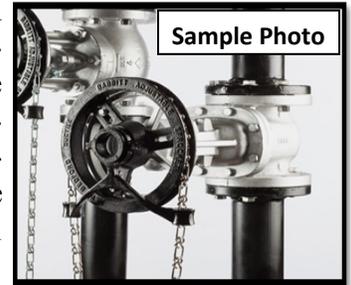




## Serious Incident Involving a Chain Wheel Operated Valve

A member received multiple injuries while working with a chain wheel operated valve when the actuator/operator (weighing approximately 60-pounds) on an overhead line broke away striking him on the head. His hard hat lessened the severity of the injury, but he was hospitalized and will continue to miss days away from work. The falling portion of the valve he was locking out was approximately 20-feet above his head. At this time, it is uncertain who manufactured the chain wheel operated valve.



The chain wheel operated valve and PPE involved in this incident are shown in the photographs. The lessons learned and recommendations from this incident are still in progress; however, due to the prevalence of chain wheel operated valves in our workplaces, we are alerting you to the possibility that these devices could separate and fall from the valve handles causing serious injuries.



As we are still learning more around this event, we ask that you assess your workplace(s) of the potential for failures associated with overhead chain wheel operated valves and take appropriate actions, including, but not limited to:

1. Inventory all locations where chain wheel operated valves are located, focusing particularly on those devices located in areas where corrosive conditions may exist.
2. Evaluate whether the metal composition, coatings and other aspects of the chain wheel operated valve's construction are appropriate for the conditions where the equipment is located.
3. Inspect the method used to attach the chain wheels to the valve hand wheels (e.g., determine whether set screws and threaded attachments/fasteners are secure and tight).
4. Review preventative and periodic maintenance procedures for chain wheel operated valves in accordance with the manufacturer's guidelines.
5. Assess the suitability of working surfaces available to employees operating or working on chain wheel operated valves.
6. Where applicable, replace chain wheel operated valves with a different type of valve (such as remote operation) using a Management of Change (MOC) process.

Some manufacturers of chain wheel operated valves offer safety cable kits that provide an extra level of protection in the event a chain wheel becomes detached from an overhead valve. This photo is one example of a chain wheel safety cable.



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This hazard alert is based on an actual incident, and reflects our best understanding of the incident at the time it was written. However, many incidents have multiple causes; this alert may not cover all of them. The purpose of the alert is to illustrate workplace hazards; it is not intended to be a comprehensive report on the incident.