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**NUCLEAR ENERGY AGENCY
COMMITTEE FOR TECHNICAL AND ECONOMIC STUDIES ON NUCLEAR ENERGY
DEVELOPMENT AND FUEL CYCLE**

**NEA/NDC(2003)16
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Expert Group on Isotopes Supply and Demand

Summary Record of the First Meeting

**OECD/NEA Headquarters, Issy-les-Moulineaux (France)
26-27 February 2003**

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**EXPERT GROUP
ON ISOTOPES SUPPLY AND DEMAND**

**Summary Record of the First Meeting
26-27 February 2003**

Item 1. Welcome address

1. **Mr. Peter Wilmer**, Head of the NEA Nuclear Development Division, opened the meeting and made introductory remarks welcoming the delegates to the meeting.

Item 2. Introduction of participants

2. Each of the participants introduced themselves (see Annex 1).

Item 3. Election of chair and adoption of agenda

[NEA/NDC(2003)1]

3. **Mr. Peter Wilmer** acting as temporary chair of the meeting nominated **Dr. Jerry Klein** to serve as chair for the expert group. The group unanimously consented and Dr. Klein accepted the post. Election of a co-chair was deferred until the next meeting.

4. The proposed agenda was adopted without change.

Item 4. Presentation and discussion of prior work, background information, project objectives and scope

5. **Mr. Robert Price**, Secretariat for the Isotopes project, made a brief presentation reviewing past NEA/IAEA activities and proposing project objectives and scope.

Item 5. Roundtable discussion to identify key issues relating to isotopes

6. Delegates were asked to identify key issues relevant to isotopes. An element of the project would be to present the issues in the report and develop recommendations to resolve them. Issues identified were:

- Transportation and distribution of isotopes
 - Potential impacts of new ICRP regulations
 - Potential impacts of increased security awareness and new security measures post-September 11
- Ageing infrastructure (facilities and people)
- Reimbursement for diagnostic and therapeutic services that use isotopes
 - Are there areas or procedures where health insurers do not reimburse isotope producers?
- Payment for recovery, storage, recycling and disposal of sources
- Public acceptance

Item 6. Working method definition

7. **Mr. Robert Price** presented the proposed working method:

- Form an Expert Group that defines the scope of the study and develops a questionnaire to gather relevant data.
- The NEA and IAEA Secretariats distribute the questionnaire to all isotope-producing countries.
- Recognising that no single person is likely to be able to complete the questionnaire alone, the Expert Group Members would be responsible for co-ordinating their countries response to the questionnaire, identifying and enlisting the help of other experts as necessary. The information returned via the questionnaires would be complemented by use of economic impact information provided by non-governmental organisations and with material on isotope uses provided by members of the Expert Group.
- The Expert Group would assist the Secretariat in compiling information and drafting the report.
- The Secretariat would harmonise the draft report and prepare its publication jointly by the OECD and IAEA.

The use of a questionnaire follows the working method of the previous studies. No objections were voiced or noted to the proposed working method.

8. **Dr. Sood** noted that the IAEA would be forming a parallel working-group of non-OECD member countries in order to furnish information to this working group. The first meeting of the IAEA group is to be in June 2003 in Vienna. The NEA Secretariat was invited to attend. The IAEA will send the questionnaire in parallel with the NEA to non-OECD countries and compile the results for use by the expert group.

9. Several delegates voiced concern that several major isotope-producing nations were not represented on the working group, specifically Australia, Japan, Netherlands and the United Kingdom. The Secretariat agreed to query those nations again seeking representatives for the working group.

Item 7. Definition of report outline

10. Prior to entering discussion on the report outline the group decided to first discuss and define several elements of the study: audiences, messages and scope.

The *audiences* of the report were defined as:

1. Governments
2. Foundations (e.g. US National Science Foundation)
3. Isotope users and suppliers
4. Associations (NANMS, EANM, SNM, ESTRO, etc.)
5. Public

The *scope* of the report was defined as:

What's In Scope

1. Radio-pharmaceutical uses
2. Research reactor production of radioisotopes (list of facilities to be defined*)
3. Cyclotron production of radioisotopes (list of facilities to be defined*)
4. Stable isotopes production
5. Power reactor production
6. Transportation
7. ICRP changes
8. Sources, sealed and unsealed

* Data on facilities would only be gathered for those facilities listed.

What's Out of Scope

1. Radio-pharmaceutical production
2. Defence-related isotopes (use and production)
3. Stable isotope uses
4. Commercially sensitive information (pricing, R&D plans, etc)
5. Regulation of isotopes

The themes or *messages* of the report were defined as:

1. Isotopes are important (their use is widespread and growing) and here's why (today and tomorrow)
 - The report should educate the public and governments about the role of isotopes in modern society including their economic impact and highlight governmental roles and responsibilities for research and development of new uses for isotopes and maintaining the R&D infrastructure.
2. Identify issues that should be addressed (short, mid, long-term)
 - See item 2 above for the issues identified at the meeting.
3. Make recommendations to governments
 - To respond to issues
 - Where governments can/should do more

All of the above (audiences, scope and messages) are subject to review by the expert group and will be revised if necessary.

Discussion of the outline led the group to conclude that the report should address: commercial power reactor production of isotopes, production of isotopes from other sources, e.g. fission products, new separation technologies, the identification of issues and recommend actions to resolve them and discuss the economic impacts of isotopes.

