

## Why consider using a model similar to the “what if” hazard analysis model used in technical/industrial engineering for remote storage facilities?

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**KBR** Where time is treasured

### Topics

... « what if » hazard analysis model ...

Aim

Really a need?

- ❖ From the ideal conception to so other many realities
- ❖ From the theoretical result to the reality
- ❖ From the current means to what the future holds for us

The model in a few words and why think about it for our concern ?

Examples of issues/topics /items which could go through a « what if? » approach

How to put this into practice ?



**KBR** Where time is treasured



### Really a need?

From the theoretical result to the reality

... « what if » hazard analysis model ...

Infrastructures

- ❖ Gap with as-built

Use

- ❖ Inappropriate use
- ❖ Lack of maintenance

Incidents

- ❖ Even with good material you can be confronted to failures
- ❖ "External" hazards



All these problems, I really do not understand, this project was so beautiful !!



Budgetary it was a bargain. Nevertheless, a building in a flood risk area was maybe not the best choice, so sorry about that !!!



Previous slide may have a serious impact on all this !!

A Rolls Royce driven by a bad driver may also lead to damageable swerves !!!!



### Really a need?

From the current means to what the future holds for us

... « what if » hazard analysis model ...

Budget cuts

- ❖ Lack of maintenance
- ❖ Lack of staff
- ❖ Lack of time
- ❖ ....

Perverse effects

- ❖ Turn-over → lack of knowledge
- ❖ Not used, why keeping it?
- ❖ ....

Environment changes

- ❖ Flood
- ❖ A district that has evolved into a dangerous one
- ❖ .....



**The model in a few words**  
**Why think about it for our concern ?**

... « what if » hazard analysis model ...

**Key elements**

- Structured brainstorming method of
  - ✓ with the help of "what if ?" questions, identifying what things can go wrong concerning a process, a system, an equipment, a procedure, an activity ...
  - ✓ judging the likelihood and severity of those consequences/ situations occurring
  - ✓ formulating recommendations / proposing solutions

Led by a team presenting diversity in terms of experiences & knowledge (from designers to users/operators familiar with or involved in such facilities/operations)

Based on the relevant gathered information & documentation

**Key advantages**

- ✓ Easy to organize
- ✓ Flexibility
- ✓ Can evolve by steps (from modest to ambitious)

"What-if" Analysis Form				
Dept.:	Description of Operation:	By:	Date:	
What if?	Answer	Likelihood	Severity	Recommendations
SAMPLE FORM				

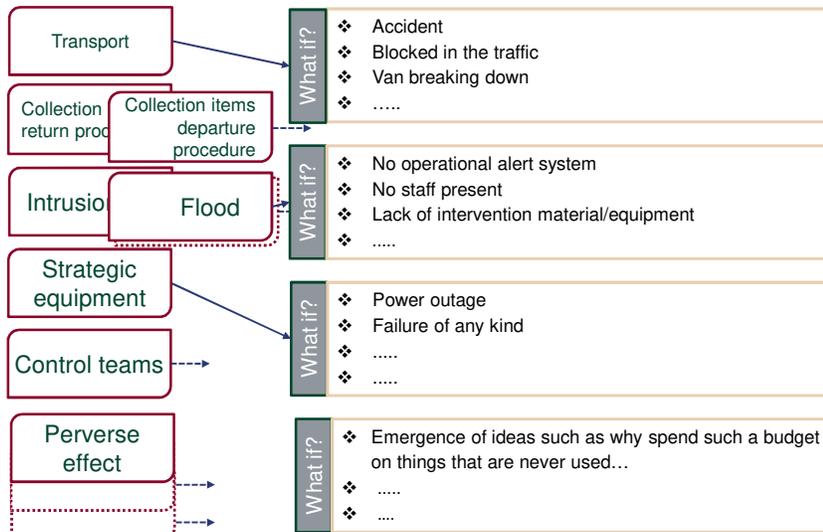
Summary of the "What-if" Review of a Vessel's Compressed Air System				
What if...	Immediate system condition	Ultimate consequences	Safeguards	Recommendations
1- The intake air filter begins to plug	Reduced air flow through the compressor affecting its performance	Inefficient compressor operation, leading to excessive energy use and possible compressor damages. Low or no air flow to equipment, leading to functional inefficiencies and possibly outages.	Pressure/vacuum gauge between the compressor and the intake filter. Annual replacement of the filter. Rain cap and screen at the air intake	Make checking the pressure gauge reading part of someone's weekly round <b>OR</b> Replace the local gauge with low pressure switch that alarms in a manned area.

Even if the processes or systems seem less clearly definable in our case than in industry, being able to apply such a method appears as a good choice to easily develop a "risk assessment" spirit for remote storage



**Examples of Issues/topics/items which could go through a "what if?" approach**

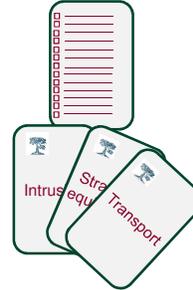
... « what if » hazard analysis model ...



How to put this into practice?

... « what if » hazard analysis model ...

What about making a game of it?



Keen on helping us to develop it?

What about starting the process now?



... « what if » hazard analysis model ...

**Thank you for your  
attention**

