



Does Auditing Work?

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WHAT IS AUDITING

systematic, independent and documented process for obtaining audit evidence and evaluating it against audit criteria; a set of policies, procedures or requirements.

IS 45001 & ISO 9000





WHAT IS AUDITING

**checking you are actually doing
what you say you are doing**

eg; my company prevents accidents as far as possible. An auditor visited last week and confirmed that in writing.





HOW IS AN AUDIT DONE?

Let me argue that auditing has 3 steps;

- go to a site
- look ask & read
- write a report

Hrymak V., DeVries J.M.A., Leva M.C., 2015. Workplace Risk Assessment in Ireland; is there a standard practice. Proceedings of the Irish Ergonomics Society Annual Conference. Trinity College Dublin. June 2015.









METHODS AVAILABLE FOR AUDITS

- Observation
- Read reliable site related documentation
- Analytical equipment
- Interviews & questions
- Think about what might go wrong
- Off site reading of documents & guidance





SO WHATS THE DIFFERENCE BETWEEN AUDITING &

hazard identification, risk assessment, risk audits, risk reviews, risk surveys, safety inspections, safety reviews, safety checks, safety tours, safety visits, safety surveys, safety walkthroughs, health and safety walks, health and safety audits, due diligence visits, accident investigations, inspections, surveys, scoping visits, familiarisation exercises, management safety walkabouts and forensic investigations.

$$25! = 1.55 \times 10^{25}$$





*BUT SHOW ME OSH AUDITING THAT
DOES NOT INVOLVE EVALUATING;*

the prevention of accidents & ill health
by conducting risk assessments to
implement safety controls
maintained by a safety management system
or parts thereof from this strategy





*BUT THE FUNDAMENTAL
COMMONALITY WITHIN ALL THESE
METHODS & APPLICATIONS
REMAINS;*

Visual Inspection





*OR SHOW ME WHEN AUDITING DOES
NOT INVOLVE*

a visual inspection on site

together with questioning and document analysis to some degree









The Importance of Visual Inspection Cannot Be Understated

**Vision is our dominant sense.
It provide us with most of the
information about our world in terms of
location, motion and object recognition**

Wade N.J., Swanston M.T. 2013. Visual Perception; an Introduction. Psychology Press.



WHAT EVER THE AUDIT METHOD

You cant manage any hazards
you haven't yet identified

So what are accuracy rates for
Looking Asking & Reading





How Accurate is Decision Analysis

Expert Judgement

**Can be impressively skilled,
or deeply flawed from hueristics & biases**

Kahneman D. 2011. Thinking Fast and Slow.





How Accurate is Questioning & Document Analysis

- Q's veracity difficult to study
- POTUS ; trust but verify
- Are documents available reliable & accessible
- As a poacher turned gamekeeper, caution needed!















How Accurate is Visual Inspection

We have far more evidence here to show;

- Its an error prone task difficult to do well
- Eg's of accuracy 0-100%
- Industrial engineering sector; 12-85%

See J. E., 2012. Visual Inspection: A Review of the Literature. Prepared by Sandia National Laboratories Albuquerque, New Mexico 87185, for the U.S. Department of Energy's National Nuclear Security Administration.



Causes of Visual Inspection Error

- Sensory Perceptual
- Cognitive Bias
- Organisational





Sensory Perceptual (selected list)

- Auditors cannot know what hazards to expect and where
- Random v consistent visual search behaviours
- Human variability
- Speed accuracy trade off
- In-attentional blindness



Cognitive Bias

- High level of trust in our personal intuition but;
- Normalising the abnormal (outcome)
- Seeing what you expect to see (confirmation)
- Prior experience (availability & anchoring)





Organisational

- No standardised visual inspection guidance
- Visual inspection procedures vary greatly
- Little oversight
- Hazard identification the most difficult step



