

Safety Report

February 8, 2019

Safety Comity Chair DS Elems

Seeing as we haven't had a Safety Comity meeting since last fall I suppose it's time we start thinking about planning out our next one. Due to the weather I doubt we'll be able to easily facilitate any sort of in-person meeting for at least another month maybe longer. Likely I'll try and get an email chain going at the end of this month or the beginning of March to at least hold us over until April or May. I believe that the first work session for WP165 is in May say I may just try and have the first physical 2019 Safety Comity meeting around that time.

Moving on to safety issues on hand I'll start with winter weather precautions since we are due for such fun times through into next week. Remember that if you are going to be around the museum to watch your footing, and that there is a bucket of ice melt in the Ops Office; feel free to spread some around the path to the doors if you are on site. Last report from Ethan Doty was that there was one to two feet (~30.5cm to 61cm) of snow immediately around the shop. Currently looking at the webcam the path from the gate to the North side of the shop is plowed for about one vehicle width and I cannot see if the end of the dock is cleared yet. Suffice to say that there is quite a bit of snow and not much parking, but then again I don't expect many people to be on site for the next week or so. I expect the next few weeks to present to usual flooding in and around the shop.

Forklift Training & Certification

I'm assuming that we still plan on implementing the training and certification for forklifts sometime this season. I've briefly reviewed that draft material that Cochran sent the Safety Comity last July. Overall I don't see any issues with it besides a few things we may want to think about adding. It looks like it will be easy enough to implement once we get everything planned and in place. I think we need to start discussing a planned time for the training so we can get it announced as early as possible to facilitate as many personnel as possible. Ideally it would be done on the same weekends that we have crew training, which is currently the 27th of both April and May.

In regards to the draft material, there are some procedures that I feel should be looked at and better defined as well as some additions to be made. Upon my initial rereading there is language regarding the use of lifts on FRRS property by contractors and non FRRS personnel in multiple places with possibly conflicting terms. Mostly it regards the use and rental of FRRS owned equipment on site and use of non-FRRS equipment on site by non-FRRS personnel, and there are mentions of them both requiring our operational licensure and just our approval. To that end I feel there are several things we should consider:

- Only FRRS licensed card holders can operate FRRS equipment regardless of other non-society lift licensing. Meaning that non-FRRS individuals would need at minimum an overview and checkout of the proposed equipment to be used *provided they poses current licensing for the same type of equipment*, possibly consider making up a temporary card with effective dates to issue in such scenarios.
- Clarify the outcome of operational violations. Currently things read that an operator simply needs to undergo refresher training. Regulations state that such training be different from the immediately previous training. Neither our

documentation nor any state or federal regulation stipulate a time line on effective card and lift operation forfeiture, simply a requirement of refresher training. It would be best to define basic violations and the severity of penalty incurred. Such as the loss of a lift operators card means the effective loss of operational privileges. I'd also propose setting up all standard lift trucks with a like key, and the licensing of a card to an operator also means issuing a key; loss of they card means loss of the key until refresher training can be administered.

- Specialized training for the use and operation of specialized equipment and attachments, per frequency, department and expected type of use. Examples being the LOED material handler or the use of the man lift (man basket.) In the case of the man lift, the lift operator and the person being lifted must *both* be trained for the use of the equipment, as well and the person being lifted should be trained in the proper use of fall arrest and protection systems.

At any rate, I hope to start planning and working on the forklifts and other auxiliary equipment once the weather starts to lighten up. Big White is having horn issues again and needs a reverse alarm. The LOED material handler needs some form of spot/headlight and a beacon, as well as needing a replacement horn and reverse alarm. It's been long enough all I remember about the Yale is that it has a beacon. The electric lift needs everything but a horn. I believe all the lifts need new operational and precautionary labels.

Fall Arrest & Prevention in the Shop

As we swiftly approach the warmer spring months and begin to resume work in the shop I've been re evaluating some options for overhead fall prevention systems in the shop. Currently the only spot in the shop that could qualify as having usable restraint/arresting system anchor points is under the rail of the air hoist at the west end of 1 Rail; in which it would be acceptable to use a rated strap or lanyard/loop hooked over the rail as an anchor point for the fall protection system i.e. harness, shock absorber and lanyard. Unfortunately in such a circumstance the hoist would then need to be tagged and locked out of service for the duration of the use of the rail as an anchor point per regulations; the same point cannot be used to support a load/lift, or to support the weight of personnel and subsequent platforms/devices and simultaneously used as a fall protection anchor point.

Therefor I'd suggest the installation of some form of system along the hoist rail. There are multiple options, such as individual anchor points, a solid anchor line or a life line. The cheapest but least utilitarian option would be placing anchor points on the truss work which is spaced far enough apart to severely limits worker mobility. Those anchor points could in theory be used to support a solid or cable line with the latter being the next cheapest option. This then poses the us with some options of attachment method for the anchor points. The cheapest and simplest way to go is also the most intrusive to the trusses and would be to drill and mount rated hardware. Personally I'd opt for a system that could be clamped the trusses.

All anchor points per federal regulations need to be rated for supporting a minimum of 5000lbs and have a safety factor of two, meaning they can also be designed to withstand twice the expected load. I'm currently trying to track down the Cal/OSHA requirements but haven't had any luck in the last three hours of searching their website. I expect it to be similar to the federal requirements.

I believe I can fabricate a system of clamp on anchor points that more than meets the above listed requirements (up to ~7200lbs) for about \$30 per anchor. We'd need about five anchor points which could then be used to support a wire rope a sufficient size to meet requirements which would span half the length of the shop. That would construct a sufficient life line to which personnel could "tie off" to and maintain almost full mobility. The largest cost to this would be the purchase of the wire rope, which I'm still researching pricing. Initial estimates for the whole system would be \$900 minimum and only go up from there.