

Status Report to IRMF on Formulation of Ionising Radiation Programme 2007-2010

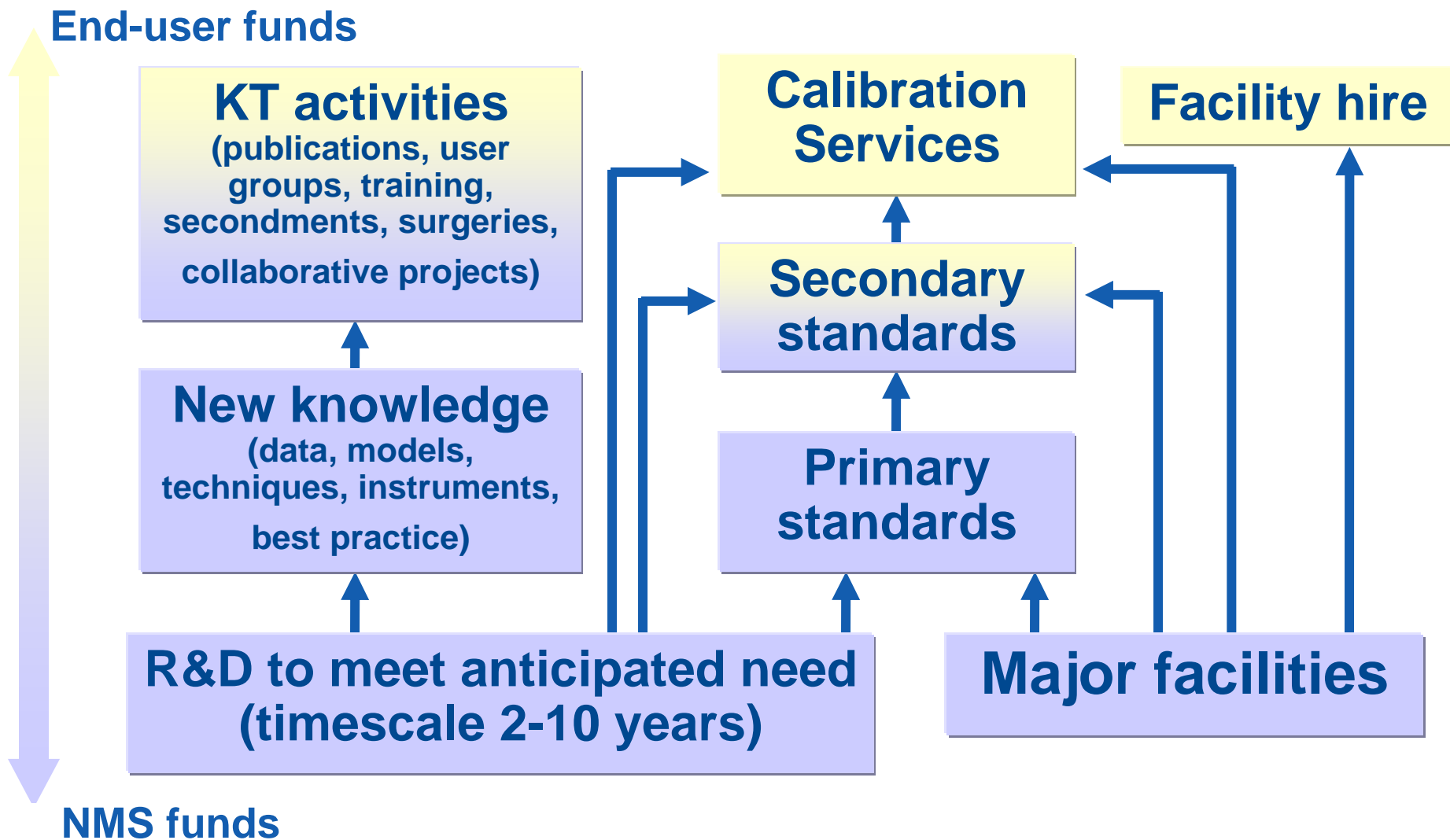
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Context

- DTI funds the National Measurement System (NMS)
- Typically NMS programmes run for 3 years
- The current Ionising Radiation programme runs to Sept 2007
- We are now formulating the 2007-2010 IR programme
- Also need to produce an outline for the 2010-2012 programme

NMS activities



NMS will fund

- Development of new designs of secondary or tertiary standards
- Development of new instrument designs
- Development of new calibration services
- Development of new type testing services
- Development of new training courses
- Development of new codes of practice or good practice guides
- Conduct of inter-comparisons
- Provision of online material, including good practice guides, NPL reports, etc.

