SAFETY ALERT

SAFETYFirst

Title: Grinder Events

Issue Date: October 2017

Summary

Over the last 5 years, 25 recordable injuries for employees and contractors at a particular energy company have occurred from the use of hand held grinders. These included angle grinders and die grinders (see photos).

As a result of the events:

- 9 workers sustained eye injuries where debris and shards had to be removed by healthcare professionals.
- 12 workers sustained lacerations that required stitches.
- 3 workers sustained fractures to arm or hand.
- 1 worker suffered a dislocated finger.

The eye injuries were caused by inadequate selection of eye protection. For grinding tasks, face shield and safety glasses alone are not adequate. Better protection involves face shield and spoggles or goggles.

The majority of struck by injuries (lacerations/ fractures) were caused by unexpected movement of the grinder due to kickback. Some were caused by dropping the grinder. A few were the result of the user's hand slipping and getting into a pinch point between the grinder and the material. In a few cases, the grinder wheel shattered.

See the photo for a picture of a welding hood after a 2014 event at a generating plant. A contractor was using an unguarded grinder in the boiler when the grinding wheel came apart and hit his welding hood. The wheel went through the hood causing lacerations on his face that were treated with stitches. The wheel shattered because it was not the proper size. The contractor had installed a 3 inch wheel on a grinder designed for 2 inch wheels.

File photo - typical angle grinder.

Die grinder (also called a pencil grinder).

2014 -- Grinding wheel embedded in welding hood.

View from inside the welding hood.

Operational Learnings

To avoid injuries from grinders and grinding operations, follow these work practices:

- Wear appropriate eye protection. Wear spoggles/ goggles under face shields.
- Utilize the manufacturer's guards. Do not remove or modify guards.
- Inspect grinding wheels before use.
- Keep grinding wheels dressed and turning true.
- Use the correct grinding wheel.
- Evaluate line of fire hazards. Position yourself and the work to stay out of the line of fire in the event of unexpected motion or kickback of the grinder.
- Maintain a firm grip on the tool and position your body and arms to allow you to resist kickback forces.
- Use the auxiliary (side) handle, if provided for maximum control over kickback.
- Evaluate hand hazards. Wear appropriate protective equipment to avoid hand injuries.

Keys to Life Connection – Line of Fire