ID 41-00998. On 3/8/2011, I conducted an inspection at mine ID 41-00320. Both locations require a lot of walking, climbing ladders, climbing steps, walking incline conveyors, and climbing up mobile equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
582	Strain (not back)	2011	While walking on side of entrance road, stepped /fell in porthole located near security gate.	MINE SAFETY & HEALTH ASSISTANT (OA)	Parking Lot
583	Hearing Loss	2011	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR -IMPOUNDMENTS	Mining Operation - Underground
584	Mouth injuries	2011	When the fire valve was turned on to observe the fire valve pressure on the tester, the entire 2-inch valve assembly violently burst and blew off the 4-inch water line. Where the inspector was positioned, he absorbed the sudden release of the water and d	MINE SAFETY AND HEALTH INSPECTOR - ELECTRICAL	Mining Operation - Underground
585	Strain (not back)	2011	I reached up to grab ladder. When I reached to pull myself up ladder, I had 3 points of contact, I either pulled or twisted muscle on right arm.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
586	Strain (not back)	2011	While climbing up a stationary ladder to access the motor department of the road runner plant felt a burning feeling in the right shoulder. By late Thursday 7/28/2011 begin tohurt. Friday the 29th shook miners hand and begin hurt bad.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Plant
587	Hearing Loss	2011	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
588	Strain (not back)	2011	While climbing stairs at the Rock Transfer Tower, I felt a sharp pain in my right knee	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Tower
589	Concussion	2011	While setting a bent roof bolt with what appeared to be a home-made post driver (without handles), the post driver slipped out of the employee's hands and struck the right side of his head, just above the ear.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
590	Hearing Loss	2011	Hearing Loss	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
591	Hearing Loss	2011	Hearing Loss.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
592	Hearing Loss	2011	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
593	Hearing Loss	2011	hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
594	Strain (not back)	2011	Twisted right ankle.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
595	Back Strain	2011	Thoracic Lumbar Spasm, Middle of neck and back and lower back painful to breath.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
596	Laceration; Puncture	2011	As I was climbing the ladder (approx 70 feet, 67' incline) I felt something pop or pull in my knee. Pain started Thursday worsened over weekend.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
597	Hearing Loss	2011	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
598	Back Strain	2011	While leaning on rail of access to safety tralier rail gave way and I fell on back and head approximately 5 foot drop	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
599	Hearing Loss	2011	Exposure to noise emitted by mining machinery	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
600	Strain (not back)	2011	Stepped on the sidewalk at the slanted spot by the crosswalk. Rolled my left foot on the high part of the sidewalk causing my foot to pop and stretch. This caused a sharp pain in my tendon area of my foot.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Sidewalk
601	Hearing Loss	2012	On May 13, 2009, I took a hearing test for work in Benton, Illinois. The audiology person explained to me that I had a hearing loss in one particular sound level. I had noticed a problem hearing certain sounds during communication with others.	MINE SAFETY AND HEALTH SPECIALIST - TRAINING	Mining Operation - Underground
602	Back Strain	2012	Employee was walking through mud and rocks when they slipped and twisted their back on the left side. They did not fall. They were investigating a roof fall at the Parkway Mine.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
603	Strain (not back)	2012	Climbing up a ladder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
604	Arthritis	2012	Employment as a federal underground coal mine inspector for 36 years has caused severe deterioration of right hip.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
605	Strain (not back)	2012	I was playing basketball and jumped to rebound the ball and landed normal on the ball of my feet. Experienced severe pain in left achilles tendon.	MINE SAFETY AND HEALTH SPECIALIST - TRAINING	Mine Academy
606	Laceration; Puncture	2012	Employee cut index finger on his right hand, first joint, with a box cutter	PHYSICAL SCIENCE TECHNICIAN	Lab
607	Strain (not back)	2012	Return bag of Instruments onto right shoulder after it had fallen off.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
608	Hearing Loss	2012	Hearing Loss	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
609	Hearing Loss	2012	As a CMI, duties required employee to work in very noisy environments, prep plants, longwall & continuous mining units, large vent fans, large surface haulage equipment, and underground haulage equipment, all of which are extremely noisy.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
610	Hearing Loss	2012	During the audiogram, it was determined that I have a possible shift threshold in both ears.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
611	Hearing Loss	2012	Exposure to noise in the mining environment.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
612	Hearing Loss	2012	Exposed to mixed noise levels, typically 8 hrs plus per day	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
613	Dislocation/Fracture	2012	Employee was walking in underground mine through a tight check curtain, when their backpack w/dust sampling tools got caught and caused them to reach out with thier left hand extended to keep from falling down with gear. Employee struck thier left ring f	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
614	Strain (not back)	2012	After inspecting the mine site he was getting in the shower at the mine, when he slipped on the wet floor and extended his left leg to keep from falling. Injuring his left leg and upper leg.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
615	Back Strain	2012	Mine Shop area, employee was walking at Landree Mine on rocks and ice, in front of the mine and slipped and twisted his body multiple times attempting to get footing on the ice and fell on the ground. Injuring his lower back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
616	Strain (not back)	2012	While at the Comfort Inn motel parking lot in Piketon, OH the employee was loading dust pump case into GOV by lifting case over right rear captain seat to put case between second and last row of the seats of the mini-van, felt a pull in my left shoulder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Parking Lot
617	Hearing Loss	2012	Exposed to noise emitted by mining machinery	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
618	Eye Injuries	2012	Noticed foreign matter irritation under left upper eyelid.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
619	Hearing Loss	2012	Exposure to noise from mining equipment.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
620	Strain (not back)	2012	He was checking for loose roof bolt plates when he felt something let go in his left arm and shoulder. It has pained him since this happened.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
621	Strain (not back)	2012	Employee tripped and fell, near the copy machine and sprained her foot.	HOUSING MANAGEMENT LEADER	Office

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
622	Degenerative Disc Disease, spondylosis; spondylitis	2012	On or around August 2004, I began to experience pain radiating down my legs with numbness in both feet.	MINE SAFETY & HEALTH SPECIALIST	Mining Operation - Underground
623	Respiratory disease	2012	I noticed I was having diffculty breathing. Shortly after that, I started to cough really hard & I started whizzing. Terry Heim witnessed this asthma attack. Kevin Hardester asked if I was alright. I was having a hard time breathing.	MINE SAFETY & HEALTH ASSISTANT (OA)	Office
624	Strain (not back)	2012	Employee stepped in a hole and felt his left knee pop.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
625	Respiratory disease	2012	Coal Workers Pneumonconiosis caused by the inhalation of coal mine dust.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
626	Hearing Loss	2012	Exposure to noisy areas in mines	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
627	Hearing Loss	2012	Noise exposure to mining equipment	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
628	Respiratory disease	2012	Coal Workers' Pneumoconiosis caused by inhalation of coal mine dust.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
629	Respiratory disease	2012	Black lung and Silicosis.	PROGRAM ANALYST - MANAGEMENT	Mining Operation - Underground
630	Hearing Loss	2012	Inspecting mines and was expose to loud machines and noise.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
631	Hearing Loss	2012	I had continued occupational noise exposure when I was at the mine site. Noise Exposure from mining equipment and the production process. I was not exposed to noise away from work to a significant degree.	REGULATORY SPECIALIST	Mining Operation - Underground
632	Strain (not back)	2012	While getting on forklift employee was pulling himself up into the cab and twisted his left shoulder.	PHYSICAL SCIENCE TECHNICIAN	Loading deck
633	Respiratory disease	2012	Mine site visits, exposed to silica dust, 8+ hours a day.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
634	Respiratory disease	2012	Exposure to dust iand silica in the mining environment.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
635	Traumatic injury - unclass. (except disease, illness)	2012	Bruising and pain in right elbow	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
636	Strain (not back)	2012	While walking the overland belt at the Dodge Hill Mine, employee stepped in some mud and tripped. When he fell forward, he hurt his right knee. Employee had right knee replacement surgery on 2/06/2012.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
637	Contusion/bruise/abrasion	2012	In parking lot directly in front of the main entry to Building 38, employee was walking out the building and as he exited the main entrance, he proceeded to make a right turn and slipped and fell on ice. The ice was from the gutter drain. The employee i	GENERAL ENGINEER - MANAGEMENT	Parking Lot
638	Strain (not back)	2012	Conducting mine inspection and was walking towards the man door to inspect a Power Center, when the employee stepped on a rock causing them to trip and fall forward. They caught themselves with their left hand. The employee injured their left wrist, elb	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
639	Strain (not back)	2012	climbing an 8-9 foot ladder when he bumped his head on a steel beam	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
640	Strain (not back)	2012	Inspecting mine. Slipped on muddy and mossy ground underneath the screen number 1. As I was grabbing the I beam for balance, my right foot went out from under me and felt a pop on my right bicep muscle	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
641	Musculoskeletal condition, not otherwise classified	2012	Gradually increasing pain in left wrist and forearm.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
642	Back Strain	2012	When taking first step onto a ladder stairwell (left leg) to examine a CAT 600 end loader, I felt a slight pop just above lower back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
643	Strain (not back)	2012	Employee was walking in the underground mine and felt pain in left ankle.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
644	Strain (not back)	2012	Employee put several items in a bag. He strained his left shoulder while lifting the bag to put in his government vehicle.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Bath house
645	Strain (not back)	2012	Walking underground on uneven mine floor, twisted right knee.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground
646	Hearing Loss	2012	Exposed to noise	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
647	Strain (not back)	2012	The employee exited a man trip, he was standing and lost his balance and his left leg slipped on some gravel, causing him to adjust his weight to his right knee. Employee twisted his right knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
648	Strain (not back)	2012	Employee extended his left arm in order to remove coveralls, and felt a pop in his left shoulder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
649	Strain (not back)	2012	I was climbing up a ladder on the crusher when I felt somethng give away in my left shoulder.	MINE SAFETY AND HEALTH SPECIALIST	Mining Operation - Underground

MSHA Injury and Illness report since FY 2007

	A	B	C	D	E
650	Hearing Loss	2012	Hearing Loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
651	Environmental Injuries	2012	Experienced pain and tenderness in elbow and pinky/ring finger. Pain when extending elbow. While sleeping experience numbness in pinky and ring finers.	MINE SAFETY & HEALTH ASSISTANT (OA)	Office
652	Strain (not back)	2012	Employee was attempting to travel through a man door and was pulled by the high velocity of air. He tried to grab the door and injured his left shoulder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
653	Back Strain	2012	Inspecting underground mine site. While walking along the return between the 3 left and 4 left bleeder panels, employee stepped up on broken portion of bottom rock with the toe of thier boot when the mud on the rock and on thier boot caused them to slip,	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
654	Skin diseases/conditions, including dermatitis	2012	Employee was handling/sorting CO and O2 sensors	MINE SAFETY & HEALTH ASSISTANT (OA)	Lab
655	Hearing Loss	2012	Exposure to noise caused hearing loss	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
656	Strain (not back)	2012	A sharp pain in left foot while he was climbing the ladder.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
657	Contusion/bruise/abrasion	2012	Conducting mine inspection at Black Hills Bentonite and tripped while entering building and fell mill floor and injured right knee. Right knee swollen, sore and scabbed.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Building
658	Back Strain	2012	Employee was at the Scale House Office (mine site), when they went to sit in a chair and it collapsed and they fell straight down onto their buttocks onto a concrete floor. Injuring their middle back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Office
659	Back Strain	2012	Employee jumped down from a dozer track and felt pan in his back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
660	Dislocation/Fracture	2012	I started down the steps right ankle belted (twisted).	TRAINING SPECIALIST	Stairs
661	Hearing Loss	2012	Exposure to loud noises caused by continuous running of machines in coal mines.	MINE SAFETY AND HEALTH INSPECTOR - MANAGEMENT	Mining Operation - Underground
662	Back Strain	2012	When I stepped down off a 6' high entrance platform coming out of the scale house I twisted my back.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Underground
663	Contusion/bruise/abrasion	2012	The employee cut a plastic tie wrap. The end of the tie flew off, struck the wall, and bounced back and hit the employee's left eye.	PHYSICAL SCIENCE TECHNICIAN	Lab
664	Strain (not back)	2012	While walking across a section, the employee experienced severe pain in left knee.	MINE SAFETY AND HEALTH INSPECTOR - UNDERGROUND	Mining Operation - Surface

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U.S. Department of Labor

Office of the Assistant Secretary
for Administration and Management
Washington, D.C. 20210

MAR - 8 2012

MEMORANDUM FOR JOSEPH A. MAIN
Assistant Secretary for
Mine Safety and Health

FROM: T. MICHAEL KERR
Assistant Secretary for Administration and Management,
Designated Agency Safety and Health Official

SUBJECT: Fiscal Year (FY) 2012 Injury/Illness Report

In FY 2011, the Department's focus on improving our safety, health and workers' compensation programs resulted in our meeting six of the goals in the President's government wide "Protecting Our Workers and Ensuring Reemployment" (POWER) initiative. You and your staff are to be commended for contributing to this success by achieving the goals for timely claim filing and return to work rate.

However, I am concerned that MSHA is currently failing to meet its FY 2012 goals to reduce its total and lost time case rates and its lost production days rate. In order for the Department to achieve success under the POWER initiative, MSHA must increase its efforts to reduce injury and illness cases and injured employees' lost work days.

The chart below shows your agency's POWER goals and performance through January 31, 2012.

POWER GOALS	Mine Safety and Health Administration				
	FY09 Baseline	FY11 Goals	FY11 Actual	FY12 Goals	FY12 Actual
1. Reduce total case rate (TCR)	5.26	5.05	5.20	4.85	5.98 *
2. Reduce lost time case rate (LTCR)	1.23	1.22	1.50	1.44	1.53 *
3. Analyze lost time injury/illness data if above the national target **	1.48	1.48 or below	1.50	1.33 or below	1.53 *
4. Increase timely filing of injury/illness claims	100%	95%	100%	95%	100%
5. Increase timely filing of wage-loss claims	83.8%	67.0%	86.4%	88.0%	94.6%
6. Reduce lost production days rate (LPD)	48.4	47.9	71.8	47.4	56.4
7. Increase return to work rate (RTW)	Not Available	83.4%	96.3%	85.1%	95.2%

* Interim data from the Safety and Health Information System (SHIMS).
** As long as an agency's FY 12 LTCR remains below the national target or 1.33, no analysis will be required.

MSHA is to be commended for currently meeting the FY 2012 POWER goals for the timely filing of claims and increasing return to work outcomes in select cases. However, management action is needed to ensure that MSHA achieves its goals for the reduction of total and lost time case rates and its lost production days rate. You or members of your staff are invited to meet with the Office of Worker Safety and Health to discuss strategies for improving MSHA's safety, health and workers' compensation programs. By March 31, 2012, please submit a report to me outlining the actions you will implement to improve MSHA's performance in meeting the POWER goals. With your personal attention, I am confident that the Department and MSHA may achieve all of the POWER goals in FY 2012.

Please have your staff contact Stephanie Semmer, Director, Office of Worker Safety and Health, at 202-693-6670 or via email at semmer.stephanie2@dol.gov to coordinate this meeting.

Thank you for your cooperation.

cc: Agency Administrative Officer

U.S. Department of Labor

Mine Safety and Health Administration
1100 Wilson Boulevard
Arlington, Virginia 22209-3939

1 1 2012

MEMORANDUM FOR T. MICHAEL KERR
Assistant Secretary for
Administration and Management

FROM: JOSEPH A. MAIN
Assistant Secretary of Labor for
Mine Safety and Health

SUBJECT: Corrective Action Plan- Fiscal Year 2012 Injury/Illness Report

The Mine Safety and Health Administration (MSHA) share your concerns with our effort towards achieving the President's government wide "Protecting Our Workers and Ensuring Reemployment" (POWER) initiative. While we are making progress towards achieving our fiscal year (FY) 2012 POWER goals, I agree that additional attention is required on reducing total case rates, lost time case rates, and lost production days rate.

We are committed to achieving our FY 2012 POWER goals. We have an obligation to ensure our employees, who protect miners, can go to work, put in their shifts, and return home safe and healthy each day. To that end, please find below immediate and long-term corrective measures that I believe will enhance our ability to improve employee safety and health.

Senior Leadership Commitment

The Deputy Assistant Secretary for Operations (DAS-O) will provide executive level leadership and oversight on implementing MSHA's corrective action plan and ensuring Senior Executives are held accountable for achieving results. The Directorate of Administration and Management (A&M) will compile and distribute a monthly report that provides the status of MSHA's conformance to FY 2012 POWER goals and identifies areas for improvement.

Effective immediately, the DAS-O will lead the monthly progress reviews with Senior Executives. The DAS-O will direct further corrective measures to ensure efforts are consistent with achieving FY 2012 POWER goals.

Senior Executives will develop program area specific corrective action plans for achieving MSHA's FY 2012 Power goals. These program area specific corrective actions plan will be developed and implemented within 90 days. Managers at all levels will be held accountable for compliance with employee safety and health

procedures and policies. The DAS-O will remind Senior Executives during each performance review that addressing employee safety and health is a mission critical performance element and that we can accomplish improved employee safety and health only if leaders take responsibility, as appropriate.

Accident Prevention Campaign

The Directorate of A&M will develop and implement an Accident Prevention Campaign that focuses on accident prevention. The Directorate of A&M will develop posters depicting the most common injuries and appropriate measures for preventing such injuries. In addition, a section of the MSHA Newsletter will be devoted to employee safety and health issues, such as back strains, injuries to extremities, and hearing conservation. This initiative will commence within 60 days.

Accident Review Board

District Accident Review Boards review circumstances of accidents, injuries, or unsafe acts involving MSHA employees, determine their causes, and emphasize preventive measures to preclude recurrences. District Managers will review their Accident Review Board practices and as appropriate, implement corrective measures to ensure the program comports with MSHA policy. The Directorate of A&M will review MSHA's internal policy and work with District Managers to develop an action plan to increase employee involvement in the accident review process.

Hearing Conversation Program

MSHA has implemented a hearing conservation program designed to prevent occupational hearing loss for employees and in accordance with the Occupational Safety and Health Administration, Occupational Noise Exposure standard for Federal employees. However, hearing loss claims remain MSHA's most expensive recurring injury. We will revitalize the Hearing Conservation Program with increased emphasis on districts with high hearing loss claims.

The Directorate of A&M will develop an action plan within 60 days to determine the root causes and identify corrective measures. In addition, we will revisit recommendations from the Yale Hearing Loss Study to determine whether these recommendations should be adopted.

Federal Employee's Compensation Act Training for Managers

The Directorate of A&M will develop Federal Employee's Compensation Act training for managers that can be delivered via video-teleconferencing. The training will encompass all aspects of workers' compensation, to include controverting claims. The training will be required for all MSHA managers.

In addition to video teleconferencing, MSHA will conduct live training sessions in Arlington, Virginia, and Beckley, West Virginia. We will start this initiative within 60 days. We may find it necessary to request support from your Business Operations Center, Office of Worker Safety and Health.

Return to Work

The Directorate of A&M is developing a return to work standard operating procedure (RTW-SOP). We consider this a high priority initiative, which may be able to yield more immediate results. The RTW-SOP will include a systematic process for minimizing employees' lost workdays due to injury or illness and returning eligible employees who have been on Workers' Compensation rolls back to work. The RTW-SOP will define roles and responsibilities and encourage managers to maximize Telework and light duty assignment as an effective alternative for minimizing costs. Program Areas are reviewing the draft RTW-SOP and will provide comments within two weeks.

