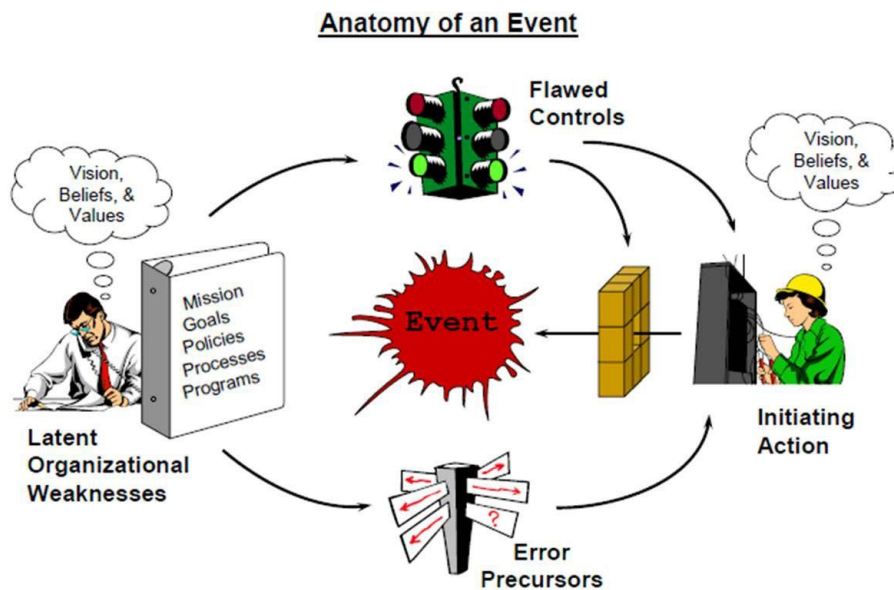


THE PROBLEM

- Injuries, illnesses, and fatalities are still prevalent in the US utility industry, especially in Electric Production, Transmission and Distribution¹.
- Our understanding of safety risks cannot improve while incident investigations are still focused on²:
 - Proximal causes of accidents.
 - Issues relatively easy to fix.
 - Placing blame.
- Human error is the most frequently cited cause of accidents in the utility industry³.
- However, most errors are rather due to latent organizational weaknesses, such as⁴:
 - Internal/external financial rewards for risk taking.
 - Limited management commitment to safety.
 - Inconsistent application of serious consequences for deviant worker behavior.
 - Inconsistent control of contractors.
 - Limited safety leadership knowledge or skills.
- The contributing factors to safety and health incidents are interrelated, and include latent organizational weaknesses, flawed controls, error precursors, and individual actions as summarized in the picture below³:



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THE SOLUTION

- A system approach to addressing human variability concentrates on the conditions under which people work, as well as on building defenses to avert errors or mitigate their effects⁵.
- The implementation of an Occupational Health and Safety Management System (OHSMS) is the self-evident outcome of the system approach.
- There are many guidelines available for the implementation of an OHSMS:
 - Michigan OSHA's Safety and Health Management System Guidelines
 - www.michigan.gov/documents/lara/miosha_cetsp02_351603_7.doc
 - ANSI/AIHA/ASSE Z10 -2012
 - <http://www.asse.org/ansiahaasse-z10-2012-occupational-health-safety-management-systems/ansi/aiha/asse-z10-2012-occupational-health-and-safety-management-systems/>
 - ISO 45000 - 2018
 - <https://www.iso.org/standard/63787.html>
 - OSHA's Recommended Practices for Safety and Health Programs
 - https://www.osha.gov/shpguidelines/docs/OSHA_SHP_Recommended_Practices.pdf
- OHSMS can be integrated with Human Performance Improvement methods^{3, 6}.
- Principles of Human Performance⁷:
 - People are fallible. Even the best people make mistakes.
 - Error-likely situations/conditions are predictable, manageable, and preventable.
 - Individual performance is influenced by organizational processes and values.
 - People achieve high level of performance largely because of encouragement/ reinforcement from leaders, peers, and subordinates.
 - Incidents can be avoided through an understanding of the reasons mistakes occur and applying the lessons learned from past events.

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