

Formulation of IR Programme 2007-2010

*Dr Dave Rayner
Formulator*

Business Leader, Radiation Dosimetry

dave.rayner@npl.co.uk

NSUF Meeting, 23 May 2006

The Timetable

- 24 May Orientation with MAC WG
- **Jun – Oct** **Consultation to identify needs**
- Nov – Jan Develop project proposals – 150%
- Feb MAC WG select 125% for public consultation
- **Mar – May** **Public consultation**
- Jun/Jul Decision conference
- Jul – Sep Develop final programme document

Consultation Methods

- Focus groups related to key markets
- Visits to key organisations
- Discussions in user group meetings
- Get input from key conferences & workshops
- Online questionnaire on IR website
- Questionnaire mailed to membership of user groups

NMS Review Changes

- Get ministerial approval for direction & budget early
- Develop plans for 3+3 years
 - First 3 years in detail
 - Further 3 years in outline
- One of only 5 Knowledge Base programmes
 - Links to DTI Technology Strategy & OGD priorities
 - Others: Physical; Chemical & Biological; Engineering & Flow; Materials & Thermal
- + Supporting & over-arching: SSfM; International; KT (incl. Mf)
- More focus on innovation & impact
- Up to 5 years horizon

NMS Review Changes 2

- 3 new Metrology R&D programmes
 1. Healthcare & Security
 2. Advanced Manufacturing & ICT
 3. Transport, Energy & Environment
 - Collaborative & co-funded (MET-like)
 - Strongly linked to DTI Technology Strategy
 - Market focus rather than measurement area focus
 - 5 to 10 year horizon
- New “Quantum” programme
 - NMS long term research – 10+ years horizon

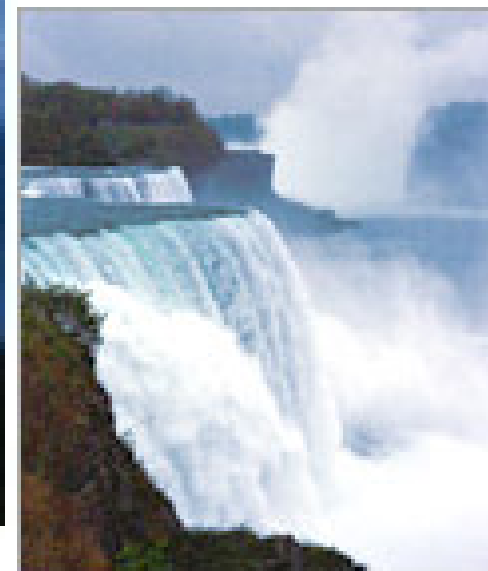


What markets should NMS IR impact?