Recruitment

The Directorate of A&M contracted with the Department of Health and Human Services, Federal Occupational Health to consolidate medical and physical examinations, immunizations, and health screenings under one provider. The initiative ensures consistent application of MSHA's medical and physical requirements and strengthens our ability to select candidates who are medically and physically fit to perform assigned duties and responsibilities.

In addition, the Directorate of A&M has initiated procurement efforts to revalidate MSHA's physical and medical standards for enforcement personnel. This initiative will enhance our ability to ensure we are hiring individuals who possess the physical and medical ability to perform the assigned duties and responsibilities. This mission critical effort is long-term and we anticipate implementing the revised physical and medical standards next year. We will work with the Human Resources Center to ensure we comply with collective bargaining requirements.

MSHA is committed to achieving its FY 2012 POWER goals. The DAS-O will continue to pursue additional initiatives that will support achievement of our FY 2012 POWER goals.

I wish to thank Ms. Stephanie Semmer and Ms. Janice Ruggles of your Business Operations Center, Office of Worker Safety and Health, for their continued support. Their professionalism and exceptional customer service is greatly appreciated.

Evaluation of MSHA's Hearing Conservation Program and Hearing Loss among MSHA's Mine Inspectors

Final Report of Cooperative Agreement

by

Occupational & Environmental Medicine Program

Yale University School of Medicine

for

U.S. Department of Labor,

Mine Safety and Health Administration

(Contract # DOLJ07MR20509)

December 15, 2010

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I. EXECUTIVE SUMMARY:

Scope of Work

The Mine Safety and Health Administration (MSHA), concerned about hearing loss in its workforce, asked the Yale University School of Medicine Occupational and Environmental Medicine Program (YOEMP) to evaluate the following areas and make recommendations, with the understanding that all necessary data would be de-identified and provided by MSHA.

1. Perform an analysis of audiometric monitoring data,
2. Design and interpret a trial of technologically advanced hearing protective devices,
3. Assess components of MSHA's hearing conservation program,
4. Evaluate pre-placement medical standards of inspectors with regards to hearing loss as well as other evaluations of auditory fitness for duty and accommodation,
5. Evaluate occupational and non-occupational noise exposures for mine inspectors, and
6. Evaluate current policies/procedures for evaluating and processing hearing loss claims.

Methods

Information to perform the evaluation was provided by MSHA and included the following: audiometric test results, data abstracted from the fitness for duty charts on 1,909 former and current MSHA inspectors in the hearing conservation program, noise exposure measurements of the MSHA inspectors and the miners, as well as MSHA's written policies regarding pre-placement medical standards, the hearing conservation program, and hearing loss claims. Additionally, MSHA health officials and human resource professionals were interviewed by YOEMP team members.

MSHA employees in the Hearing Conservation Program were divided into 3 distinct job groups for analyses: Coal Inspector, Metal/Nonmetal Inspector, and Engineer/Specialist. Analyses included characterizing these groups in terms of baseline demographics, threshold hearing levels, noise exposure, training rates, audiometric testing, as well as self reported data such as use of hearing protective devices (HPDs) and non-occupational exposure to noise. Statistical modeling was used to determine rates of hearing loss, determine factors affecting those rates, and to assess the quality of audiometric testing.

A pilot intervention trial to compare various types of hearing protection devices was designed

and conducted in two MSHA field offices, Elko, Nevada for Metal/Non-Metal and Pikeville, KY for Coal.

Results and Recommendations

1. Analysis of audiometric monitoring data: Inspectors begin MSHA employment with substantial hearing loss and hearing loss continues to occur among all three job groups. On average, adjusting for all covariates, Engineer/Specialists lose hearing at the rate expected by "normal" aging, i.e., there is no apparent loss due to noise exposure. In contrast, MSHA inspectors lose hearing at a faster rate than normal aging; coal inspectors approximately 25% faster than expected, and MNM inspectors 63% faster than expected. The project also demonstrated the feasibility of using an electronic system to manage the occupational health information of MSHA employees.

Recommendations

- Primary prevention, reduction of exposures in mines, is always preferred (to the extent feasible) and would reduce exposures to both miners and inspectors.
- Recommendations to enhance the Hearing Conservation Program (described more fully in the report) include:
    - Better characterization of inspector noise exposures,
    - Enhanced emphasis on use of HPDs, and
    - Better and more acceptable HPD options.
- MSHA should consider developing a computerized occupational health database that integrates complete fitness for duty health data with other existing computerized databases, such as audiometric test data, exposure data, and workers' compensation claims data.

2. Trial of technologically advanced hearing protective devices: Twenty-seven MSHA inspectors participated in the trial. Custom molded earplugs were the most favored hearing protection device evaluated in the study, and provided the best fit and attenuation, based on the fit test system. The fit test system was also felt to be useful as a training device. No single type of HPD was preferred by all users.

Recommendations

- The custom molded plug should be an available option for all inspectors. However, other devices should be made available, taking into account personal preference as well as fit test results.

- A fit testing system should be incorporated into the annual Hearing Conservation Program (see below).

3. Assessment of MSHA's Hearing Conservation Program (HCP): The written HCP covers all required components of the OSHA standard including noise monitoring, audiometric testing, training, hearing protection devices, and record keeping, and compliance is excellent. The quality of the audiometric testing data has been continuously improving between the years 1998 and 2007, but still has room for improvement based on the analysis of the test-test variability in audiograms.

Recommendations

- MSHA should continue its excellent compliance with their written Hearing Conservation Program.
- Audiometric technicians performing periodic surveillance audiograms should be required to be certified by the Council for Accreditation in Occupational Hearing Conservation.
- Contract physicians or audiologists supervising audiometric testing, as well as the MSHA chief medical officer, should be trained by CAOHC as Professional Supervisors of the Audiometric Testing Component of the HCP.
- An ongoing analysis of audiometric test-test variability should be performed to identify and correct any problems with the quality of MSHA's audiometric testing.
- A fit testing and education system regarding hearing protective devices should be incorporated in the HCP.
- An employee who has a 10dB threshold shift should be flagged at screening for intervention (refitting or retraining of hearing protection, exposure reduction). An employee who has a pure tone audiometric threshold average of 25dB or greater at 500, 1k, 2k, and 3k Hz at screening should also be flagged and evaluated for accommodation in the workplace.

4. Evaluation of pre-placement medical standards: The written MSHA medical standards for the hearing evaluation of new hires are acceptable, but given that analysis showed close to 30% had potentially disqualifying hearing loss at the time of hire, more thorough pre-placement evaluation is recommended.

Recommendations

- Develop more detailed guidelines (e.g. algorithm) to help standardize practice and guide MSHA medical examiners in their assessment of fitness for duty, with regard to hearing loss. This would include:
    - MSHA should develop a set of job-specific functional hearing requirements based on the hearing in noise test (HINT) developed for different mining environments and jobs. This would help the MSHA medical officer in case-by-case determinations of auditory fitness for duty.
    - The HINT should be done with and without the hearing protection (and with a hearing aid for those who use them) allowing people to be evaluated on a case by case basis.

5. Assessment of noise exposure: The mean time weighted average noise exposures, calculated from annual surveys, were relatively low, just over 71.2 dBA for Coal Inspectors and 70.9 dBA for MNM Inspectors, with only 5 out of 1039 tests exceeding the OSHA action level of 85dBA, based on one day of testing by supervisors during a job review. This strategy of exposure assessment does not appear adequate to accurately assess inspector noise exposures.

Recommendations

- Implement a self-monitoring noise surveillance system whereby MSHA inspectors measure their own noise exposure, focusing on specific tasks and environments with the greatest potential for noise exposure.
- In addition to the time weighted average (TWA) values currently collected, peak noise exposure should be measured and recorded, features already available with the noise monitoring equipment that MSHA utilizes.

6. Evaluation of policies regarding hearing loss claims: Hearing loss claims comprise 13.35% of all MSHA workers compensation claims. Over a period of 4.5 years (October 1, 2003 to March 31, 2008), MSHA received 816 workers compensation claims, 77.0 % of which were accepted, resulting in a total cost of $37,299,163 over this time period. Of these, 237 were hearing loss claims, 82% of which were accepted resulting in a cost of nearly $5,000,000 over this period of time.

Recommendations

- Develop a standardized / detailed procedure to evaluate and manage hearing loss claims to confirm the diagnosis of noise induced hearing loss.
- Based on analyzed data, it would be reasonable to consider a presumption that noise induced hearing loss is predominately related to mining work.

II. BACKGROUND:

The Yale University School of Medicine Occupational and Environmental Medicine Program (YOEMP) was asked by the Mine Safety and Health Administration (MSHA) to provide a comprehensive evaluation of MSHA's Hearing Conservation Program, resulting in a Cooperative Agreement between YOEMP and MSHA (Appendix I). The overall purpose was to evaluate whether there were measures that could be taken to reduce hearing loss among MSHA employees by improving their hearing conservation program and, if so, to provide recommendations. The cooperative agreement outlined 6 major activities, namely:

1. Perform an analysis of audiometric monitoring data that would:
    a. Assess data quality and completeness,
    b. Determine the current rate of hearing loss in the population,
    c. Identify demographic or other risk factors for hearing loss in this population, using multivariate regression techniques, and
    d. Apply methods of draft ANSI standard S12.13 1991 to assess test-test variability in the database.

    As part of this analysis, YOEMP would create a pilot program to computerize health data from MSHA's fitness for duty files;
2. Design, compile results, and analyze a trial of technologically advanced hearing protective devices;
3. Assess components of MSHA's hearing conservation program by reviewing MSHA's program and written policies, noise sampling strategies, training, use of personal protective equipment, and audiometric surveillance;
4. Evaluate pre-placement medical fitness for duty standards for inspectors relating to hearing loss and its accommodation;
5. Assess occupational and non-occupational noise exposures for mine inspectors, based on available data;
6. Evaluate current policies/procedures for evaluating and processing hearing loss claims, including the protocols for determining a diagnosis of noise-induced hearing loss and work-relatedness.

The agreement further specified that to fulfill these objectives, audiometric data, fitness for duty data, and noise surveillance data would be provided to YOEMP without individual identifying information. All analyses were performed utilizing SAS statistical software (SAS Institute, Cary, NC). This report is provided in fulfillment of the agreement that YOEMP provide a detailed written report of their work and findings and agree to present them to MSHA.

Project Team and Activities

YOEMP assembled a multidisciplinary team to carry out project activities. Team members, (in alphabetical order) included:

- Mark Cullen MD, MPH, an Occupational Medicine physician, co-Editor of Textbook of Clinical Occupational and Environmental Medicine, and former Director of Yale Occupational & Environmental Medicine Program;
- Deron Galusha MS, a computer programmer/analyst with experience in analysis of large audiometric and health data sets;
- Peter Rabinowitz MD, MPH, an Occupational Medicine physician with expertise in occupational hearing loss, past chair of the Professional Supervisor Committee of the Council of Accreditation in Occupational Hearing Conservation (CAOHC) and principal author of the American College of Occupational Medicine position statement on Noise and Hearing Loss (ACOEM 2003), and the Professional Supervisor of the Audiometric Component of Hearing Conservation Programs (ACOEM 2008);
- Carrie Redlich MD, MPH, Professor of Medicine and Program Director, Yale Occupational and Environmental Medicine Program, co-Editor of Textbook of Clinical Occupational and Environmental Medicine, is an experienced Occupational Medicine physician and investigator;
- Martin Slade MPH, Director of Research for Yale Occupational & Environmental Medicine, a biostatistician with expertise in the statistical analysis of health effects of occupational exposures including noise and hearing loss with extensive experience with large data sets;

- Judy Sparer MS CIH, an Industrial Hygienist with expertise in noise sampling as well as evaluation of hearing conservation programs;
- Baylah Tessier-Sherman MPH, an experienced project and data manager with expertise in the handling and security of large health data sets.

In support of this project, six trips of up to four people were made to the Mine Safety and Health Administration, 1100 Wilson Boulevard, Arlington, Virginia, by members of the YOEMP team to support data abstraction from the fitness for duty files. Additionally, two one-week trips were made in support of the advanced hearing protection trials (Pikeville, Kentucky and Elko, Nevada), two trips to Cincinnati, Ohio to participate in the MSHA annual conference, and an additional trip to MSHA; Arlington, Virginia to present interim results to the Assistant Secretary of Labor for the Mine Safety and Health.

Information provided by MSHA

The following de-identified data were provided by MSHA to YOEMP to address the objectives of the cooperative agreement:

1. Records, from all of the districts, to demonstrate compliance with the hearing conservation standards. These records included:
    a. Noise exposure monitoring
    b. Training in hearing loss prevention
    c. Availability of hearing protection
    d. Use of hearing protection;
2. Noise exposure measurements performed by MSHA supervisors;
3. Noise exposure measurements performed by inspectors in the course of their enforcement work;
4. Fitness for duty records;

5. Results of audiometric testing of MSHA inspectors including answers to the associated questionnaire;
6. OSHA requirements for a Hearing Conservation Program;
7. MSHA Hearing Conservation Policy;
    a. MSHA Administrative Policy Letter No. A07-IV-06: Hearing Conservation Program (HCP) for MSHA Employees
8. MSHA Medical Standards;
9. Hearing standards for the Federal Aviation Administration (FAA) and the Department of Transportation (DOT);
10. MSHA Instructions to the Physician;
11. Interviews with MSHA EHS, Health and HR personnel;
12. Office of Workers' Compensation Programs (OWCP) Data
    a. Payments for FY2003 to FY2008 (2nd Quarter)
    b. Claims filed by MSHA Employees from October 1, 2002 to June 5, 2008.

Data provided to YOEMP was protected in accordance with the YOEMP Protocol for Protecting Medical Information which is included as Appendix II.

III. SCOPE OF WORK

1. OBJECTIVE 1: ANALYSIS OF AUDIOMETRIC MONITORING DATA

YOEMP conducted an analysis of all available audiometric monitoring data to evaluate the quality of the data, determine the rate of hearing loss in the population, characterize risk factors for hearing loss using multivariate statistical techniques, and assess variability in the audiogram database. To this end, YOEMP piloted an electronic database of the most recent fitness for duty records. With the support of MSHA health and safety professionals and following strict confidentiality protocols, a Microsoft Access database was created to mirror all relevant fitness for duty forms. After data input, these data were used in the analytic components of this contract.

Methods

In order to conduct a comprehensive assessment of the current rate of hearing loss among MSHA inspectors and to create a statistical model to elucidate the causes of existing hearing loss, the following items were assessed:

Hearing status: Average threshold levels of hearing were calculated using the mean of audiometric test results for both ears at 500, 1k, 2k, and 3k Hz, thus a total of eight values were averaged. MSHA inspectors had an average of 7 audiograms over the study period, the first of which was considered the baseline (at hire) audiogram.

Hearing Impairment: Individual audiograms were analyzed to determine whether hearing impairment, as defined by American Medical Association criteria (AMA 2008), was present. An individual is considered to have hearing impairment once the average of their hearing thresholds of 500, 1k, 2k, and 3k Hz reaches 25dB.

Expected Loss Due to Aging: To assess the relative contributions of aging and noise exposure, expected hearing levels were calculated using American National Standards Institute (ANSI) standard 3.44 which provides numerous equations to calculate an individual's expected hearing threshold levels based on age and level of noise exposure. Our analysis was performed using

Annex B (unscreened reference population) which assumes no occupational noise exposure. This analysis provides a comparison hearing level of a population with hearing loss due to aging alone. These expected hearing levels were then compared to the hearing levels observed in MSHA employees.

Risk Factors: To explore the role of demographic and medical risk factors for hearing loss, and to pilot the computerization of health data from MSHA's fitness for duty files, the YOEMP team, working closely with the MSHA Health and Safety Office, selected a number of data fields to be abstracted from the fitness for duty records of MSHA employees. YOEMP assisted MSHA staff in the abstraction of these data and in the creation of a pilot electronic occupational medical database utilizing Microsoft Access. Included among these data fields are age, height, weight, serum cholesterol, and blood pressure. Data from the audiogram questionnaires were also abstracted, providing information on the type of hearing protection commonly used, frequency of use, and frequency of exposure to non-occupational noise (firearms, etc). The full list of data fields, including spirometry, and health and respiratory questionnaires, is provided in Appendix III. Using a de-identified version of this database, these data were linked to the audiometric records to determine whether there were medical and/or demographic risk factors predisposing employees to hearing loss.

All past and present MSHA employees for whom there was both audiometric data (i.e., were covered by the hearing conservation program) and abstracted fitness for duty data were included in these analyses.

Job Group: Based on discussions with MSHA Health and safety officials, employees were categorized into one of three groups, namely, Coal Inspector (Coal), Metal/Nonmetal Inspector (MNM), and Engineer/Specialist (E/S).

Statistical Analyses: Multivariate mixed effects modeling was utilized to determine significant predictors of hearing loss among MSHA employees. The mixed effect model allows for the dependence among each employee's repeated measures of hearing level. A spatial power law covariance structure was incorporated whereby an employee's hearing measurements taken

closer in time to each other are more highly correlated than those further apart in time. The following variables were initially included in the model: age at first MSHA audiogram, average hearing threshold at first MSHA audiogram, time (months) since first MSHA audiogram, gender, race, smoking status, hypertension, diabetes, body mass index, total cholesterol, hematocrit level, creatinine level, glucose level, white blood cell count, family history of hearing loss, use of firearms, machinery, motorcycles, loud music, military service, hearing conservation program views, job group, as well as each of their interactions with time since first MSHA audiogram. A backward elimination strategy with a significance level to stay of 95% (i.e., α=0.05) was used for all variables except gender and race which were forced to remain in the model as covariates. Two separate sets of covariates were modeled: one with and one without self-reported hearing protection use.

Test-Test Variability: An analysis of audiometric test-test variability that has been recommended for the assessment of hearing conservation program effectiveness was performed. See Scope of Work Objective 3: Assessment of components of MSHA's hearing conservation program.

Results

The YOEMP and MSHA teams input data from 1,909 fitness for duty charts into the electronic database. As there were a total of 2,800 past and present MSHA employees covered under the hearing conservation program, 70% of the population was able to be included in data analyses. Of these 1,909 MSHA employees, 913 (48.3%) were coal inspectors, 513 (27.1%) were MNM inspectors and 466 (24.6%) were E/S, and 17 employees for whom we could not assign a job group. A total of 13,722 audiograms spanning 1970 through 2008, an average of 7 for each MSHA employee, were analyzed.

Data Quality and Completeness: MSHA's data quality and completeness appeared excellent. 64.5% of expected annual audiograms were available for the E/S group; 77.4% were available for the Coal group; and 80.6% were available for the MNM group. Fitness for duty charts did not always contain complete information such as employee smoking status. Implementing electronic medical records for inspectors would greatly reduce the opportunity for missing

information.

Hearing Loss: The average length of audiometric surveillance (i.e., time between the first and last audiograms for an individual) was 11.1 years (Table 1). The E/S group had the longest average audiometric surveillance (15.2 years), followed by coal mine inspectors with 10.8 years. The group of MNM inspectors had the shortest average audiometric surveillance period with 8.0 years, although this was the group that was the oldest at the time of hire.

Hearing thresholds at hire for each of the MSHA job categories are presented in Table 1 and Figure 1. Overall, E/S started work with the best hearing (11.0dB). Coal inspectors started work with an average hearing threshold of 13.0dB, and MNM inspectors started work with an average hearing threshold of 13.4dB. The standard deviation for these mean values was on average 9 dB, thus many individuals started work at MSHA with substantially worse hearing than these average values. For comparison, Figure 1 shows the average hearing thresholds at hire for employees of a large U.S. manufacturer. While some of this discrepancy reflects the older age of the MSHA employees, it illustrates the extent of hearing loss that inspectors have at the start of employment.