NMS will not fund

- On-going delivery of calibration services
- On-going delivery of type testing services
- Provision of instruments
- Provision of reference sources
- Provision of printed copies of good practice guides
- Customer use of facilities

Formulation Timetable

- *24 May* *Orientation with MAC WG*
- *5 Jun* *NPL staff brain-storming workshop*
- **Jun – Nov** **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 to agree final
content
- Jul – Sep Develop final programme document

Consultation Methods

- **User Consultation Meetings** related to key markets
- **Visits** to key organisations
- Get input from key **conferences & workshops**
- **Online questionnaires** on IR website
- Discussions in **user group meetings**

Areas

The consultation is focusing on 6 areas:

- Healthcare
- Environment & decommissioning
- Radiation protection
- Energy production
- Industrial applications
- Defence & security

There is an online questionnaire for each of these areas at:

www.npl.co.uk/formulation/ionrad/

Thank you for completing those relevant to you.

User Consultation Meetings

- Environment, Decommissioning & Radiation Protection at HPA, Harwell, on 23 October
- Healthcare in Manchester on 27 October and NPL on 31 October
- Defence & Security at Serco Assurance, Harwell, on 10 November

Questionnaire responses received

- Healthcare – 48
- Environment & Decommissioning – 24
- Industrial Applications – 23
- Radiation Protection – 17
- Defence & Security – 13
- Energy Production – 3

Hence problem is getting enough input on Energy Production.

NPL seminar at BNFL at end of November may help.

Radiation Protection top 10 specific needs

From the
questionnaires

1. Contamination source traceability
2. Gamma-ray dose traceability
3. Radionuclide standards
4. Traceability for measurements of neutron dose equivalent (or effective dose)
5. Calibrations for dosimetry for diagnostic radiology
6. Measurement of radioactive aerosols
7. X-ray dose traceability
8. Calibration of radiation protection instrumentation for gammas
9. Development of calibration service for practical peak potential
10. Guidance on switch from kVp to practical peak potential

Radiation Protection top 10 specific needs

From the user
consultation
meeting

1. Arrangements for equitable sharing of instrument substantiation
2. Training course in RP instruments at a low level
3. Recalculate dosimeter responses in light of new ICRP recommendations
4. Look at implications of new ICRP recommendations
5. Maintenance of photon standards
6. Improved operating experience feedback: proof test interval periods
7. Failure modes of γ detectors: lifetime, high dose rate tests
8. Organization of national proficiency test exercises - IRMF
9. Training course for use of RP devices
10. GPG on personal dosimetry for RP

Envir & Decom top 10 specific needs

From the
questionnaires

1. Standards for environmental monitoring measurements
2. Low-level radioactivity standards
3. Environmental-level standard reference materials
4. Develop techniques to enable more accurate, consistent and defensible sentencing of waste
5. Provision of annual environmental-level proficiency testing
6. Solid reference materials relevant to decommissioning
7. Metrology support for NICO P - Nuclear Industry Code of Practice
8. Develop an approach to balance safety and cost in radiation protection for decommissioning
9. Mass spectrometry standards for long-lived radionuclides
10. Develop techniques for faster sentencing of waste

Envir & Decom top 10 specific needs

From the user
consultation
meeting

1. Guidance on sampling
2. Data on natural activity in concrete/brick
3. Database of samples
4. CRM vegetation
5. Mixed nuclides in solid matrix (γ spec calibration)
- 6= CRM fish, molluscs, mussels
- 6= Guidance on surface contamination measurements
- 6= Solid reference materials
- 6= More accurate exempt/LLW measurements
- 6= Land survey techniques
- 6= Data on site backgrounds

Top 10 general output needs

From the RP questionnaires

1. Codes of practice & Good Practice Guides
2. Awareness material on the web
3. User group meetings at NPL
4. Organisation of inter-comparisons
5. Technical advice service
6. NPL research reports, free online or printed
7. Input to key committees (HSE, BSI, CCRI, ISO, IEC, etc.)
8. Workshops
9. Peer reviewed journal papers
10. Type testing of instruments

Top 10 general output needs

From the E&D questionnaires

1. Reference materials
2. Organisation of inter-comparisons
3. Calibration services
4. Workshops
5. Technical input to government policy making
6. Nuclear data
7. Codes of practice & Good Practice Guides
8. Organisation of national proficiency test exercises
9. Technical advice service
10. User group meetings at NPL

Where next?

- Merge IR formulation with Acoustics formulation to create Programme for Acoustics & Ionising Radiation
- 4 Technical themes: Acoustics, Dosimetry, Radioactivity, Neutrons
- Analysis of consultation responses to identify key needs for each community
- Development of sub-project proposals to meet priority needs
- Formation of delivery focussed technical annex
- Development of user community focussed body of programme document
- Consistency check – including checking feasibility & business cases
- Send programme document to MAC WG by 20 January
- MAC WG advise on reducing it to 125%
- “Open public consultation” – make sure you respond

Questions?