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You keep me hanging on:

Rope access in the entertainment industry

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You keep me hanging on: Rope access in the entertainment industry

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Safety notice! This article discusses specific skills and methods that involve a range of hazards and should only be undertaken by properly trained and qualified personnel. In fact my main thesis is to promote

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Above: An entertainment rigger using rope access to install rigging in the Knight Concert Hall at the Adrienne Arsht Center in Miami, FL. Left: Rope access is often far more convenient than scaffolding.

that training as valuable not only for its own purposes but also because of its versatile set of rigging, risk management, and fall protection skills. Don't read this article, watch a few YouTube videos, and go try and do this, not even if you stayed at a Holiday Inn Express last night. If you're interested check out https://sprat.org/ and https://irata.org/ for more info on safety, work practices, and training opportunities.

ROPE RIGGING IS ALMOST AS OLD AS THEATRE ITSELF—from the *deus ex machina* of the Greeks in ancient Athens, to the Renaissance opera houses, to Peter Pan taking flight onstage. It should be no surprise that with such a long history it is one of the most refined techniques available, and when used with modern materials offers a versatile toolbox that technicians in every department can benefit from.

Rope access as a system represents the very best of what the refinement of these old techniques can provide. I continue to find on a regular basis situations where the application of either rope access systems or many of the techniques within its scope can provide safe and efficient solutions.

Often times, people are hesitant to use rope access. I think this comes from a fear that it is inherently less safe than other access

solutions. In fact, when used as a system by properly trained technicians, rope access has one of the best safety records among any methods for access[1]. Last year I was working on a production with a hard to access truss. In discussing the situation I presented the solution of rope access. For that position there was grid access above where suitable anchors could be installed and even a catwalk to rappel from which simplified the task. The gaffer was leery of the solution and instead choose to have a technician access the truss via a single-mast genie lift and have the technician climb out of the lift onto the truss. Complications from improper execution of this task, compounded by the fact that it was a hazardous solution to begin with, led to a frightening moment where a genie lift almost toppled down onstage. This is far too common an occurrence. Aerial lifts and scaffolds as a means of access can be safe when used properly, but the problem is that often a lack of training and the choice of convenience over safety, creates extremely hazardous situations for the crew in the lift as well as the others in the hazard zone below.

Safety features can be at times counterproductive. This often has less to do with the feature itself and more to do with the fact that people will respond to safety features by being more careless or risky in their behavior because they know the safety feature is there to "save them." Someone in a lift might be tempted to reach a little farther, or maybe step up on the railing if they have a harness and lanyard they know would catch them if they fell. In addition, aerial

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Above: Rock Exotica's Rockstar 3-D rig plate is a versatile piece of gear that simplifies diverted anchor points.
Left: Rope techniques increased safety and ease of installation at a position that was previously a challenge in a lift.

[Rope access] is one of the most refined techniques available . . .

lifts are generally fairly easy to operate and the potential for poorly trained and/or reckless personnel to misuse them is high. Improper lift and scaffold usage are among the most common safety hazards I see on work sites. Too many workers in the bucket, standing on the railings, reaching out over the railings well beyond what is reasonable or safe, using casters on outriggers to move a lift with basket extended, lifts not on level ground or without all four wheels planted, workers climbing on scissors—the list goes on, and all of these things I have seen more than once. The comfort of the railed-in platform can be deceiving, and it is exactly because you feel more safe that you can end up acting less safe.

Rope access starts from a different place. It is recognized as a practice that involves hazards. By starting at a place where you initially feel less safe drives you to employ a process and methods

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A SPRAT rope access worker trains on level 2 cross-haul techniques.

that recognize those hazards (the JHA or job hazard assessment) and address each hazard with a control to mitigate it to acceptable levels of risk. Worker behavior changes, because you feel less safe, you must act more safely.

[Rope access] can . . . increase your awareness and risk management skills in any situation that requires fall protection.

One of the convincing arguments to have trained and certified rope access technicians on rigging crews is in rescue plans. Rescue plans are a place where I see many employers not meeting OSHA codes and industry standards. Rope access technicians are trained in rescue techniques and on-rope rescues. This give employers more options for a complete rescue plan that in the event of an incident could mean valuable time in getting a worker to safety. It should be noted that the types of rescue and the skills required vary between levels. This doesn't mean that on-rope rescue should be the first rescue option, there are a lot of rescue options out there, and the appropriate one will be context-specific and informed by the JHA.

