

Sharing of Good Practices in Criticality “Inspections”

[NCS Personnel Only]

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9th June 2020



Motivation for Session ...



American Nuclear Society

ANS-8.1 nuclear criticality safety in operations with fissionable materials outside reactors

ANS-8.19 administrative practices for nuclear criticality safety



Office for Nuclear Regulation

NS-INSP-GD-053

APPENDIX 1: CRITICALITY SAFETY CULTURE

- How often do the licensee's criticality safety professionals conduct inspections of operations on the site and are the findings from these both documented and acted upon? Is there evidence that such inspections are also used as an opportunity to engage with the workforce to try to ensure early identification of problems with implementation of criticality safety rules/working practices etc.?

UK Criticality "Inspection" Practices Vary Significantly – Will Present Some Personal Observations !

Why “Inspect” from a Criticality Safety Perspective ?



Independent Compliance Review



Gaps / Trends Across Building
{and Wider Site / Industry ?}



Gauge Safety Culture



Interact with Facility
{Build Relations}



Identify Good Practice



Opportunity to Learn !

What Should the “Inspection” Be Called ? (1)

General UK Consensus is that Level of Rigour & Formality Drops ...



But I Think it is Important to Consider the “Build Relationship” Angle ...

What Should the “Inspection” Be Called ? (2)



"I HAVEN'T FOUND ANYTHING WRONG YET, BUT IT'S OK FOR YOU TO GO AHEAD AND WORRY A BIT LONGER."

IT IS NOT UNUSUAL
TO DO AN
INSPECTION AND
FIND SOMETHING
THAT NEEDS
CORRECTION..

One UK Licensee will not call them "inspections" because of adverse connotations associated with term – choose to call them "walkdown"

GOOD PRACTICE: Be Mindful of Impact of What You Call Your “Inspection” (& How You Carry It Out) [Cooperative & Supportive]

What Should the “Inspection” Cover ... ? Breadth ...

Seen all of the following Elements in the UK ...



Visual Checks of Facility

{Processes; Storage; Movements ; CAAS}



Facility Understanding of Criticality Demands



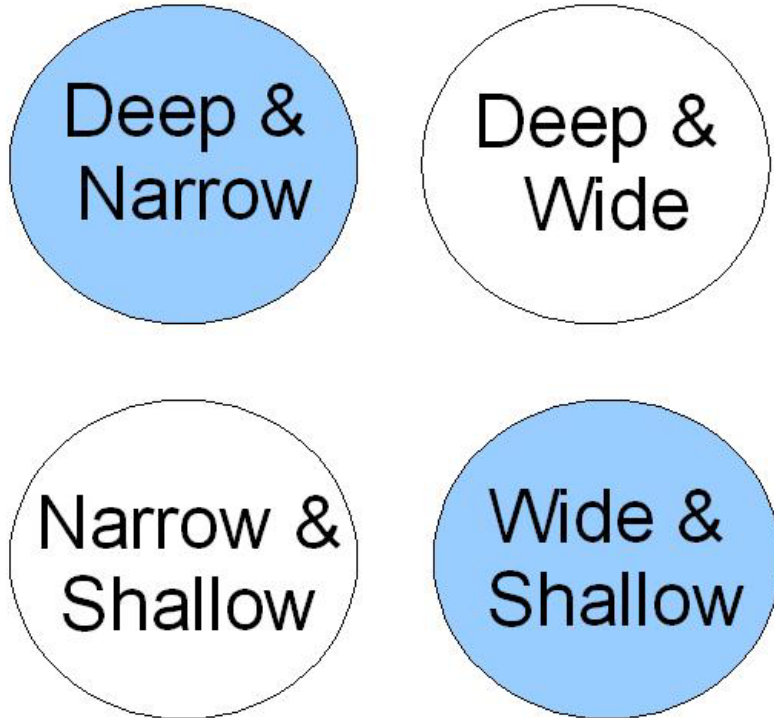
Paperwork Checks

{Signage; Assessments; Accounts; Inspection Records}

GOOD PRACTICE: Visually Inspect the Facility Wherever Practicable ...