Nuclear Decommissioning



Keeping the Nuclear Option Open



New Nuclear Submarines



Replacing Trident



Homeland Security



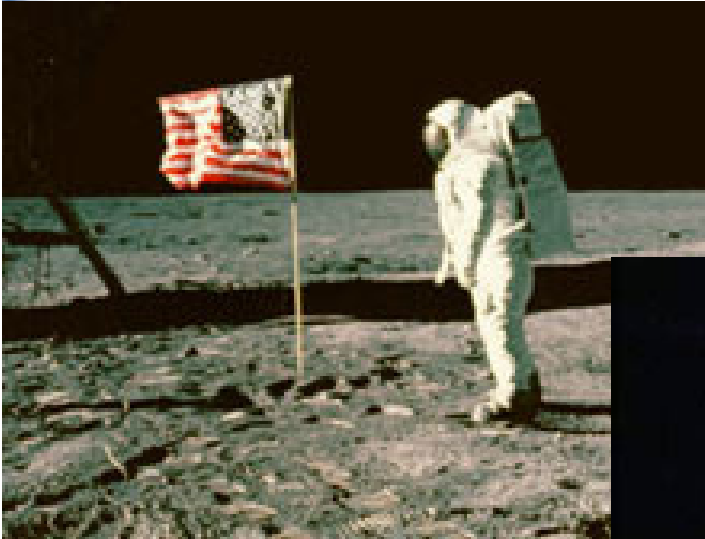
Emergency Planning

Planning for a dirty bomb

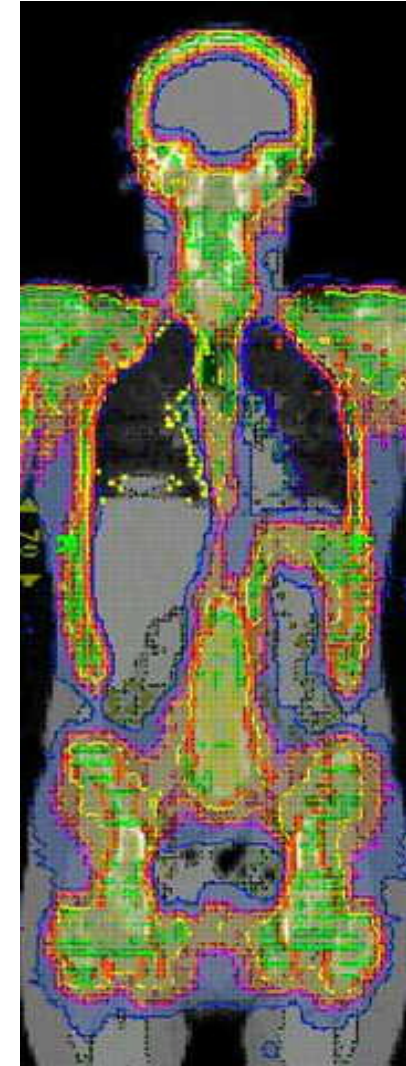
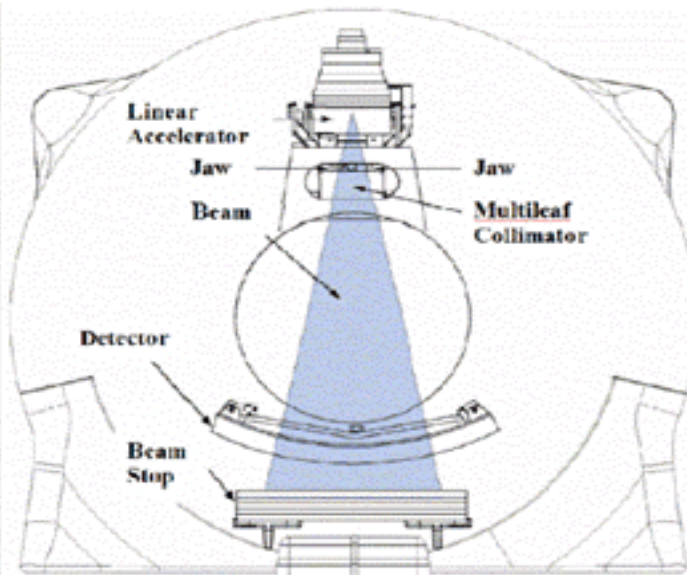
Biodosimetry issues



Space – Satellites or Men to Mars?



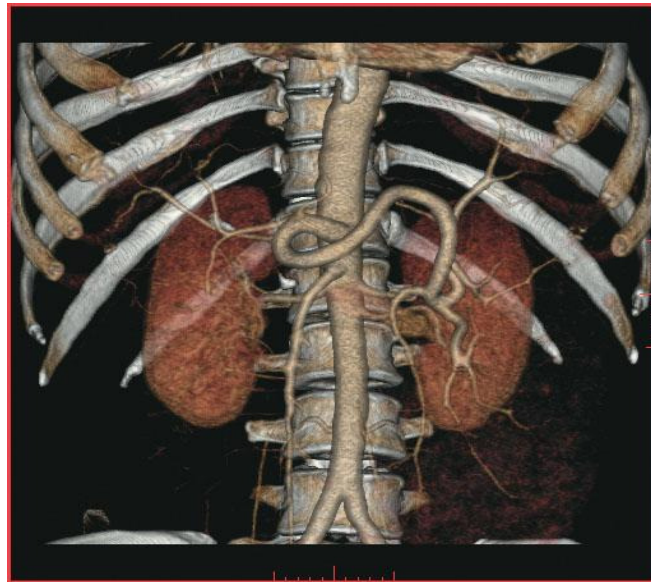
Cancer Therapy



- Photon, Electron, Proton, Ion beams
- Brachytherapy (HDR, LDR, Ophthalmic)
- Nuclear Medicine

Imaging

- X-ray
- CT
- PET
- PET/CT



Sterilisation



Other Uses of Radiation

- Food irradiation – what, when where?
 - Materials processing
 - Radionuclide production
 - Others?
-
- What new markets & needs should we explore?

Technology Changes

- Internet-enabled metrology
- Smaller, more robust instruments, e.g. spectrometers
- More powerful computers and grids
- Digital signal processing
- Monoclonal antibodies in nuclear medicine
- Proton and light ion therapy
- Electronic brachytherapy, tiny X-ray tubes
- Brachytherapy with microspheres
- Increased emphasis on small fields: IMRT, IGRT, Tomotherapy
- Combining imaging modalities: MRI, CT, PET, Ultrasound,...
- New cyclotron & synchrotron facilities

What should we not do?

- How can we create space to do new things?
- What can we do differently?
- What is no longer necessary?
- What can others in the UK do instead?
- What might we devolve to other NMIs?

Get Involved

We want your views

Please engage in the consultation