

Cargo Screening



A view from the Home Office

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(HOSDB)

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Screening of Cargo at UK Sea ports

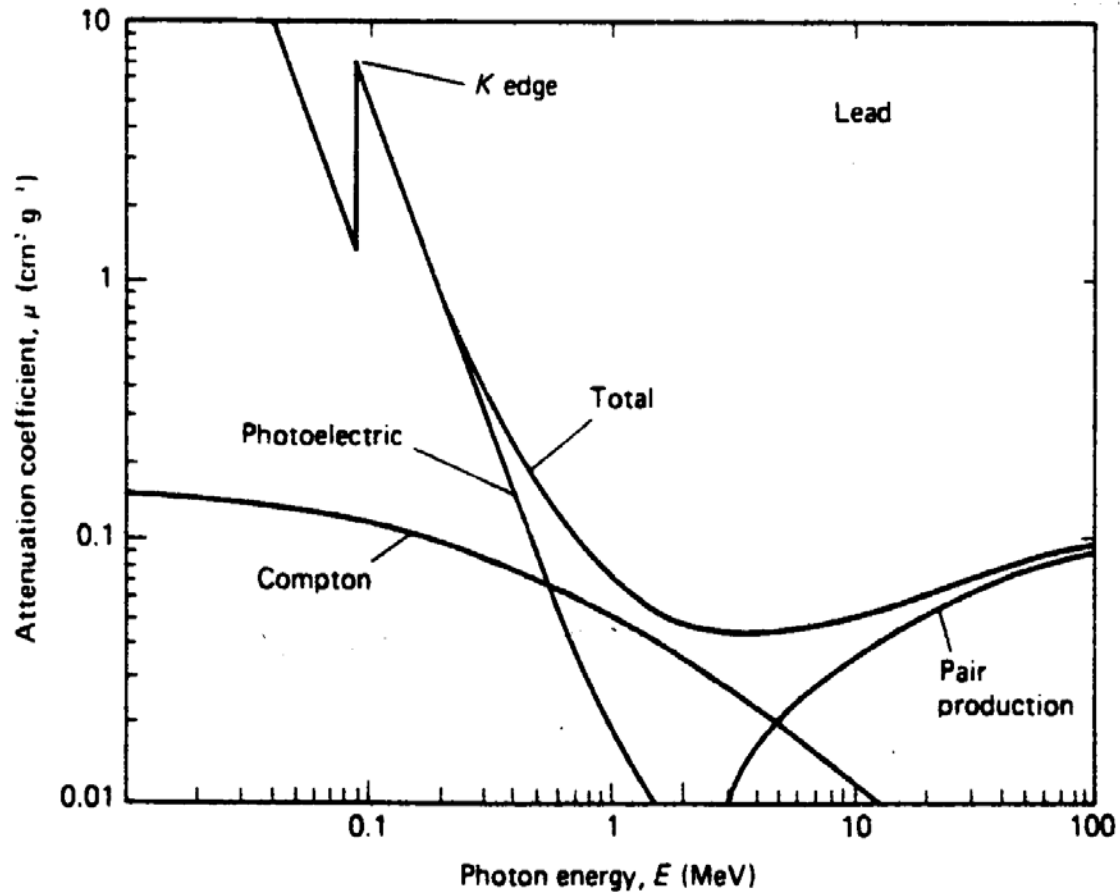
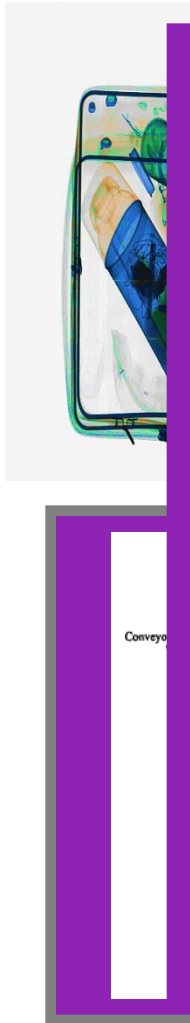
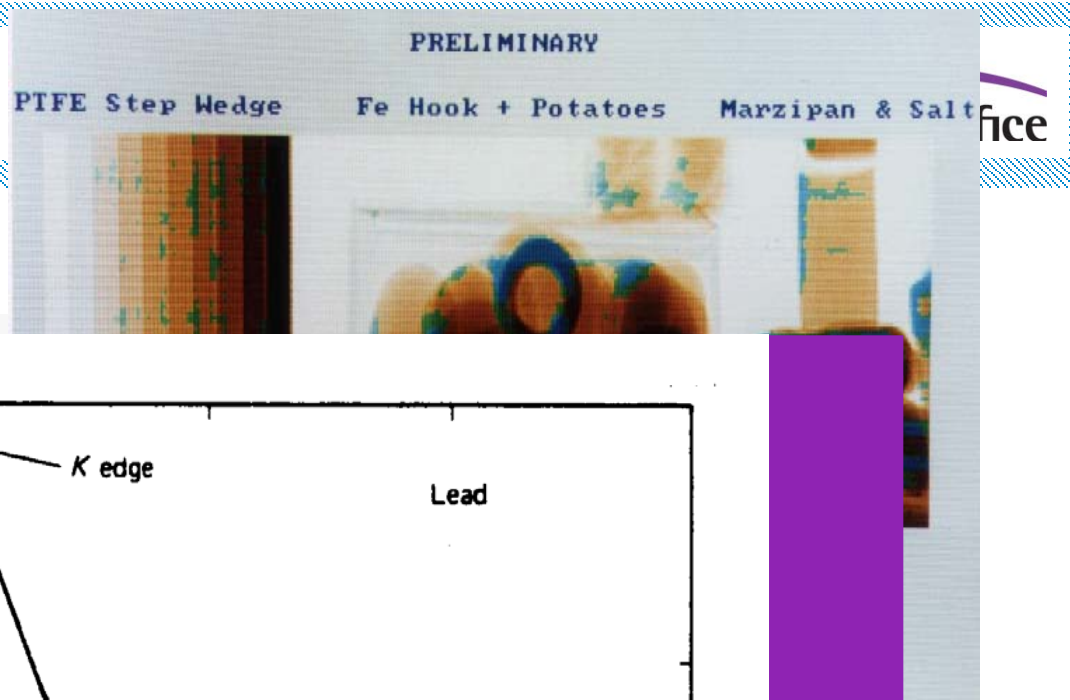
Isotope and electronic based x-ray systems
Dual energy (materials discrimination) x-ray systems
Backscatter x-ray
Thermal neutron activation (TNA)
(Pulsed) Fast Neutron Activation (P)FNA
Vapour Detection Techniques
Dogs
Acoustic Techniques
Passive detection of radiation
THz and mm wave based techniques



