HUMAN HEALTH

RISK ASSESSMENT

REPORT WRITING

Kirstie Ogilvie - Mciwem, CEnv, CSci, Asobra

Presentation Date 14/5/2020

INTRODUCTION

Housekeeping – please ignore anyone in the background and if the fire alarm sounds – you will be treated to a view of our car park.

Questions – Please do ask questions either by unmuting your mic or using the chat box

OUTLINE OF PRESENTATION

- Human Health Risk Assessment – The Basics
- Human Health Assessment - 3 Stage Process
- Hints and Tips

HHRA - THE BASICS

- In its simplest form it is about people and how they interact with the physical environment basically the soil.

- People can do the oddest things.

HH RISK ASSESSMENT

- Reliance on CLR 11 of the EA guidance and gives a suitable framework for assessment.

- Typically done in three stages
  - Prelim risk assessment
  - Generic quantitative risk assessment
  - Detailed quantitative risk assessment

  - Remediation Strategy and Options Appraisal

PRELIMINARY RISK ASSESSMENT

- Define the overall site objectives
- Collect current and historical information
- Outline the initial CSM
- Assess the risks quantitatively
- Record findings

HINTS AND TIPS

- Don’t cheat the walkover by using google street view
- Make sure the basics are covered
- Site end user – justifiable?
- Be clear in what you are assessing and why

GENERIC QUANTITATE RISK ASSESSMENT - GQRA

- Review and confirm site objectives
- Define the GQRA objectives
- Identify appropriate GAC
- Work out what information you need to collect
- Collect this information via your SI
- Decide GAC to be used
- Assess the pollutant linkage

HINTS AND TIPS

- Make sure you are following through with your CSM
- Make sure you are using the correct generic assessment criteria and justify it
- Changes in sampling and testing regime
- Talk to the lab doing the analysis

DETAILED QUANTITATIVE RISK ASSESSMENT - DQRA

- Define the DQRA objectives
- Decide the information or tools need to support the RA
- Collect that information
- Confirms Pollutant linkages needing to be assessed
- Decide if unacceptable risks
- Decide what further action is needed leading to remediation proposals
- Record findings in DQRA report

HINTS AND TIPS

- Why?
- Don't tell me what you did – tell me how it relates to the CSM

REMEDIATION OPTIONS APPRAISAL

- Do one – please
- Minor exceedances – evaluate the risk properly
- Contaminants identified at depth
- Cost effective and sustainable options

QUESTIONS ?

SO HOW DOES THIS RELATE TO THE REAL WORLD

KNOW YOUR CONTAMINANT

- Is it dermal exposure?
- Is it an inhalation risk?
- Is it a redline substance where there is no safe limit or is there a factor of safety ?
- Is it more toxic to women than men – Why?
- IRIS is a great source for tox data and regularly updated and ADSTR as well.

PATHWAYS OR ROUTES OF EXPOSURE

- In SLC we have a lot of COPR – courtesy of Whites Chemical Works at Shawfield
- Nasty little chemical comes in 2 main forms Cr3 and Cr6 – Cr 6 is the nasty cancer causing one
- What would you think would be the main pathways ?

PATHWAYS FOR COPR

- Ingestion
- Inhalation of the dust
- Dermal contact

RECEPTORS - HIGHEST RISK GROUP

- So you have a development of an flatted development on an area identified as having COPR with high levels of Cr6 present.
- Which groups would most likely be at risk ?
- During construction
- Post construction

CHANGE IN PROPOSED END USE?

- Would changing the end use to a residential development with a garden change the key receptors?

- Why?

SIMPLE – RIGHT?

- But where do people tend to go a bit wrong?
- Normally its the CSM
- And the chemicals
- Inappropriate sampling
- Leads to a flawed risk assessment
- GIGO – Garbage In and Garbage Out

WRITING THE REPORT

- We all tend to stick to the similar structure which hasn't changed from DOE Documents on How to Report on Contaminated Land

- Scientific Writing: A very short cheat sheet by Meenakshi Prabhune www.blogs.nature.com/2016/naturejobs/2016/10/28/ scientific-writing-a-very-short-cheat-sheet

REPORT WRITING

- Clarity breeds precision and precision breed clarity
- Writing and editing are two separate processes

COMMON BUG BEARS

- Planning Application versus Client Expectations
- Site Levels
- Importation of Materials
- Smoke and Mirrors and other conjuring tricks

PLANNING VERSUS CLIENT EXPECTATIONS

- Discrepancy between what was approved for development by the planning application and what your client has told you is happening

SITE LEVELS

- Watch your site levels and movement of materials
- Not only will you fall foul of SEPA WML rules
- But you might expose materials previously buried at depth

IMPORTATION OF MATERIALS

- Garden areas – not handy if you import something worse than what was there
- Be aware of moving clean material off site to replace with less clean materials.
- Creating a new HH linkage which wasn't there before

SMOKE AND MIRRORS

- Don't do this one
- Write clearly and concisely
- Nothing is worse than reading a report and still coming back to the same conclusion. So what is it you have actually done then?

WHY

CONCLUSION

- EP Scotland – Land Contamination and Development Guide

https://www.ep-scotland.org.uk/wp-content/uploads/2019/09/ConLanDevGuide_12-Aug19-FINAL.pdf