

# Feedback Exercise

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## Introduction

A fundamental requirement of QA is unambiguous communication.

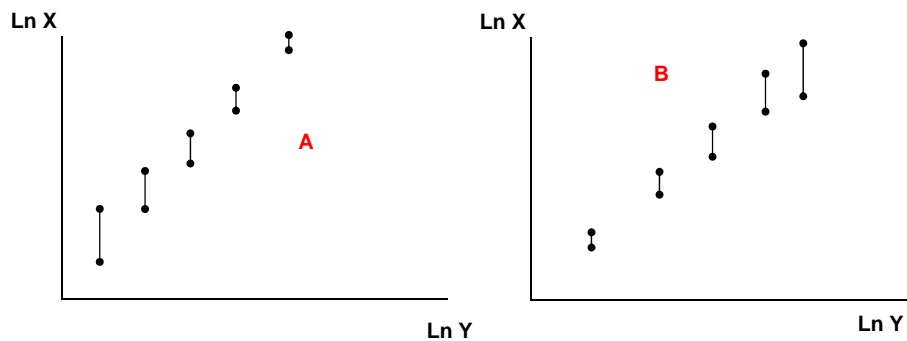
Have we clearly identified what the problems are?

Please provide feedback now on the forms provided.

This is **anonymous**, as it is not a test of individuals; the aim is to examine how well fundamental principles have been explained and the extent to which they can be recognised in typical safety case applications.

## Starting point - Data Level (1)

- Data with uncertainties are plotted based on laboratory measurements – which curve looks like errors have been handled correctly?



## Data level (2)

- If a measured value of 1353.1456 has an associated uncertainty of 10%, how should it be reported?
- If this measured value must be corrected for a background of 2 with an uncertainty of 3%, how should it be reported?
- If this measured value must be corrected for a background of 1340 with an uncertainty of 10%, how should it be reported?

## Equations

- Quick scans of equations can often reveal quality control problems: for the following

$A = B \log (C/D)$ , with

A – kg.m.s<sup>-2</sup>

B – g.cm.s<sup>-2</sup>

C – g.s<sup>-1</sup>

D – m.s<sup>-1</sup>

What indicates an error in the equation?

What suggests poor QA and risks introducing errors?

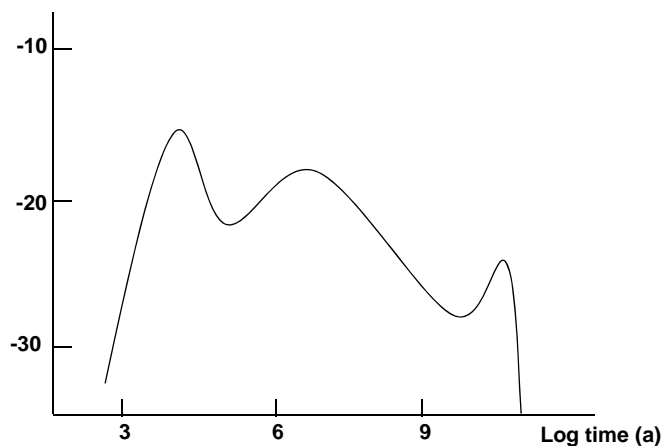
## PA model level (1)

Where do there appear to be problems with this curve from a geosphere transport model?

. X-axis? Log Concentration (molar)

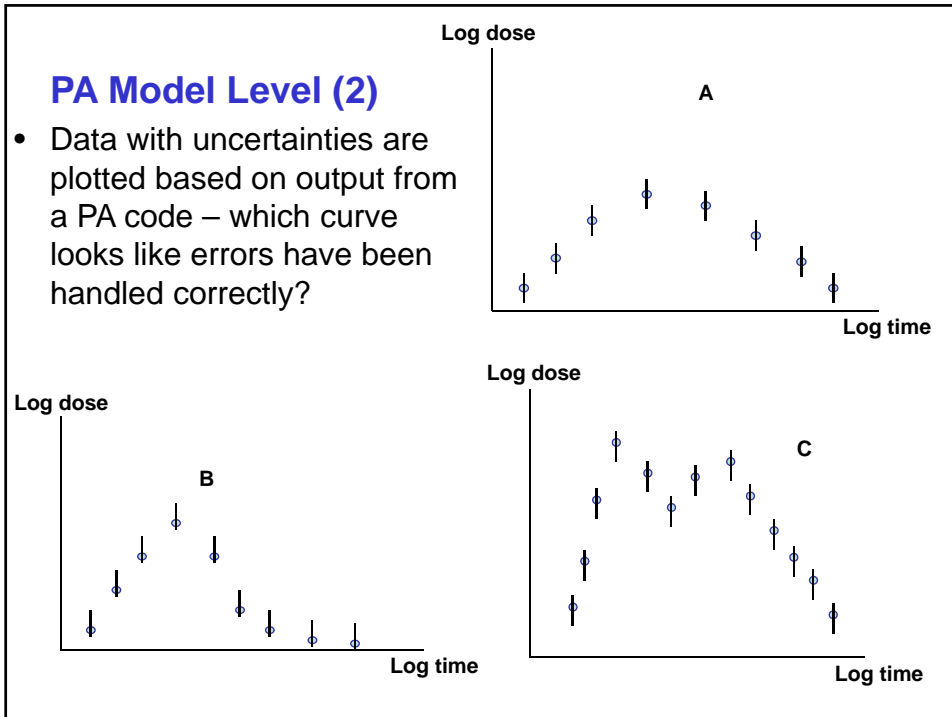
. Y-axis?

. Both?



## PA Model Level (2)

- Data with uncertainties are plotted based on output from a PA code – which curve looks like errors have been handled correctly?



## System level (1)

- The regulatory guideline for expected scenarios includes a dose criterion of  $10 \mu\text{Sv/a}$
- PA for a particular reference scenario yields a dose maximum of  $9 \mu\text{Sv/a}$  at  $10^5$  years after closure
- Does this
  - Meet regulatory guidelines?
  - Not meet regulatory guidelines?
  - Require more information to assess compliance?

## System level (2)

- The regulatory guideline for expected scenarios includes a dose criterion of 10  $\mu\text{Sv/a}$
- PA for a particular reference scenario yields a dose maximum of 15  $\mu\text{Sv/a}$  at  $10^8$  years after closure
- Does this
  - Meet regulatory guidelines?
  - Not meet regulatory guidelines?
  - Require more information to assess compliance?