Backscatter x-ray images



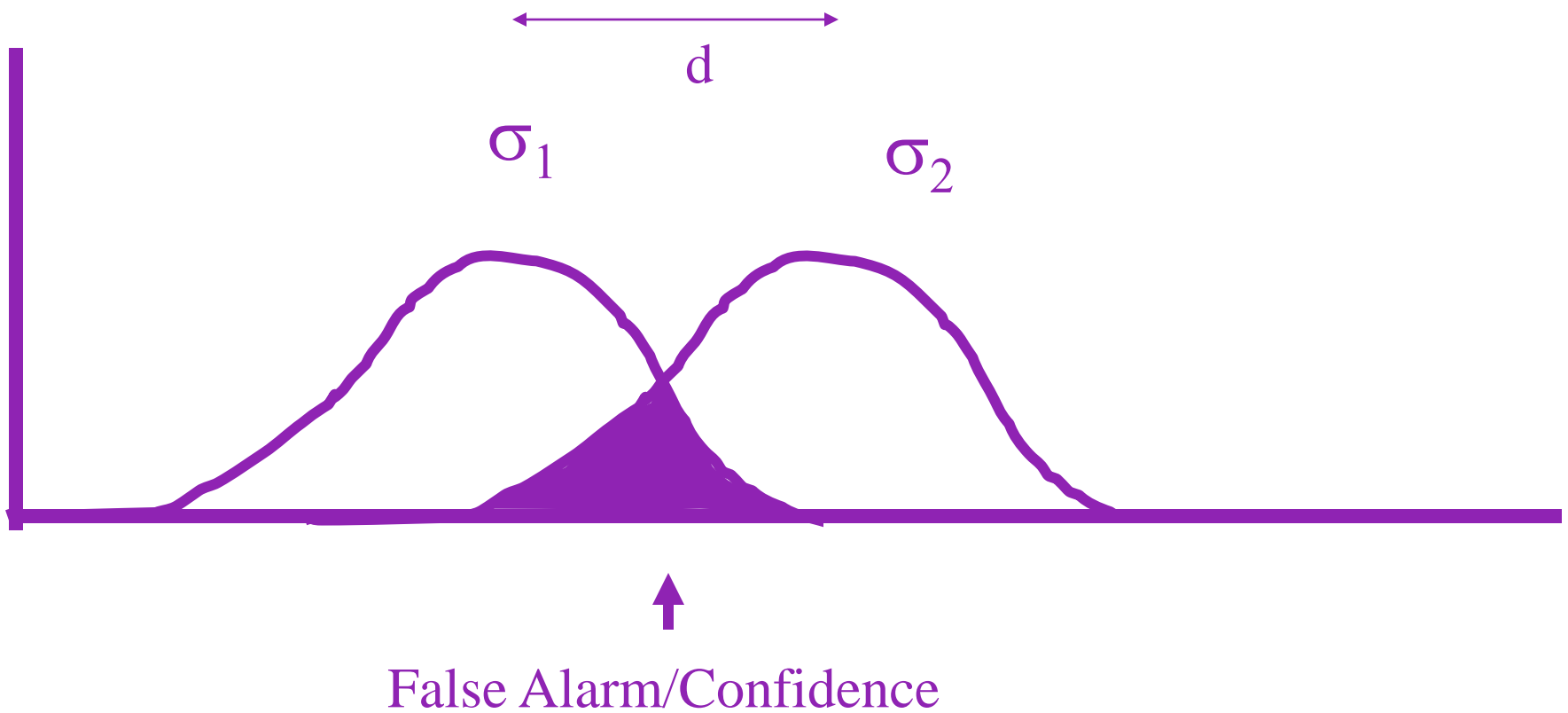
X-ray Systems



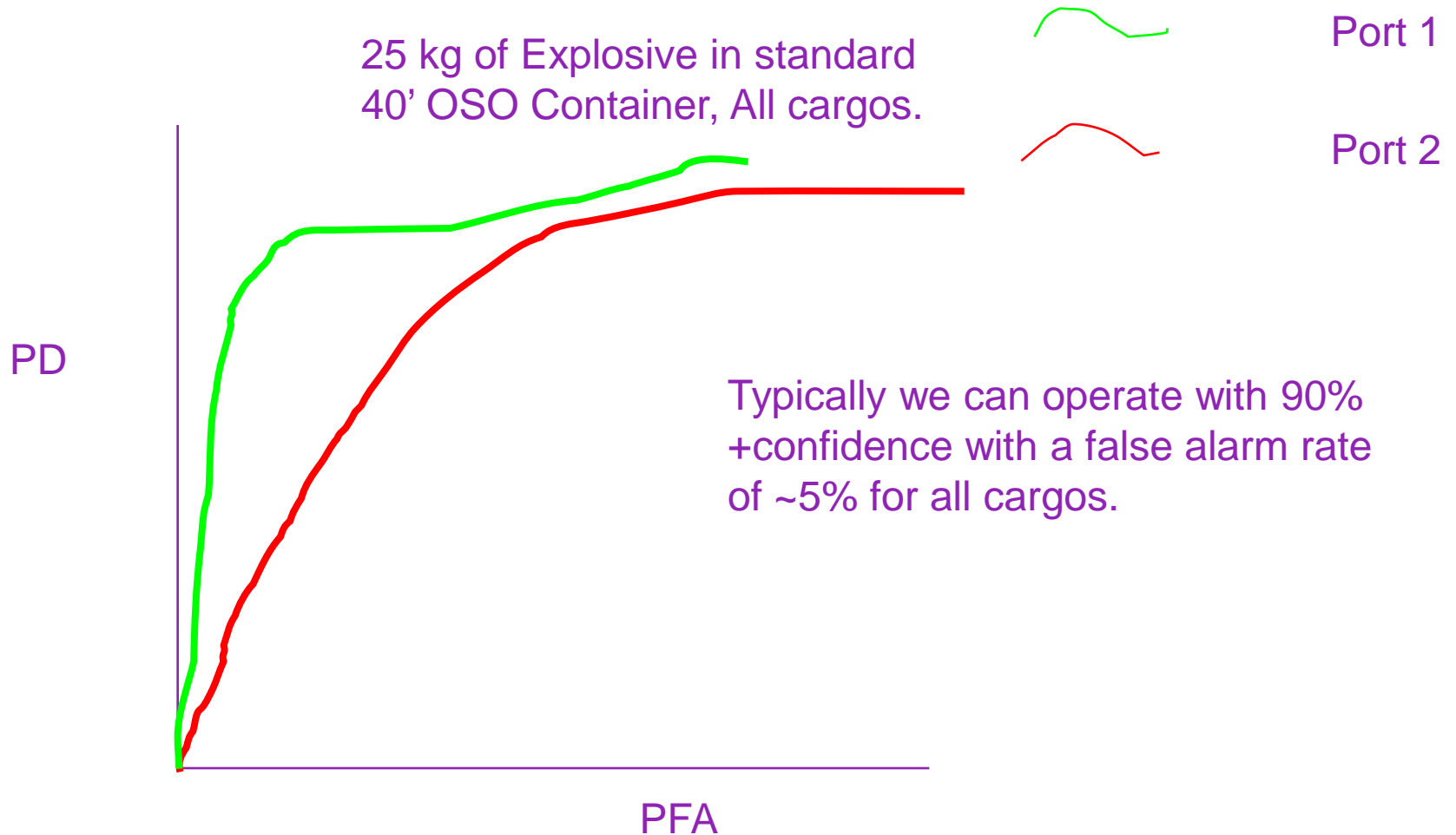
System Performance

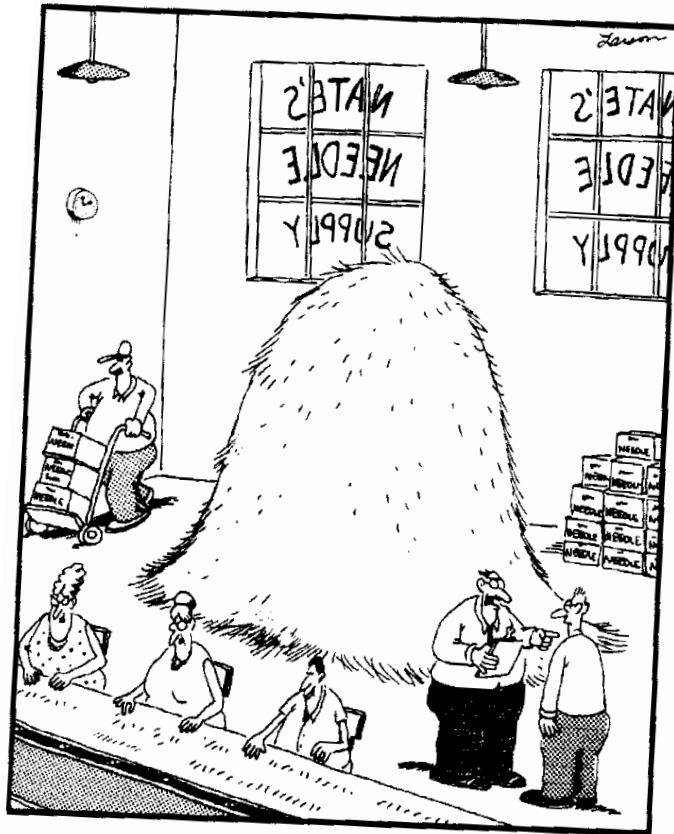
- Concepts of confidence and false alarms.
- Linked by Receiver - Operator curves

	Alarm	No Alarm
Threat present	TRUE POSITIVE	FALSE NEGATIVE
Threat Not Present	FALSE ALARM	TRUE NEGATIVE



Typical ROC curve for VEDDS System





"According to these figures, Simmons, your department has lost another No. 2 Double A, and I want you to find it!"

A needle in a haystack is
1 part in 100,000,000
w/w (approx)

Sometimes it is more like
looking for a specific
piece of hay in a
haystack.

PFNA

