What you don’t see can kill you!

Reducing the risk of line-of-fire incidents

NERC Human Performance Conference

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Why it’s a big deal!

BGE line-of-fire incident data and photos removed
Why it’s such a challenge

- Lifting / hoisting / rigging
- Objects with fall potential
- Objects with roll potential
- Rotating equipment
- Objects with sharp edges
- Pressurized tools / equipment
- Energized equipment / blasts
- Spring-loaded / tensioned devices / lines
- Etc......
Why it’s such a challenge

Line-of-fire threats are widely varied, dynamic and inherent in nearly all work tasks
What gets in the way?

We don’t recognize the threat or we identify it too late

We believe we have to place ourselves in the line of fire in order to get the job done

We don’t believe we are placing ourselves in real danger

We believe the time of exposure is small enough to protect us

We believe PPE will protect us
What gets in the way?

It’s the way our brain assesses and manages risk that makes us vulnerable
The diagram illustrates the concept of the Risk Monitor, which is a tool to distinguish between System 1 and System 2 in human decision-making.

**System 1**
- Subconscious
- Automatic
- Fast
- Easy / Eager
- Error prone

**System 2**
- Conscious
- Deliberate
- Slow
- Hard / Lazy
- Hates to be wrong

Disrupts and Engages are arrows pointing to the left and right, respectively, indicating the interaction between these two systems.

**Adapted from:**
- Thinking, Fast and Slow
- Daniel Kahneman, 2011; and Outcome Engenuity
What we learned about line-of-fire

Highest probability of LOF injury is when we don’t anticipate the threat

...because our Risk Monitor doesn’t fire, and so System 2 never engages
Solution: Anticipatory threat management

Strengthening the 3 voice conversation

- Strengthen your Risk Monitor so that it fires
  - Caught in
  - Struck by
  - Energy released

- Make sure System 2 is in control when taking action
  - Eliminate risk OF the event
  - Mitigate risk WITHIN the event
Anticipatory Threat Management – Bringing it to life