



Refresher Training in Interactions with Matter, Dose and Dose Risk

SYLLABUS

PRESENTED BY:

Applied Environmental Consulting, Inc.

Energy Deposition in Air

Exposure

Energy Deposition in Matter

Dose Defined

Linear Energy Transfer (LET)

Alpha, Beta and Gamma Radiation

Sievert (Sv)

Energy Deposition in the Body

Roentgen Equivalent Man (REM)

Sources of Radiation Dose

Man-Made and Natural Sources

Background Radiation

Radon

Medical Sources

Types of Radiation Dose

Acute Dose Rates

Fractionated Dose Rates

Chronic Dose Rates

Samples of Acute Radiation Incidents

Dose Effects

Types of Dose Effects: Somatic

Effects on Cells

Free Chemical Radicals

Biological Effects of Radiation



Radiation Risks

Types of Radiation Risks
Theoretical Models of Radiation Risk
Stochastic and Non-Stochastic Effect
Calculating Total Dose