

WASTECON 2016

Applying the Bowtie Methodology to Assess EHS&S and Business Risks

Presented by:

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Getting to Know You...

1. Audit against regulatory requirements?
2. Utilize a risk management process for EHS?
3. Create a risk register?
4. Rank your risks by plotting on a matrix?
5. Conduct risk assessments?
6. What process or tools do you use to assess risks?
7. Process thorough?
8. Process effective?
9. Utilize Bowties? What's a bowtie??
10. If yes, for what types of risks?



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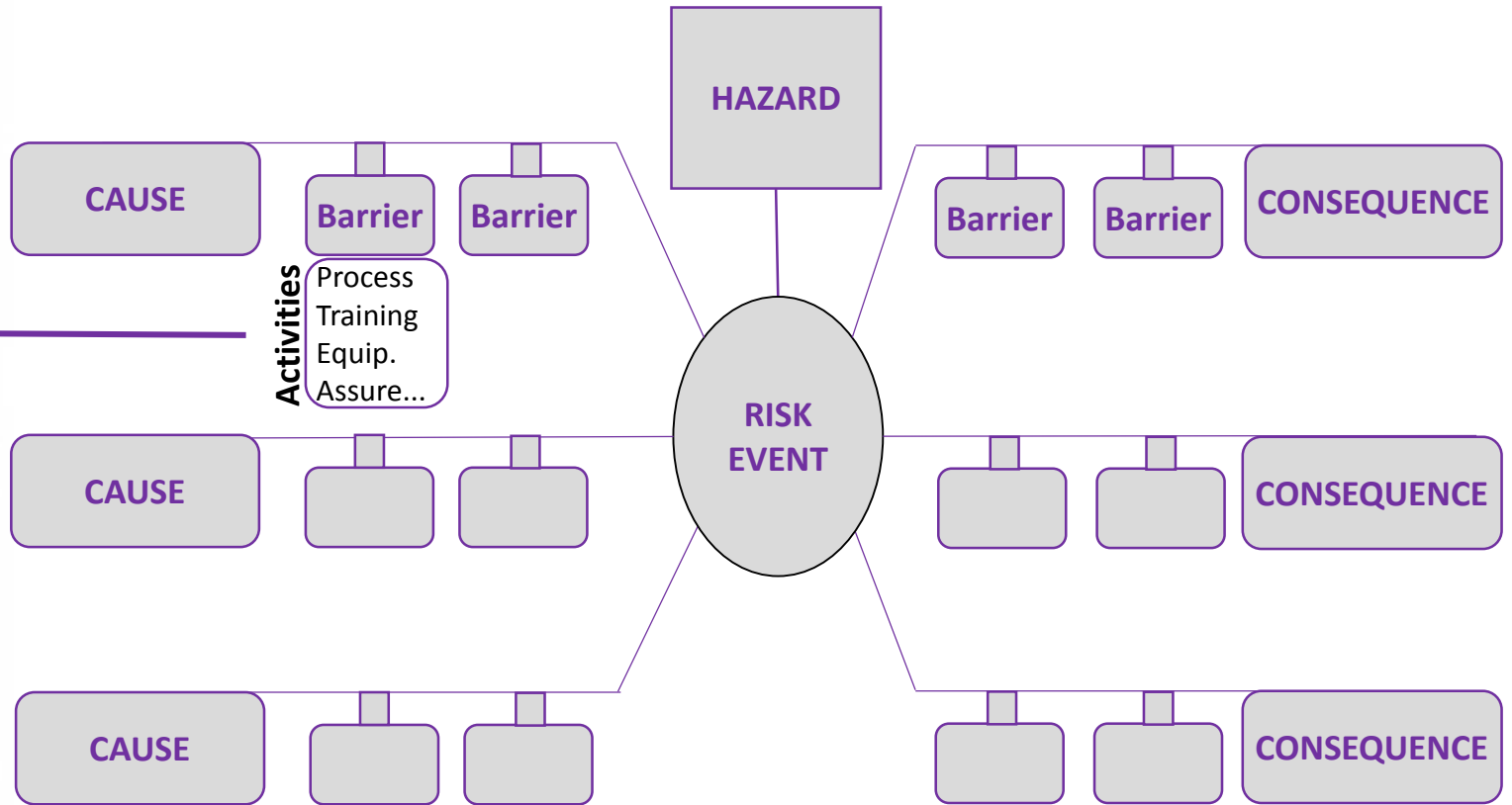
What is a Bowtie?