What Should the “Inspection” Cover ... ? Depth ...

Seen all of the following Elements in the UK ...



“Wide & Shallow” or “Deep & Narrow” tend to be the most frequently-used models in the UK (sampling of arrangements)

“Deep & Wide” provides the most detailed insight, but time-consuming ...



Approach Clearly Drives the Time the Inspection Takes ...

What Should the “Inspection” Cover ... ? General ...



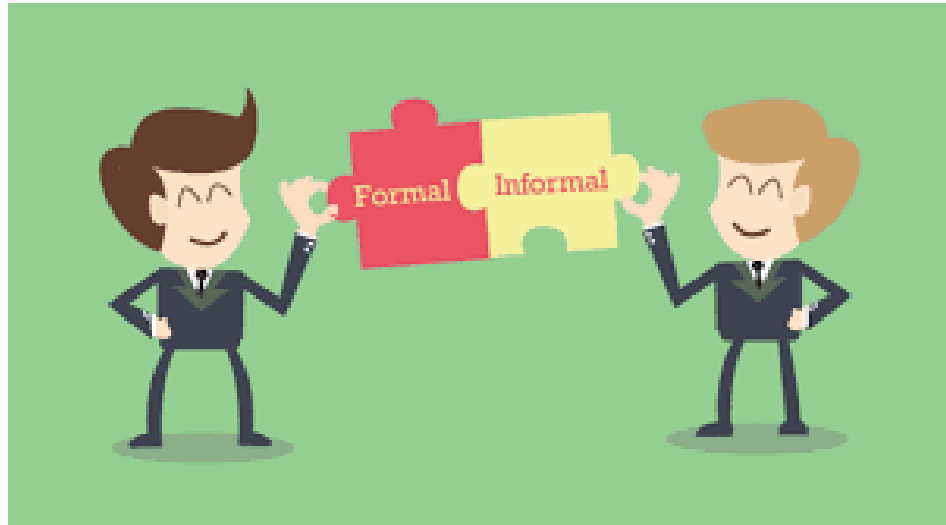
GOOD PRACTICE: Flexibility in the “Inspection” Process to Enable the Optimal Approach to be Selected {Risk-Informed}



GOOD PRACTICE: “Focus Topic” to Prompt a Deep Dive in the “Inspection” (e.g. Accumulations, Maintenance, Training)

How Often Should the “Inspection” Occur ... ?

Typically Formal “Inspections” are an Annual Requirement in the UK, but Have Seen it Range from 6 Months to 3 Years ...



GOOD PRACTICE: Informal “Inspections” Tend to Be Successful ...

Conducted in Response To:

- Management Request
- Temporary Modifications
- Commissioning / New Operations
- Recovery Operations
- Maintenance
- NCS Good Practice !

Who Should Conduct the “Inspections” ?



Will Know the NCS Evaluations Well ...

... But Will Bring a Fresh Pair of Eyes

GOOD PRACTICE: Don't Underestimate the Value of a Fresh Pair of Eyes ...

GOOD PRACTICE: “Inspections” Are a Great Way of Mentoring New NCS Engineers

How Should the Formal “Inspections” Be Reported ?

Typical Practice in the UK ...