Figure 2 graphically depicts the percent of those employees who were already hearing impaired at the time of hire. As can be seen in the figure, 10.1% of the newly hired E/S were already impaired. 13.7% of coal and 15.0% of MNM inspectors met the AMA criteria for hearing impairment at the time of hire.

Comparing average hearing thresholds at time of hire with most recent audiometric tests demonstrates the progression of hearing loss during MSHA employment among the three MSHA job groups (Figure 3). For all groups, the average hearing level worsened during time of employment at MSHA. The coal inspectors had the greatest average loss of hearing, 5.0dB (note that the average duration of employment and audiometric follow up was longer for coal inspectors than metal/nonmetal inspectors) and the E/S group, despite having the longest follow up, had the least hearing loss during employment (3.8dB).

The percentages of employees with hearing impairment at time of hire and at most recent audiogram for the three groups of MSHA employees are depicted in Figure 4. There is a

substantial increase for each of the job groups. Almost one third of all inspectors have demonstrated hearing impairment in their most recent audiogram.

Figure 5 compares the observed average threshold hearing level to the expected, based upon the ANSI (age) equations, for the actual age distribution of individuals in each job group. The first bar in each job category is the baseline (at hire) average hearing threshold as shown in Figures 1 and 3. The second bar, darker, is the average hearing threshold that would be expected at hire for the age distribution associated with the particular job group assuming no exposure to occupational noise. The third bar is the average hearing threshold for that job category using the most recent set of audiometric data. The fourth bar is the average hearing threshold that would be expected due only to aging for the age distribution at the most recent audiometric testing of the particular job group, assuming no exposure to occupational noise.

The difference between the darker (expected) bars for each job category represents the amount of hearing loss that would be expected during their tenure at MSHA based upon "normal" aging. The difference between the lighter bars (observed) in each job category shows the actual loss of hearing during MSHA employment. As can be seen, the E/S group lost about 4dB of hearing on average, the amount that would have been expected based on aging alone. The coal inspector group lost slightly more, approximately 5dB, as compared to about 3dB, the expected amount based only on age, and MNM inspectors lost about 4dB, roughly twice the amount that would have been expected from age effects alone.

It appears, therefore, that coal and MNM inspectors are losing more hearing than would be expected from aging, while the E/S group on average had losses approximating the ANSI predictions for aging alone without occupational noise exposure.

Risk Factors for Hearing Loss: The demographics of the population are shown in Table 1. The average age at hire among MSHA employees in the hearing conservation program was 40.7 years with the E/S group being slightly younger at hire (36.6 years) compared to coal and MNM inspectors. The oldest group at hire is the MNM inspectors (43.9 years). Overall, it is a white (95.6%), male (94.7%) population, although the E/S group is composed of almost 13% women.

Table 2 shows the distribution of health and lifestyle characteristics which are potential risk factors for hearing loss (as well as other health outcomes) for each job category. These data are

based on inspectors' most recent fitness for duty records, as abstracted in 2008, and may not represent current status. As the table shows, a significant proportion of all three groups of the population have elevated blood pressure, body mass index, and cholesterol. Over the entire population, 82.7% have blood pressure readings in the pre-hypertensive or hypertensive range, 89.1% are overweight or obese, and 46.2% have total cholesterol in the borderline high or high range. It should be noted that the blood pressure and cholesterol levels are actual measured values and were not adjusted for medication usage. Overall, coal and MNM inspectors have a higher rate of these medical risk factors than do E/S.

Included in Table 2 are other potential risk factors for hearing loss including smoking and non-occupational noise exposures. The MSHA inspector population exhibited high rates of current or past smoking: 47.6% overall, 40.5% in E/S, 45.2% in Coal, and 56.6% in MNM. Non-occupational noise exposure data are from responses to audiogram questionnaires. Overall, self-reported exposures to noise from firearm use (34.6%), heavy machinery use (43.1%), and power tool use (45.4%) were common. Close to one third of all inspectors had previously served in the military, thus likely exposing them to additional occupational noise. However, as noted below, none of these factors appear to substantially impact hearing loss in these MSHA employees.

Table 3 displays inspectors' self-reported data on the type of hearing protection most commonly used as well as the frequency of use. The overwhelming majority of employees wear earplugs, and most report that they always wear some form of hearing protection.

Table 4 depicts the results of the multivariate modeling that were used to create Figure 6. Due to the considerable number of factors and interactions with time since hire, caution should be used in making inferences based on the parameter estimates. Rather, graphical representations are required to understand the true nature of these complex relationships. If all contributing factors are held steady, Figure 6 depicts the rates of hearing loss by job groups. This figure shows that the rate of change of hearing over time varies significantly between groups. The MNM inspectors have the highest rate of hearing decline, followed by the coal inspectors, while the E/S group exhibits the least hearing decline. In fact, MSHA inspectors lose hearing at a faster rate than normal aging. By calculating the difference in slopes between groups we are able to see

that Coal inspectors are losing hearing approximately 25% faster than expected and MNM inspectors are losing hearing approximately 63% faster than expected.

Table 5 is similar to Table 4, but includes one additional factor which may affect hearing loss: inspectors' self-reported type of hearing protection device typically used. The addition of these data in the second model was done to try to elucidate the effects of certain hearing protectors. Those who reported using only earmuffs had a greater rate of hearing loss than those who reported wearing earplugs. Figure 7 shows the results based on the factors modeled in Table 5. In this model, MNM inspectors continue to have the highest rate of hearing decline, followed by coal and E/S.

These analyses show that MNM and coal inspectors are both experiencing progressive hearing loss in excess of that which would be expected by aging alone, suggesting that noise-induced hearing loss is occurring in these groups.

Test-Test Variability: Results of this analysis can be found in Scope of Work Objective 3: Assessment of components of MSHA's hearing conservation program.

Summary

The analysis demonstrates that hearing loss is common among MSHA inspectors and is primarily the result of two factors. First, the hiring practices for MSHA require inspectors to have at least five years of experience working in the mines. These individuals often begin their MSHA employment with substantial hearing loss and even impairment. Second, after adjusting for all covariates, there appears to be a statistically significant difference between the rates of hearing loss between the three job groups. Given that the E/S group is losing hearing at a rate similar to that which would be expected from aging alone, it can be inferred that the noise exposures within coal and MNM result in an increased rate of hearing loss. It is not surprising, therefore, that a large proportion of inspectors experience significant hearing loss and/or impairment during their tenure at MSHA.

The project also demonstrates the feasibility of using an electronic system to manage the occupational health information of MSHA employees. Data from 70% of inspectors who had

been in MSHA's hearing conservation program were input into the system and this data was used to perform analyses included in this report.

Recommendations

Our analyses demonstrate a higher rate of hearing loss in the Coal and MNM inspectors than would be expected. Primary prevention is always the first choice. Therefore, any ability that MSHA has to reduce noise exposure in the mines would be beneficial in the long term. It would result in employees starting at MSHA with better hearing and reduce the amount of hearing loss occurring during their tenure at MSHA.

An effective hearing conservation program is the second line of defense. A combination of measures to enhance the program is described more fully under Scope of Work 5, but includes:

1. Better characterization of inspector noise exposures,
2. Enhanced emphasis on the use of hearing protection devices,
3. Better and more acceptable HPD options,
4. Fit testing of HPDs chosen.

MSHA should also consider developing a computerized occupational health database that integrates complete fitness for duty health data with existing computerized databases, such as audiometric test data, exposure data, and workers' compensation data. The integrated database will allow for opportunities to understand other health trends in employee health including lung function and general wellness. This database should be regularly updated.

2. OBJECTIVE 2: TRIAL OF TECHNOLOGICALLY ADVANCED HEARING PROTECTION DEVICES

YOEMP cooperated with MSHA on a field study of technologically advanced hearing protective devices. The goals of the study were to measure the effective protection of each type of device, and to assess the comfort, convenience, and likely acceptance of each type of hearing protection device (HPD) by inspectors.

Methods

The YOEMP team interviewed experts in the hearing protection field as well as the MSHA chief medical officer to identify technologically advanced hearing protection devices that may have advantages in the mine environment. Consideration was given to the fact that many inspectors have preexisting hearing loss and require the ability to hear safety-related information.

Selection of Devices: Hearing protection devices were selected based on the following criteria:

1. A range of different HPD styles to assess comfort, and usability,
2. A range of HPDs with different frequency attenuation to assess the ability to use the device to both protect against noise and to allow necessary communication, even for people who might already have some hearing loss, and
3. Products from different manufacturers.

Active noise cancellation devices were considered, but no commercially available models were identified that appeared appropriate for the mining environment.

The following hearing protection devices were chosen to be included in the study; generic product descriptions are followed by brand names in parentheses:

1. Flanged earplug (Etymotic ER-20 High Fidelity Earplug). This is a pre-molded, flanged earplug with relatively low noise attenuation, designed to attenuate fairly evenly across frequencies. This theoretically helps avoid the over attenuation and

interference with communication that can occur to an individual with preexisting high frequency hearing loss. Such over attenuation can occur when wearing conventional earplugs as they provide greater attenuation in the higher frequencies. The noise reduction rating (NRR) for the Etymotic ER-20 High Fidelity Earplug is 18dB overall.

2. Custom molded earplug (Custom Protect Ear dB Blocker) is a custom molded plug made from a mold of the individual user's ear canal. This plug can be ordered with different noise filters. The one selected has a NRR of 26dB.
3. Foam push-in earplug (3M/E.A.R. Push-ins). This was an example of a fairly conventional foam earplug, with much higher attenuation in the higher frequencies. A push-in plug was chosen rather than a foam insert, which needs to be rolled, so that the plugs could be used without risk of introducing dirt into the ears. The NRR for this plug is 30dB.
4. Earmuffs: Two different earmuff styles were tested, one that was approved for use in an explosive atmosphere and one that was not.
    a. Flat attenuation earmuff (Clarity C3H Helmet Earmuff from Sperian): A flat attenuation earmuff was selected to test the muff style in coal. The earmuff was designed to maximize communication for an individual with preexisting hearing loss. This earmuff has a NRR of 25dB.
    b. Level dependent earmuff (Impact Sound Amplification Earmuff): This hearing protection device is specifically designed for users with hearing loss and includes a built in amplifier that can magnify sounds in the vocal speech communication range. This amplifier can be turned on, off or modulated by the user. It has a single number rating (SNR) of 28dB in the passive mode and never amplifies to levels above 82dB. The SNR is an international metric, becoming more widely used for the same purpose as the NRR, based on ISO 4869. The different procedures result in somewhat different values for HPDs. During the trial, it was only used in metal/nonmetal environments, as it has not been certified for explosion safety in mines.

An additional new technologically advanced device, the QuietDose from Sperian, was tested in conjunction with the flat attenuation earmuffs. This device includes tiny microphones mounted inside the HPD that are connected to a dosimeter which measures the noise levels at the ear (behind the HPD) throughout the day. These devices are beginning to be used to assist employees in reducing their own noise exposure, as it allows the user to read his/her noise exposure at the ear at the end of the workday, thus demonstrating whether or not the HPD is working properly. By observing their day to day differences in total noise exposure, individuals can change their work practices to minimize their noise exposure. Some companies are providing these devices to employees who experience a temporary threshold shift (TTS) to help them determine what is most effective in reducing their noise exposure.

Fit Testing of the Hearing Protection Devices: The final device tested was not a hearing protector, but a fit testing system for the hearing protector named VeriPRO, produced by Sperian. It is used to test the fit of a hearing protection device in a quiet setting analogous to the way a respirator is fit tested prior to use.

To work properly any hearing protective device that depends on sealing the ear canal to block noise must actually seal the ear canal. It can be difficult for the user to tell how good the seal is, as it may feel as though the canal is blocked even when it is not. Additionally, the HPD may be partially effective even if it does not fit properly, thus the user may erroneously believe it is working effectively. The fit test provides a check of the effectiveness of the plug in each of the user's ears. The test can be done at either a single frequency of 500 Hz or using all five provided frequencies, 250, 500, 1k, 2k, and 4k Hz. The individual being tested dons the muffs, which deliver a sound first to the right ear and then to the left, asking the person to use the computer mouse to increase or decrease the loudness of the sound in the left ear to match that in the right. This is repeated without any hearing protection, then with the selected HPD in one ear, and then in both ears. The computer, which is part of the fit test system, calculates the attenuation in each ear at each frequency, and issues a personal attenuation rating (PAR) for that user with that plug. If the user inputs the level of exposure that s/he faces, the computer notes whether or not the HPD is protecting them to within allowable levels. The device also provides training videos on the proper insertion of various types of hearing protection.

Trial Locations: MSHA selected two sites for the trials to ensure that different environments were included in the product evaluation. It was not possible to schedule any of the trials during the coldest part of the year, so any effect that cold ambient temperature might have on the comfort and use of the hearing protection devices was not able to be determined. Two coal districts in Kentucky and West Virginia were selected to provide a range of coal mining operations. In one of the MNM districts, Elko Nevada, both surface and underground mines were selected. MSHA solicited volunteers to participate in the study trials at each site. Representatives of MSHA and YOEMP visited the field offices of the selected mines to (1) introduce the study, (2) develop data collection questionnaires appropriate for the local conditions, and (3) develop the protocol for the study.

Trial Protocol: The trial was designed to test the 4 basic types of HPDs (in addition, the QuietDose was tested in mines where explosive atmospheres were not a concern). Each volunteer was assigned a different HPD to wear for an entire week during times that s/he encountered noise during the course of their work. This was repeated for three weeks, thus each volunteer tested 3 types of HPDs. In addition to wearing the device, volunteers were required to fill out a one page baseline questionnaire and a one page daily log at the end of each workday. All of the information was de-identified and then provided to YOEMP for analysis. Copies of all forms are included in appendix IV. The baseline questionnaire collected information relating to the inspector's tenure at MSHA, years in mining, history of hearing loss, type of HPD usually worn, and the reason that type of HPD was usually worn. The daily log asked participants to report on conditions encountered in the mine that day, hours spent in the mine, hours spent wearing the HPD, whether they liked the HPD, and the reason(s) they liked/disliked it. The study itself was carried out by MSHA personnel.

Results

Thirty MSHA inspectors were recruited for the study (10 in MNM and 20 in Coal), all of whom participated except for 3 coal inspectors due to transfer, training issues and illness. A profile of the twenty-seven inspectors who participated in the trial is shown in Table 6. Because MSHA wanted to test the custom molded earplugs on all volunteers, every participant wore them for one week. The other three were distributed evenly and randomly so that each type was used for the same number of participant weeks resulting in 81 person days with custom molded earplugs, 52

person days with foam push-in earplugs, 70 person days with flanged earplugs, and 45 person days with earmuffs. A subset of earmuff wearers tested the QuietDose, for a total of 4 person days.

Comfort and Usability: The study addressed whether different hearing protection devices might be more comfortable and practical depending on conditions encountered in particular mines or under different conditions. Noted working conditions included cold, hot, wet, dusty, cramped, humid, low ceiling, small mine, large mine, underground, surface and preparation plant. None of these conditions affected the preferred hearing protection device. Most subjects did not like the muffs under any conditions. Heat made all hearing protection devices more uncomfortable, but did not affect choice.

Figure 8 shows the results of the daily logs in terms of (1) comfort, (2) ease of use, (3) adequacy of protection, and (4) ability to communicate. Ratings were on a scale of 1 to 5 with 1 being unacceptable and 5 being excellent. The figure shows the proportion of trial participants who chose a rating of 4 or 5 for each question.

Custom Molded Earplug: As can be seen in Figure 8, the custom molded earplug was the top rated HPD receiving an excellent or very good rating by more than 50% of users in all categories. It should be noted, however, that it was not the first choice by everyone. Although everyone favored a corded plug, a few trial participants commented on the noise generated when the cord rubbed or twisted. As a result, MSHA ordered cords of a different material to see if that would solve the problem. The only other problem that surfaced with the custom molded earplugs was a concern about keeping them clean, as they are reusable until they no longer fit (e.g., due to dental work or weight gain such that the ear configuration changes). The manufacturer recommends regular washing with soap and water.

Flanged Earplug: The flanged earplug was well rated for ease of use but received the lowest level of favorable rating for adequacy of protection. Additionally, it received less than a 25% favorable rating for communication.

Foam Push-in Earplug: The foam push-in earplugs were rated as fairly easy to use but received lower scores in all other categories.

Earmuffs: The flat attenuation earmuff is a simple earmuff with no amplification. It was highly rated for adequacy of protection but scored poorly in the other categories. The level dependent earmuff was rated very favorably for adequacy of protection, fair on communication, and poorly for comfort and ease of use. Anecdotally, it was reported to be excellent for some non-occupational activities such as target shooting. The QuietDose was not found to be comfortable in conjunction with the muffs in this trial.

Fit Testing: A fit test was performed on each volunteer at the beginning of each week that they used a tested HPD. The earmuffs could not be tested. Users of foam push-in earplugs, flanged earplugs, and custom molded earplugs were tested on Monday mornings before their shifts began. This resulted in 21 fit tests with the flanged earplugs, 28 with the custom molded earplugs and 21 with the foam push-in earplugs.

Table 6 shows the results of the fit testing for all volunteers with each type of HPD. Results are in the form of the personal attenuation rating (PAR) which is a measure reflecting the actual noise attenuation that each individual obtains for that test, based on fit as well as properties of the specific hearing protection device. The PAR can be compared to the noise reduction rating (or NRR) that the manufacturer provides for each HPD. As can be seen, none of the hearing protection devices delivered the NRR claimed, although the flanged plug came the closest to its purported NRR. Custom molded earplugs received the highest level of attenuation, 15.0 in Coal and 17.5 in MNM, while the foam push-in earplugs received the lowest, 8.3 in Coal and 6.0 in MNM. The flanged earplug did moderately well with 14.0 in Coal and 15.3 in MNM.

The fit test is very useful in ascertaining how well the HPD fits at the time of the test, i.e., whether it is sealing off the ear canal as intended. There is inherent variation in the effectiveness of HPDs, even within the same device. The fit test can help make them more consistent by showing users the attenuation being performed. It cannot measure the actual amount of sound pressure reaching the ear through or around the HPD while in use as the

QuietDose does. The actual exposure, even with the fit test used, is still an estimate based on the assumed attenuation of the HPD and the measured external noise exposure.

Anecdotally, the fit test was found by users and those administering the tests to be very helpful. Users were surprised to find that their HPDs were not working as expected. In those cases, it helped the user determine what needed to be done in order to achieve the highest possible PAR. The use of the fit test system was reported to be very helpful by almost everyone in the study and requires merely fifteen minutes.

Summary

Custom molded earplugs were the most favored hearing protection device evaluated in the study and provided the best fit and attenuation. The fit test system was extremely useful as both a training device and as a fit check tool. No single type of HPD was preferred by all users. Thus it is important that a variety of types be made available. For example, in the coal districts, a few participants favored the flanged earplug, noting its ease of use, good fit with safety glasses, and its ability to allow effective communication. Others noted that this same device was uncomfortable and blocked out too much noise. Likewise, the foam push-in earplugs were rated favorably by some testers, while others found them uncomfortable and ineffective. No one favored earmuffs of any kind, finding them bulky, hot, and too heavy when mounted on the helmet. Muffs also made communication difficult and did not work well with safety glasses. The QuietDose, tested only with the flat attenuation earmuffs, presented the problem of too many wires.