Evaluating Visual Inspection Accuracy

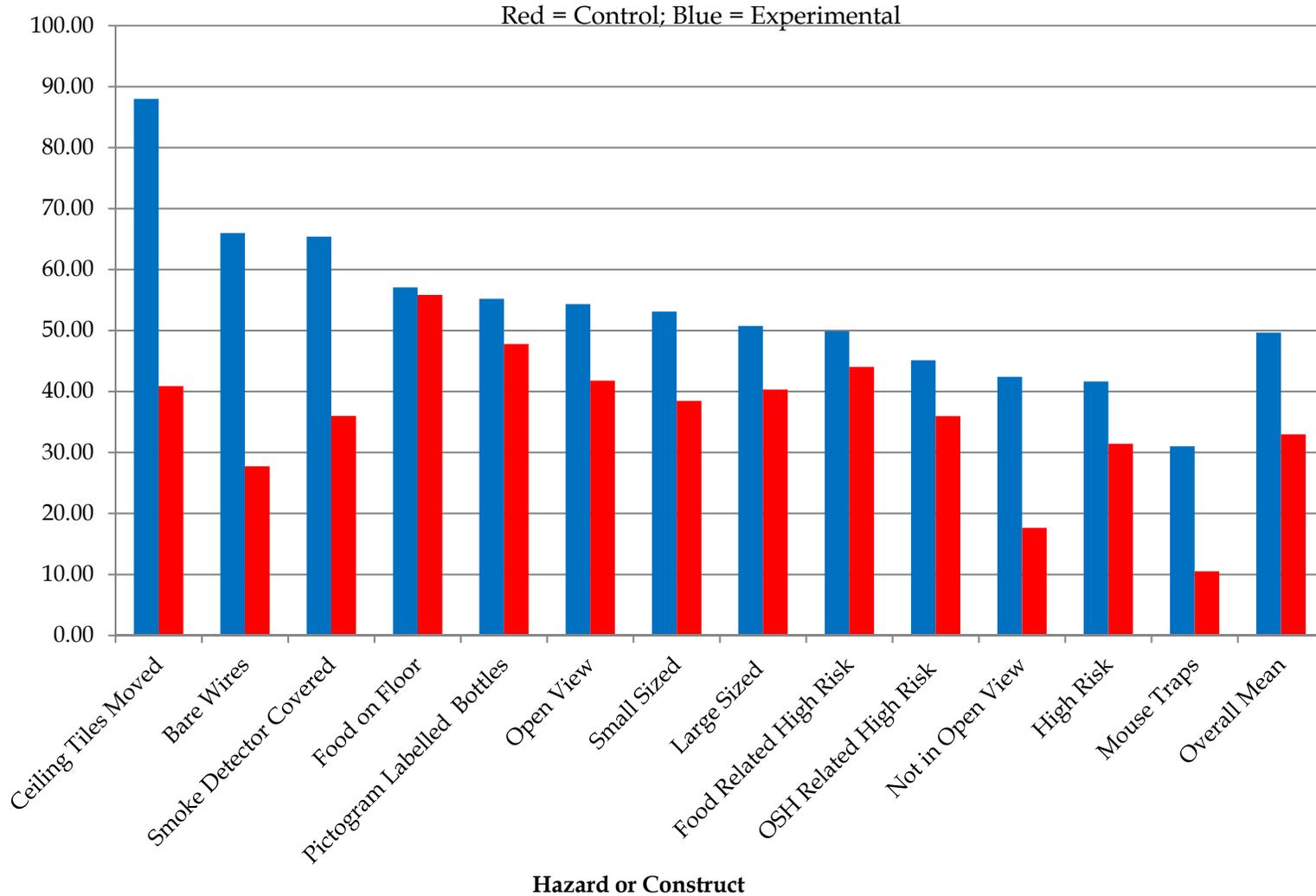
- Industry standard kitchens with a mean 36 hazards
- 211 participants randomly allocated into 2 groups
- Both groups conducted 30 minute visual inspections
- Control group; visually inspected as per usual
- Experimental group; used a set eye scanning pattern







Mean Percentage Hazards Observed





Visual Inspection Accuracy

Depends On

- Why are you there
- How much time have you got
- What search methods you use





Best Practice 1 hour & 100m²

- Select a high risk area
- Use a consistent visual search pattern
- Tell yourself there are 30+ hazards to find
- Include all relevant high risk activities
- Read all independent technical tests
- Infer from what you see and read



Critically Analyse your Report

- State the conditions under which you worked
- Reflect and use scenario analysis
- Play devil's advocate with yourself
- Think through a "pre-mortem"





Q's for the Lawyers

- What is the duty of care for auditors
- What about reasonably foreseeable hazards missed
- Will custom & practice be a defence



Does Auditing Work; the case for

- A long established global practice
- Professional status & robust member expectations
- Promoted by the EHS community as beneficial
- Provides a consensus measure of OSH standards



Does Auditing Work; the case for

- Daily audit prevalence without adverse publicity
- Notable auditees claim it has many benefits
- There is a need for external regulation
- Deregulation means there is no alternative
- Relatively few “large scale disasters”



Does Auditing Work; the case against

- Very little credible investigation into utility
- Guidance on procedure is vague
- Ideo-syncretatic conduct cannot return consistency
- Visual inspection is error prone & difficult
- Extends to auditing with the same visual errors



Does Auditing Work; the case against

- Eg's of auditing not working exist
- Oversight is lacking there is no-one who credibly;
 - Audits the auditors
 - Risk assesses the risk assessors
 - Ever checks audit reliability and validity
- There are commentators who are not impressed





Does Auditing Work; the case against

Results from the auditing of occupational safety and health management systems should be treated with caution.