Report Produced
{with Facility Input}



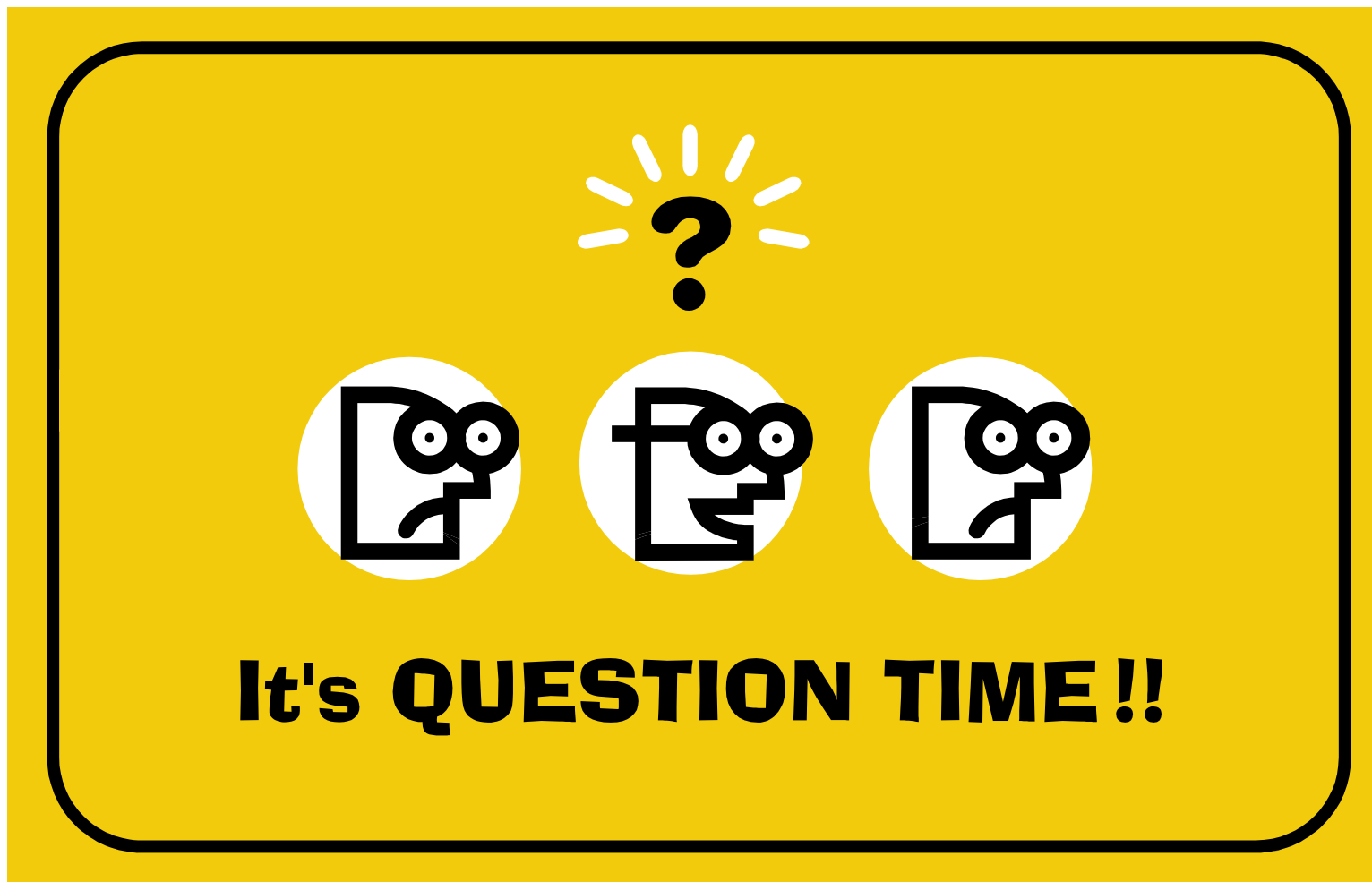
Safety Committee



Corrective Action Tracking

**GOOD PRACTICE: Seek the Facility Input on Wording of Report !
[Where Permitted, include Photographs]**

GOOD PRACTICE: Routinely Summarise Findings (including Good Practices) Across Facilities

A yellow rounded rectangle containing a question mark with radiating lines above three cartoon figures. Below the figures is the text 'It's QUESTION TIME!!'. The cartoon figures are stylized characters with large eyes and simple bodies, each inside a white circle. The question mark is black with white radiating lines.

Potential Talking Points ...

- Any Good Practices to Share from Your Sites ?
- Any Thoughts on “Audit” / “Inspection” / “Walkdown” Topic ?
- What “Inspections” are Ongoing During COVID-19 ?
- Is Further Sharing on This Topic Warranted ? *[e.g. a Dedicated Future ANS Session ?]*



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