Recommendations

The custom molded plug was the most popular and most effective in our trials and should be an available option. However, since no one HPD will be best for all people, other devices should also be made available, taking into account personal preference as well as fit test results.

A fit testing system should be used to ensure that inspectors are using a hearing protection device that fits them properly and provides them adequate protection.

3. OBJECTIVE 3: ASSESSMENT OF COMPONENTS OF MSHA'S HEARING CONSERVATION PROGRAM

MSHA employees are covered under the OSHA hearing conservation standard CFR 1910.195 (OSHA 1983). Under this standard, workers exposed to an 8 hour time weighted average (TWA) of occupational noise at a level of 85dB or greater must be enrolled in a hearing conservation program (HCP) designed to protect against occupational noise induced hearing loss. The required components of such a program include noise monitoring, audiometric testing, hearing protectors, training, and record keeping (OSHA 2010: http://www.osha.gov/Publications/OSHA3074/osha3074.html).

Findings and recommendations regarding noise monitoring of MSHA employees will be discussed more fully under Scope of Work Objective 5: Evaluation of data on occupational and non-occupational noise. MSHA's hearing conservation policy, based on the OSHA standard above, states that hearing protection must be made available for those individuals exposed to 8 hour TWA noise levels above 85dBA and is mandated to be worn in areas above 90dBA. MSHA policy also states that hearing protection must provide adequate protection for the individual.

Methods

The YOEMP team reviewed documents relating to MSHA's hearing conservation program and policies for employees, interviewed the MSHA medical director as well as health and safety officials regarding how the hearing conservation program is carried out, and performed an analysis of audiometric test-test variability that has been recommended for the assessment of hearing conservation program effectiveness. The documentation of the hearing conservation training, measurements of inspectors' noise exposure, records of audiometric testing, and self-reported data of hearing protector usage from annual audiometric surveys were all reviewed and analyzed.

Additional elements of evaluating the HCP, such as the use of administrative controls and cultural, social, physical and other barriers to hearing conservation, could not be evaluated due to lack of data.

Results

Compliance: Overall, MSHA's hearing conservation program for MSHA employees appears to be compliant with the OSHA hearing conservation standard. MSHA includes all employees who visit mines on a regular basis in its HCP and requires hearing protection for those exposed to 8 hour TWA noise levels above 85dBA. The HCP documentation covers all required components of the OSHA standard including noise monitoring, audiometric testing, training, hearing protection devices, and record keeping. Each MSHA field office documents that training has been provided to personnel. Annual audiometric testing for each enrolled employee is also documented. The test results and the documentation are submitted to the MSHA Health & Safety (H&S) Office. Measurement of noise exposure is performed annually by supervisors and similarly reported to the H&S Office by each district.

YOEMP reviewed data provided by MSHA on reported compliance with annual noise surveys, audiometric testing, and hearing conservation training for MSHA employees during 2006, the most recent year for which complete data were available. Inspectors in both coal and metal/nonmetal mining were included in the data provided. Table 7 shows the rates of reported compliance with OSHA HCP requirements for two groups of MSHA workers. In general, compliance rates were close to or exceeded 90% for all 3 program components, although compliance was slightly lower in coal than in metal/nonmetal mining. It can be inferred from this that over any two year period, compliance rates are nearly 99%.

Quality of Hearing Conservation Training: While YOEMP was able to assess compliance with the requirement to provide hearing conservation training, it was not possible to assess the quality of the training in hearing conservation provided to MSHA employees. YOEMP participated in a Council for Accreditation in Occupational Hearing Conservation (CAOHC) training session of MSHA health and safety professionals. The fact that such training happens at the supervisory level suggests that up to date training information is being passed on to the inspectors. One advantage of "fit testing" hearing protectors is that it provides direct feedback and training for employees about the effective use of hearing protection. As such, the use of fit testing as part of annual HCP training should be considered.

Audiometric Testing: As stated above, compliance with annual audiometric testing of individuals included in the hearing conservation program is high. Testing is performed at many different locations around the country. YOEMP was unable to ascertain whether all of the audiometric technicians performing testing at different contract locations were certified by the CAOHC: http://www.caohc.org/index.php. Such certification for audiometric technicians is not currently required by OSHA but is one step in helping to ensure the quality and reliability of the audiometric testing and resultant data. The MSHA hearing conservation policy that covers miners requires that audiometric testing be carried out by a qualified technician. The policy describes a "qualified technician" as one who "has been certified by the Council for Accreditation in Occupational Hearing Conservation (CAOHC), or by another recognized organization offering equivalent certification" (MSHA 2010): http://www.msha.gov/regs/complian/guides/noise/g3appendixb.htm. It should be noted that there are no other such recognized organizations in the United States.

The OSHA hearing conservation standard also stipulates that audiometric testing should be carried out under the supervision of a professional who is either a physician or an audiologist. This "Professional Supervisor" has a number of responsibilities including overseeing the audiometric testing, establishing baseline audiograms, ensuring proper follow-up of individuals exhibiting shifts from their hearing baseline, and determining the work-relatedness of hearing loss cases. The CAOHC offers a certification course for such "Professional Supervisors" of the Audiometric Component of Hearing Conservation Programs CAOHC 2010: http://www.caohc.org/professional_supervisor/scope_of_practice.php. The YOEMP team was unable to determine whether the physicians or audiologists supervising audiometric testing of MSHA employees had completed this certification course.

A number of methods have been proposed for assessing the effectiveness of a hearing conservation program through analysis of the audiometric database. Some methods for audiometric database analyses are described in a draft standard of the American National Standards Institute (draft ANSI S12.13-1991). This draft standard, which has never been adopted by ANSI, includes a statistic known as the better worse percentage statistic (BW%). This is a measure of test-test variability, and determines the annual percentage of audiograms that either

have improved or worsened by 15dB or more (compared to the previous year's test of the same person) at audiometric frequencies between 500 Hz and 6,000 Hz, inclusive. This draft document suggests that for a group of workers who are experienced in undergoing audiometric tests, a yearly BW% of 26% or less indicates that the hearing conservation program is "acceptable", a BW% greater than 26% but less than or equal to 40%, indicates "marginal" program effectiveness, and a BW% greater than 40% indicates a program that "needs improvement". There are two possible explanations for an elevated BW%: either the population is experiencing significant hearing loss (temporary or permanent shifts in hearing), which is unusual, or the quality of the audiometric testing itself is inadequate.

As part of our assessment of the MSHA hearing conservation program, YOEMP used the MSHA audiometric database to calculate a yearly BW% statistic for each year between 1998 and 2007, inclusive. Figure 9 shows the temporal trend, with the same statistic calculated on the audiometric database of a large U.S. manufacturer over the same time period presented for comparison. From the graph, it can be seen that the test-test variability of MSHA's audiometric testing has been decreasing over the years 1998 through 2007, though it is still in the range that indicates, according to the draft ANSI document, that the hearing conservation program "needs improvement". It also remains above that of the reference manufacturer. Possible reasons for this excessive variability include problems with test quality (including test technique, excessive background noise such as might be found with a mobile testing van, and/or audiometer problems) or the occurrence of rapid losses of hearing. Although YOEMP was not provided with sufficient information to perform the analysis, exploration of this test-test variability could isolate certain providers and worker groups to assess if, and why, particular problems are surfacing in some locations but not others.

It is our understanding that MSHA policy regarding follow-up of abnormal audiogram is that if the results of periodic audiometric testing of an MSHA employee demonstrates a 10dB non-age corrected threshold shift (a 10dB shift from baseline in either ear for the average of hearing thresholds at 2k, 3k and 4k Hz), the test is noted (flagged) and referred to the MSHA medical officer. The medical officer determines whether a referral to an Ear Nose and Throat Specialist is indicated using the American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNS) 1997 referral criteria. Unless the medical officer determines that the shift is not work-

related, the employee is recommended to have refitting and retraining in the use of hearing protection. This use of a non-age corrected 10dB threshold shift as an "early flag" for development of hearing loss has been found to have value in a hearing conservation program. However, this method may fail to identify individuals who may have significant hearing loss.

Noise surveys: A discussion of noise surveys is included in Scope of Work Part 5: Evaluation of data on occupational and non-occupational noise.

Hearing protectors: Table 3 and Figure 10 display the self reported use of hearing protective devices as compiled from the responses given by MSHA inspectors during their annual hearing tests. A very small percentage of inspectors state they rarely or never use hearing protection. However, there are some differences between MSHA employees working in coal and those working in MNM mines. The fraction of MSHA inspectors that reported using hearing protection rarely or never was greater among Coal than among MNM. More MNM inspectors reported always using protection compared to coal inspectors. These differences may indicate important factors about usage of hearing protectors, the nature of the job, and the frequency and amplitude of noise experienced.

In addition to reported usage, the effectiveness of hearing protectors has been shown to vary widely between individuals (Berger 2000). It was not possible based on available information for the YOEMP team to determine the effectiveness of HPD use by MSHA employees in the past. Newer technology is providing methods to assess HPD effectiveness, including "fit testing" and daily exposure monitoring of exposures inside of hearing protection.

Summary

MSHA is complying with the OSHA hearing conservation program requirements. In particular, annual training, noise surveys, and audiometric testing are performed on the vast majority of MSHA employees. However, we found significant variability in employees' audiogram results from year to year, suggesting that further inquiry into the source of this variability is warranted.

Recommendations

MSHA should continue it excellent compliance with their written Hearing Conservation Program which meets OSHA requirements. Audiometric technicians performing periodic surveillance audiograms should be required to be certified by the Council for Accreditation in Occupational Hearing Conservations (CAOHC). Further, contract physicians or audiologists supervising audiometric testing, as well as the MSHA chief medical officer, should be trained by CAOHC as Professional Supervisors of the Audiometric Testing Component of the HCP.

In an effort to understand the variability within MSHA's audiometric data, an ongoing analysis of test-test variability should be performed to identify and correct problems with the quality of MHSA's audiometric testing.

Flagging of abnormal audiograms should continue; however, it may be more reasonable to flag an employee who either has a 10dB threshold shift from baseline or a pure tone audiometric threshold average of 25dB or greater at 500, 1k, 2k, and 3k Hz in either ear. This "flagging" of an employee provides an opportunity for prevention of further hearing loss to take place and/or the development of workplace accommodation. Preventive measures with such individuals should be encouraged. Such steps could include fit-testing of the hearing protectors and determining whether there are barriers (such as use of a hearing aid or significant hearing loss causing communication problems) to the use of hearing protective devices. A standardized approach for preventive intervention among such employees could increase the consistency and effectiveness of interventions.

Lastly, a fit testing program for hearing protection devices should be implemented in all districts to help inspectors select HPDs, understand its proper fitting, use and limitations. This should be done annually by the Hearing Conservation Program Officer or their designee, but not left to each inspector to do on their own. Clear instruction should be provided on when and how to use hearing protection devices based on noise exposure.

4. OBJECTIVE 4: EVALUATION OF MSHA'S PRE-PLACEMENT MEDICAL STANDARDS

MSHA requested an evaluation of pre-placement standards of inspectors as they relate to hearing loss and auditory fitness for duty and accommodation.

Methods

The YOEMP team reviewed MSHA policies regarding pre-placement evaluations of 1) enforcement officers who may have preexisting hearing loss and 2) current employees with and without identified hearing loss. These guidelines are currently used by the medical officer at MSHA who reviews the results of pre-placement medical evaluations and periodic audiogram testing and by MSHA human resources professionals who handle issues of medical fitness for duty.

YOEMP interviewed the MSHA chief medical officer and human resources professionals to better understand current practices related to employees with hearing loss. For comparison, YOEMP also reviewed the hearing ability criteria of other federal agencies (US Department of Transportation (DOT) and the Federal Aviation Administration (FAA)), and the developing scientific literature regarding the use of functional hearing testing in the workplace for determining auditory fitness for duty. YOEMP analyzed the MSHA audiometric database to determine how many first audiograms of MSHA employees failed to meet the employment requirements for hearing ability. YOEMP also reviewed the scientific literature on hearing loss and occupational safety to determine whether there is an existing body of evidence regarding specific levels of hearing loss and safe function in a mining environment that could inform future hearing criteria guidelines.

Current MSHA Standards for Hearing Ability at Time of Hire: MSHA currently has a written set of medical standards for the hearing evaluation of new hires. Included in the standards is language regarding the importance of enforcement officers having adequate hearing ability. The standards indicate that particular medical conditions may or may not be disqualifying, and that "individual assessments will be made on a case by case basis to determine the applicant's

ability to meet the performance requirements for MSHA enforcement positions." Pure tone audiometric definitions of "acceptable hearing" are described in detail in the standards. From this document and discussions with the MSHA medical officer, our understanding is that if an applicant to MSHA is found to have pure tone audiometric hearing thresholds greater than 40dB at any of the test frequencies of 500, 1k, 2k or 3k Hz in either ear (without the use of hearing aids), the new hire is flagged as having potentially disqualifying hearing loss.

The MSHA hearing standard policies mention the use of the Hearing in Noise Test (HINT) to further evaluate the hearing ability of prospective MSHA enforcement officers who were flagged with disqualifying hearing loss based on their audiometric test results. The HINT was developed to test hearing for jobs or tasks where communication is critical to safety, rather than as a screening process. The HINT is designed to assess subtle decreases in speech perception (such as occurs with high frequency noise induced loss) that become more evident in the presence of background noise. YOEMP reviewed the document "MSHA Instructions to the Physician" which gives direction to the physician performing a hearing evaluation on an MSHA applicant following identification of potentially disqualifying hearing loss. The requested evaluation includes air and bone conduction audiometric testing at 250, 500, 1k, 2k, 3k, 4k, 6k, and 8k Hz, followed by unaided speech recognition testing in quiet and unaided sound field speech recognition in noise. It is our understanding that when used to screen job applicants for MSHA positions, the HINT is performed at the applicant's expense. We are not aware of data describing how many applicants complete this follow-up and actually have a HINT administered, or the results of such testing.

The use of hearing aids is not an absolute disqualifying condition for MSHA applicants, even though hearing aids are not allowed for passing the initial hearing screening. It appears that for MSHA applicants who wear hearing aids, a case-by-case determination by the medical examining officer is required. It is not clear from the medical standard what information is considered in these case by case determinations; however, it is our understanding, based on discussions with the MSHA medical director, that a number of inspectors with hearing aids have been hired in recent years.

Results

Proportion of First Audiograms Showing Potentially Disqualifying Hearing Loss: Based on the definition above of the MSHA hearing loss criteria for job entry, YOEMP analyzed the de-identified database of audiograms of MSHA inspectors to determine what proportion had met the criteria for potentially disqualifying hearing loss (thresholds greater than 40dB hearing loss at 500, 1k, 2k, or 3k Hz) at the time of their first hearing test. Figure 11 shows the results of this analysis. Close to 30% in coal and MNM had hearing loss that exceeded the MSHA criteria for hearing ability at the time of hire on their first audiogram. Among these individuals, 14.4% do not have subsequent audiograms in the database, indicating that they either may not have been hired or terminated their employment soon after being hired. As Figure 11 indicates, the proportion of potentially disqualifying hearing loss at the first test is higher for those in coal and MNM than for E/S.

In addition, Table 1 shows at the time of first audiogram, more than 13% of coal and MNM inspectors met the American Medical Association criteria for hearing impairment (pure tone audiometric threshold average of 25dB or greater at 500, 1k, 2k, and 3k Hz in either ear). A number of such individuals would be expected to require or benefit from hearing aid amplification due the degree of their hearing impairment.

Comparison of MSHA and other Federal Agency Hearing Standards: To put MSHA's hearing requirements at hire into context, YOEMP compared them to those in use at two other U.S. government agencies.

The United States Department of Transportation (DOT) requires that commercial drivers demonstrate average hearing thresholds of 40dB or better at the frequencies 500, 1k, and 2k Hz, with or without a hearing aid. DOT does not utilize any single frequency as a hearing level criterion, nor does it screen for unilateral loss of hearing: http://www.fmcsa.dot.gov/rules-regulations/administration/fmcsr/fmcsrguidedetails.asp?rule_toc=760&section_toc=760.

The Federal Aviation Administration (FAA) standard for commercial airline pilots requires that pilots demonstrate hearing ability by passing one of three test strategies. The first is that they

demonstrate the ability to hear an average conversational voice in a quiet room, using both ears at 6 feet, with their back turned to the examiner. The second is that they demonstrate at least 70% reception in one ear during an audiometric speech discrimination test. The third is to demonstrate threshold hearing levels at or below the FAA cutoff values defined as 35dB at 500Hz, 30dB (better ear) and 50dB (worse ear) at 1000 Hz, 30dB (better ear) and 50dB (worse ear) at 2000 Hz, and 40dB (better ear) and 60dB (worse ear) at 3000 Hz.

With regard to air traffic controllers, however, the Federal Aviation Administration has stricter hearing criteria for job entry. In particular, FAA states that "applicants must have no hearing loss in either ear of more than 25dB at 500, 1000 and 2000 Hz, and no more than a 20dB loss in the better ear by audiometry, using ANSI (1969) standards": http://www.faa.gov/jobs/job_opportunities/airtraffic_controllers/media/080505_medical_Std_b.pdf.

Audiometric thresholds greater than 20-25dB are considered abnormal. Therefore, FAA is essentially requiring that an air traffic controller have hearing within the range considered "normal" in the better ear, and almost as good hearing in the other ear as well.

Comparing the DOT and the FAA criteria to the MSHA criteria for hire, it can be seen that the MSHA criteria are stricter than what DOT requires for a commercial driver, but not as strict as what FAA requires for an air traffic controller.

MSHA Standards for Hearing Loss in Current Employees: Once an MSHA inspector is hired, they continue to have periodic audiometric testing as part of the hearing conservation program. YOEMP's understanding is that when an inspector demonstrates at 10dB audiometric shift from baseline in either ear (10dB STS), the MSHA medical officer reviews their case in order to determine whether the inspector's hearing loss affects their fitness for duty. Since a shift criterion is being used to screen for hearing loss in current MSHA inspectors on the annual audiogram, this method would fail to identify those individuals who may have significant hearing loss yet may not be losing additional hearing to a degree that a 10dB threshold shift develops. Using a screening criterion of either a 10dB threshold shift or a pure tone audiometric threshold average of 25dB or greater at 500, 1k, 2k, and 3k Hz in either ear would be a better

method of identifying inspectors whose hearing loss may affect their fitness for duty, as discussed further below.

To determine auditory fitness for duty of current inspectors, our understanding, based on our discussions with the MSHA medical director, is that a request is made for evidence of satisfactory job function for an inspector who is flagged with an STS on an annual test. If such evidence is provided, there is no further investigation of the hearing loss case from a fitness for duty point of view.

Based on discussions with MSHA human resources professionals, we understand that the agency has planned to expand the use of the Hearing in Noise Test (HINT) to assess the hearing ability of current employees who are identified as having hearing loss. If the employee is unable to pass the HINT, the MSHA medical officer makes a determination, based in part on the results of an evaluation by an Ear, Nose and Throat (ENT) specialist, whether the MSHA inspector can safely perform their job. A process of reasonable accommodation procedures would then be initiated with input from other offices such as Federal Occupational Health and the Office for Civil Rights. It is not clear to what degree this policy has been implemented or enforced at present.

The standard HINT does not adequately take into account the actual conditions under which MSHA inspectors work. Both the background noise and the words utilized for key communication in mines would be different from those incorporated in the standard HINT. Development of a specific HINT incorporating the mine conditions seems advisable.