Blewett, V., O'Keeffe, V., 2011. Weighing the pig never made it heavier: Auditing OHS, social auditing as verification of process in Australia. *Safety Science*, 49 1014-1021



Does Auditing Work; the case against

Nine flaws in safety auditing namely;

- unintentional auditor error
- deliberate auditor fraud
- inappropriate client influence on the auditor
- failure to allow worker participation
- producing and dealing with paperwork only
- inaccurate scoring & confusing criteria
- lack of auditor skill and independence

Blewett & O'Keeffe, (2011)



Does Auditing Work; Check for Yourself

- Pre-inspect the audit site
- Plant a hazard or two
- See if makes the audit report
- DIT will research your auditing utility





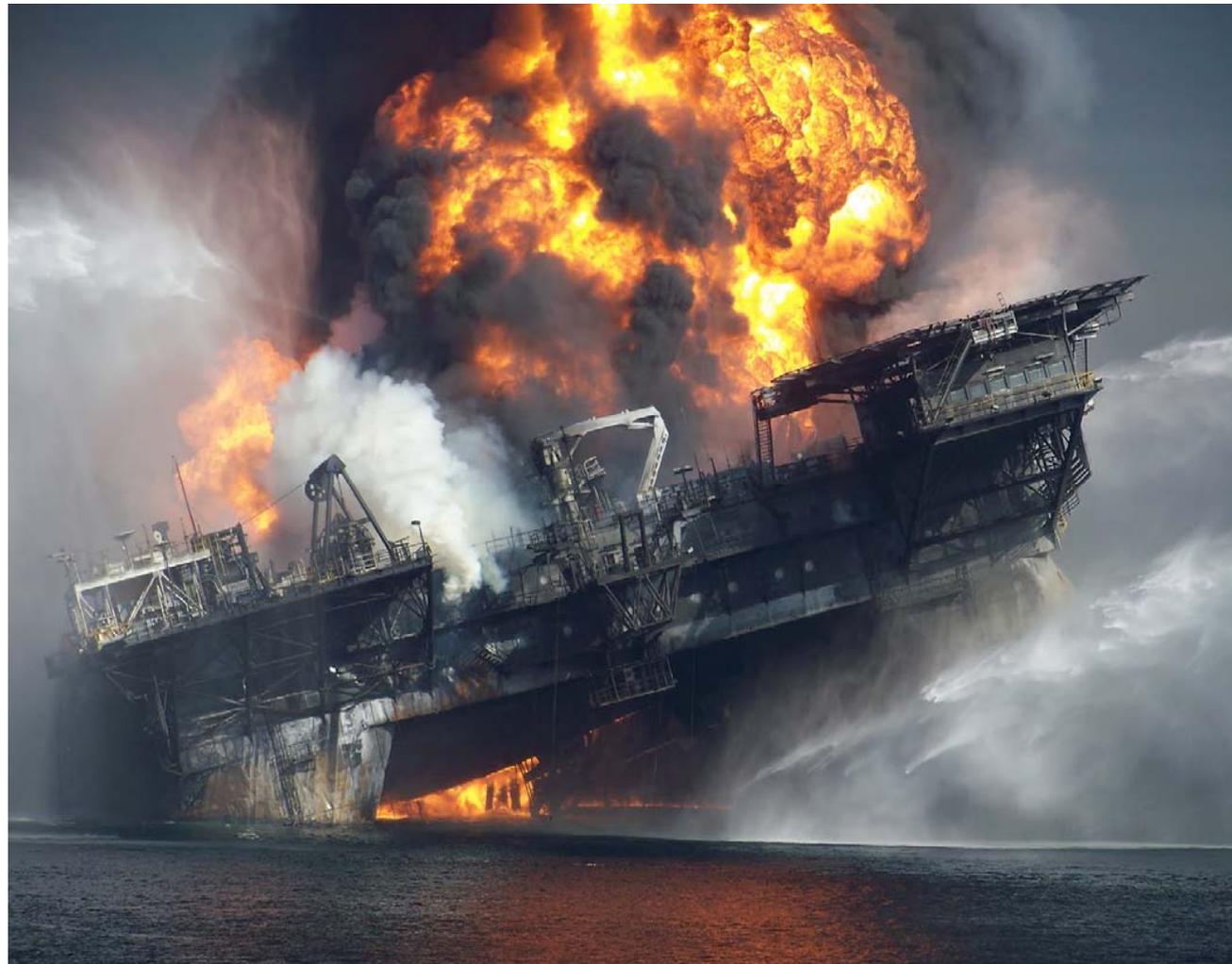
Macondo Oil Well Blowout 2010

- There were 11 fatalities
- Greatest man made environmental disaster
- Costs are region 60 billion USD





Does Auditing Work; the case against Macondo Oil Well Blowout 2010





Macondo Oil Well Blowout 2010

- Four senior managers landed 7 hours before the explosion;
- Did an informal safety audit “management visibility tour”
- Went to say “great job guys; 7 years no lost time accidents”

Hopkins, A., 2011 Management walk arounds: Lessons from the Gulf of Mexico oil well blowout. *Safety Science* 49, 1421-1425.





Macondo Oil Well Blowout 2010

- These VIP's did check stf's & working at height provisions
- One asked how the pressure tests were going? Got a 
- They were rescued

Hopkins, A., 2011 Management walk arounds: Lessons from the Gulf of Mexico oil well blowout. Safety Science 49, 1421-1425.





Thank You

Does Auditing Work?

I'm sure it does; if you do it right

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