11. Defining what was meant by economic impact involved considerable discussion since defining an economic impact is extremely difficult. How to quantify, qualify what is meant, measured? Isotope may be 10% of the value of an instrument so what is value. What end-markets will be defined? After debate the group concluded that sufficient data had already been gathered by non-governmental organisations such as the Association of Imaging Producers and Equipment Suppliers (AIPES) in Europe and the Council on Radionuclides and Radiopharmaceuticals (CORAR) in North America. **Ms. Teresa Barich** reported that she had already been in contact with these two organisations and they had agreed to share the economic and other data they have collected.

12. It was concluded that non-economic uses should also be discussed such as how many procedures were being performed annually, etc. Data on these would also be available from the non-governmental organisations. Providing some historical context on the first medical uses of isotopes would help to provide an overview of the longevity and widespread use of isotopes.

13. The group noted that it would be difficult to provide a comprehensive description of all uses for isotopes but that it was important in defining the impact of isotopes to give as much information as possible in this area.

14. **Mr. Mario Paganini Fiorati** raised the point that there is typically no differentiation made among the uses of how one gets the source or how difficult it is to install the source; that there is a difference between using a Tc⁹⁹ source vs. installing/using a Co⁶⁰ source for food irradiation. The report should provide some information on what issues, e.g., radiation protection, waste, are associated with using a source? The group concluded that this could be addressed by referring to the appropriate regulations associated with the various uses. It was noted that the IAEA has documents that describe the regulations.

15. During review of the draft report outline, suggestions for changes were made. A revised draft outline will be forwarded to expert group members for further review after the meeting.

Item 8. Review of draft questionnaire

16. A preliminary draft questionnaire was presented by the NEA Secretariat as the basis to begin discussions on the topic. The draft was based on the previous study's questionnaire though some changes had been made to seek information on economic aspects.

17. It was noted that, in general, the questionnaire should:

- Be shorter and easier to fill out than the previous version.
- Take advantage of existing databases.
- Only seek information that is needed to complete the report.

18. Discussion of the draft led to many suggestions for changes. Incorporation of these suggestions led to a revised draft questionnaire that will be forwarded to expert group members for formal approval.

19. It was suggested that the Secretariat pre-fill in the questionnaires using the IAEA databases since the questionnaire would seek information only on a specific set of production facilities and that it is likely that one would obtain a better response if data just had to be verified instead of created. A decision was left until it could be determined whether the Secretariat had sufficient time and resources to perform this task.

Item 9. Definition of project responsibilities and schedule

20. Discussion of a project schedule resulted led to the following key tasks and dates being defined:

- Questionnaire out → in next months (goal is May distribution)
- Next meeting → October/November 2003
- Return of questionnaire → end of September
- Publication should be finished by end of 2004

21. Using these as input a draft project schedule was developed and will be forwarded to the working group for review and approval (See Annex 2). Decisions on specific assignments for drafting sections of the report were deferred until the next meeting.

Item 10. Meeting closure

22. A review of the actions to be taken in the near-term was conducted and they are:

- Re-contact, by March 7, the governments of Australia, Japan, Netherlands and the United Kingdom to request they provide a representative to the Expert Group. (NEA Secretariat)
- Compile and/or modify to reflect comments and transmit to the working group the audiences, messages, project scope, issues, schedule and report outline by March 7. (NEA Secretariat)
- Review the messages, issues, scope, schedule and outline and provide comments by March 21. (Working Group members)
- Review the facilities listed in Annexes 6 and 7 of the *Beneficial Uses and Production of Isotopes: 2000 Update* and notify the NEA Secretariat of any proposed changes by March 21. (Working Group members)
- Update the draft questionnaire to reflect comments received at the meeting and transmit to the working group for formal review and approval by March 21. (NEA Secretariat)
- Review the questionnaire and approve it for use by April 18. (Working Group members)

23. The Chair thanking the delegates for their attention and participation closed the meeting.

24. A password-protected website has been established to help manage the information related to the project. It is located on the Internet at www.nea.fr/download/isotopes. The following documents are available on the site:

- Project schedule
- Draft questionnaire (version incorporating comments received at the meeting)
- Draft report outline (version incorporating comments received at the meeting)
- Annexes 6 and 7 from the 2000 NEA/IAEA report *Beneficial Uses and Production of Isotopes: 2000 Update* that list the isotope production facilities of interest to the working group

25. Access to the site requires the user name and password that has been sent to all working group members. If you experience difficulty in accessing the website please call Ms. Brigitte Ziegler at telephone +33 1 45 24 1064 or e-mail: brigitte.ziegler@oecd.org.

Annex 1
List of participants

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Annex 2
Project Schedule

1. 1st Expert Group Meeting (26-27 February 2003)
 - Meeting objectives:
agree to project objectives, audience, scope, issues, and messages;
define questionnaire;
define schedule
2. Finalise and approve questionnaire (March/April 2003)
3. Distribute questionnaire (May 2003)
4. Questionnaire response deadline (September 2003)
5. 2nd Expert Group Meeting (October 2003)
 - Meeting objectives:
review questionnaire responses;
finalise report outline;
define drafting responsibilities
6. Draft Report (November 2003 - February 2004)
7. Secretariat editing of draft report (March 2004)
8. 3rd Expert Group Meeting (May 2004)
 - Meeting objective:
review draft report
9. Finalise report (June 2004)
10. Approval to publish (July-September 2004)
 - Working Group review and recommendation to publish
 - NDC review and authorisation to publish
 - IAEA review and authorisation to publish
11. Translation into French (July-September 2004)
12. Publication (November 2004)