Hearing Loss as a Risk Factor for Occupational Accidents or Injury: The decision to disqualify a mine inspector on the basis of hearing loss is based on the assumption that a certain degree of hearing loss renders an individual less capable of doing their job safely. While the literature on this topic is fairly sparse and at times contradictory, we believe that there is a developing scientific consensus that workers with hearing loss can be at increased risk of accidents and injury. For example, Moll Van Charante and Mulder (1990) found that shipyard workers with hearing thresholds greater than 20dB at 4,000 Hz were at an increased risk of having an accident. Zwerling et al (1997) studied 459,827 working participants in the National

Health Interview Survey and found that workers with self reported hearing loss were at higher risk for occupational injuries. A recent study of 52,982 workers in Quebec (Picard et al 2008) found that hearing loss of greater than 20dB increased the risk of accidents by 14%. However, not all studies have shown this association between hearing loss and risk of injury. Ide (Occupational Medicine 2007) studied reports of accidents and near misses among firefighters in the United Kingdom and concluded that only 41 out of 31,274 reported accidents and near misses (0.13%) were due to a firefighter's inability to hear auditory warning signals, and only 3 (0.09%) were likely to be due to firefighter's persistently defective hearing. Importantly, Viljoen et al (Internal Medicine Journal 2006) found mixed results among miners in New South Wales: in the younger group of miners there appeared to be an association between noise induced hearing loss and injury risk, while in the older miners the same effect was not seen. This study suggests that work experience may moderate the effect of hearing loss on injury risk, and is one reason why functional hearing tests in a representative environment may be better than pure tone audiometric testing for assessing functional capacity of mining inspectors with hearing loss.

Functional Hearing Testing in the Workplace: As noted above, MSHA is expanding its use of the HINT to assess the functional capacity of an inspector who demonstrates hearing loss on pure tone audiograms. The HINT was developed to test hearing for jobs or tasks where communication is critical to safety, rather than as a screening process to identify hearing loss. Currently, while there is no recognized national or international standard for assessing auditory fitness for duty, there is increasing use of more function-oriented hearing tests such as the HINT to make case by case determinations of fitness for duty (Tufts 2009).

The California Highway Patrol and certain Canadian governmental and private sector industries are currently using the HINT. Recent publications have reported on the creation of job specific hearing standards that include sampling actual work noise in real-world environments and using these noise samples to adjust the HINT in order to better match an individual's hearing performance to his or her job requirements (Giguere 2008),(Soli 2008). To the best of our knowledge, this approach has not yet been adapted to the mining environment. These methods appear to show promise for improving the process of determining auditory fitness for duty.

Summary

Pre-placement Hearing Criteria: The new hire hearing ability criteria for MSHA enforcement officers currently include both a set of pure tone audiometric criteria and, for individuals who do not pass the audiometric criteria, the use of the Hearing in Noise Test (HINT). Such an approach appears reasonable for clearing applicants who will be performing safety sensitive jobs, and are within range of the criteria used by other federal agencies such as Federal Aviation Administration.

Based on our analysis of MSHA inspector audiograms, a significant number of applicants demonstrate potentially disqualifying hearing loss at the time of their first audiogram. Some of these individuals meet the criteria for American Medical Association hearing impairment and may benefit from the use of hearing aids. For individuals who do not pass the MSHA audiometric criteria, the use of the HINT is a reasonable tool in making a case by case determination regarding whether the applicant meets medical requirements for fitness for duty under the standard of reasonable accommodation required by the Americans for Disability Act. The first step would be to identify the tasks where communication is both critical and threatened by presence of noise. Job specific hearing in noise tests could then be developed which could be used to address particular employees' fitness for duty. Figure 12 depicts a proposed algorithm that would help standardize practice and guide MSHA medical examiners in their assessment of fitness for duty with regard to hearing loss.

Hearing Loss in Current Employees: Just as with new hires, it is important that current employees who are flagged as having hearing loss receive careful evaluations for auditory fitness for duty. As noted, hearing loss in enforcement officers could possibly interfere with safety sensitive job duties and increase the risk of injury. MSHA's policy of screening current MSHA employees for potentially significant cases of hearing loss appears reasonable; however, the use of the 10dB STS to flag such individuals may fail to identify certain individuals with hearing impairment.

Use of the HINT: As stated above, MSHA's use of the HINT is in line with the increasing use of such functional tests in many workplace settings. However, a general word of caution about

the use of HINT to determine speech intelligibility of the current employees, as well as of new applicants, is in order. Under the Americans for Disability Act (ADA), the results of a medical evaluation can be used to determine whether or not an employee can safely perform a job with or without accommodation. The burden of proof is on the employer to show that the criteria for disqualifying an employee for a medical problem are appropriate to the job requirements. In the case of using HINT results, a likely inquiry would be whether or not such testing is a reasonable predictor of actual job function. The purpose of case by case determinations of MSHA inspectors with hearing loss, similar to other evaluations for accommodation that are mandated by the ADA, is to determine whether an individual with potentially disqualifying hearing loss can perform the job functions of an MSHA enforcement officer without posing a health risk to self or others. A key difference is that since the inspector is not an employee of the mines themselves, the mine operators are not obligated to provide such accommodation (such as visual warning signals to compensate for hearing impairment). MSHA, being the employer of the inspector, is however required to accommodate the inspector with hearing loss, if possible.

Furthermore, if an inspector currently working at MSHA was disqualified from further duty based on the result of a standard HINT, this decision could be questioned on the grounds that experience and real world working conditions were not adequately taken into account. In mines, there would be different types of background noise than those used by a standard HINT, as well as different coded verbal signals used for key communication that differ from the standard words used on the HINT. Therefore, the development of a more tailored process seems advisable.

Use of Hearing Aids: If hearing amplification is required to perform the necessary job functions, the issue of ensuring adequate hearing protection becomes paramount as the hearing protection must be able to work in conjunction with the employee's hearing aid. This is especially true as hearing aids do not provide hearing protection in hazardous noise environments and, in fact, can amplify ambient noise levels with potentially deleterious results. There is no optimal solution to this problem. However, in certain situations, the use of ear muffs with hearing aids may be a workable policy as noted in the Council for Accreditation in Occupational Hearing Conservation (CAOHC) Cable Newsletter article: http://www.caohc.org/updatearticles/fall08.pdf. This article highlights the complex nature of

providing adequate hearing protection to those with hearing aids and encourages consultation with an audiologist or other medical professional to work with individual employees to find appropriate solutions.

In general, even without the use of hearing aids, hearing protection can be difficult for workers with hearing loss, due to the interference of the hearing protection with speech communication. The Occupational Safety and Health Administration website has a useful document regarding accommodation of the hearing impaired worker in the workplace: http://www.osha.gov/dts/shib/shib072205.html. As above, more detailed guidelines to assess whether workers with hearing aids are able to safely perform their job functions in the mining environment should facilitate this complex decision process.

Recommendations

MSHA should develop an algorithm to help standardize practice and guide MSHA medical examiners in their assessment of fitness for duty, with regard to hearing loss. Such an algorithm could include the following elements:

As stated in the previous objective, when screening current inspectors, an employee who either has a 10dB threshold shift and/or a pure tone audiometric threshold average of 25dB or greater at 500, 1k, 2k, and 3k Hz in either ear should be flagged for evaluation. Evaluation or intervention may come in the form of retraining or refitting of hearing protection, exposure reduction, or accommodation in the workplace.

MSHA should develop a set of job-specific functional hearing requirements based on the hearing in noise test (HINT) developed for different mining environments and jobs. This would help the MSHA medical officer in case-by-case determinations of auditory fitness for duty.
The HINT should be done with and without hearing protection (and with a hearing aid for those who use them) allowing people to be evaluated on a case by case basis.

5. OBJECTIVE 5: ASSESSMENT OF DATA ON OCCUPATIONAL AND NON-OCCUPATIONAL NOISE EXPOSURES

The current practice employed by MSHA to measure noise for exposed inspectors is that they be monitored annually by wearing a personal noise dosimeter during a full work shift on a single day. The employee is accompanied by his or her supervisor who both places and reads the dosimeter. It apparently is not typical for these measurements to be taken on inspectors when the inspectors themselves are taking noise surveys of the miners.

Methods

MSHA provided the YOEMP team with the results of both annual noise surveys performed on MSHA inspectors by their supervisors, as well as the noise surveys that MSHA inspectors measured on miners during inspections. After stratifying by type of mine (coal vs. MNM), YOEMP calculated means and standard deviations separately for both types of noise measurements. These values were then compared. The YOEMP industrial hygienist reviewed results from Acoustical Field Investigations and other reports provided by MSHA but these appeared to be primarily assessments of trials of noise control techniques for particular pieces of machinery or operations and did not reflect typical exposures to MSHA inspectors.

Data provided did not permit the description of amplitude, duration or frequency, nor did it allow us to address sources of inspector exposure.

Results:

MSHA Employee Noise Exposure Levels: Figure 13 shows the mean time-weighted average (TWA) noise exposures, along with their standard deviations, for each of the two groups of inspectors (coal and MNM) calculated from the annual noise measurements taken on the inspectors. To provide context, the figure also contains typical noise levels of some commonplace activities. The TWA noise levels were both quite low and very similar between the two groups. In fact, the mean values of 71.2dB and 70.9dB for coal and MNM inspectors, respectively, are below OSHA's action level (an 8 hour TWA of 85dB) for inclusion in a hearing conservation program.

While these results seem reassuring, the fact that there is substantial hearing loss occurring among MSHA inspectors beyond that explainable by aging alone gives pause. There are several reasons that these noise surveys may not yield an accurate assessment of the typical noise exposures experienced by MSHA inspectors. The work of an inspector is highly variable, and a single yearly measurement may not reflect exposure accurately. In the year 2006, only 5 out of 1039 of these surveys exceeded 85dBA TWA. The YOEMP industrial hygienist learned from interviews with MSHA inspectors that many inspectors believe the noise surveys performed by supervisors are not representative and underestimate their true noise exposures. The noise measurements made on MSHA inspectors by their supervisors were compared to those made by MSHA inspectors on miners, recognizing the latter exposures are expected to be higher. Figure 14 shows the same inspector noise levels illustrated in Figure 13, but adds the distribution of noise levels measured on miners by MSHA inspectors which, as shown, are substantially higher than the levels measured on the inspectors and are in the range associated with increased risk of noise induced hearing loss. There are several possible reasons for the observed differences in measured noise exposures including the fact that when MSHA inspectors are at the mine, machinery is often shut down so that it can be inspected for safety. Additionally, inspectors may not be as close to noise sources as miners. Inspectors may also spend part of the day engaged in quieter administrative activities. Nonetheless, analysis of both the noise data and the extensive audiometric data suggest that MSHA inspectors may be exposed to substantially higher levels of noise than is documented by the noise surveys performed on them by their supervisors.

Summary

Available noise data shows relatively low noise levels for inspectors. However, as noted, further analyses suggest these data may not be representative of their working environment. The current system utilized by MSHA, namely, that each inspector be monitored annually by wearing a personal noise dosimeter during a full work shift on a single day, is most likely insufficient to accurately assess the true noise exposure experienced by MSHA inspectors.

Recommendations

MSHA should implement a self-monitoring noise surveillance system whereby MSHA inspectors measure their own noise exposure using the equipment they already have, according

to a protocol to be developed. Strategies for noise exposure evaluation and considerations for sampling protocol are included as Appendix 5. Specific tasks and environments should be monitored to ensure that hearing protection devices offer sufficient protection in all areas. This information will also allow inspectors to be given clear guidance on the use of their hearing protection devices.

In addition to the time weighted average (TWA) values currently collected, peak noise exposure should be measured and recorded, features already available with the noise monitoring equipment that MSHA utilizes.

6. EVALUATION OF POLICIES RELATING TO HEARING LOSS CLAIMS

YOEMP was asked to evaluate the MSHA's policies relating to workers' compensation claims for hearing loss.

Methods

The YOEMP team interviewed MSHA health officials and MSHA human resource professionals to ascertain the current approach for evaluating hearing loss claims. The YOEMP team also analyzed workers' compensation records to determine the percentage of workers compensation costs attributed to hearing loss.

Results

Hearing Loss Claims: Based on YOEMP's discussions with the MSHA medical director, it is our understanding that when a hearing loss claim is filed, the MSHA medical officer reviews the claim to determine whether there is an obvious medical cause that can account for the hearing loss. The degree of hearing loss is calculated using the American Medical Association hearing impairment criteria. It is not clear whether industrial (surveillance) audiograms are being used by the MSHA medical officer for the evaluation of hearing loss claims or whether confirmatory audiological evaluation is routinely performed. It is our understanding that an evaluation by an Ear Nose and Throat specialist may be requested as part of this process.

If no such medical cause is found, the claim is processed through the MSHA workers' compensation system. It is further our understanding that there are no standardized written protocols to distinguish between hearing loss acquired during MSHA employment, previous hearing loss (present at time of hire), the amount of hearing loss due to aging versus noise exposure, and the work-relatedness of the hearing loss. Given the hiring requirement of five years prior work in mining, it appears that most hearing loss workers compensation claims are accepted as work related noise induced hearing loss, and that the magnitude of the claims are based on calculations of absolute hearing impairment that may include hearing loss that was present at the time of MSHA hire.

Workers Compensation Claims: YOEMP analyzed MSHA's workers' compensation payments between October 1, 2003 and March 31, 2008 as seen in Figure 15. Hearing loss claims represented 13.4%, close to $5 million, of all payments. Figure 16 illustrates the proportion of claims MSHA workers compensation claims that were accepted, by type of injury. Hearing loss and upper and lower extremity claims have the highest rate of acceptance at 82%, while respiratory had the lowest at 36%. Lastly, Figure 17 shows the average payment per claim by type of injury. Hearing loss claims have the lowest average payment per compensation claim ($25,659) compared to spinal injury claims ($94,673 per claim) and respiratory claims ($277,040 per claim). However, the hearing claims account for 13.4% of the total cost of claims based on the volume of hearing loss claims submitted and accepted.

Summary

These data show that MSHA apparently accepts most hearing loss claims as work-related noise induced hearing loss and does not differentiate the noise induced loss acquired while working as an MSHA inspector from that acquired prior to MSHA employment. While there is no standardized means of allocating loss due to MSHA versus other jobs, other sources of noise exposure or aging, our analysis suggests that the noise induced hearing loss is predominantly due to noise from prior and current work in mining and not from other sources of noise and other risk factors.

Recommendations

MSHA should develop a standardized/detailed procedure to evaluate and manage hearing loss claims to confirm the diagnosis of noise induced hearing loss. Based on analyzed data, it would be reasonable to consider a presumption that noise induced hearing loss is predominately related to mining work.

IV. COMPILATION OF RECOMMENDATIONS

Based on our review of MSHA's hearing conservation program, we have developed the following recommendations aimed at reducing occupational hearing loss among MSHA employees.

1. Analysis of audiometric monitoring data:
   - Primary prevention, reduction of exposures in mines, is always preferred (to the extent feasible) and would reduce exposures to both miners and inspectors.
   - Because Coal and MNM inspectors appear to be losing hearing faster than expected, a combination of measures enhancing the Hearing Conservation Program should include:
     - Better characterization of inspector noise exposures,
     - Enhanced emphasis on use of HPDs, and
     - Better and more acceptable HPD options.
   - MSHA should consider developing a computerized occupational health database that integrates complete fitness for duty health data with other existing computerized databases, such as audiometric test data, exposure data, and workers' compensation data.
2. Trial of technologically advanced hearing protective devices:
   - The custom molded plug was the most popular and most effective in our trial and should be made available. However, since no one HPD will be best for all people, other devices should be made available taking into account personal preference as well as fit test results.
   - A fit testing system should be incorporated into the HCP to ensure that inspectors are using a hearing protection device that fits them properly and provides them adequate protection. This should be done annually by the Hearing Conservation Program Officer or their designee, but not left to each inspector to do on their own.
3. Assessment of MSHA's Hearing Conservation Program (HCP):
   - MSHA should continue its excellent compliance with their written Hearing Conservation Program which meets OSHA requirements.
   - Audiometric technicians performing periodic surveillance audiograms should be required to be certified by the Council for Accreditation in Occupational Hearing Conservation.

- Contract physicians or audiologists supervising audiometric testing, as well as the MSHA chief medical officer, should be trained by CAOHC as Professional Supervisors of the Audiometric Testing Component of the HCP.
- An ongoing analysis of audiometric test-test variability should be performed to identify and correct any problems with contractors providing this service to MSHA.
- Fit testing and education systems regarding hearing protective devices should be incorporated in the HCP.
- An employee who has a 10dB threshold shift should be flagged at screening for intervention (refitting or retraining of hearing protection, exposure reduction). An employee who has a pure tone audiometric threshold average of 25dB or greater at 500, 1k, 2k, and 3k Hz at screening should be evaluated for accommodation in the workplace.

4. Evaluation of pre-placement medical standards:
   - Develop more detailed guidelines (e.g. algorithm) to help standardize practice and guide MSHA medical examiners in their assessment of fitness for duty, with regard to hearing loss. This would include:
     - MSHA developing a set of job-specific functional hearing requirements based on the hearing in noise test (HINT) developed for different mining environments and jobs. This would help the MSHA medical officer in case-by-case determinations of auditory fitness for duty.
     - Performing the HINT with and without hearing protection (and with a hearing aid for those who use them) which would allow people to be evaluated on a case by case basis.
5. Assessment of noise exposure:
   - Implement a self-monitoring noise surveillance system whereby MSHA inspectors measure their own noise exposure.
   - Specific tasks and environments should be monitored to ensure that hearing protection devices offer sufficient protection in all areas. This information will also allow inspectors to be given clear guidance on the use of their hearing protection devices.
   - In addition to the time weighted average (TWA) values currently collected, peak noise exposure should be measured and recorded, features already available with the noise monitoring equipment that MSHA utilizes.

6. Evaluation of policies regarding hearing loss claims:
   - Develop a standardized/detailed procedure to evaluate and manage hearing loss claims to confirm the diagnosis of noise induced hearing loss.
   - Based on analyzed data, it would be reasonable to consider a presumption that noise induced hearing loss is predominately related to mining work.

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VI. ACKNOWLEDGEMENTS AND DISCLOSURES

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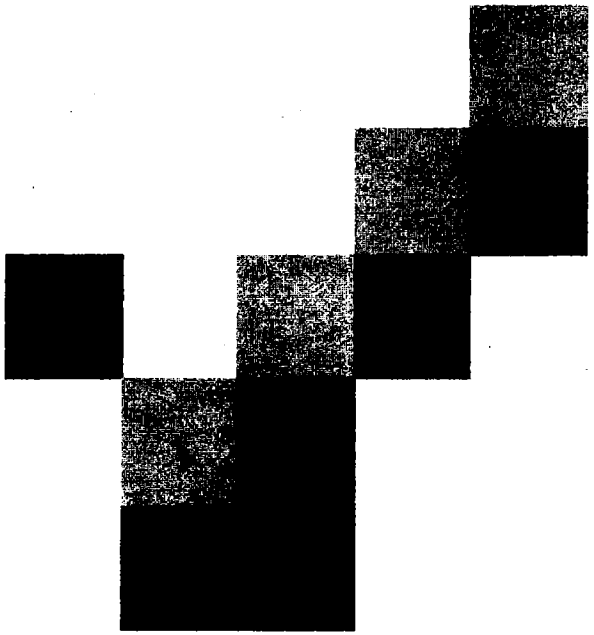
The YOEMP team would like to acknowledge the makers of hearing protection devices who kindly donated samples of HPDs for the usability study described in this report. These corporations include Sperian Inc., 3M, and Etymotics Inc. None of the YOEMP project members have reported proprietary or other financial relationships with any of these products or producers of hearing protection devices mentioned in this report. Dr. Rabinowitz is the Principal Investigator for a research study funded by the National Institute for Occupational Safety and Health (NIOSH) regarding the effectiveness of daily noise exposure monitoring devices in the prevention of occupational hearing loss.