- Documented since 1979, and used formally after the Shell/Piper Alpha incident in 1988...
- Shape resembles a men's bowtie. 
- Can be used to help assess ANY type of risk!
- Comprehensive risk evaluation method used to:
 - Understand and communicate risks and their barriers
 - Prioritize and resource action plans
 - Reduce risks
 - Continuously improve
 - Plan for the long term



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Bowtie Model & Definitions



TIPS:

- Keep It Simple
- Do not omit a barrier if it is not in place.
- Apply learnings, findings, etc. for CI



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Exercise: Build a Bowtie

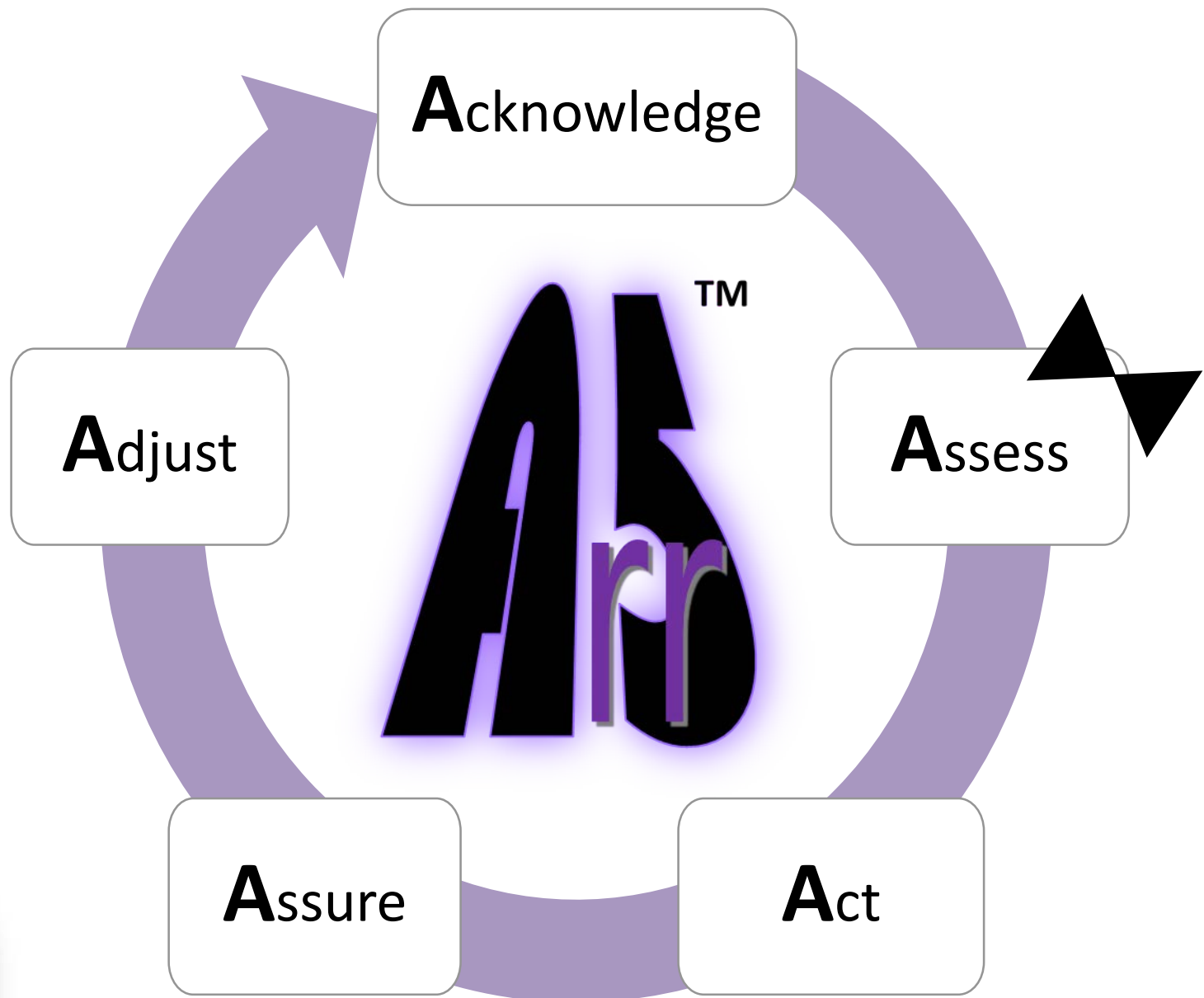
Develop Template:

1. Hazard
2. Risk Event
3. Causes
4. Prevention Barriers
5. Consequences
6. Mitigation Barriers



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NOW WHAT??



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Resources

- For questions related to this presentation, or guidance on how to improve your risk reduction approach please contact Tabitha Laser
Tabitha.Laser@ch2m.com Mobile: (813) 465-9626
- Bowtie XP Software: <http://www.cgerisk.com/software/risk-assessment/bowtiexp>
- CGE Risk Management Solutions, The History of Bowtie
(<http://www.cgerisk.com/knowledge-base/risk-assessment/the-bowtie-methodology>)
- *Reason, James. 1990. The Contribution of Latent Human Failures to the Breakdown of Complex Systems.* (<http://www.jstor.org/stable/55319>)



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Questions?



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