Rope access training can be valuable outside of its use as a complete system and simply through many of the skills it utilizes. Obviously the rope is a huge component of a rope access system, and training should include information on material strength, environmental effects on strength and usage, and a range of different knots and their applications. You also learn about simple, compound, and complex pulley systems that use progress capture. These systems have many applications in entertainment rigging for lifting and securing equipment and scenery. In addition to the technical skills, the methods and procedures for risk management and fall protection outlined in safe practice standards offer a valuable approach for reducing risk that can be a model for risk management in general.

There are currently two major recognized certification organizations for professional rope access. IRATA is the Industrial Rope Access Trade Association, which was formed in the late '80s in the UK to support maintenance challenges in the offshore oil and gas industry, and has since grown to become the model for rope access standards worldwide[2]. SPRAT, the Society of Professional Rope Access Technicians, followed IRATA's model and formed in

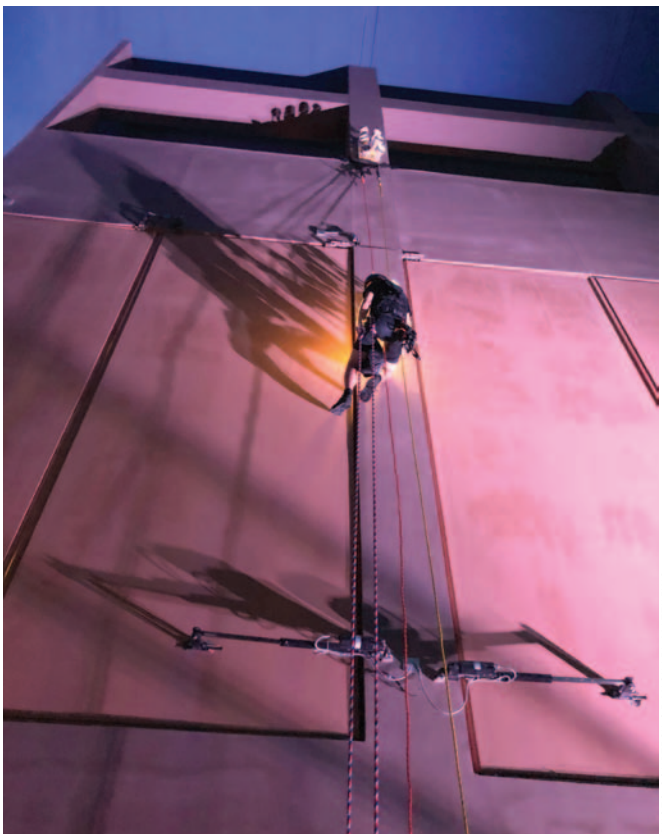

PHOTO COURTESY OF MICHAEL MATTHEWS

Rope access worker changes lamps on hard to reach lighting positions in the Concert Hall acoustic chamber.

the mid-'90s to address the needs of companies in North America employing rope access. In general, many of their core standards are similar with IRATA being a bit more stringent on initial training, level advancement requirements, and member company requirements. Both outline valuable safety standards and certify technicians through a combination of written examination and hands-on skill demonstration. The certifications are broken down into three levels corresponding with the roles that a three person rope access team would employ: worker, lead technician, and supervisor.

Another resource available comes from the US Department of the Interior. The Bureau of Land Reclamation who published Guidelines for rope access in 2004[3]. It should be noted that one important change from when this document was published is that the Petzl Shunt is no longer acceptable to use as a backup device[4].

Employers and technicians alike should be investing in rope access training. The methods and work practices offer a host of safe and efficient solutions for working at height, lifting, hauling, and securing equipment. Even those who don't expect to be doing rope access can benefit greatly from the training, gaining valuable rigging skills, and proven safe and efficient protocols and procedures for fall protection.

When I learned how to ride a motorcycle it made me be a better driver of a car as well. Being exposed to greater potential hazard forces you to constantly engage in a risk management process to the point where it becomes habit. The same is true of rope access training and practice. It not only offers a host of versatile skills, but it can also greatly increase your awareness and risk management skills in any situation that requires fall protection. ■

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Endnotes:

[1] http://estalink.us/ohsropeaccess
[2] https://irata.org/page/about-us
[3] https://www.usbr.gov/rope/docs/rope_guidelines.pdf
[4] http://estalink.us/petzlshunt