VII. ABBREVIATIONS

ACOEM	American College of Occupational and Environmental Medicine
CAOHC	Council for Accreditation in Occupational Hearing Conservation
DOT	U.S. Department of Transportation
FAA	U.S. Federal Aviation Administration
HCP	Hearing Conservation Program
HINT	Hearing in noise test
HPD	Hearing Protector Device
MSHA	Mine Safety and Health Administration
NRR	Noise Reduction Rating
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PAR	Personal attenuation rating
SNR	Single number rating
STS	Standard threshold shift
YOEMP	Yale University School of Medicine Occupational and Environmental Medicine Program



Yale Hearing Loss Project

Executive Briefing

Acronyms

- HPD (Hearing protective devices)
- HCP (Hearing conservation program)
- HL (Hearing loss)
- M/NM (Metal non metal)
- ANSI (American national standards institute)
- CAOHC (Council for accreditation in Occupational Hearing Conservation)
- ENT (Ear Nose Throat a physician also called an Otolaryngologist)
- HINT test—a Hearing In Noise Test where subject received words or syllables in noisy conditions to make hearing assessment
- TWA (Time weighted average) OSHA regulation concerning noise in workplace averaged over an 8 hour shift.
- WBC infection cell or white blood cell count
- NRR (Noise reduction rating) This refers to ability of a hearing protective device's to attenuate noise
- dB (decibel) this is standard measure for output on level of hearing on an auiogram
- STS-standard threshold shift –briefly—greater than 10 dB average at 2, 3 and 4 Hz
- Hz (hertz) level of energy on audiometric reports—generally goes from 500 Hz to 6000 Hz accompanied by the corresponding dB loss at that level

Focus/Scope of Yale Study

- Analyze audiometric data
- Design custom Hearing Protection Devices (HPD) and evaluate existing types of HPD's.
- Assess MSHA's written HCP
- Evaluate Pre-Placement medical standards concerning hearing loss (HL)
- Evaluate noise exposure
- Assess policy for evaluating HL claims

Results/Recommendations of Audio Data Analysis

- Engineers/Specialists lose hearing at similar rate to normal aging population.
- Coal had highest % impairment compared with time of hire 13.7% to present 30.9%- but showed slower progression over time than M/NM
- M/NM had significant impairment going form 15% at time of hire to present 30.4%

Test to test variability

- MSHA percentage showed that there is test to test variability and our program could improve in this area-(compared to ANSI model)
- (ANSI model may focus on traditional occupational environment—a single plant)
- Many regions
- Equipment calibrated

Self reported hearing protection use—coal vs. M/NM

- **Coal 49.2% always wear**, 44.5% sometimes wear and 6.3% rarely wear hearing protection devices
- **M/NM 73.8% always wear**, 24.9%sometimes wear and only 1.3% rarely wear HPD

Recommendations on HPD's

- Increased emphasis on use of HPD's.
- **Custom molded plug** provides best fit and attenuation overall – should be added to list of available HPD's.
- Must account for personal preference and fit; therefore, additional and more acceptable HPD options should be available.

Assessment of MSHA HCP

- Written HCP complies with OSHA Reqs:
  - Noise monitoring
  - Audiometric testing
  - Training
  - HPD's
  - Recordkeeping
  - Yale said compliance excellent

Yale Recommendations for HCP

- All technicians performing audiograms should be certified by CAOHC (Council for Accreditation in Occupational Hearing Conservation). Medical officers take supervisors course.
- Ongoing analysis of audiometric test variability.
- Fit testing and training for HPD's incorporated in HCP
- Employees with > 10dB STS flagged for refitting.
- **Employees with > 25 dB average at 500, 1K, 2k and 3k flagged and evaluated for accommodation in workplace**

Current MSHA medical standards on case by case basis

- Applicants ANSI 1969: 40 dB at 500, 1000, 2000 and 3000 Hz
- Not allowed to use hearing aids for initial testing
- Retest OK after noise free interval
- Significant hearing loss flagged at 500, 1000, 2000 no more than 50 dB loss ANSI 1969
- Hearing aids ok on case by case basis
- Medical officer may request ENT evaluation

Yale: Pre-Placement Evaluation

- Current Pre-Placement med std acceptable but more thorough evaluation recommended for those with hearing impairment, by AMA stds.
- 30% of pre-placements had potentially disqualifying hearing loss at time of hire.
- Develop HINT that incorporates job specific mine noise – test with/out hearing aids.

Noise Exposure Assessment

- 71.2 dBA for coal
- 70.9 dBA for MNM inspectors
- **Only 5 of 1039 noise surveys exceeded the OSHA action level of 85dB**
- Exposure assessment does not appear adequate.
- Implement self-monitoring system and peak noise exposure measurements.
- ((OSHA says TWA greater than 8 hour TWA of 85 dB))
- Results attain statistical significance

Recommendations for Evaluating HL Claims

- **MSHA paid $5 mil between 2003-2008**
- Develop standardized procedure to evaluate/manage claims and confirm diagnosis of noise induced hearing loss
- Based on audio data and environment, Yale concluded that noise induced hearing loss is most likely related to mining work

Statistical model controlled for variables

- Age, height, weight, BMI, smoking history
- Gender, race, family history of HL
- Type of HPD, frequency used
- Disease risk factors issues such as diabetes, hypertension, cardiovascular issues
- Motorcycle and firearms
- Blood counts, military history
- Very thorough statistical analysis

- **No definite proof that any risk factor impacts hearing loss**

OWCP Coordinator

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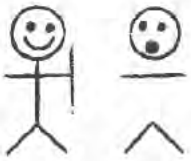
ON A PERSONAL NOTE

Good luck, Thank you for your concern for the miners. Thanks also for your care and concern for the District's employees so that we can get on with the business of protecting our nation's miners.

The bar has been set high. Thank you for challenging us, preparing us to meet the challenges that lie ahead.

Wishing you rainbows!



I got your back!

Claims Drop Significantly From 2011

It would be more correct to say that claims have dropped ***DRAMATICALLY*** in FY 2012 from FY 2011.

Three claims have been submitted in FY 2012, **down from the ten** that were submitted for this same time period last year. Two of the three claims are hearing loss claims submitted by former employees. The other is a shoulder injury that occurred when lifting a crate containing equipment into the back of a GOV.

These types of claims are typical that occur in the District. Over 57% of all occupational disease claims submitted in the District since FY 2000 have been for hearing loss. Over 25% of the traumatic injuries incurred by our current employees have been due to a strain by a single action.

Though I will continue to distribute health and safety information on a regular basis, I will be concentrating on our Hearing Conservation Program, repetitive stress injuries, and strains and sprains.

Please let me know if you have any topics you would like me to address for our weekly safety meetings, for my Power Point presentations, for my quarterly brochure and newsletter, flyer, booklet, and various other media.

Numbers! Sometimes it seems like that's what it's all about. But as I mentioned at our annual meeting in October, when I see numbers, I see real people. Staying focused, paying attention, and watching out for each other (I Got Your Back) can help keep these FY 2012 numbers low!

to Headline Annual Meeting

, Dean of Students at UVA-Wise, will be doing a presentation on "Dealing with Difficult People" at our Annual Health and Safety Meeting in October. Often in our line of work, the people we deal with seemingly go to extraordinary lengths to be difficult. Through this presentation, we can learn to check our reactions and refuse to be part of a duel in which we're inadvertent participants.

Please let me know if you have any topics you would like to have addressed at the annual meeting which will be held on October 24, 2012.

Think Fast: What Costs Society $44,193 A Minute?

Answer: Check your speedometer as you drive home! Exceeding the posted limit or driving too fast for conditions is one of the most prevalent factors contributing to traffic crashes. Speed is a factor in nearly 1/3 of all fatal crashes. Speed-related crashes cost society more than $40 billion a year according to the National Safety Council.

Too few drivers view speeding as an immediate risk to their personal safety or the safety of others. Yet, speeding reduces a driver's ability to steer safely around curves or objects in the roadway, and it extends the distance required to stop a vehicle in emergency situations.

Crash severity increases with the speed of the vehicle at impact. Inversely, the effectiveness of restraint devices like air bags and safety belts, and vehicular construction features such as crumple zones and side member beams decline as impact speed increases.

The probability of death, disfigurement, or debilitating injury grows with higher speed at impact. Such consequences double for every 10 mph over 50 mph that a vehicle travels.

"Jumping off equipment and not using the access provided by the manufacturer have been two major causes of these types of injuries in the District."

Mounting and Dismounting Equipment

District 5 has had these types of injuries over the years. Safely accessing mobile equipment using the following tips can prevent these injuries:

- Hands need to be free to make three points of contact.
- Footwear needs to be free of grease, oil, dirt, and have good traction.
- Handrails and steps need to be properly maintained and free from debris, free of defects, and properly secured.
- Visually inspect landing areas for trip or slip hazards.
- Face the equipment when mounting or dismounting.
- Utilize access provided by the manufacturer.
- Landing areas need adequate illumination.
- Provide means to hoist materials (i.e., tools, lunch buckets, etc.)

Sticker To Remind Everyone To Wear Hearing Protection

As part of the District's Hearing Conservation Program, a sticker, like that shown at left, will be placed on all inspectors' notebooks. I want to thank the National Mine Health and Safety Academy for all their help in getting this project accomplished. This is just another way to help everyone think about what they are going to do before performing a task. I'm sure we will find some other locations for these stickers as well. Each exposure hurts hearing. Protect yourself with the proper Personal Protective Equipment. Let me know if anyone has any other suggestions for getting this message across.

X = Y + (12 x 3Y) – 10 (or something like that)

Calculating Percentage Of Hearing Loss

OWCP evaluates hearing losses in accordance with the standard set forth in the AMA Guides to the Evaluation of Permanent Impairment, Sixth Edition. Under this standard, the decibel (dB) losses at frequencies of 500, 1000, 2000, and 3000 hertz (Hz) are added, then divided by four to arrive at the average. From this average, the "fence" of 25 dBs is deducted since, as the AMA Guides points out, losses below 25 dBs result in no impairment in the ability to hear everyday speech under everyday conditions. The remaining amount is multiplied by 1.5 to arrive at the percentage of monaural hearing loss. The binaural loss is determined by calculating the loss in each ear using the formula for monaural loss. The lesser loss is multiplied by five, then added to the greater loss and the total is divided by six to arrive at the percentage of binaural hearing loss.

Stroke Symptoms

Note when signs and symptoms begin, because the length of time they have been present may guide treatment decisions.

- Trouble with walking. You may stumble or experience sudden dizziness, loss or balance or loss of coordination.
- Trouble with speaking and understanding. You may experience confusion. You may slur your words or be unable to find the right words to explain what is happening to you. Try to repeat a simple sentence. If you can't, you may be having a stroke.
- Paralysis or numbness on one side of your body. You may develop sudden numbness, weakness, or paralysis on one side of your body. Try to raise both your arms over your head at the same time. If one arm begins to fall, you may be having a stroke. Similarly, one side of your mouth may droop when you try to smile.
- Trouble with seeing in one or both eyes. You may suddenly have blurred or blackened vision.

5 Ways To Prevent Strokes

1. Exercise regularly. Physical activity helps reduce blood pressure. It also decreases the risk of diabetes and controls cholesterol levels, both of which up your chances of a stroke.

2. Drink moderately. Alcohol raises blood pressure and increases stroke risk.

3. Control your weight. Gaining even 22 pounds after the age of 18 is associated with increased risk of stroke.

4. Eat a healthy diet. Diets high in saturated fat and cholesterol can raise blood-cholesterol levels. Excess sodium intake can contribute to high blood pressure. Eating 5 or more servings of fruits and vegetables a day may reduce stroke risk.

5. Stop smoking. Stroke risk decreases significantly 2 years after quitting and is at the level of nonsmokers by 5 years. Smokers are at increase risk of hypertension. What's more, the nicotine and carbon monoxide damage the cardiovascular system.

WD -40

Can't Live Without It

Its name comes from a project to find a "water displacement" compound. The technicians were successful on their 40th try, hence the name WD-40. Here are some uses for WD-40:

- Protects silver from tarnishing.
- Removes road tar and grime from cars.
- Gives that just-waxed shine to floors without being slippery.
- Removes stains from stainless steel sinks.
- Loosens stubborn zippers.
- Removes dirt & grime from barbecue grills.
- Restores and cleans paddles, leather and vinyl dashboards and bumpers.
- Keeps shower doors free of water spots.
- Removes rust from just about anything and stops squeaks in everything.
- And some people swear it even relieves arthritis pain when sprayed on arms, hands and knees.

Useless Information

One reason why pressure on the sciatic nerve from a back injury is such a pain–it's the largest nerve in the body.

Noise in the street tends to make it more difficult to see the colors in traffic lights. When there's a lot of booming and banging at the intersection, the green light appears brighter, the red light dimmer.

Insurance survey: 12% of American men say they never use their car's turn signals. 44% tailgate to try to speed up the car in front of them. (The percentages would be higher than that if they included this area, huh?)

Study: The average person takes 23,000 breaths a day. (I'm gonna count 'em to see: 1.....2.....3.....)

Something else to worry about: Heads up! It's not unusual for porcupines to fall out of trees.

Every time you lick a stamp, you're consuming 1/10 of a calorie!

One ragweed plant can release as many as one billion grains of pollen! (feels like more than that!)

Most lipstick contains fish scales! (Eueeeeew! Yuck!)

Some Basic OWCP Information

Chiropractic Care

The Federal Employees' Compensation Act recognizes chiropractors as physicians only to the extent that their treatment consists of manual manipulation of the spine and only where the accepted condition is a sublaxation of the spine. This sublaxation must be shown by x-ray to exist. The x-ray must be taken shortly after the claimed injury. The chiropractor's report must provide the exact diagnosis of your condition based upon this x-ray and explain how the sublaxation is related to the claimed injury. Referrals by a chiropractor for other treatment must be approved by OWCP in advance.

Medical Authorizations

If your injury requires physical therapy, it is usually authorized for the first 120 days from the date of injury. OWCP will need further medical support for physical therapy beyond 120 days. OWCP must approve in advance any surgery or procedure other than emergency surgery (that is, a procedure which must be performed right away to preserve life or the function of an organ or body part). You (or your medical provider) should contact OWCP for authorization at least 30 days before the intended date of the procedure. OWCP will advise you of the information needed to determine whether OWCP can pay for the requested procedure.

Telephone medical authorization requests should be directed to OWCP's central bill processing agent at 850-558-1818. Further information regarding medical authorizations can be found at:

http://www.dol.gov/owcp/dfec/regs/compliance/CBPOutreach.htm

When Accidents Happen...

Basic First Aid Tips

- Clean minor cuts and scrapes carefully, treat them and protect them with a bandage.
- Apply an ice pack to bumps and bruises to reduce swelling.
- If you step on a rusty nail or suffer a cut on the foot from broken glass, seek medical attention right away. You may require a tetanus shot.
- To treat sunburn, apply a soothing lotion or aloe. If blistering occurs, see your doctor.
- If you get a rash from poisonous plants, take a cool oatmeal bath for relief. Also, take an over-the-counter antihistamine and apply anti-itch cream or calamine spray. If the rash worsens, see your doctor.

Northern Exchange

U.S. Department of Labor
MSHA
Mine Safety & Health Administration

North Central District Employee Safety & Health Newsletter

Winter **Duluth, Minnesota** **March 2012**

This issue of Northern Exchange presents articles on the relationship between overtime work and depression, on stepladder safety, and on the hazards of texting while driving. As usual, this issue also includes a brief summary of North Central District employee accidents to date, and a District personnel news update.

Can Long Work Hours Cause Depression?

Previous articles in this newsletter have discussed the effect of extended work days on a worker's physical health, and on the relationship between the length of the work day and accident frequency. But recent research suggests a connection between work hours and mental health. According to a new study published in Finland, working long hours can increase a person's risk of becoming depressed, regardless of the stress level of the work being done.

Researchers at the Finnish Institute of Occupational Health and at University College in London collaborated on the study. They followed 2,123 middle-aged government workers in Britain for six years and found a link between working overtime and major depressive episodes.

Workers who put in an average of at least 11 hours per day at the office had approximately two and a half times higher odds of developing depression than their colleagues who worked a normal eight hour day.

The link between long workdays and depression persisted even after the researchers took into account factors such as job strain, the level of support in the workplace, alcohol use, smoking, and chronic physical diseases.

Working overtime hours under adverse working conditions (noisy workplace, rushed schedules, poor ergonomic conditions, etc.) will inevitably result in higher exposure to these negative work factors, compounding the potential for depression.

When long hours can't be avoided, there are steps you can take to reduce the likelihood of becoming

depressed as a result. Here are some simple tips on preventing episodes of depression.

Sleep is a vital part of preventing depression. Balance your life with enough rest and exercise everyday. Most people require seven to eight hours of sleep per day. Of course, getting enough sleep can be a lot harder when work extends to 10 or 12 hours or more per day. But it's not impossible if you plan ahead and get organized, which is the next tip.

Keep some regularity in your life. Organize your activities so they can come at expected and regular times. If your weekly, daily or monthly routine is set, then your body has time to get used to the activities. Getting well organized and planning your activities will go a long way toward helping you get more done – more work, more play, more of everything - in less time. Getting done *what needs to be done* can make a big difference in reducing overall stress levels, which is the next tip.

Don't push yourself beyond your limits. Keep stress in check and try to avoid stressors if you can. If this can't be done, then try to deal with the stressors in a manner that minimizes the damage it causes.

Sunlight and exercise can help the brain to function at a higher level. Make time to enjoy the sunlight and try to stay active in the daylight when possible.

Keep away from alcohol and drugs. They may seem attractive, but all they really do is cause havoc in a person's life.

Have at least one warm meal every day. Good eating habits and good health are part of an effective anti-depression strategy. Eating a hot meal on the road or when working long hours at a mine can be a challenge. But like finding time to get adequate sleep, it can be done if you make it a priority and plan ahead.

Have some fun every day. Nothing takes the load off of depression like engaging in an activity you enjoy. Whether it's reading, playing a favorite video game, or working on a hobby project (one that you can take with you on the road and work on in the motel room), getting absorbed in a pleasurable activity can do wonders towards healing a stressed-out and busy mind.

Stepladder Safety

A stepladder is a common and widely used workplace aid. Almost everyone has used a stepladder at some point, either on the job, at home, or both. But stepladders are involved in a great many accidents, so we would all be well advised to pay attention to a few tips on stepladder safety The stepladder is a self-supporting portable ladder that is non-adjustable in length, with flat steps and a hinged design for ease of storage. It is intended for use by one person.

Stepladders range in size from 3 ft. to 20 ft. in length along the side rail. Stepladders shorter than 3 ft. are considered step stools. The highest standing level on a stepladder is slightly more than 2 ft. from the top of the ladder. The highest standing level is required to be marked on the specifications label on the side rail of the ladder. Therefore, when planning your job, the maximum work height is established by adding the user's height and reach to the highest standing level of the stepladder.

Stepladder

Proper Stepladder Use

A stepladder requires level ground support for all four of its side rails. If this worksite condition does

not exist, a stepladder should not be selected for the job.

A stepladder must not be used unless its base is spread fully open and the spreaders locked. Stepladders are not to be used as single ladders or in the partially open position.

In order to prevent tipping over sideways due to over-reaching, the user must climb or work with the body near the middle of the steps. The ladder should be set up close to the work. Never attempt to move the ladder without first descending, relocating the ladder, and then re-climbing. Do not attempt to mount the ladder from the side or step from one ladder to another unless the ladder is secured against sideways motion.

In an effort to avoid losing your balance and falling off the stepladder, the user must not step or stand higher than the step indicated on the label marking the highest standing level. The user must also not step or stand on the top cap or bucket/pail shelf.

When ascending or descending the ladder, always face the ladder and maintain a firm hand hold. Do not attempt to carry other objects in your hand(s) while climbing.

The braces on the rear of a stepladder are not intended for climbing or standing and must not be used for that purpose. (Note that special stepladders are available with steps on both the front and rear and are intended for two users at the same time.)

The anti-slip feet at the bottom of the stepladder side rails must be present and in good condition prior to using the ladder. The ladder must not be used on ice, snow or slippery surfaces unless suitable means to prevent slipping are employed.

A stepladder must never be placed upon other objects such as boxes, barrels, scaffolds, or other unstable bases in an effort to obtain additional height.

Proper Stepladder Care

A thorough inspection must be made when the ladder is initially purchased and each time it is placed into service. Clean the climbing and gripping surfaces if they have been subjected to oil, grease or slippery materials. Working parts, bolts, rivets, step-to-side rail connections, and the condition of the anti-slip feet (safety shoes) shall be checked. If structural damage, missing parts, or any other hazardous defect is found, the ladder must not be placed into service and either discarded or competently repaired.

Ladders exposed to excessive heat, as in the case of fire, may have reduced strength. Similarly, ladders exposed to corrosive substances such as acids or alkali materials may experience chemical corrosion and a resulting reduction in strength. Remove these ladders from service.

Ladders with bent or broken side rails must be destroyed. In the event a ladder is discarded, it must be destroyed in such a manner as to render it useless. Another person must not be afforded the opportunity to use a ladder that has been deemed unsafe.

When transporting ladders, the ladders must be properly supported. Overhang of the ladders beyond the support points of the rack should be minimized. The support points should be constructed of material such as wood or rubber-covered pipe to minimize the effects of vibration, chafing and road shock. Securing the ladder to each support point will greatly reduce the damaging effects of road shock.

Storage racks for ladders not in use should have sufficient supporting points to avoid sagging which can result in warping the ladder. Other materials must not be placed on the ladder while it is in storage.

Stepladder Safety Standards

Safety requirements for construction, performance, use and care of stepladders can be found in the following standards:

- ANSI A14.1 (Portable Wood Ladders)
- ANSI A14.2 (Portable Metal Ladders)
- ANSI A14.5 (Portable Reinforced Plastic Ladders)

The most current revision of each standard in the ladder family can be purchased at the ANSI webstore at http://webstore.ansi.org/.

Although research findings vary somewhat on the actual percentage increase, there is no doubt that talking on a cell phone while driving increases the chances for an accident. Most studies point to an elevated risk in the neighborhood of 30%. Accordingly, many states have instituted laws and regulations that limit or prohibit cell phone use while driving.

In comparison with cell phone use while driving, however, texting while driving represents a far greater hazard. A recently released study by the Virginia Tech Transportation Institute found that truck drivers who were texting were 23 times more at risk of a "crash or near crash event" than "non-distracted drivers." The study found that texting took a driver's focus away from the road for an average of 4.6 seconds - - enough time to travel the length of a football field at 55 miles per hour, or over 500 feet at 75 miles per hour.

The reasons for the extreme risk of texting while driving are self-evident to most folks. Texting severely strains, or in some cases totally deprives a driver of three essential faculties which are required for safe driving. They are:

- Visual—taking your eyes off the road;
- Manual—taking your hands off the wheel; and
- Cognitive—taking your mind off what you are doing.

Any type of distracted driving can increase the risk of an accident by causing the driver to momentarily neglect one or more of these essential faculties. But texting while driving is especially dangerous because it necessarily combines all three types of distraction simultaneously, usually for a far longer sustained time period than for other typical distractions like eating or drinking.

Despite the obvious risks, texting while driving occurs at a high rate, and astonishingly, the practice appears to be on the rise. In a recent survey, 52% of U.S. drivers ages 18-29 reported texting or e-mailing while driving at least once in the last 30 days, and more than a quarter report texting or e-mailing "regularly" or "fairly often" while driving.

On September 30, 2009, President Obama issued an executive order prohibiting all federal employees from texting while driving while on government business or while driving government owned vehicles. Thus, this prohibition applies to all MSHA personnel while on-the-job, whether they are driving their own vehicle or a GOV. Furthermore, many states have banned texting while driving, including all of the states in the North Central District, where except for Iowa, texting is a "primary" offense, meaning authorities may cite a driver for texting without any other traffic offense taking place.

SENT TO DISTRICTS VIA EMAIL 11/12/12

MRSA AND THE WORKPLACE

Overview

Staphylococcus aureus, often referred to simply as "staph," is a type of bacteria commonly carried on the skin or in the nose of healthy people. Sometimes, staph can cause an infection. Staph bacteria are one of the most common causes of skin infections in the United States. Most of these skin infections are minor (such as pustules and boils) and can be treated without antibiotics. However, staph bacteria also can cause serious infections (such as surgical wound infections, bloodstream infections, and pneumonia).

Methicillin-resistant *Staphylococcus aureus* (MRSA) refers to types of staph that are resistant to a type of antibiotic methicillin. MRSA is often resistant to other antibiotics, as well. While 25% to 30% of the population is colonized with staph (meaning that bacteria are present, but not causing an infection with staph), approximately 1% is colonized with MRSA.

Staph infections, including MRSA, occur most frequently among persons in hospitals and healthcare facilities (such as nursing homes and dialysis centers) who have weakened immune systems. These healthcare-associated staph infections include surgical wound infections, urinary tract infections, bloodstream infections, and pneumonia.

Staph and MRSA can also cause illness in persons outside of hospitals and healthcare facilities. MRSA infections that are acquired by persons who have not been recently (within the past year) hospitalized or had a medical procedure (such as dialysis, surgery, catheters) are known as community-associated MRSA infections. Staph or MRSA infections in the community are usually manifested as skin infections that look like pimples or boils and occur in otherwise healthy people.

FAQs for the Workplace

NOTE: This information is provided for general workplaces, not healthcare facilities.

Can I Get MRSA From Someone At Work?

MRSA is transmitted most frequently by direct skin-to-skin contact or contact with shared items or surfaces that have come into contact with someone else's infection (e.g., towels, used bandages).

MRSA skin infections can occur anywhere. However, some settings have factors that make it easier for MRSA to be transmitted. These factors, referred to as the 5 C's, are as follows: Crowding, frequent skin-to-skin Contact, Compromised skin (i.e., cuts or abrasions), Contaminated items and surfaces, and lack of Cleanliness. Locations where the 5 C's are common include schools, dormitories, military barracks, households, correctional facilities, and daycare centers.

If I Have MRSA, Can I Go to Work?

Unless directed by a healthcare provider, workers with MRSA infections should not be routinely excluded from going to work.

Exclusion from work should be reserved for those with wound drainage ("pus") that cannot be covered and contained with a clean, dry bandage and for those who cannot maintain good hygiene practices.

Workers with active infections should be excluded from activities where skin-to-skin contact with the affected skin area is likely to occur until their infections are healed.

What Should I Do if I Think I Have a Staph or MRSA Infection?

See your healthcare provider and follow your healthcare provider's advice about returning to work.

If I Have Staph, or a MRSA Skin Infection, What Can I Do to Prevent the Spread of MRSA at Work and at Home?

You can prevent spreading staph or MRSA skin infections to others by following these steps:

- **Cover your wound.** Keep areas of the skin affected by MRSA covered. Keep wounds that are draining or have pus covered with clean, dry bandages. Follow your healthcare provider's instructions on proper care of the wound. Pus from infected wounds can contain staph and MRSA, so keeping the infection covered will help prevent the spread to others. Bandages or tape can be discarded with the regular trash;
- **Clean your hands.** You, your family, and others in close contact should wash their hands frequently with soap and warm water or use an alcohol-based hand sanitizer, especially after changing the bandage or touching the infected wound;
- **Do not share personal items.** Avoid sharing personal items such as uniforms, personal protective equipment, clothing, towels, washcloths or razors that may have had contact with the infected wound or bandage;
- **Talk to your doctor.** Tell any healthcare providers who treat you that you have or had a staph or MRSA skin infection.

What Should I Do If I Suspect That My Uniform, Clothing, Personal Protective Equipment or Workstation Has Become Contaminated With MRSA?

Wash uniforms, clothing, sheets and towels that become soiled with water and laundry detergent. Drying clothes in a hot dryer, rather than air-drying, also helps kill bacteria in clothes. Use a dryer to dry clothes completely.

Cleaning contaminated equipment and surfaces with detergent-based cleaners or Environmental Protection Agency (EPA)-registered disinfectants is effective at

removing MRSA from the environment. Because cleaners and disinfectants can be irritating and exposure has been associated with health problems such as asthma, it is important to read the instruction labels on all cleaners to make sure they are used safely and appropriately. Where disinfection is concerned, more is not necessarily better. Additional information on appropriate use of cleaners and disinfectants can be found under General Housekeeping Guidance (below).

What Can My Boss (Employers) Do to Prevent the Spread of Staph or MRSA at the Workplace?

- Place importance on worker safety and health protection in the workplace;
- Ensure the availability of adequate facilities and supplies that encourage workers to practice good hygiene;
- Ensure that routine housekeeping in the workplace is followed;
- Ensure that contaminated equipment and surfaces are cleaned with detergent-based cleaners or Environmental Protection Agency (EPA)-registered disinfectants;

Signs and Symptoms

What Does A Staph or MRSA Infection Look Like?

Staph bacteria, including MRSA, can cause skin infections that may look like a pimple or boil and can be red, swollen, painful, or have pus or other drainage. More serious infections may cause pneumonia, bloodstream infections, or surgical wound infections.

Prevention

How Can I Prevent Staph or MRSA Skin Infections?

Practice good hygiene:

- Keep your hands clean by washing thoroughly with soap and water or using an alcohol-based hand sanitizer;
- Keep cuts and scrapes clean and covered with a bandage until healed;
- Avoid contact with other people's wounds or bandages;
- Avoid sharing personal items such as uniforms and personal protective equipment.

Treatment

Are Staph and MRSA Infections Treatable?

Yes. Many staph skin infections may be treated by draining the abscess or boil and may not require antibiotics. Drainage of skin boils or abscesses should only be done by a healthcare provider.

However, some staph and MRSA infections are treated with antibiotics. If you are given an antibiotic, take all of the doses, even if the infection is getting better, unless your doctor tells you to stop taking it. Do not share antibiotics with other people or save unfinished antibiotics to use at another time.

If after visiting your healthcare provider the infection is not getting better after a few days, contact them again. If other people you know or live with get the same infection tell them to go to their healthcare provider.

General Housekeeping Guidance

MRSA can survive for seven days on surfaces like faucets, door handles, countertops and laundry. That is why recommendations for preventing the spread of MRSA include; good hygiene, keeping cuts and scrapes clean and covered with a bandage until healed, regular cleaning of hard surfaces and procedures for gathering and properly cleaning laundry.

The key to safely and effectively cleaning and disinfecting is to educate maintenance staff and personnel on proper technique. The following recommendations may refer to policies that are already in place, as well as policies that should be developed or adopted.

Office/Work Areas

1. Hard surfaces and equipment such as floors, light switches, door handles, hand-rails, tables and desks should be cleaned with detergent-based cleaners routinely and disinfected with Environmental Protection Agency (EPA)-registered disinfectants frequently. {See link below}
2. In an office setting, phones, keyboards, desks and vending machines should be routinely cleaned and disinfected when more that one person will come into contact with the surface.
3. If there is a release of bodily fluids (blood, pus or drainage) cleaning and disinfecting should be completed before any activity is allowed to continue.

Personal Hygiene

1. Wash hands using liquid soap and water upon entering and exiting the premises and before and after any hands on contact with other persons. Alternatively, an alcohol based hand rub can be used according to label instructions. Visibly soiled hands should be washed with soap and water rather that an alcohol based hand rub.
2. Dry hands with disposable paper towels or blowers (e.g. avoid sharing towels).
3. Keep skin lesions (e.g., boils, insect bites, open sores, or cuts) covered with a clean, dry dressing.

4. Limit sharing of personal items (e.g., towels, clothing, or soap).
5. Use a barrier (e.g., a towel or a layer of clothing between the skin and shared equipment*.
6. Shower if there has been substantial skin on skin contact with another person.

*use of sports gloves is an option for barrier protection of the hands, provided that this is consistent with safe use of gym equipment.

Shared Equipment

1. Use a towel or clothing to act as a barrier between surfaces of shared equipment and bare skin.
2. Wipe surfaces of equipment before and after use, especially if the surface has become wet with sweat.
3. Schedule regular cleanings for sports equipment: balls (football, basketballs, baseballs, softballs, and volleyballs), racket grips, bats, gloves, pads, etc.
4. Clean and sanitize sports equipment that comes in direct contact with the skin of players, such as wrestling headgear, football helmets and fencing equipment (including wires) after each use.

Athletic Areas

1. All hard surfaces that may come in contact with body fluids should be cleaned[1] and disinfected[2] frequently with an EPA-approved disinfectant, including benches, weights, workout machines, etc.
2. All floors/wall padding in athletic settings should be washed periodically (if room is used).
3. Locker rooms, including any shower areas should be cleaned daily, if used.
4. If soap is furnished, it should be accessible from a wall dispenser.
5. Ensure that athletic areas, locker rooms and restrooms all have separate cleaning mops and buckets, and that all mops (washable micro-fiber heads or disposable mop cloths preferred) and buckets are cleaned and sanitized after each use.
6. Use "dedicated" mop heads to clean mat surfaces. Wash these mop heads on a regular basis. Disposable mop heads are an appropriate alternative.
7. Clean and sanitize mats before and after practice and matches. When mats are rolled up, all sides of mats should be cleaned and dry before they are rolled up.

([1] Clean all visibly soiled areas, using friction. [2] Disinfect or sanitize "clean" areas to remove bacteria. Always wear gloves when using disinfectants.)

Locker Rooms/Shower Rooms/Steam Rooms & Saunas

1. Use a towel or clothing to act as a barrier between benches and bare skin.
2. Allow steam rooms/saunas to dry at least once a day (this will help minimize the development of a bacterial bio-film).
3. Clean and disinfect frequently touched surfaces daily. Sanitizing shower doors, walls, fixtures and floor is recommended after each use.

Laundry

1. Wash shared linens (e.g., towels, sheets, blankets, or uniforms) in detergent and water at 160° F for at least 25 minutes.
2. Use laundry additives according to the manufacturer's instructions.
3. Use a mechanical dryer on hot temperature cycle (i.e., avoid air drying).
4. Distribute towels, uniforms, etc. only when they are completely dry.

Facility staff should be instructed in and encouraged to:

1. Make spray bottles of disinfectant that are correctly diluted and mixed daily.
2. Clean shared equipment and hard surfaces daily to remove soil.
3. Disinfect shared equipment and hard surfaces with an EPA registered disinfectant.
4. Check with equipment manufacturers for recommendations on the appropriate maintenance of their products.
5. Repair or dispose of equipment and furniture with damaged surfaces that cannot be adequately cleaned.
6. Clean and disinfect large surfaces (e.g., floors and tabletops) frequently.

EPA-registered Disinfectants: http://epa.gov/oppad001/chemregindex.htm

CDC-FAQs for the Workplace: http://www.cdc.gov/niosh/topics/mrsa/

U.S. Department of Labor
MSHA
Mine Safety and Health Administration

MSHA's Accident Prevention Program
Miner's Tip

"Battery Safety"

Category : Maintenance
Mine Type: All Mines

Battery powered equipment is commonplace in modern mining operations. Battery power often has many advantages over other types of power for mining equipment. In recent years, several hundred accidents have occurred where miners were blinded or seriously burned by batteries. Many of these accidents were related to charging, installing, removing, or maintaining batteries. MSHA believes these types of accidents are preventable. In addition, **miners can be protected from needless serious injury if they wear personal protective equipment (PPE), such as chemical resistant rubber gloves, aprons and face shields.**

Batteries contain acid and can explode and/or catch on fire. In the event of a battery explosion or fire, acid and toxic fumes are released. When acid contacts the skin, extremely painful burns and scarring result. When breathed, the lungs are burnt from the toxic chemicals present in fumes. Blindness will likely result if this acid contacts the eye. These physical injuries are irreversible. Therefore, when working with batteries, it is important to **prevent exposure by wearing PPE.**

When batteries are being charged, explosive gasses are produced. Heat and sparks can ignite these gasses causing a fire or explosion. **All smoking, open flames and spark producing items such as grinders, welders or other electrical equipment, should be kept well clear of batteries.**

Surface leakage is a condition caused when dust mixes with spilled electrolyte on the battery, creating a low resistance path. This low resistance path can "short" the battery. A shorted battery creates heat that can potentially cause a fire. **Batteries should be kept relatively clean and free of excess dust to insure against shorting.**

Accidents and injuries involving batteries are avoidable. DO your part!!

How Do I Jump-Start a Dead Battery?

Jump-starting a dead battery may seem simple. But there's a lot more to it than meets the eye.

Your car's ignition system is a complex network of various components and working parts. For this reason, there are actually quite a few things that could lead to a car's inability to start. A "dead" or fully discharged battery (a battery that's lost its charge) is obviously one of them.

Jump-starting a dead battery may seem simple enough. But, the truth is the wrong technique could lead to personal injury or damage to your vehicle. Here are some simple steps to follow that'll get you safely back on the road.

First, Pinpoint the Problem

If your car sounds like it's trying to start, but the engine just won't turn over, chances are good you're facing a battery problem. (However, if, say, you turn your ignition key and you hear only a click with no engine labor that may mean you have a problem with your starter, not your battery.)

Next, Apply the Solution

First and foremost, *check your vehicle owner's manual* for important specifications that apply to your particular ignition system: some new cars have either very specific instructions on how to jump-start the battery, or they may prohibit jump-starting altogether.

Considering its safe to proceed...

1. Obviously, you'll need a pair of jumper cables. These should be a high-quality pair of heavy-gauge wires (usually red and black), insulated with plastic encasing, with substantial alligator clips and copper conductors on both ends. Make sure there are no holes or cracks in the insulating plastic, and that the copper and metal components are non-oxidized and free of corrosion. Make sure the working, starter vehicle is close enough for the cables to safely bridge the distance without strain or tension.
2. With your cables in hand, first, clamp the positive wire (+ / red) alligator clip to the positive (+ / red) terminal on the dead battery. *Don't allow the cable to touch anything metal other than the battery terminals.*
3. Immediately connect the free end of the positive jumper cable to the positive (+ / red) terminal on the working battery.
4. Then, clamp the negative wire (- / black) alligator clip to the negative (- / black) terminal on the *working* battery.
5. Immediately connect the free end of the negative jumper-cable *to a metal component or surface on the engine block* of the car with the dead battery. *Be careful not to connect the cable to the dead battery itself, the carburetor, fuel lines, or any other moving parts.*
6. Make sure bystanders move to a safe distance, and then start the car with the working battery.
7. Once it's idling strongly, start the stalled car.
8. With both engines idling, carefully remove the cables in reverse order: engine-block clip first; negative (- / black) working-battery clip second; positive (+ /

red) clip on the *working* battery terminal third; and positive (+/red) clip on the *dead* battery last.

Critical Safety Precautions

Do...

- Wear a pair of protective eye goggles when working on any type of machinery with moving parts, combustion, or other liquid or physical hazards, including car batteries. (A Z87 rating ensures the goggles are approved for automotive repair.)
- Periodically check your battery for cracks, corrosion, or loose leads/ connections.
- Install only batteries that are specifically rated for your vehicle.

Don't...

- Don't hesitate to call a professional if you think the problem might be serious, or if you've forgotten the proper procedure of how to jump-start a battery.

And Never...

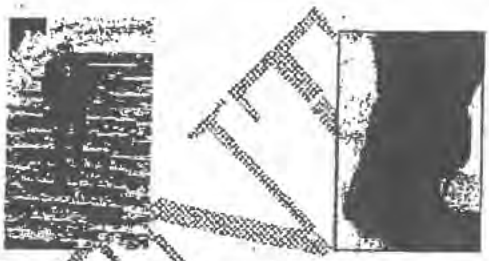
- NEVER smoke near a charging or jump-started battery. Car batteries emit explosive gases and contain toxic, volatile chemical components such as sulfuric acid.
- NEVER throw an automobile battery into the garbage, a dumpster, or otherwise leave or abandon it on public or private property. Batteries are highly toxic to humans, animals, and the environment. Take your used battery to a fire station or auto service station to have it disposed of properly.
- NEVER jump-start your battery if your car's fluids are frozen.

Once your stalled car is idling and your cables are properly disconnected, make sure that you drive the car or otherwise let it run for a sufficient amount of time (30 minutes at mid to high RPM is safe). Reason being, once your engine is running, your car's alternator will translate that energy into restoring the battery's charge. Turning off the engine too soon may cut short the re-charging process, leaving you once again with a dead battery.

HAZARD ALERT

Avoiding Slips and Falls in Winter Snow and Ice

Snow and ice are two of the most common causes of slip and fall accidents. During January/February of last year, 10 MSHA employees experienced a slip or fall while walking or stepping on snow and ice! These injuries, ranging in severity from a bruised ego to disabling, occurred primarily near building entrances, and in parking lots. While the winter months can create high potential for injury, the following best practices can help prevent slipping and fall-type incidents and accidents:



Best Practices

- Wear shoes that provide good traction on snow and ice, such as rubber and neoprene composite. Avoid plastic and leather soles.
- Dress warmly. Being cold may cause you to hurry or tense your muscles -- both of which can affect your balance.
- Give yourself plenty of time. Take short steps with your feet pointed slightly outward. This will help keep your center of balance under you and provide a stable base for support.
- Be extremely careful getting out of your vehicle. If possible, swing your legs around and place both feet on the pavement before you attempt to stand. Steady yourself on the door frame until you have gained your balance. Avoid reaching beyond your center of balance to take hold of the door, because this may cause a fall
- Don't take shortcuts. Always use sidewalks and the cleared paths in parking lots. Never walk between parked cars. Be especially careful when stepping to different levels -- down or up steps or from curbs (don't step on curbs). And remember, grassy slopes can be as dangerous as snowy steps.
- Pay attention to the walking surface. It may become wetter or slicker ahead of you. Look down, however, only with your eyes. If you bow your head, it could propel you forward.
- When walking after sunset or in shadowed areas, be alert for black ice -- particularly in the days following a storm. Once parking lots, sidewalks and steps have been cleared, a thin layer of water remains and refreezes when the temperature drops.
- Carry only those items necessary. Carrying weighted or bulky packages is also risky.

HAZARD ALERT

All employees
Short
11/14/12

WINTER SAFETY TIPS

With its cold and often stormy weather, winter presents many safety challenges both indoors and out. Being prepared and following simple safety tips can help you stay safe and warm this season. Many injuries occur each winter as people try to keep their homes warm and get around in cold, stormy weather. Home Fires – December and January are the leading months for home fires and associated deaths in the United States. About one-third of the 3,500+ home-fire deaths occur during these two months. Heating equipment is the second leading cause of home-fire deaths in the U.S. and the leading cause during December and January. Each year, more than 700 people die of hypothermia (low body temperature) caused by extended exposure to cold temperatures both indoors and out. Snow blowers (or throwers) are the fourth leading cause of finger amputations associated with consumer products. These machines cause more than 5,500 emergency room visits and 1,000 amputations each year.

Here are some winter safety tips for three major winter hazards:

Keeping Your Home Safe and Warm

Follow these safety tips from CDC, the National Fire Protection Association, and the U.S. Consumer Product Safety Commission to prevent injuries and deaths related to heating your home.

- Install a smoke alarm near bedrooms and on each floor of your home. Test it monthly. If it has a 9-volt battery, change the battery once a year.
- Install a carbon monoxide (CO) alarm near bedrooms and on each floor of your home. Know the symptoms of CO poisoning: headache, fatigue, dizziness, and shortness of breath. If you experience any of these symptoms, get fresh air right away and contact a doctor for proper diagnosis.
- Make sure heating equipment is installed properly. Have a trained specialist inspect and tune up your heating system each year.
- Keep portable space heaters at least 3 feet from anything that can burn, including bedding, furniture, and clothing. Never drape clothing over a space heater to dry.
- Have your fireplace chimney and flue inspected each year and cleaned if needed. Open the flue and use a sturdy fireplace screen when you have a fire.
- If you use a wood-burning stove, have the chimney connection and flue checked each year. Make sure the stove is placed on an approved stove board to protect the floor from heat and coals.
- Never use your range or oven to heat your home, even for a short time.

Clearing Snow and Ice

Clearing snow and ice from driveways and sidewalks is hard work. To prevent injuries, follow these safety tips from the National Safety Council, the American Academy of Orthopedic Surgeons, and other prevention organizations.

- Dress warmly, paying special attention to feet, hands, nose, and ears.
- Avoid shoveling snow if you are out of shape. If you have a history of heart trouble, do not shovel snow unless your doctor says it's okay.
- Do light warm-up exercises before shoveling and take frequent breaks.
- If possible, push snow in front of you. If you have to lift it, pick up small amounts and lift with your legs, not your back. Do not toss snow over your shoulder or to the side.
- Use rock salt or de-icing compounds to remove ice from steps, walkways, and sidewalks. Sand placed on walkways may also help prevent slipping.
- If you use a snow blower (also called a snow thrower) follow these safety guidelines:
  - Read the owner's manual before starting your snow blower. Make sure you understand all the recommended safety steps.
  - Make sure all people and pets are out of the way before you begin.
  - Do not put your hand in the snow blower to remove impacted snow or debris. Turn the machine off and wait a few seconds. Then use a stick or broom handle to remove the material.
  - Do not leave the snow blower unattended when it is running.
  - Fill up with fuel before you start, when the engine is cool.

Driving Safely In Winter Weather

Snow, ice, and extreme cold can make driving treacherous. MSHA employees drive more than 16,000,000 miles on business annually – much of it during winter! There are three key elements of safe winter driving – stay alert, slow down and stay in control. These safety tips from CDCP, the National Highway Traffic Safety Administration, and the National Safety Council can help make winter car travel safer.

- Drive according to highway and weather conditions. Don't get behind the wheel with a John Wayne attitude.
- Maintain a safe distance between you and the vehicle in front of you.
- Run a thorough maintenance check on your vehicle at the dealership or an authorized garage. Make sure your vehicle is ready for the punishment of winter driving.
- Tire air pressure decreases in cold weather. Have your tires checked and frequently check tire air pressure.
- Keep your gas tank at least half full at all times. It reduces the chance of gas line freezing.

- Check levels of windshield washer fluid and make sure it's rated at a minimum of 30 degrees below zero.
- Always carry an ice scraper, sturdy snow brush and even a shovel, if there is room in your vehicle.
- Carry a bag of sand or, yes, kitty litter in the trunk. Placing some under the tires can help gain traction and get you out of a tough spot.
- Dress warmly and bring extra clothing to keep warm.

COMPUTER (ERGONOMIC) SAFETY

Introduction

When most people think of workplace safety, they think of machine accidents, slips and falls, electrical problems, fires and similar mishaps. Today, we're here to talk about a different kind of hazard. I'd like to discuss how to work safety with your computer.

You may be thinking this isn't very big deal. If you are, think again. Did you know, for example, that back in 1976, there were only about 675,000 video display terminals used by businesses? Current estimates show over 50 million are being used. And with VDT's so prevalent in the workplace, so, too, are VDT-related hazards.

The most common types of injuries result not from the computers themselves, but how they are set up and used. Computer injuries are most often ergonomic injuries.

What is Ergonomics?

Ergonomics is a term we're familiar with. In basic language, ergonomics is the study of fitting the job to the worker rather than the worker to the job. For example, in relation to computer use, our goal is to adjust the workstation so that it causes as little strain as possible.

Applying Ergonomics to the Workstation

The usual computer setup consists of a display screen, a keyboard and a central processing unit. Safety concerns center around eyestrain and cumulative trauma disorders such as carpal tunnel syndrome. Many computer operators also complain of pain in th e neck and back, headaches, general tension, dizziness and, occasionally, nausea.

Let's take a look at some things each of you can do to avoid these types of problems.

Eyestrain: Most computer-related eyestrain is caused by improper lighting. While you may not be able to do much about the overhead lighting, you can take these steps: Position yourself and your computer to eliminate or at least minimize glare on your screen

- ✓Never shine a lamp directly onto the screen
- ✓If you work near a window, adjust the blinds or shades to improve the lighting and cut the glare
- ✓Place the computer at right angles to the window
- ✓Angle the display screen to avoid black light glare
- ✓Move bright objects away from your terminal
- ✓Adjust the brightness and contrast on the screen

You may still need to give your eyes an occasional break. Simply taking your eyes of the display screen and focusing on a faraway object for a few seconds can work

wonders. You can also try some eye exercises,, like rolling your eyes, blinking or closin g your eye tightly for a few seconds.

Cumulative Trauma Disorders: CTD's are another issue you may have been reading or hearing about lately. They are caused by repetitive motion. One of the most common CTDs among computer operators is carpal tunnel syndrome. Carpal tunnel syndrome can cause tingling, numbness or pain in the hands and wrists.

Using a computer also requires sitting for long periods of time. This can cause back problems. Neck fatigue from looking back and forth from the source document to the display screen is also a concern. To improve the ergonomics of your work area:

- **Place your document** at about the same height as the computer screen and make sure it's close enough to the screen so you don't have to look back and forth
- **Adjust you chair** so the bottom of your feet reach and rest comfortable on the floor and the back of your knees are slightly higher than the chairs's seat.
- **Adjust your screen** to your height. The screen's top viewing line should be no higher than your eyes and 18 - 24 inches from our face.
- **Position your keyboard properly.** It should be placed on a lower-than-normal work surface in order to keep the arms in a downward position and not interfere with the blood flow to the hands and fingers. Forearms should be parallel to the floor and wrist in line with the forearm
- **Organize your workstation** so everything you need is within comfortable reach
- **Shift positions regularly**

Notes

While computer-related health problems are not life and death issues, they can be a real pain in the neck. If you can't seem to get comfortable at your workstation or if you are already experiencing pain or other symptoms, please let me know and we'll work on finding a solution.

EMPLOYEE RESPONSIBILITY FOR SAFETY

Today's meeting is really about you. I can stand in front of you and talk about working safely and what procedures to follow until I'm blue in the face. But until you understand the need for working safely, until you are willing to be responsible for your safety, it doesn't mean a whole lot.

Some of you may be familiar with OSHA - the Occupational Safety & Health Administration. The sole purpose of this agency is to keep American workers safe. Complying with OSHA regulations isn't always easy, but if we work together, we can do it. Yet, complying with regulations is not the real reason for working safely. Our real motive is simple. We care about each and every one of you and will do what is necessary to prevent you from being injured.

However, keeping our workplace safe takes input from everyone. Management, supervisor, and all of you have to come together on this issue, or we're in trouble. For example, upper management has to approve the purchase of safe equipment. Supervisors, including myself, have to ensure that each of you knows how to use that equipment safely. Then it's up to you to follow through and use the equipment as you were trained. If any one part of this chain fails, accidents are going to happen and people are going to get hurt.

I. Responsibility Number One - Recognize Hazards

At the core of your safety responsibilities lies the task of recognizing safety and health hazards. In order to do that, you must first understand what constitutes a hazard. Extreme hazards are often obvious. Our hopes are that you won't find too many of those around here.

There are, however, more subtle hazards that won't jump up and bite you. As a result of your safety training and meetings like these, some things may come to mind. For example, a machine may not be easy to lock out. Common practice may be to use a tag. This is a potential hazard and should be discussed. Maybe something can be changed to make it easier to use a lock. Other subtle hazards include such things as frayed electrical cords, a loose machine guard, a cluttered aisle, or maybe something that just doesn't look right.

II. Responsibility Number Two - Report Hazards

A big part of recognizing hazards is using your instincts. Nobody knows your job as well as you do, so we're counting on you to let us know about possible problems. Beyond recognizing hazards, you have to correct them or report them to someone who can. This too, is a judgment call. For

example, if something spills in your work area you can probably clean it up yourself. However, if there is an unlabeled chemical container and you have no idea what it is, you should report it to your supervisor.

Additional Employee Responsibilities

Good Housekeeping is a major part of keeping your work area safe. For example, you should take a few minutes each day to ensure that aisles, hallways, and stairways in your work area are not obstructed. If boxes, equipment, or anything else is left to pile up, you have a tripping hazard on your hands. Those obstructions could keep you from exiting the building quickly and safely should you face an emergency situation.

Also watch out for spills. These can lead to slips and falls. Flammable materials are another thing to be aware of. Make sure they are disposed of properly.

Keep Thinking. Even if you're doing your job safely and you are avoiding hazards, there are often even better ways to work safely. If you have ideas for improving the safety of your job or that of co-workers, share them.

Concluding Remarks:

While nothing we do can completely eliminate the threat of an incident, we can work together to improve our odds. As I said, this must be a real team effort and I'm counting on input from all of you. Let's keep communicating and continue to improve safety.

Hearing Conservation

Office of Employee Safety and Health

Employees who are exposed to hazardous levels of noise in the workplace are at risk for developing noise-induced hearing loss. Noise-induced hearing loss is 100 percent preventable but once acquired, hearing loss is irreversible. Fortunately, the incidence of noise-induced hearing loss can be reduced or eliminated through the successful application of workplace controls and hearing conservation programs. MSHA's Hearing Conservation Program is included in the APPM Chapter 400 Volume IV.

Hazardous Noise

- Permanent hearing loss (nerve damage) can occur when the ear is exposed to 85 decibels (dB) or higher averaged over an 8-hour work day;
- If workers standing only a few feet apart have to shout or raise their voices to be heard, it is an indication that noise levels are above 85 dB;
- Symptoms of noise induced hearing loss can include ringing in the ears (tinnitus) and difficulty understanding conversation (sound distortion);
- Hearing loss is usually painless and the symptoms can be hard to identify and may go unnoticed;
- Noise that causes pain in the ear is an indication that the noise level is too high;
- Any exposure to the ear at 140dB or higher can cause immediate and permanent hearing loss.

Sound Levels

- Normal conversation 60 dB
- Vacuum Cleaner 85 dB
- Push Lawnmower 95 dB
- Table saw 100 dB
- Chainsaw 105 dB
- Wood Chipper 110 dB

Noise Controls

- Engineering Controls - can include equipment substitution or use of sound absorption/insulation materials
- Administrative Controls - rotating employees to reduce the time each person is exposed to the noise
- PPE - earplugs, earmuffs, and canal caps

Hearing Protective Devices

- Noise Reduction Rating (NRR) – the decibel reduction a wearer can expect from a properly fitted hearing protective device.

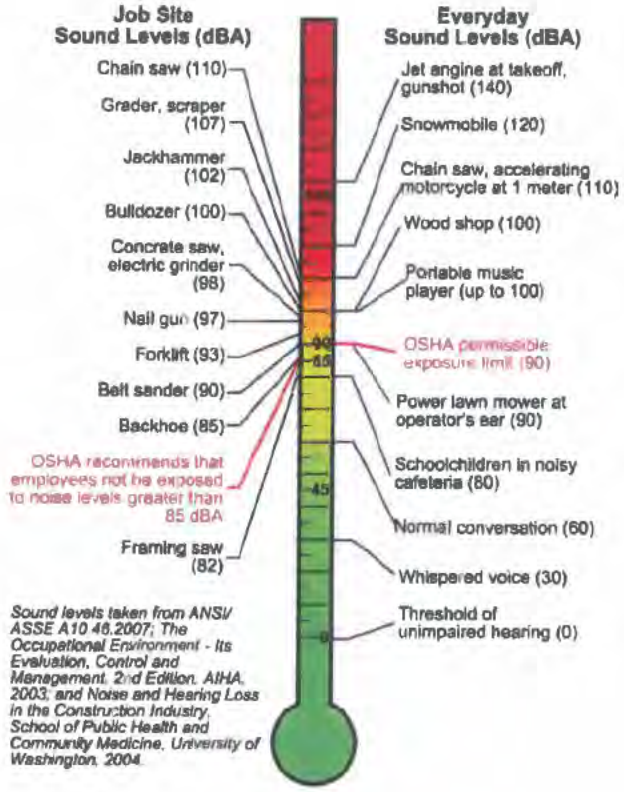
- Earplugs - have the highest NRR (up to 33 dB) and are inexpensive. Plugs must be inserted properly!
- Earmuffs – form air-tight seal over the ear, NRR up to 30 dB, less effective when using eyewear.
- Canal Caps – lower NRR, use pressure from a headband to hold the earplugs in place.

Hearing Conservation Program (HCP)

Per OSHA regulation 1910.95, employers must administer an HCP whenever employee noise exposures equal or exceed the Action Level of 85 decibels 8-hour time-weighted average. MSHA's HCP includes noise monitoring, employee training, implementation of noise controls, and regular audiometric testing. Contact MSHA's Office of Employee Safety and Health if you have questions or concerns about noise levels in your workspace.

Sound Level Chart

Equipment and daily activities at construction job sites can expose workers to high levels of noise. Sound levels on the chart below are listed in decibels (dBA) – the larger the number, the higher the volume or decibel level. How loud the noise is (volume), how long the noise lasts, and how close you are to the noise are all important in determining the hazard.



Sound levels taken from ANSI/ASSE A10.46.2007; The Occupational Environment - Its Evaluation, Control and Management, 2nd Edition, AIHA, 2003; and Noise and Hearing Loss in the Construction Industry, School of Public Health and Community Medicine, University of Washington, 2004.

OSHA
Occupational Safety and Health Administration

How Loud Is It ??

Decibels (dBA)

Immediate Danger To Hearing

140

130

Threshold Of Pain

120

Risk Of Hearing Damage In 7 Minutes

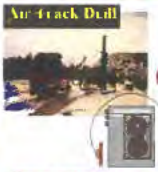
Channel Burner

Longwall Shear

Risk Of Hearing Damage In 15 Minutes

110

Air Track Drill



Bore Hole Drill

Risk Of Hearing Damage In 1 Hour

100

Front End Loader

Continuous Miner

Risk Of Hearing Damage In 4 Hours

90

Minimum Allowable Noise For 8 Hours

Roof Bolter

Off Road Haulage Truck

MSHA Action Level Effective 9-13-00

80

Vacuum Cleaner at 9 Feet

70

Normal Conversation at 3 Feet

60

Large Transformer, 50 Feet

50

Suburban Setting

40

Country Setting

30

North Rim Of Grand Canyon

Bird Chirping

20

10

0

Threshold Of Hearing